Contents

1. Leading for Quality Abstracts...................................................................................................................................... 17

[139] A Health System’s Journey toward Systemness................................................................................................. 17

[1827] A methodology to access and analyse routine clinical data in Scotland (SCI-Diabetes) to investigate the effect of organizational arrangements on the care of people with type 2 diabetes and diabetic foot ulcers ........................................................................................................................................... 19

[1566] Ambulance prehospital medication system for patients after ST elevation myocardial infarction: a 8-year city-based multicenter study ................................................................................................................................. 21

[1790] Application of Six Sigma DMADV Methodology to Implement Point of Care Testing Program at a Tertiary Care Hospital in a Developing Country....................................................................................................................... 22

[2198] A Must Have for High Performance – How to Successfully Engage Hospital Physicians ........ 24

[330] Clinical warning system improves first aid efficiency............................................................................................... 26

[1250] Comparative effectiveness evaluation of Audit and Feedback strategies to improve integrated healthcare models for acute conditions: study protocol and preliminary results ......................................... 28

[1860] Determining the Relationship between Brand Personality Dimensions and Service Quality in Hospital .................................................................................................................................................................................. 30

[2026] Developing Accreditation Standards in Iran; Trend of quality improvement in Hospitals....... 33
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRG coding quality and hospital management performance upgrade by</td>
<td>36</td>
</tr>
<tr>
<td>intelligent cloud coding system implementation</td>
<td></td>
</tr>
<tr>
<td>Effects of a Quality Improvement Collaboratives on Patients Safety:</td>
<td>38</td>
</tr>
<tr>
<td>A Case Study From Turkey</td>
<td></td>
</tr>
<tr>
<td>Enhancing hospital food safety and quality through developing quality</td>
<td>40</td>
</tr>
<tr>
<td>improvement projects</td>
<td></td>
</tr>
<tr>
<td>Evaluating Effectiveness of Delta Check Performance at a High-Volumes</td>
<td>42</td>
</tr>
<tr>
<td>Clinical</td>
<td></td>
</tr>
<tr>
<td>Experience of a healthcare transnational network on paediatric</td>
<td>44</td>
</tr>
<tr>
<td>transplantation in the implementation of indicators and quality</td>
<td></td>
</tr>
<tr>
<td>standards for continuous improvement</td>
<td></td>
</tr>
<tr>
<td>Explore the Current Situation of Waiting Outpatient Service in</td>
<td>46</td>
</tr>
<tr>
<td>Traditional Chinese Medicine Clinics</td>
<td></td>
</tr>
<tr>
<td>Exploring factors predicting the development of a new inter-hospital</td>
<td>48</td>
</tr>
<tr>
<td>collaborative network for integrated care</td>
<td></td>
</tr>
<tr>
<td>Guiding Improvement with Dashboard for Process-based Analysis of</td>
<td>50</td>
</tr>
<tr>
<td>Operation Room Management in a Medical Centre in Taiwan</td>
<td></td>
</tr>
<tr>
<td>How leaders can respond strategically and culturally to preventable</td>
<td>52</td>
</tr>
<tr>
<td>serious adverse events in the ambulance service</td>
<td></td>
</tr>
<tr>
<td>Implementation of a Balanced Scorecard in an Austrian hospital leads</td>
<td>54</td>
</tr>
<tr>
<td>to an improvement of processes and subsequently to an increase in</td>
<td></td>
</tr>
<tr>
<td>quality of services</td>
<td></td>
</tr>
<tr>
<td>Implementing Large Scale Change of Quality Culture: Abu Dhabi Story</td>
<td>57</td>
</tr>
<tr>
<td>Improve the effectiveness of nursing shifts in intensive care units.</td>
<td>59</td>
</tr>
<tr>
<td>Improvement of Pressure Injury Prevention and Management Programs:</td>
<td>60</td>
</tr>
<tr>
<td>Improving Error Detection Process in Automation (Clinical Chemistry)</td>
<td>62</td>
</tr>
<tr>
<td>using Lean 6 Sigma Methodology</td>
<td></td>
</tr>
<tr>
<td>Improving Healthcare Diagnosis: From Awareness to Organization Action</td>
<td>65</td>
</tr>
<tr>
<td>Improving Measurement of Diagnostic Safety by Health Care</td>
<td>67</td>
</tr>
<tr>
<td>Organizations</td>
<td></td>
</tr>
<tr>
<td>Improving nursing staff’s quality in wound care after cleft lip</td>
<td>69</td>
</tr>
<tr>
<td>surgery</td>
<td></td>
</tr>
<tr>
<td>Interprofessional advanced access: a tale of accompanying</td>
<td>71</td>
</tr>
<tr>
<td>organizational change in primary healthcare</td>
<td></td>
</tr>
<tr>
<td>Joy in Work – A grounds-up NHG initiative to create a workforce that</td>
<td>73</td>
</tr>
<tr>
<td>finds joy, meaning and satisfaction in work</td>
<td></td>
</tr>
<tr>
<td>Life Esidimeni Investigation by the Health Ombud; Lessons and</td>
<td>76</td>
</tr>
<tr>
<td>implications for the health sector</td>
<td></td>
</tr>
<tr>
<td>Mapping leadership for quality improvement using network analysis in</td>
<td>78</td>
</tr>
<tr>
<td>an acute care team.</td>
<td></td>
</tr>
<tr>
<td>Measuring Quality – Ireland’s National Healthcare Quality Reporting</td>
<td>80</td>
</tr>
<tr>
<td>System</td>
<td></td>
</tr>
<tr>
<td>National Clinical Guidelines – the Irish journey</td>
<td>82</td>
</tr>
</tbody>
</table>
National measurement of waiting times for specialist appointments: Bridging the gaps among providers

Patient Centricity: Human Experience is A GROWING MOVEMENT

Predicting hourly emergency department crowding using time series analysis

PROCESS IMPROVEMENT WITH THE VOICE OF THE PATIENT IN LABORATORY SERVICES

PROJECT EXCEL: The Quality for Excellence (Q4E) Program

Project study on reduction of catheter related urinary tract infection in the intensive care unit

Psychiatric Rehabilitation Institution Accreditation Outcomes Comparisons - Daytime vs. Residential Institutions

QIPSS SURVEY AND CO-CREATION SESSION FOR IMPROVEMENT PRIORITIES

Quality management in a university hospital: feedback pilot in rehabilitation care unit

Quality Management Program guided by the requirements of ISQUA's Accreditation Methodology

Quality Orientation and Social Capital of Hospital Management Boards Matters When Implementing Quality Management: Enriching the CFIR Framework with Social Theory By Exploring the Goal-Integration Factor

Reducing the Prevalence of Expired Blood Bottles

Reduction in deficiencies related to specific components of medical record documentation: An indicator of quality care.

STRUCTURING A NATIONAL RISK MANAGEMENT PROGRAM

TAMING THE GHOST IN THE CT SCANNERS - POTENTIAL SOLUTION FOR PREVENTION OF DIAGNOSTIC ERRORS DUE TO INSTABILITY OVER TIME OF THE PREPROGRAMMED TECHNICAL PROTOCOLS

The Comprehensive Framework Design for Continuous Quality and Efficiency Improvement within the Medical Centre in Taiwan: CRISP-DM

The Implementation of a None-fault Compensation System for Childbirth-related Medical Adverse Event (CBMAE)

The safety of health care for ethnic minority patients: A systematic review

USING A RED/GREEN BED DAYS TOOL TO IMPROVE THE QUALITY OF CARE OF PATIENTS HOSPITALIZED IN A PRIVATE HOSPITAL IN LIMA, PERU

Value-based Quality Improvement on Ischemic Stroke Care Outcome

Improving the care of stroke patients with cross-team care model

Complaint Management quality improvement strategies within the Royal College Surgeons Ireland (RCSI HG) Hospital Group – Much Done, More to Do!

Handover: implementation of the Patient Safety Practice, experimentation in the Emergency-Medical Ward transition in 6 Hospitals of the North-West Tuscany Trust
2. Focus on the Person Abstracts

[1204] Reduce the discard of the tube feeding diet in intensive care units in TMUH

[1484] An empirical test of the Broken Windows theory in healthcare

[752] Automated Capture and High Uptake Rates of Patient Reported Outcome Measures in Routine Rheumatology Practice

[1493] Can we prepare healthcare professionals for involvement in adverse events? Feasibility study of a resilience training intervention

[642] Handoffs and Patient Safety Culture: Evidence From the Small and Medium-Sized Hospitals Survey

[1005] Health behaviors, health promoting environment, burnout and job satisfaction among Israeli nurses: differences by gender and workplace

[717] How can you care if you don’t know who I am? Prevalence, clinical risks and healthcare use of children with Intellectual Disability admitted to a tertiary paediatric healthcare organisation

[856] Identifying and assessing care providers’ experience of key barriers to a paediatric precision medicine model of care

[2173] Implementing a Second victim support process for Radiation Therapists in a Radiation Oncology centre: A Quality Improvement Initiative

[1035] Improving the Experience of Childbirth by Mothers in a Private Hospital in Ilorin, Kwara State, Nigeria
Integrate Multi-disciplinary Team to Improve the Patient Flow Management of Stroke Patients

Investigating Human-Centered Delivery of Social Determinants of Health Assessments: Patient, provider, and staff perspectives on an electronic implementation across a health system

Lived Experiences of Family Caregivers of Persons with Serious Illness Can Drive the Co-design of Peer-to-Peer Support Networks

Looking for the best self-management interventions in Diabetes care: standardized methodological procedures for the synthesis of the literature. The COMPAR-EU Project

Meaningful measurement of integration: a health informatics enabled model for the maternal pathway

Novel Interactive Patient Centered Care – The Introduce of Shared Decision Making Impact on Early Tracheostomy in Prolonged Intubated Critical Patient

Nurses and physicians perceptions & attitude towards effective communication and collaboration in ACGME-i pediatrics inpatients program in Qatar

Optimising electronic medical record functionality to improve safety and experience for people with disabilities

Patient empowerment: bringing medical scheme beneficiaries living with diabetes to the centre of healthcare funding and delivery

Patients’ and relatives’ needs, wishes and experiences after a severe adverse event: a qualitative study

Patients’ perspectives of the World Health organization’s ‘5 moments of mediation safety’ materials

Perception and attitude among parents toward the human papilloma virus (HPV) vaccine: An innovative concept in the state of Qatar

Person-centred Care: Improving clinical decision-making and shared care to optimise the management of people living with refractory epilepsy

Predicting and Reducing Errors when Dispensing Medication in Community Pharmacies using a Human Factors Approach

Reflection on Compliance to Complaints Management in the Public Sector of South Africa: OHSC Inspection Findings Perspective

Seldom heard voices: A meta-narrative systematic review of Aboriginal and Torres Strait Islander healthcare experiences

The Causal Pathways Linking Health Literacy to Fluid Intake and Health Outcomes in Patients undergoing Hemodialysis: A Cross Sectional Study in China

The effect of discharge coordination tool to decrease unnecessary prolonged hospitalization

The Explore of patients receiving shared decision making – the differences between hard copy and web-based system
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>264</td>
<td>Establishing structured quality management courses to improve the training effectiveness of medical institutions.</td>
</tr>
<tr>
<td>266</td>
<td>Facilitators and Barriers to Clinician Engagement in Quality Improvement – A Survey of ISQua Members and Fellows.</td>
</tr>
<tr>
<td>268</td>
<td>Highlighting Vulnerability: building organisational culture to improve patient experience and outcomes.</td>
</tr>
<tr>
<td>270</td>
<td>IMPACT OF AN EDUCATIONAL PROGRAM ON THE IMPLEMENTATION OF INFECTION CONTROL STANDARDS IN INDIA.</td>
</tr>
<tr>
<td>272</td>
<td>Impact of the Clinical Research Nurse in Paediatric Studies.</td>
</tr>
<tr>
<td>274</td>
<td>Improving patient pain assessment treatment integrity with cross-team care model.</td>
</tr>
<tr>
<td>276</td>
<td>Improving the Management of Malignant Hyperthermia in the Interventional Radiology and Magnetic Resonance Imaging Suite.</td>
</tr>
<tr>
<td>278</td>
<td>Job analysis of quality improvement and patient safety officers and evaluation of importance, frequency, difficulty, and knowledge level of duties.</td>
</tr>
<tr>
<td>281</td>
<td>Learning from serious incidents in healthcare.</td>
</tr>
<tr>
<td>283</td>
<td>Outcomes of EBM Promotion Effort in Taiwan.</td>
</tr>
<tr>
<td>285</td>
<td>Patient-centered interventions to improve hospital food intake among diabetic patients.</td>
</tr>
<tr>
<td>287</td>
<td>PATSAFE, a multi-country project to develop and implement a curriculum to improve research on patient safety in Estonia.</td>
</tr>
<tr>
<td>289</td>
<td>PATSAFE: a Twinning project to strengthen patient safety research and training capability in Estonia.</td>
</tr>
<tr>
<td>292</td>
<td>Prevenzione e controllo del rischio infettivo ed indicatori in cartella clinica: ruolo dei Link Professional nel miglioramento continuo.</td>
</tr>
<tr>
<td>294</td>
<td>Residents and Faculty perception and attitudes toward self-directed learning in ACGMEI pediatric residency Program-Qatar.</td>
</tr>
<tr>
<td>296</td>
<td>Senior residents orientation workshop: an opening eye to the new seniority life in an ACGMEI pediatric residency program, Qatar.</td>
</tr>
<tr>
<td>298</td>
<td>Sicurezza in Sala Operatoria: Progetto Formativo &quot;La Comunicazione e Lavoro di Gruppo - Le Non Technical Skills&quot;.</td>
</tr>
<tr>
<td>300</td>
<td>Study of Improving the Proportion of AIS Patients Receiving rt-PA &lt;60 Minutes.</td>
</tr>
<tr>
<td>302</td>
<td>The Impact of Organizational Structure on Organization Communication and Learning of Medical institutions in Taiwan.</td>
</tr>
<tr>
<td>304</td>
<td>The Procedural Sedation Assessment Survey (PROSAS) for assessment of quality of care in Conscious Sedation in a Nigerian Hospital.</td>
</tr>
<tr>
<td>306</td>
<td>Training International Outpatient Oncology Providers to Lead Quality Improvement Projects.</td>
</tr>
<tr>
<td>308</td>
<td>“Get up and Move”. An audit of patient perspectives on the orthopaedic ward.</td>
</tr>
</tbody>
</table>
LA PREVENZIONE DELL’ERRORE ABO: L’ESPERIENZA DELLA ST DI LIVORNO. .................................................................310

Nursing staff perform cerebral drainage tube nursing guidance integrity .................................................................312

The practical experience of introducing shared decision marking for antibiotic treatment decisions in terminally patients with severe infections.........................................................................................313

4. External Evaluation Abstracts ......................................................................................................................................315

A journey to improve the national standards for quality management in healthcare in a tertiary 900-bed maternity hospital in the developing country, Viet Nam.................................................................315

Accreditation Across Borders: Validity Evidence from a Comparison of Multinational Institution Reviews ........................................................................................................................................318

AN ACCREDITATION SURVEY MODEL PROPOSAL TO IMPROVE THE STANDARDIZATION OF SURVEYS AND SURVEYOR DECISION MAKING ..................................................................................320

Assessment of Validity of Present on Admission (POA) based on Jackson’s Validity Algorithm in Korea.......................................................................................................................................................323

Beyond rose diagrams and moving bubble charts: Using a communication science framework to analyse web-based reporting of international comparative health system performance data ....325

Cigna Provider Segmentation Program – using quality assessment to support customer access to high quality, safe and cost-efficient care........................................................................................................327

Comparison of the Implementation of Infection Control and Prevention Programs in 14 Hospitals in Indonesia .................................................................................................................................................329

Conducting Open Medical Record Review to Promote Complete Medical Documentation: Does it Work?......................................................................................................................................................................331

Coordination of documented information in a multicentered healthcare institution: challenges and opportunities.........................................................................................................................................................333

Does a pre-visit, document-based review predict program quality? A pilot project of Canadian postgraduate medical education (PGME) accreditation..............................................................................336

Epidemiology of patient safety in public hospitals in Madrid Region: the ESHMAD study ....338

HEALTHCARE SERVICES QUALITY IN ORAL AND DENTAL HEALTH HOSPITALS IN TURKEY ......340

IMPLEMENTATION OF A QUALITY MANAGEMENT SYSTEM ACCORDING TO ISO 9001:2015 AT THE SUPPLIES UNIT OF A MULTICENTERED HEALTHCARE ORGANIZATION ........................................342

Is hospital accreditation associated with more recommended patient care? A before and after study on the Faroe Islands .................................................................................................................................................344

ONA - 20 years of the Brazilian Accreditation System .................................................................................................346

Procedural vs. Facility Accreditation: Narrowed Focus - Greater Impact .................................................................348

Progress report on the development of the new french accreditation procedure ..........................................................350

Prototyping: Rapid PDSA Cycles for Accreditation System Reform ............................................................................352

Standard Compliance Levels After Accreditation Survey: Comparison of Turkish Health Care Quality and Accreditation Institute (TUSKA) Accredited Public and Private Hospital ........................................................................354
Study of healthcare professionals' perception and users' satisfaction about accreditation ..357
Surveyor Experience in Using Mobile Hospital Accreditation Online Evaluation System ....360
Taichung Veterans General Hospital Seeking for the Best Quality of Service and Winning National Award ........................................................................................................................................362
The challenge to change to meet National QA targets in Histopathology; an Irish experience. ........................................................................................................................................................................................................364
THE FEEDBACKS OF SURVEYORS ABOUT ACCREDITATION CODING SYSTEM USE IN TURKEY 367
The financial impact of postoperative complications from eight surgical departments ....370
The impact of public inspection frameworks on quality improvement and regulation........372
THE ROLE OF ACCREDITATION FOR TURKISH AND FOREIGNER PATIENTS' HOSPITAL PREFERENCE ..........................................................................................................................................................374
What is evaluated through an emerging Accreditation Process? ........................................376
GOVERNANCE FOR MEDICAL BENCHMARKING INCLUDING COMPLICATION PREDICTION....378
5. Facilitating Future Health Abstracts ..........................................................................................380
A regional hospital in the north uses an information system to reduce the rate of repeated medication days for 60 categories of drugs.........................................................................................................................380
Analysis of Falling Reasons of Inpatients - Training and Research Hospitals in Istanbul ......381
Application of Pain Assessment Scales in Intensive Care Unit ..........................................................383
Barcoding, value beyond compliance .................................................................................................384
Barriers and facilitators to cancer clinical practice guideline adherence in Australia: a study protocol........................................................................................................................................................................................................386
Computerized physician order entry : national certification or CE marking ? ..............................388
Exploring the effectiveness of visceral osteopathic therapy on pain and quality of life in patients with non specific chronic low back pain: A literature review ........................................................................................................390
How to Level Up Shared Decision-making in a Large-scale Setting? A Transforming Story in a Teaching Hospital in Taiwan. ........................................................................................................................................................................................................392
Improving influenza vaccination rates in elderly patients with an acute hip fracture in Singapore General Hospital (SGH) ........................................................................................................................................................................................394
Improving the implementation of standardized structured reporting in pathology: development of an evidence-based implementation toolbox ......................................................................................................................396
La digitalizzazione della documentazione sanitaria presso ASST Sette Laghi (Lombardia): un esempio vincente di programmazione multidisciplinare. ..........................................................................................................................398
MediQApp at the interface between big data and Romanian smart Health system .................400
Multidisplinary interventions could improve the nutritional status of malnourished children in rural Cambodia ........................................................................................................................................................................................................402
[743] Predicting crisis in the delivery of emergency care in acute trusts in England: a longitudinal study.................................................................................................................................................404
[637] Setting up an integrated electronic medical records promotion model.........................................................406
[2023] Sudden Intrauterine Fetal Death: enhancing the progress in pregnancy safety through autopsy investigation.........................................................................................................................................................408
[1508] Whether the use of smart bracelet to monitor and reward walking steps Can effect living-alone healthy elders..........................................................................................................................................................................................410
[2424] Sportello Nascite: nuove modalità di presa in carico della famiglia nella transizione al digitale, la documentazione del nuovo nato. .................................................................................................................................................................................................412

6. Designing for People Safety Abstracts.................................................................................................................................................................................................................................................................414
[1335] A national study of patient safety culture in hospitals in Bulgaria.................................................................414
[372] A Pilot study of applying an AI model for detecting intracranial hemorrhage based on non-contrast CT images at emergency department. ..........................................................................................................................................................................................416
[826] A pointing and calling campaign may be useful to prevent patient misidentification.........................418
[1979] A potential solution of Emergency Department overcrowding with team resource management ........................................................................................................................................................................................................................................................................................................................................420
[1222] ACTIONS FOR IMPROVEMENT DERIVED FROM SAFETY ROUNDS IN HOSPITALIZATION ......422
[2408] Aggressioni al personale sanitario: esperienza del Pronto Soccorsodel’Ospedale San Luca di Lucca ..........................................................................................................................................................................................................................................................................................................................425
[2401] Aggressioni sui social: quali implicazioni per la sicurezza degli operatori sanitari? Un’indagine qualitativa ..........................................................................................................................................................................................................................................................................................................................428
[126] An innovative hand restraint device can reduce unplanned extubation in intensive care units ..........................................................................................................................................................................................................................................................................................................................432
[1479] Application of Diversified Strategies to Reduce the Incidence of Physical Constraints in the Inpatients ..........................................................................................................................................................................................................................................................................................................................434
[782] Applying multidisciplinary team to prevent patient fall.........................................................................................436
[474] Effectiveness analysis of an on-demand call-for-help system for urgent nursing consultation441
[661] Effectiveness of Reducing Unplanned Readmission Program and Readmission Causes Analyze to Intensive Care Unit in Taiwan..........................................................................................................................................................................................................................................................................................................................443
[1451] Examining the inclusion of patients and their family members in infection prevention and control policies and guidelines in Asian countries where provision of care by family members considered a norm .................................................................................................................................................................................................................................................................................................................445
[2407] Handover (H) nel passaggio dei pazienti dal 118 al Pronto Soccorso (PS) e dalPS all’Area Critica (AC)..........................................................................................................................................................................................................................................................................................................................447
Il processo di $H$ in emergenza è estremamente delicato e richiede un elevato livello di *situational awareness* da parte di tutti gli attori per poter essere condotto in modo efficace. Il coinvolgimento degli operatori li rende parte attiva nell’individuazione delle criticità oltre che nella proposta di possibili strategie di miglioramento e ne garantisce la *compliance* successiva.

[1318] How healthcare accreditation can improve safety ................................................................. 449

[2418] Il campione emolizzato e la sua gestione nell’ambito della sicurezza del paziente .................. 451

[1214] IMPACT OF A PROTOCOL TO FOLLOW-UP MICRO-ORGANISMS OF SPECIAL EPIDEMIOLÓGICAL RELEVANCE IN ONCO-HEMATOLOGICAL PATIENTS............................................................ 453

[1861] IMPORTANCE OF ANTIMICROBIAL CONTROL TO ENSURE HOSPITALIZED PATIENT SAFETY... 455

[932] Importance of healthcare system design after national disasters focusing on the patient...... 457

[1268] Improving phlebotomy efficiency of rookie nurses for difficult venipuncture patients ...... 459

[1481] Improving the management and follow-up of laboratory results in primary care – A quality improvement project ............................................................................................................. 461

[1329] Infection prevention as a shared responsibility - improving the patient experience during contact isolation ............................................................ 463

[2139] Innovation in the method of analyzing adverse events to promote a patient safety culture in a Brazilian Health institution: sharing experiences .................................................. 465

[2072] International Hospital Disaster Risk Management Accreditation standards ......................... 467

[906] Investigation into the Cleaning Methods of Smartphones and Wearables from Infectious Contamination in a Patient Care Environment (I-SWIPE) ................................................................. 471

[781] Investigation on the implementation of root cause analysis of medical adverse events in Taiwan ................................................................................................................................. 474

[2422] La completezza della Cartella Clinica in Day-Surgery: l’esperienza del Presidio Ospedaliero di Latisana-Palmanova ............................................................................................................. 478

[2097] Let’s Talk Safety, an international expert panel study to develop the Safety Climate Thermometer, a tool to increase the patient safety on surgical departments .................................................. 480

[564] Medication safety among patients from ethnic minorities ............................................................. 482

[2165] Outcomes of delirious and non-delirious critical care patients treated in ICUs with or without hospital specific delirium managements ............................................................................. 484

[526] Patient safety bundle as a strategy to verify good practices in health care, quality and patient safety ........................................................................................................................................... 486

[2129] PATIENT SAFETY CULTURE IN OUTPATIENT MEDICAL OFFICE PROVIDERS OF A PRIVATE HEALTHCARE SYSTEM IN BRAZIL ............................................................................................................. 488

[1886] PRIME for Patient Safety ............................................................................................................ 492

[2060] Qualimed – a network for developing public policies regarding quality assurance and patient safety in the Romanian Healthcare System ................................................................................... 495
7. Building Sustainable and Comprehensive Care Abstracts ................................................................. 547

[464] A multidimensional innovative approach for sustainability in healthcare: reducing the environmental burden and carbon footprints while improving safety and cost effectiveness ........ 547

[1351] Association between oral antibiotics and colorectal cancer in Korea, a matched case-control study ................................................................................................................................. 549

[633] Building a virtual ward model to improve the efficiency of the classified medicine and a referral system ................................................................................................................................. 551

[2420] Call to Action’ the Tuscany Region initiative for Sepsis: the state of the art and future perspectives ................................................................................................................................. 553

[2157] CAREGIVERS’ SATISFACTION: MEASUREMENT OF EFFECTIVENESS OF CONSCIOUS SEDATION VERSUS LOCAL ANESTHESIA IN A SUBURBAN HOSPITAL IN LAGOS, NIGERIA ........................................ 555

[1529] Co-producing a vision and a strategy for improving the quality of health care in a Swiss canton ................................................................................................................................................. 557

[1066] Creative tools and techniques used for Pre-Primary care to improve health literacy in rural population in India ................................................................................................................................................. 559

[241] Develop the Driving Force of Continuous Quality Improvement and Make It Sustainable ....... 562

[239] Development of Evidence-based Chinese Medicine Clinical Service Recommendations for Cancer Palliative Care using Delphi approach based on the Evidence to Decision Framework ....... 564

[668] Effectiveness of nurse-led interventions for reducing 30-day hospital readmissions: overview of systematic review and network meta-analysis ................................................................................................................................. 566

[853] Empower Primary Healthcare to Offer High Quality and Safe Services in Tunisia ................. 568

[322] Enhancement of Winter Surge Geriatric Discharge Program through Collaboration with Multidisciplinary in the Emergency Department of PYNEH ................................................................................................................................. 570

[296] Evaluation of a Secure Mobile and Clinical Communication Solution (SMaCCS) in Acute and Community Practice Settings on Vancouver Island ................................................................................................................................. 572

[776] Fracture liaison service to prevent second fractures in Kaohsiung Veterans General Hospital575

[1770] Governing care and welfare in the Amsterdam Noord district: a mixed method approach to identify performance intelligence for steering our integrated health and welfare provision towards the achievement of the Triple Aim goals ................................................................................................................................. 577

[1559] How to set up a hand hygiene promotion program in a regional public hospital in rural Cambodia? ................................................................................................................................................................................................. 579

[778] Improved outcomes of an anesthesia program for enhanced recovery after surgery in recipients undergoing liver transplantation ................................................................................................................................. 583

[1706] Improving Monitoring of Patients with Chronic Recurrent Multifocal Osteomyelitis at a Specialist Centre via Online Assessment ................................................................................................................................. 587

[675] Integrated care network as a building stone for sustainable and comprehensive care for patients with arthralgia ................................................................................................................................................................................................. 592
14

[732] Integrated Kidney Care - Public Disclosed Evidences of Quality Improvement ........................................594

[1131] Interdisciplinary Collaboration to Improve Quality of Care in Patients with ST-Segment Elevation Myocardial Infarction ........................................................................................................596

[1930] Interventions targeting the prevention of potentially avoidable admissions: A mixed methods systematic review ..................................................................................................................598

[1871] Keeping Gout In The Community - Making Patient Education an Integral Part of Standard of Care for Patients with Gout Flares ..................................................................................600

[914] Labouring Together: Clinicians Experiences of "Working Together to Get the Best Outcomes" in Maternity Care ..................................................................................................................603

[1419] Learning from complexity: Case study of a complex mental health intervention in a complex system ..............................................................................................................................................605


[867] Managing conflicting demands of standardization and customization ..........................................................................................................................609

[729] MEDICAL PERFORMANCE MEASUREMENT SYSTEMS CAN ROOT TO EVIDENCE BASED PATIENT SAFETY MEASURES: AN OPERATION ROOM EXAMPLE ........................................................................611

[1186] OnkoKom - Perspectives on roles of health care professionals and patients in care for cancer patients ..............................................................................................................................................613


[2018] Predictive models in litigation management: the challenge of Healthcare-Associated Infections ................................................................................................................................................617

[2210] Quality Certification in Physiotherapy Services in Brazil: induction for continuous improvement .............................................................................................................................................619

[499] Reducing Incidence of Medical Device-Related Pressure Injury in Intensive Care Unit .....................622

[1376] System-level variation in relapse rate and all-cause hospitalizations in MS: Year 1 results of the Multiple Sclerosis Continuous Quality Improvement (MS-CQI) research collaborative. ................624

[726] The development of a disease case management platform for the improvement of the quality of cross-cutting care for diabetes ........................................................................................................626

[1146] The dream of Continuous Quality Improvement in General Practice is becoming a reality in the Gold Coast region ................................................................................................................................................628

[2238] THE KEY INFLUENCE FACTORS OF THE APPLICATION EFFECTIVENESS OF HOSPITAL QUALITY CONTROL CIRCLE IN MAINLAND CHINA ........................................................................630

[2009] THE QUALITY OF MENTAL HEALTH SERVICES ACCORDING TO TYPES OF HOSPITALS IN TURKEY ........................................................................................................................................632

[46] The Status of Readmission and Length of stay in the Elderly Over 80 years Old ................................634
The use of NHI-PharmaCloud in monitoring the risk management of high risk psychiatric patients in a Psychiatric Day Care Ward and improve patient safety of combined medication

Use QCC to reduce the incidence of chemotherapy abnormal events

Using hospital information system to improve effectiveness of surgical site infection data collection

Using Lean Management to Shorten Waiting Time in Ophthalmic Outpatient Clinics in a Tertiary Care Medical Center

Virtual discharge rounds to improve timely discharged from pediatric unit

What happens when we build new hospitals? A longitudinal, mixed-methods study of an Australian hospital redevelopment

“A Stage for Innovation”: Addressing Hospitals’ Strategic Challenges by Encouraging ‘Bottom-up’ Initiatives

INDICATORI PER I SERVIZI DI NEUROPSICHIATRIA INFANTILE: APPLICAZIONE DELLA PROPOSTA SINPIA ALLA SALUTE MENTALE INFANZIA ADOLESCENZA ZONA LUNIGIANA

Implementing multidisciplinary clinical services using cutting-edge science for routine care: a national study of genomic implementation across renal genetics clinics in different healthcare systems

Reduce arteriovenous fistula occlusion rate in hemodialysis patients

The Effect of Distracting Intervention on Reducing Intravenous Injection Distress among Preschool Children at Emergency Department

Advancing quality and safety for all: health technology assessment as a strategic driver of a quality improvement program for STEMI Networks in remote areas (Elba Island)

8. Quality in Resource-Challenged Settings Abstracts

A mixed-methods study supporting the surgical safety checklist in a tertiary 900-bed maternity hospital in Viet Nam

Causes of non-compliance of the outpatients visit of a Palliative Care Service in a Monographic Cancer center

Enhancing the quality of patient experience through the patient-nurse interaction program of admission-discharge in the ward of Internal Medicine Gastroenterology department

Exploring the Utilization of Emergency Department by Psychiatric Patients

Implementing a Hospital-wide Smart Bed Assignment & Management system to Decrease Length of Stay at Emergency Department

Improving patient care by improving healthcare professionals’ health: why is absenteeism so high?

IMPROVING THE QUALITY OF NEONATAL OUTCOMES IN COTE D’IVOIRE, WEST AFRICA (2019)
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovative information system could improve early goal directed mobility in intensive care units</td>
<td>677</td>
</tr>
<tr>
<td>Medication Reconciliation Quality Improvement in patients treated with Novel Oral Anticoagulants</td>
<td>678</td>
</tr>
<tr>
<td>Optimizing Paediatric Anti-Retroviral Regimen in line with current National Guidelines, Lessons from Kogi State, Nigeria</td>
<td>680</td>
</tr>
<tr>
<td>Optimizing the quality of HIV care and treatment services in 51 private-for-profit health facilities in Nigeria using SafeCare quality improvement methodology</td>
<td>682</td>
</tr>
<tr>
<td>Scaling up Isoniazid Preventive Therapy Optimization in HIV Clients - Lessons from Nigeria</td>
<td>685</td>
</tr>
<tr>
<td>Telehealth Driving Clinic: Using technology to improve consumer access to timely specialist assessment in a resource-challenged Australian setting</td>
<td>688</td>
</tr>
<tr>
<td>The power of data in designing a quality of care model for reducing NCD-related maternal, morbidity and mortality in Nigeria</td>
<td>690</td>
</tr>
<tr>
<td>The Use of the Learning Incident Reporting System to Understand Safety Culture and Human Factors, in 10 Public Hospitals in Brazil</td>
<td>692</td>
</tr>
<tr>
<td>Time Saving and Patient Care: an introduction of new phone directory cards system among health care providers in pediatric inpatients wards, Qatar</td>
<td>695</td>
</tr>
<tr>
<td>Using Technology to Improve Tuberculosis (TB) Case Finding in Lagos State, Nigeria</td>
<td>697</td>
</tr>
<tr>
<td>Utilization of short-message-service (SMS) texting and mobile app in the management of gestational diabetes mellitus (GDM) in Viet Nam</td>
<td>700</td>
</tr>
<tr>
<td>IMPLEMENTING LABORATORY QUALITY MANAGEMENT IN POST-EBOLA LIBERIA: A CASE REPORT FROM A REGIONAL REFERRAL LABORATORY</td>
<td>702</td>
</tr>
</tbody>
</table>
1. Leading for Quality Abstracts

[139] A Health System’s Journey toward Systemness

Allison Glasser¹; Vicki LoPachin¹; Rebecca Anderson¹

¹Mount Sinai Health System, New York, United States of America

Introduction:

Many hospitals are consolidating into larger health systems, and in addition to enhanced financial performance, also aim to better position themselves to have an impact on patient safety, quality of care and patient experience. The Mount Sinai Health System (MSHS), formed in 2013, seeks to ensure the delivery of safe, high quality care to every patient across eight hospital sites and an array of ambulatory facilities in the New York City – Metropolitan region. MSHS strives to create a system-wide organizational culture set on the core foundation of leadership, practice alignment and data transparency. We will share specific examples of how we are establishing a cohesive health system that puts the patient at the center of all that we do.

Methods:

To support safety, quality and patient experience across the health system, MSHS has a robust strategy that involves governance, standardization of clinical care processes, data transparency and cultural alignment.

MSHS has built a governance structure to support dissemination of system priorities, to spread internal best practices, and to ensure uniform communication to leadership. The Quality Leadership Council (QLC), a bi-weekly meeting, and Quality Alignment Council, a monthly meeting, provide an infrastructure for level-setting across the organization and an opportunity for spreading best practices. Both meetings are chaired by the MSHS Chief Medical Officer (CMO). The Board of Trustees participates in QLC and also has its own Quality Committee to ensure cohesion between the Board and MSHS leadership.

MSHS has developed system-level leadership councils to align and standardize clinical care processes to improve outcomes and patient satisfaction. Committees have a consistent data-driven approach that drives prioritization and decision making. The creation of system dashboards to track key performance indicators allows for benchmarking and transparency across sites. The MSHS CMO chairs many of the committees including Sepsis, Hospital Acquired Infections (HAIs), Safe and Timely Discharge and Organ Donation. These committees are comprised of physician, nursing, pharmacy, information technology and support services leadership.
In 2018, we developed the “MSHS Experience,” an initiative aimed at unifying all sites in the system around delivering an ideal patient experience and delimitating the role each staff member plays in strengthening MSHS’s patient-centric culture in order to advance safety, quality and experience. In 2019, the MSHS experience was implemented at three hospitals and has thus far reached 25% of our 38,000 employees.

Results:

On our journey, we have seen many improvements in priority areas. Sepsis mortality decreased 18.2% across MSHS from 15.9% in 2015 to 13.0% in 2019. Between 2015 and 2019, MSHS had a 46% decrease in total Hospital-acquired Infections from 910 in 2015 to 493 in 2019. In the first 2-years of a system-wide organ donor program, we increased the number donors by 37.5% (24 in 2017 to 35 in 2019); and increased the number of organs transplanted 21.2%, (74 in 2017 to 94 in 2019).

MSHS has also seen improvement in patient experience scores as measured by Press Ganey. The first hospital to implement the MSHS Experience saw an increase in top box scores for Overall Hospital Rating from 71.6% in Q4 2018 to 78.4% in Q4 2019 and Willingness to Recommend increased from 70.5% in Q4 2018 to 76.9% in Q4 2019.

Conclusion:

Becoming a health system in more than name only takes time, an infrastructure, and leadership committed to aligning care and providing patient-centered care. Patients stand to significantly benefit from receiving care from within a health system but the system has to be set-up to foster synergies and integration to enhance outcomes.
[1827] A methodology to access and analyse routine clinical data in Scotland (SCI-Diabetes) to investigate the effect of organizational arrangements on the care of people with type 2 diabetes and diabetic foot ulcers

Bernardo Meza-Torres¹,²; Scott Cunningham³; Graham Leese³; Fabrizio Carinci²

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Introduction:

Diabetic foot ulcers (DFU) are a devastating complication in people with type 2 diabetes (T2D). Lower extremity amputations (LEA) have been used as a primary outcome to evaluate health care provided to people affected by DFU. Rates of LEA can highlight trends in relation to socio economic differences, geographic variation and different organizational settings.

A meta-analysis conducted by our group showed that the impact of LEA rates can be partially explained by organizational arrangements which reduce their incidence e.g. multidisciplinary teams, dedicated teams, pathways of care or combined complex interventions. It is not clear whether such differences can be captured by large clinical databases collected from everyday practice.

In the framework of the EU HealthPros project, we conducted an empiric study using national data from Scotland to adapt principles extracted from the literature for predictive modelling.

We aim to identify a data model for applying the definition of organizational arrangements associated with the reduction of LEA among people with T2D observed in the literature, to the data stored in the Scottish diabetes register (SCI-Diabetes). To build a predictive model investigating the association between structures, processes of care, type of services provided and LEA rates, while adjusting for personal case-mix characteristics. To compare and validate the model on different databases for national & international comparisons.

Methods:

We developed a data mapping algorithm to translate a set of criteria derived from the literature into source code applied to an extract of SCI-Diabetes. We compared the local data dictionary to the contents of a national database of general practitioners in England, to
define a set of data elements that could be reused in different contexts. We used the standard set from the International Consortium for Health Outcomes Measurement for further generalisation. The algorithm was compared with the views of technical and clinical experts at the coordinating centre. A basic set of characteristics at cluster (e.g. rural vs urban, geographical, deprivation index) and individual levels (e.g. age, gender) were identified for categorisation and inclusion in the statistical predictive model. Statistical analysis involves multivariate GEE logistic, multilevel and Cox models.

Results:

The algorithm allows identifying a cohort of patients whose pathways of care can be followed from diagnosis to any LEA event and/or last visit. Through the extracted database, the experience of the cohort is followed from diagnosis of DFU to the LEA event, or the last observation without event. The mapping tool and model estimation are still in progress and will be further refined by the final presentation at the Conference. The results will be compared to the output of a cross sectional analysis of the dataset of people with T2D of the Royal College of General Practitioners Research and Surveillance Centre in England.

Conclusion:

We developed a methodology to investigate and compare the effect of organizational arrangements on the trajectory of the disease from the occurrence of DFU up to any LEA. Our study documents the method, criteria and algorithm to investigate the variability of outcomes across centres involved with the HealthPros project, starting from England, Denmark and Germany.
Ambulance prehospital medication system for patients after ST elevation myocardial infarction: a 8-year city-based multicenter study

Wei-Chun Huang¹; Cheng-Chung Hung¹; Guang-Yuan Mar¹; Yaoh-shiang Lin¹

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Introduction:
Dual antiplatelet therapy (DAPT) with aspirin and a P2Y12 receptor inhibitor was shown as the mainstay of treatment for patients after ST elevation myocardial infarction (STEMI). In ATLANTIC trial, DAPT at ambulance could reduce instent thrombus in patients with STEMI.

The aim of this study is to investigate the impact of pre-hospital ambulance AMI dual anti-platelet medication system on patients’s outcome.

Methods:
In 2016, we successfully set up Asian first innovative city-based pre-hospital ambulance AMI dual anti-platelet medication on-line instruction system in Kaohsiung City. It is a challenge task to set up this city-based life-saving system because it needs the cooperation of government, ambulance staffs and hospital. The data was collected from 2011 to 2018.

Results:
The ratio of ambulance STEMIDAPT medication use increased from 0% in 2011-2015, 2.8% in 2016, 55.6% in 2017 to 60% in 2018 in STEMI patients (p<0.05) via Asian first innovative city-based pre-hospital ambulance AMI dual anti-platelet medication system. Total 20 patients received DAPT in ambulance. The discharge mortality was 0% and complication rate was also 0%.

Conclusion:
This city-based multicenter study showed Asian first innovative city-based pre-hospital ambulance AMI dual anti-platelet medication system can improve the ratio of ambulance STEMIDAPT medication.

Please declare any conflict of interest you may have:
NO
Application of Six Sigma DMADV Methodology to Implement Point of Care Testing Program at a Tertiary Care Hospital in a Developing Country
Shahid Shakeel

The Aga Khan Hospital, Karachi, Pakistan

Introduction:

Point-of-care testing (POCT) is defined as medical testing at or near the site of patient care. Traditionally POCT was unregulated in our institute and existed without policies, manual results entry, lack of training and lack of evidence of quality control and without lab oversight.

Methods:

DMADV ((Define, Measure, Analyze, Design, and Validate) Six Sigma approach was used. Define: A proposal delineating the scope of services was developed by the Pathologists. The test menu proposed included arterial blood gases, electrolytes, glucose, lactate and urine dip stick analysis. Measure: Cross sectional interview based surveys and site visits were done at all the areas of the hospital where bedside testing was done. Clinical laboratory team documented the presence of deficiencies, gaps and challenges in POCT operation. Analyze: A team comprising of representatives from Pathology, Biomedical Engineering (BE), and Material and Management Division (MMD) performed a detailed comparison of the equipment for selection according to the preset criteria. A POCT Coordinator was identified. Quality Management Plan, Policies and testing procedures were written down and simultaneously POCT training program and curriculum were designed and shared with Nursing Education Service (NES) of AKUH. Equipment procurement was followed by validation. Design: A live demonstration on connectivity was performed in the laboratory before making it live at the patient testing sites. POCT reporting format was finalized. An execution plan was laid down The POCT training plan and curriculum were designed by the Chemical Pathologists of AKUH clinical laboratory The POCT personnel training program chiefly consisted of three components: initial formal POCT training, POCT recertification and POCT competency assessment. Validation: The analytical goals for POCT were equivalent to those used for our central laboratory. The PT surveys received from CAP are distributed to various POCT sites for analysis handling all PT samples like patient samples. For sigma metrics calculation target instruments were selected as a representative of all POC testing instruments. Estimation of sigma metrics of each analyte was done using the formula i.e. Sigma Metrics = (Total Allowable error (TEa) - Systematic Error) / Random Error.
**Results:**

55 glucometers were successfully installed in 20 sites, 6 ABGS analyzers installed in 6 sites and 2 Urine dipstick reader were installed in 4 sites. Average six sigma metrics score for Glucose pCO$_2$, pH, K and lactate were >6 indicative of excellent performance translated on a six sigma scale criteria whereas sigma metrics scores for pO$_2$, Na and Cl are between 4 and 6 which indicates satisfactory performance although a chance of improvement exists.

**Conclusion:**

Control of training/competence assessment, policies, procedures and IQC and PT are now under the guidance/oversight of AKUH clinical laboratory. Key to success of establishment of POCT infrastructure was a dedicated project lead and a multidisciplinary, multimodal approach involving all stakeholders.

**References:**

**Please declare any conflict of interest you may have:** Author have no conflict of interest to declare
A Must Have for High Performance – How to Successfully Engage Hospital Physicians

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Introduction:

A review of the literature on physician engagement and leadership, accountability, and alignment clearly indicates the unique and significant contribution of physicians in hospital performance. Historically, hospital leaders have been viewed as understanding the business of health care, and physicians have been seen as the ones who understand the patient needs and clinical options – suggesting a reciprocal and supportive partnership. However, the relationship of physicians and hospital administration has more often been one of separation, divided accountabilities, and at worst, adversarial interaction. Because physicians are not employees of the hospital, there can be gaps in communication, lack of mutual organizational objectives, and unclear roles and responsibilities for operations as well as physician leadership positions. Physician alignment with hospitals is associated with attainment of quality and safety goals, as well as efficiency targets; moreover, physicians are often the public face of care, research and innovation, and education and training, thus having a major influence on the reputation of a hospital. Physicians are likely the single greatest contributor to hospital costs yet often have little clear and direct accountability to the organization (Wachter, 2004). There is a need to create a health care system where organizations, practitioners, and the public have the utmost confidence in care for patients, families and providers, both today and in the days to come.

Methods/Results:

This paper will summarize an evidence based approach to improving physician engagement in a multi-sited specialty hospital organization that has successfully and significantly increased its physician engagement from ~60% in 2011 to 79.1% in 2019 (peer comparators 69.7%). Using a framework for organizational effectiveness from the Bridgespan Group, the hospital has used several evidence-based approaches to assess engagement, communicate with and recognize physicians, align leadership structures, encourage innovation, manage talent, and develop effective leadership. Utilization of continuous improvement approaches including the use of relevant metrics further support performance improvement in areas such as medication safety. The contribution of physician engagement and leadership to quality was recognized by Accreditation Canada when the organization was awarded Accreditation with Exemplary Standing in 2019 for the third time in a row. In addition to the
work within the hospital, there has been work to develop and align strategies across two large academic hospitals and the affiliated University which highlights the challenges of driving transformation across a complex adaptive system. This initiative’s success, and ongoing challenges, will be compared with experience from other hospitals in various jurisdictions and current evidence in the literature. Guiding principles and methods that could translate into improved hospital-physician relationships in other organizations will be shared.

**Conclusion:**

As primary influencers of patient experience, quality and safety of care, and choices in the use of health care resources, physician involvement in these processes is crucial if they are to have successful outcomes. A multi-pronged and developmental approach to physician engagement and leadership is a key driver to success and can lead to significant improvements in performance over time.

**References:**


Please declare any conflict of interest you may have:
Clinical warning system improves first aid efficiency
Hui-Chen Lee

Cathay General Hospital, Taipei, Taiwan

Introduction:

According to the analysis of unexpected emergency events, the clinical warning system is set up to establish a mechanism to prevent the occurrence of unexpected first aid, so that personnel can grasp the patient's condition and deal with it in a timely manner.

Methods:

1. Establish an in-hospital clinical warning system

Clinical warning system every 2 hours to grab the score, when the monitoring value of the total score of 5 points, that is, up to the clinical warning standard, indicating that the patient’s condition has changed, alert to the need for disposal and response.

2. Establishing a review system for in-hospital resuscitation

Monthly review of resuscitation cases is conducted to examine the timing, medication, operation, and procedure in first aid and to provide feedbacks and suggestions on items to be improved. Ward directors and head nurses implement educational training and disseminate relevant cognition. Knowledge and technical skills of first aid among hospital staff and the quality of emergency care could be enhanced via reviewing and analyzing the resuscitation cases.

3. Improving the efficacy of in-hospital resuscitation

First aid training for relevant units is implemented by applying the combination of simulation and team resource management methods. First aid exercises are conducted at least once a year in each unit to develop a systematic, integrated and team-based resuscitation procedure and to improve the efficacy of it.

Results:

1. The event density of pulseless cardiac arrest pre- (Q2-Q3, 2018), during (Q4, 2018 to Q1, 2019), and post (Q2-Q3, 2019) the improving project was 0.452‰, 0.436‰, and 0.412‰, respectively.
2. The proportion of patients receiving therapeutic hypothermia in those who meet the
therapy criteria increased significantly from 40.7% to 93.2%.
3. The discharge survival rate of patients with pulseless cardiac arrest raised from 35.3% to 52.8%.

**Conclusion:**

After conducting this improving project, the in-hospital resuscitation review system has been incorporated into the regular procedures, and the rate of receiving therapeutic hypothermia had a significant growth. The improvement of resuscitation efficacy backed by educational training and yearly exercises leads to an increased discharge survival rate. The results support that this project is effective and needs to continue.
Comparative effectiveness evaluation of Audit and Feedback strategies to improve integrated healthcare models for acute conditions: study protocol and preliminary results

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Introduction:

In Italy, there is evidence of large variability in health care services organizations and health outcomes. Moreover, extensive research shows that inequities related to socioeconomic position pervade the health care system across different dimensions of quality. Due to the complexity of acute condition management, such as acute myocardial infarction (AMI) and ischemic stroke, Lazio region built an emergency network that involves several healthcare providers i.e. emergency medical services (EMSs) and hospitals. A reference hospital (HUB) has been identified for each sub-area and the other hospitals (SPOKES) must refer to the HUB. Within this complex framework, Audit and Feedback (A&F) strategies addressing the gap between the ideal and actual care are often the foundation of multidimensional quality upgrading interventions aimed at improving adherence to clinical guidelines, health outcomes and equity in access to care. However, the optimal design of A&F is unknown.

According to the objectives of EASYNET project, this study aims to define, compute and evaluate process and outcome indicators to identify potential weaknesses and inequalities in care pathways of acute conditions; evaluate the effectiveness of different audit and feedback strategies for improving quality of care and timeliness of emergency healthcare interventions, in patients with AMI and stroke.

Methods:

Outcome and process indicators are calculated using data from Health Information Systems (HIS) of the Lazio Region. Using a unique subject identifier, records of hospitalization is cross-linked to drug claims data, individual socio-demographic characteristics, emergency visits, outpatient visits, and mortality, to create a chronological, clinical, healthcare-related patient profile. These latter features allow the definition and calculation of indicators to measure equity in access to optimal care. Based on the results of a baseline survey, a multi-arm pre-post study will be performed. The intervention will include the following groups: hospitals automatically involved in the quality improvement strategy based on the Regional
Outcome Evaluation Program (P.Re.Val.E.), which is available at regional level for all hospitals and areas of residence; hospitals that already implement clinical or organizational A&F strategies; control group in which there is no intervention. The impact of A&F interventions will be assessed through pre-post analysis, accounting for the general time-trend. Multivariate models will be performed to estimate the effect of interventions adjusting for baseline covariates.

**Preliminary results:**

P.Re.Val.E. was launched in the Lazio region starting in 2005. Among AMI with ST-elevation of myocardial infarction (STEMI) patients, the proportion of Percutaneous coronary intervention (PCI) carried out within 90 minutes from hospital admission increased from 20.74% in 2010 to 55.91% in 2018, while there was a decrease in the annual hospital admissions for STEMI from 5315 to 3704. Moreover, the proportion of patients with ischemic stroke admitted to a stroke unit increased from 41% in 2011 (year of stroke network institution) to 47% in 2018. The hospitalizations for ischemic stroke decreased from 7071 in 2010 to 6600 in 2018.

**Conclusion:**

We expect this kind of intervention to be more likely to concretely improve adherence to clinical guidelines, health outcomes, and equity in access to care according to the Lazio Region health policies.

**Please declare any conflict of interest you may have:** EASY-NET is financed by the Italian Ministry of Health and Italian Regions (NET-2016-02364191)
Determining the Relationship between Brand Personality Dimensions and Service Quality in Hospital

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¹TUSEB Turkish Health Care Quality and Accreditation Institute, Ankara, Turkey; ²Altınbaş University, Istanbul, Turkey; ⁴MoH Department of Productivity, Quality and Accreditation in Health, Ankara, Turkey

Introduction:

Service quality, perceived quality and brand concepts have gained critical importance in order to achieve and maintain competitive advantage in health sector. Brand personality; is defined as attributing human character to brands and serves to differentiate the brand from competitors.

Branding in healthcare is to promise patients that quality is the most important thing. Perceived quality contributes to customers' service preferences and differentiation of the brand. Technical quality is proved by evaluating the service according to objective, measurable criteria. Technical quality assessment of the health institutions in Turkey is made by the control of the Ministry of Health.

In this study, it was aimed to determine the relationship between technical quality, perceived quality and brand personality in hospitals.

Methods:

Aaker's brand personality scale (5-point likert) was applied to a total of 230 people selected by simple random sampling among the patients who received inpatient service in two 3rd level training, research hospitals. Afterwards, the quality score given as a result of the quality evaluation and patient satisfaction rates were obtained from the MoH.

Results:

Cronbach alpha reliability analysis result was found to be 0.952. 230 Patients participated in the research.

The findings showed that "the dimensions of sincerity, excitement, sophistication, toughness, talent brand personality" were all more identified in the 3rd level Branch training and research hospital (BTRH). It was found that the dimensions in the 3rd level general service training research hospital (GSTRH) did not become clear.
A significant difference was found in all dimensions of the brand personality of the two hospitals with 95% confidence. It has been determined that both hospitals are especially identified with the talent dimension. However, BTRH is more dominant than GSTRH in talent and sub-dimensions.

**Table 1:** Corporate Brand Personality Talent Sub-Dimensions Average Table and t-Test

**Table 2** Brand personality, Perceived and Technical Quality comparison

<table>
<thead>
<tr>
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<th>Brand personality Talent Dimension Average Score</th>
<th>Perceived Quality (Patient Satisfaction Rate)</th>
<th>Technical Quality (Hospital Health Quality Standard Score)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3th Level General Service TRH</td>
<td>3.5217</td>
<td>94%</td>
<td>97.36</td>
</tr>
<tr>
<td>3th Level Branch TRH</td>
<td>4.3295</td>
<td>89%</td>
<td>95.07</td>
</tr>
</tbody>
</table>

Although the 3rd level BTRH was more dominant in the talent dimension of the brand personality, the perceived and technical quality of the GSTRH was found to be higher.

**Conclusion:**

Brand Personality perception of patients which receive health care from GSTRH, is not clear except talent subdimension. However, measured and perceived quality of this hospital found higher than BTRH. This situation has interpreted that there are problems in managing the process of creating a corporate brand personality in the GSTRH, and that the quality of service should be emphasized in the branding process.

In BTRH, it is determined that patients' brand personality opinions are clear and personality perception was found to be clear in talent dimension. In the process of developing brand
personality, it should continue to work on the talent dimension. In the process of developing brand personality, it should continue to work on the talent dimension. Perceived and technical quality should be emphasized in the branding process and efforts should be made to achieve the benefits of brand personality in other sectors.

In this study, the brand personality, perceived and technical quality levels of hospitals were emphasized. It was concluded that the brand personality became more evident in BTRH, and the perceived and technical quality level in GSTRH were compatible with each other and higher than the branch hospital. For future studies, it may be suggested to evaluate the relationship of prominent brand personality dimension with the concepts of "trust and loyalty to the brand". In addition, it can be suggested to emphasize the perceived and technical quality values in the branding process.
Introduction:
Accreditation of a health care organization is an external evaluation of the level of compliance against a set of standards. The accreditation process covers all areas of the healthcare organization’s operation and practice. It aims to ensure that healthcare organizations address the quality and safety of patient care.

Methods:
For developing Iran’s national hospital accreditation standards, a literature review was conducted and the hospital standards of countries such as the US, Canada, Australia, France, Lebanon, and Egypt were reviewed. Particular attention was paid to those countries, which had the most developed hospital accreditation systems. Following the literature analysis, surveys were conducted to decide the areas to be covered. Focus group discussions were also held with hospital managers, academic scholars and accreditation experts to develop and customize Iran hospital accreditation standards. The standards manual was drafted in distinct “departments” format including over 8000 standards.

Results:
Iran’s national hospital accreditation system launched in 2012 and applied to all public and private hospitals. Its goal was to promote continuous quality improvement in hospitals. The procedure was based on sets of standards, criteria, and indicators to ensure that hospitals use recommendations for good clinical practice and medical and professional guidelines. The transition from the traditional hospital evaluation system to a national comprehensive hospital accreditation system has to be managed carefully. The hospital accreditation procedure was tested using the first draft of the standards in 2011. This pilot testing was carried out in 8 volunteer hospitals, representing different types of hospitals in Iran. During this phase, comments and further suggestions were collected on the use of accreditation standards and the method of evaluation during the survey.
Conclusion:
Iran’s hospital accreditation system is in its infancy. In order to customize the accreditation system with the resources and capabilities of Iranian hospitals, the development of the hospital standards has to be done gradually. The triad of structure, process, and output/outcome was considered in the first version of hospital standards. However, more weight has been given to structural and procedural standards. The belief is that the hospitals’ structures and processes should be improved in order to improve hospital outcomes. The standards will gradually be supplemented by indicators that are more clinical.

References:

Care, 20 (5):363–371

Please declare any conflict of interest you may have: we don't have any conflict of interest in the project.
Introduction:

Healthcare service providers are concerned that the implementation of Taiwan Diagnosis Related Groups (Tw-DRGs) will cause patient dumping events due to inadequate medical costs due to health insurance declaration reimbursement. In addition, the introduction of The International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD-10) changes the classification rules of the disease and is more complicated. According to the research of the Health Insurance Agency, the introduction of ICD-10 requires 2.3 times more manpower to complete the coding and obtain reasonable medical benefits for the hospital [1]. Therefore, one of the hospitals in north Taiwan has introduced intelligent cloud coding system to perform disease classification coding and DRG case management in 2018, controlling the potential risks brought by TW-DRGs and ICD-10.

Methods:

We tracked the results of internal coding quality control mechanisms and external inspections before and after the introduction of the intelligent cloud coding system.

The internal control mechanism includes monitoring the DRG consistency rate between physicians and coding specialists and cross-examination between coding specialists. External inspections include peer review of high-level coding specialists, DRG case surplus rate, DRG case transfer rate, and emergency stay rate (percentage of patients admitted from Emergency Room (ER) stays in ER over 48 hours).

DRGs consistency rates were calculated as percentages monthly by all DRGs cases (918 cases in average each month) since January 2017 to December 2018 and compared doctors’ last edited DRGs record with the final results of the medical coders. Mann–Whitney U test was used to test for change of the consistency rate. Other indexes were reviewed from the 2017-2019 annual reports of the hospital. Statistical analysis was performed with SPSS 22.0 program.
Results:
After the implementation of intelligent cloud coding system, the DRG consistency rate has a steady upward trend, with the average value increasing from 58.68% to 65.20% (p = 0.003). The average score of the cross-examination was 93.81% (SD = 4.21) in March 2019, 94.54% (SD = 3.36) in April, and 95.49% (SD = 3.04) in May, showing the overall coding quality and consensus improvement. In the first two quarters of 2019, the average consensus rate of the diagnostic codes of peer review was 90.24%, and the surgical code was 85.36%. The inconsistencies were subdiagnostic or suboperative codes; the average DRG surplus rate remained at 18.45%, the DRG case transfer rate remained at 0%, and the emergency stay rate remained below 1%.

Conclusion:
The implementation of intelligent cloud coding system in response to TW-DRGs and ICD-10 can ensure coding quality, reduce financial risks, and avoid patient dumping events.

References:

Please declare any conflict of interest you may have:

There are no any potential conflicts of interest for all authors during abstract submission.
Introduction:

Quality improvement collaboratives (QICs) have long been used to facilitate group learning and implementation of evidence-based interventions in healthcare. QICs facilitate rapid testing and implementation of interventions through the collective experience of participating organizations to improve care quality and reduce costs. Multi-institution collaborative QICs are a well-established and broadly applicable quality improvement strategy. QICs can accelerate quality improvement and patient safety efforts for hospitals.

The main purpose of this study to evaluate the effectiveness of a quality improvement collaborative in improving the quality of care for hospitals' patient safety strategy.

Methods:

A multi-institutional quality improvement collaborative method was used. Experts (91) who have previous experience in healthcare quality, working in hospitals from various types of ownership (university, public, private) in 8 provinces were participated in the collaboratives.

Results:

Data were obtained from 91 participants. In meetings it was aimed at attracting participation, maintaining engagement, or facilitating learning. To attract participants was given certificate, provided financial incentive selected a knowledgeable collaborative hospital of the same medical specialty as organizer, and having national experts speak at meetings. To facilitate learning, interviewees liked learning from other practices, interactive exercises, practical handouts, and meeting face-to-face with new referral partners. A key element supporting the dissemination strategy of each QIC was leveraging existing partnerships and relationships and promoting a shared vision with participating hospitals. All of the participants found the training content fit for purpose. 89% of the participants found the training period sufficient. 53.1% of the participants suggested Comprehensive Unit-based Safety Program, 30% Safe Surgery Targeted Solutions Tool, 54% trigger tool, 59% human factor, 32% Failure Mode and Effects Analysis for the next meeting.
Conclusion:

For the hospitals, collaborative participation strengthened quality improvement and collaborators reported that the education and implementation tools offered by the collaborative were effective approaches to promoting safety bundle implementation and overcoming contextual challenges. At the hospital level, institutional leadership, QI support and capacity, QI characteristics, and hospital culture are essential for patient safety. At the QI team level, the dynamics, attributes, and composition of the team are paramount. Improvement strategies included developing multi-disciplinary workgroups, educational materials, and electronic health record advances.

References:

Please declare any conflict of interest you may have: Absent
Enhancing hospital food safety and quality through developing quality improvement projects

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Introduction:

In recent years, Medical Nutrition Therapy (MNT) plays an important part of medical care in Taiwan. Hospital-supplied meals need to pay attention on health and safety, and also provide different textures and therapeutic meals. These meals are specific to each disease, in order to increase the nutritional intake of patients, improve malnutrition, and thus help the overall medical effects. Therefore, how to enhance the quality of dietetic service in hospital is an essential issue for dietitians.

To enhance food safety and quality in hospital through developing the quality improvement projects is our objective.

Methods:

Nutrition Department of Chung Shan Medical University Hospital upholds the concept of food safety as a priority. The quality improvement project by Quality Control Cycle (QCC) has been developed twice since 2015. The first project was reducing the incidence of foreign bodies in the dietetic service of hospitalized patients. According to the Good Hygiene Practice (GHP) from Taiwan Food and Drug Administration (FDA), we established Standard Operation Procedures (SOP) in our dietetic service. Strictly comply with food regulations and set up Hazard Analysis and Critical Control Points (HACCP) for monitoring and correction process. Our quality improvements from space planned, replacement of existing equipment, software update as well as establishment of specifications were carried out comprehensively. The second project was improving the order rate of therapeutic meals for inpatients in 2018. We followed the new dietary guidelines and implemented the government’s policy of "My plate", further understood the opinions of patients and family members on diets. Through redesigning the cycle menu of therapeutic meals, develop new types of diets to increase nutritional density and increase the richness of dishes, and arrange nutrition education for patients and medical personnel to improve the knowledge of food hygiene and nutrition. Moreover, we participated in three diet-related certifications.

Results:
After the implementation of the projects, we monitored the indicator include physical, chemical and microbial index and confirmed that the standards are met. Reducing the incidence of foreign body in the dietetic service process from 0.0641% decline to 0.00165% steadily in 2019; The average order rate of therapeutic meals increased from 15.7% to 35.9%, ordering accuracy of therapeutic meals increased from 55.4% to 100%, satisfaction of dietetic service maintained above 95%. Additional benefit was that income also increased year by year.

Awards and honors: As of 2019, we have obtained three awards, including Hazard Analysis and Critical Control Points (HACCP) certification, excellence award of Assessment of Food Hygiene Management by Taichung food safety, and Symbol of National Quality (SNQ) by Taiwan Ministry of Science and Technology.

Conclusion:

Through continuous strengthening and implementation of self-management, promotion of quality improvement projects and obtaining official certifications can maintain food safety and quality of dietetic service in order to provide a tightly structured food safety network.

Please declare any conflict of interest you may have:

No duality of interest with this manuscript is stated and confirmed by authors.
[1816] Evaluating Effectiveness of Delta Check Performance at a High-Volumes Clinical

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Introduction:

Data from recent studies suggest that the highest incidence of laboratory-related errors occurs in the pre-analytical phase of laboratory testing. The Clinical Laboratory Standards Institute recommends that delta check programs should be monitored after implementation, to assess their effectiveness.

Methods: This audit was conducted at the Clinical Laboratory, The Aga Khan University Hospital from December 2016 to January 2020, based on Plan, do check act cycle. Audit team included, Chemical Pathologist, Technologists, QC Officers, Information technology (IT) analyst and laboratory manager. Plan: A policy on ‘Error detection for unusual results’ was developed; delta check protocols and procedures were defined and a training & education program for all technologist was developed. Do: Initially the delta check was implemented on eight analytes (Creatinine, BUN, Sodium, Potassium, Total Bilirubin, Calcium, Phosphorous and Albumin) in middleware, CentraLink Data Management System (Siemens Healthcare diagnostics, US) in Jan 2017. The delta limits were taken from Tietz textbook of Chemical Pathology, and delta percent change method was utilized. Check: Audit to evaluate delta check feasibility and effectiveness on Middleware was done from May-August 2018. For feasibility technologist time consumed in evaluating a delta failure (DF) results was analyzed while for effectiveness, frequency of true DF was examined. To identify deficiencies gap analysis was done. Act: Developed a program for implementation of delta check in in-house integrated laboratory management system (ILMS), Jan to Dec 2019. Delta limits were derived using ‘Reference Change Values’ formula and algorithms for corrective action were designed for each analyte. Hands-on trainings were conducted for all technologists and after that delta check was implemented on ILMS and re-audit to assess feasibility and effectiveness was done in Jan 2020.

Results:

During Audit period, delta check was applied on CentraLink for 8 routine chemistry analytes, in four months period 0.07% (n=248 out to 350363) DF were observed, most common analytes were creatinine (30%, n=75) followed by Potassium (K) (23.4%, n=58) and BUN (24%, n=59) respectively. Few common reasons included patient dialysis, unsatisfactory specimen, fluid infusion and dehydration related changes. Daily 3-5 DF were observed and
total technologist time taken for corrective actions was 30-50 minutes daily. On Gap analysis it was identified that reasons of DF were not documented, data was manually collected, CentraLink was unable to differentiate between serum and urine samples, no patient history available, turnaround time of reporting was increased, not implemented in labs at locations other than main hospital, different type of delta methods could not be applied in CentraLink. To overcome these gaps corrective actions were taken process flow algorithms defined for each analytes, technologist trained and given access to view patient history, a program of delta check developed for implementation on in-house ILMS and re-audit was done. During re-audit period, delta check was applied on ILMS for only creatinine, in one-month period 2.7% (n=653 out of 23651) DF observed, with daily 20-30 and total technologist time taken for corrective actions was 60-120 minutes daily.

Conclusion:

Finding of the audit strongly suggest that the process of manual investigation of every delta check is inherently time-consuming, automated system of delta check identification, and algorithms, reduce error rate as well as the time consumed in corrective actions.

References:

Please declare any conflict of interest you may have: No conflict of interest to declare
Experience of a healthcare transnational network on paediatric transplantation in the implementation of indicators and quality standards for continuous improvement

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Introduction:

Since February 2017 European Reference Networks (ERN) harness the collective expertise of Healthcare Providers (HCP) from across the European Union, aiming to offer a high level of expertise, produce good practice guidelines and implement outcome measures and quality control following in all these a multi-disciplinary approach. This study aims to describe ERN TransplantChild’s commitment to ensure quality and safety of transplantation in children through its governance processes, patient involvement in network activities and compliance of HCP members with specific and established European Commission (EC) quality standards.

Methods:

Data are obtained and reported from the information collected by TransplantChild's annual survey launched to all the HCP members. EC is responsible for the verification of operational criteria for networks and HCPs through external assessment and the definition and use of common core indicators for all the networks. The network governance organs are responsible for the periodic self-assessment of the network, and the definition and use of specific indicators for TransplantChild. Annual survey fulfillment covers not only the information HCP members and affiliates can provide about the Common Core set of ERN Indicators established by the EC, but also specific indicators and quality standards established by TransplantChild. Results from the survey exercises are expected to be presented in regular governance meetings and network open-access webinars.

Results:

In 2017, mandatory and recommended quality standards were approved considering a minimum HCP expertise based on the type of transplantation together with a minimum number of procedures performed over the 2 most recent years. TransplantChild defined a set of network-specific indicators related to transplantation. The annual survey was launched on February 8th, 2019 to all the 18 HCP representatives in TransplantChild. Overall reported HCP activity consisted of 663 transplantations performed in 2018 (all transplantation types).
Network members also provided data about activities about pre-transplantation patient evaluation (61% HCPs), waiting list’s patient care (55% HCPs), and outpatient follow-up and care (77%). HCP participation in providing outcomes indicators related to patient and graft survival was lower than 50% and therefore is not valid for analysis. In November 2019 data was presented to HCP representatives for feedback and validation. 2 HCP added missing transplantation activity and the missing HCP provided the requested data.

Conclusion:

1st annual TransplantChild survey has proved critical for the consolidation and further growth of the network. Its periodic release will facilitate in the future benchmarking & monitoring indicators both at European, network & local levels. Data collected will be used to review not only mandatory and recommended standards for continuous improvement within TransplantChild but also periodic indicators monitoring will help to improve in the European setting the level of complex and long-term care provided that is currently needed after transplant and demanded by patients and families.

References:
(1) 2014/287/EU: Commission Implementing Decision of 10 March 2014 setting out criteria for establishing and evaluating European Reference Networks.
(2) 2014/286/EU: Commission Delegated Decision of 10 March 2014 setting out criteria and conditions that European Reference Networks and healthcare providers wishing to join a European Reference Network must fulfill Text with EEA relevance.

Please declare any conflict of interest you may have:

No conflict of interest.
Explore the Current Situation of Waiting Outpatient Service in Traditional Chinese Medicine Clinics

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Introduction:

Background

In general, a long waiting time at outpatient clinic significantly affects patient's satisfaction of healthcare and quality of care. However, there is much more waiting time at outpatient clinic due to the complicated treatment procedures of traditional Chinese medical (TCM).

Objective

This study aimed to explore the current situation and factors related to waiting time at TCM outpatient clinic.

Methods:

This survey study was conducted in October, 2019. A convenience sampling of patients (n = 115) and the registered nurses (n = 13). was used to collect data at TCM outpatient clinics in the north of Taiwan. A self-developed structured questionnaire consisted of 11 items was used to collect data about for outpatients waiting time

Results:

The average waiting time was 38.6 (SD 27) minutes, and the average treatment time was 62.21 (SD 11.37) minutes. The reasons impacted the delay waiting time in order were: unclear estimated time of medical treatment in the patients side (86%, n = 99), uncertain call number sequence (78%, n = 90), unacquainted treatment process (70%, n = 80), unclear guidance signs (60%, n = 69), and not easy to understand in Clinic Medical Register System (59%, n = 68).

In TCM registered nurses’ quandary, dysfunction of Clinic Medical Register System 100% (n = 13), verbose paperwork of work process 92% (n = 12) and the unfamiliar procedure is 38% (n = 5).

Exploring reasons for outpatient’s basic attributes to affect waiting time, the result revealed distribution of unclear guidance signs which reach the maximum in ages 55-69 is 72.4% (n = 52). The first visit registration confused the call number sequence up to 78% (n = 90).
Effecting TCM registered nurses’ work result showed that the age of 40-49 is troubled by the Clinic Medical Register System setting, accounting for 38.5% (n = 5). Sorting number and smoothness of treatment flow revealed perplex in younger nurse is 46.1% (n = 6)

Conclusion:
The average waiting time was longer than the reasonable waiting time that is within 30 minutes according to the Taiwan Healthcare Indicator Series. This study suggests some strategies for improving patient’s satisfaction of healthcare and quality of care. First, to reform the flow chart for the procedure of medical treatment with graphics instead of text descriptions. Second, to reconstruct clinic guidance sign could improve recognition. Third, to rebuild registration appointment schedule for outpatients to follow could improve to indicate arrival time. Fourth, to provide patients comprehensive information from TCM outpatient clinics, Last, to simply paperwork and to invest continuous education for registered nurses who work at TCM clinics.

References:


Please declare any conflict of interest you may have:
Introduction:
The increasing complexity of healthcare service delivery in recent decades has led to a shift towards integrated approaches to care delivery, where services are co-ordinated across organisational boundaries to improve access and delivery of high quality, safe and timely healthcare. Yet, building effective collaboration across organisational boundaries has long been acknowledged as challenging. Successful collective action towards integrated care requires a shift away from a silo-based approach to care delivery and more inclusive and approaches to problem solving. However, our understanding of the factors and mechanisms that support successful collaboration and networking in healthcare is limited. This study explored collaboration within and across organisational boundaries through application of advanced network analytical approaches to model the determinants of patterns of collaboration in a hospital group established with the remit of promoting high-quality integrated care.

Methods:
42 individuals formed the cohort for this work. This included senior leaders across 11 healthcare organisations and the hospital group management team. In an online survey, participants were asked to self-report whom in the interorganisational network they were collaborating with (e.g., engaging in cross-site initiatives, goals, tasks, etc.) and from whom in the network they sought advice. Social network analysis was used to analyse the data. This represents a set of methodologies to map, measure, and analyse social relationships between individuals and organisations. We used exponential random graph modelling (ERGMs) to explore the determinants of collaborative ties between network members. This method enabled the modelling of the relational properties inherent in the network of interest (e.g., advice relationships) as well as individual characteristics and exogenous factors (i.e. organisational affiliation, etc.). Ethical approval was obtained for this study.

Results:
The response rate to the network survey was 81% (n=35). Twenty-two participants were female (62%), 10 were hospital CEOs/GMs, 5 were Clinical Directors, 10 were Directors of Nursing and 10 were members of the hospital group management team. In our model, organisation and gender homophily was strongly significant, indicating that network
members were more likely to collaborate with those in their own organisation and with those of the same gender. Reciprocity was highly significant, suggesting network members report mutuality in relationships. There was evidence of a tendency that some network members received a disproportionate number of collaborative ties compared to others and those with an advice/support relationship were significantly more likely to develop a collaborative relationship.

**Conclusion:**
The study used exponential random graph modelling to explore the factors that predict collaborative ties in a newly established inter-organisational hospital network. These results have practical implications for how we plan and support networks across organisational boundaries. Interventions may be required to facilitate the development of relationships, trust and mutual understanding across organisations to promote integration for quality and safety.

**Please declare any conflict of interest you may have:** none.
Introduction:

This work was performed at a university-affiliated medical centre in Taiwan. Members from the institutional surgical committee, departments where operations schedules were made, quality management and administrative were recruited for participation in the improvement programme.

The operation schedule might impose inappropriate use of hospital resources, reduced efficiency and additional financial and psychological stress to the patients, resulting in less satisfaction. As an efficient operation scheduling system is essential, the hospital should also better manage the utilization for operation room, and this was considered related to better patient-centred care.

Methods:

The leaders proposed a breakthrough program of Intelligence Decision Support System (IDSS) for operation room management. The practice of the programme is to improve the implementation of health informatics into data-using; monitoring the elective and emergency number of operation and drilling down to the number by departments and by the surgeons, included the visual data for different part of patient-centred time periods in the journey of operation, and feedback immediately to the participation of the leaders in the institution.

Leaders in headquarter proposed an action plan for patient-centred time period management with the IDSS tool included the following strategies:

- Integrating the opinions from multi-disciplined departments in IT, medical affairs, physician, nurse, anesthesia, medical record and quality management for time-serial
In consideration of medical and managerial needs, we incorporated the outpatient, inpatient and emergency operations to establish the automated dashboards on the IDSS.

Settling goal for discharging times from the ED to patient care units, and revised the goal every year.

Developing IDSS dashboard with new tools of Power Business Intelligence for visualization during 2019.

Engaging the surgical committee involvement.

**Results:**

We completed a timely dashboard for 7 period of time-serial measures established in the IDSS, include the waiting time for surgeries, the waiting time for anesthesia, the time consumption for anesthesia induction, the time consumption for surgical preparation, the time consumption for surgeries, the waiting time for transferring to ICU, and the preparation time for the next surgery.

We used the statistical process control chart and stratification in the dashboard, the data can be drilled down from hospital-wide to the specialists, even to different surgeons. 25 leaders from superintendent office, surgical departments, and quality management have the authority to access the timely dashboard for flexible self-service interface data analytics. Before 2018, we always get the data after we encounter some problem in the management. With the establishment of the business intelligence decision support system, we can use the data and share better practice with the key persons and stakeholders in the timely way rather than the ad hoc review.

**Conclusion:** With the increasing demand for IT-supported quality application in operation room management, a multi-disciplined team for business intelligence application might be a better way to achieve the innovation for decision making. Process-based analysis allows higher-level operations like filtering and aggregation. Hospital leaders must present a vision for a system-wide issue with cross-departmental improvement opportunities.


**Please declare any conflict of interest you may have:** This work received no specific grant from any funding agency.
How leaders can respond strategically and culturally to preventable serious adverse events in the ambulance service

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Introduction:

The South Australian Ambulance Service (SAAS) detected a cluster of 14 potentially preventable adverse events in four months in 2018 resulting in serious patient harm, including deaths. An external review was commissioned with the objective of determining the common systems factors that may have contributed to these adverse events.

Methods:

To inform its findings, the review analysed:

- Incident reports, interviews with staff members, and Patient Clinical Records (PCRs);
- A random audit of SAAS rapid detection and response (RDR) charts of patients not involved in the AEs whose abnormal clinical observations were recorded; and
- Notes from 13 staff focus groups facilitated by the SAAS CEO.

Results:

An overall theme of the incidents was that there was an under-appreciation of clinical risk posed to patients with a lack of response to abnormal observations. This lack of response manifested most frequently in not seeking clinical support from more senior colleagues. Basic clinical observations were not completely documented in the PCRs in approximately half of the incidents. There were also clinically high risk activities being undertaken such as walking patients whose clinical observations suggested that this was not safe.

The RDR audit found that only 30\% of patients who had observations in the abnormal range had their care escalated to a clinical senior. Of those cases not escalated, 80\% had either an observation in the highest risk category or two observations in the next highest category.

In the 13 focus groups, the main systems themes that emerged were the impact of ambulance ramping (i.e., forced to wait outside hospitals with sick patients), an
organisational focus on non-clinical targets (i.e., activity and response times) and staff issues (e.g. reduced clinical supervision of juniors). Achieving organisational targets has “taken the focus away from the patient” and SAAS’ attempts to reduce pressure on emergency department demand may have resulted in clinical staff being more reluctant to transport patients to hospital.

Pro-active efforts in late 2018/early 2019 by the SAAS Patient Safety and Quality Team and Executive Management in recognising that incidents were occurring and taking action in response included undertaking numerous consultations/focus groups/communications with staff, implementing more clinical resources and education, modifying the RDR design, changing policies, and commissioning the review.

Half of the review’s recommendations relate to the Executive. For SAAS, a broader definition of a high quality service is necessary; one not just solely focused on being a timely service but one that encompasses a strategy to measure, discuss, communicate, improve and be accountable for all domains of patient care, including safety, patient experience, and the delivery of evidenced-based practice. Such a strategy must be driven internally by the executive and be core to SAAS’s business strategy, organisational purpose, and operations.

Further implementation of clinical tools such as the RDR charts and electronic PCRs, reducing any real/perceived unfair blame on staff who are involved in incidents, and systems to efficiently capture and analyse clinical and safety data, including trialing the global trigger tool for ambulance are part of the strategy. The ongoing implementation strategy includes involving patients and external oversight for assurance and accountability.

**Conclusion:**
The review reinforces using multiple data sets to understand what and why serious harm occurs. The review also demonstrates how organisational cultures and decisions can both contribute to and prevent serious adverse events.

**Conflicts of interest**
KH and RL are employees of SAAS. PH was commissioned by SAAS to undertake the review.
Implementation of a Balanced Scorecard in an Austrian hospital leads to an improvement of processes and subsequently to an increase in quality of services

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Objectives:
Due to the complexity of health promotion, conventional evaluation concepts focusing on the contribution of individual measures reach their methodological limits. The Balanced Scorecard (BSC), developed by Kaplan/Norton in 1997 (Kaplan & Norton, 2007), supplements financial key figures with targets and indicators derived from the corporate strategy. The BSC is therefore a suitable survey instrument for visualizing the relation between costs and benefits. It can be used to meet the special requirements of hospitals with regard to health promotion, integrated care, networking and quality in a solution-oriented manner. This multidimensional measuring instrument must combine the objectives of hospital management, personnel development and the patient perspective.

Methods:
In co-operation between the University of Applied Sciences Upper Austria and an Austrian hospital, a Balanced Scorecard was developed and implemented.

Results:
- Through the introduction of the BSC the decision-making processes in the hospital changed
- Meeting processes are more structured and can be carried out even in large groups of people due to the optimized information procurement, since key figures and data are available to everyone.
- In the monthly hospital management meetings, the key figures prepared by the respective responsibilities are discussed and assessed according to absolute measurements, trends, annual comparisons and in connection with other key figures and data.
- Initiatives are already decided upon and contracts for their implementation are awarded during the meetings.
- This procedure increases the flexibility and efficiency of management and reduces the need for coordination between individuals.
• A "cause and effect diagram" - a so-called strategy map - was developed in which the paths on which the goals are achieved are described. This forms the basis for regularly questioning the strategy basis.

Conclusion:

The BSC considers both monetary and non-monetary indicators. To measure the financial parameters, a wide range of proven indicators could be used, with which sufficient experience has already been gathered.

To assess the non-financial indicators, an ordinal scaling (e.g. school grades or traffic light system or a subjective evaluation of the facts) was recommended. In order to ensure traceability and to exclude arbitrariness, several participants should be involved in the assessment and a structured approach should be chosen.

It is necessary that a position in the company takes care of the ongoing maintenance of the system and assumes higher-level control tasks - such as the annual BSC revision within the planning process.

To avoid room for interpretation with regard to the corporate strategy, goals must be formulated precisely so that every employee and manager has the same understanding of the strategy, goals, and key figures. A coordinated strategy is an essential prerequisite for a successful BSC and therefore of utmost importance.

The choice of objectives should be limited to a maximum of 20 to 25 objectives.

In order to meet the special requirements of hospitals with regard to health promotion, integrated care, networking and quality in a solution-oriented manner, there is a need for further development of the BSC. It is recommended to supplement the BSC with an
additional perspective - networking and integration with the parameters cooperation, cooperation partners, knowledge transfer and public relations.

Reference List


[1498] Implementing Large Scale Change of Quality Culture: Abu Dhabi Story

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Introduction:
The Department of Health, the regulatory authority of the healthcare sector in Abu Dhabi, UAE, Launched Jawda, part of Abu Dhabi Healthcare Quality Index, in 2014. The aim of the program was to create a quality culture through the implementation of the most comprehensive and unique monitoring program in the MENA region, a program that ensures continual improvements and improves accountability. This was accomplished through five-stage system of performance and behaviors transformation.

Methods:
The development and implementation of Abu Dhabi Healthcare Quality monitoring framework – Jawda was based on a five-stage performance:

1. Aspire: first phase is to set strategic short-term and long-term objectives that balance between faction and intuition.
2. Assess: The second phase was to run a situational analysis on the sector to understand the behavioral system, management system, and technical system. This was carried out at the regulatory level by looking at capabilities, resources and knowledge management. The analysis was also done at the healthcare providers level to understand the current mind-sets and organizational structure in order to target behaviors that will lead to the desired outcomes.
3. Architect: DoH enforced certain quality governance practices from providers through the issuance of policy of quality and patient safety. In addition, DoH mandated electronic quarterly submission of waiting time and clinical outcomes indicators. Healthcare providers were engaged through frequent training workshops, surveys and regular individual performance assessment meetings which were organized and conducted by DoH.
4. Advance: Putting in place a process of knowledge management and continuous improvements is the fifth phase of the performance change managing system. Abu Dhabi Healthcare Quality monitoring framework is constantly reviewed looking for gaps and areas of improvements.
Results:
Ever since the establishment of Abu Dhabi Healthcare Quality Index in 2014, several immediate and med-term positive impacts have been observed. There was noticeable improvement in the overall quality culture within the sector which resulted on the development of multiple quality improvement initiatives from the public and private healthcare providers. The latest results from 2017 revealed several clinical outcome and patient safety improvements such as;

50% reduced in the number of cardiac arrest cases
50% reduction in promary care C/Section
7% reduction in Perinatal mortality
20% reduction in unplanned readmission
60% reduction in surgical site infection

Conclusion:
The achievement of large-scale change in quality requires systematic performance management approach as well as the engagement of leadership and all stakeholders. The experience of Abu Dhabi Healthcare Quality Index and Jawda- quality indicators has shown positive impact on different quality dimensions as well on improving the overall quality culture.

References:


Please declare any conflict of interest you may have:
[1673] Improve the effectiveness of nursing shifts in intensive care units.
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Introduction:
Turnover is one of the daily and very important communication tasks for nursing staff. Efficient shifts allow members to quickly grasp the patient’s condition, clearly follow the focus of care, achieve effective communication, and improve patient safety. Statistics show that the average nursing shift time of a surgical intensive care unit in a teaching hospital in Taiwan is 39-50 minutes per bed, which seriously affects the quality of care for patients and medical teams. Use medical specialist cross-team discussions to improve communication integrity to shorten nursing shifts, increase patient care hours and improve patient safety.

Methods:
A cross-sectional survey method was used in May 2019 to collect data on sociodemographic characteristics, nursing shift awareness, attitudes and behaviors, and possible factors affecting nursing shifts through questionnaire surveys and field visits to a total of 125 nursing staff. Intervention measures include (1) simplifying nursing shift content; (2) formulating nursing shift standards and formulas; (3) realistic teaching and training; and (4) establishing a nursing shift information platform.

Results:
After the intervention, (1) the nursing shift time was reduced from 50.0 minutes / bed to 28.9 minutes / bed; (2) there were significant differences in nursing shifts for nursing staff at different ages, working years and patient characteristics, aged 20-25 years, working Nursing staff with 1-2 years of age, high severity of illness, long hospital stay (greater than 7 days), and long nursing shifts; (3) Simplifying and establishing nursing shift standards and tips, and nursing shift information platforms to improve shift efficiency.

Conclusion:
Patient-centered care is an important goal of medical safety management. In this study, the effectiveness and consistency of team communication were improved to improve the nursing shift process, allowing nursing staff to quickly grasp the patient's condition and clearly focus on continuing care. Not only successfully shortened the shift time, but also promoted team communication, improved nursing staff shifts and work efficiency, thereby increasing patient care hours and obtaining better quality of care.

References:

Please declare any conflict of interest you may have:
Improvement of Pressure Injury Prevention and Management Programs:

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Introduction:

The incidence of pressure injuries is the important indicator of the quality of health care in health-care facilities worldwide. It not only causes pain and severe infection but increases medical expenses. The Nursing Quality Control Committee noticed a significant rise of incidence when starting to report pressure injuries by Nursing Information System (NIS) instead of manually on March 2013. This program is to reduce pressure injuries for inpatients via the integration of evidence-based nursing practice with clinical data analytics.

Methods:

The project included three phases: (1)Data from Taiwan Clinical Performance Indicator (TCPI) shows an aberrant increase of pressure injury in a medical center on March 2013. The incidence of pressure injury rose from 0.134% to 0.351% in general wards, and 0.338% to 0.791% in intensive care unit. Further investigation suggests such increase was due to the change of reporting process. Staff were unfamiliar with the new system and the evaluation process, registering the out-of-hospital pressure injury as a new event. On September 2013, the proper way to report new event was announced in varied meetings and notifications. On December 2013, standard operating procedures for the evaluation and prevention of pressure injury risk factors were revised to have pressure injury evaluated according to the Braden scale by all nursing staff. The Nursing Quality Control Committee has provided incidence data to each ward on a monthly basis since January 2014. The head nurse will propose Plan-Do-Check-Act (PDCA) if wards fall short of our target rates. The general trend decreases later.(2)The Nursing Quality Control Committee revised the operation procedure of the dressing change of pressure injury on April 2015, allowing nursing staff to identify wounds correctly and to apply an appropriate plan of care. Also, it hold the Healthcare Quality Improvement Campaign─Improvement project of pressure injury in 2016. Various innovative improvement plans were proposed, and they bring benefit to the patient. Based on evidence-based guidelines, A total of 10 training courses regarding pressure injury prevention education with multi-teaching strategies were held in August 2016.The education program includes lecture, interactive response systems (IRS) and scenario simulation. The members participating in this course are leaders. Participants were asked to publicize and educate others in the ward after the course.(3)After continuous
improvement measures, occurrence ratio had dropped dramatically to 0.139% in general wards, 0.221% in intensive care unit, which is lower than the medical center average in 2017. Add the monitoring projects in 2018, observe the correctness of the caregiver's care process. Ensure that patients receive quality care.

**Results:**

The monitoring plan implemented in 2018 observed a total of 30 patients receiving nursing care, the frequency of correct assessment was 100%, proper preventive measures were provided 80%, and established health problems were 90%, all reaching the threshold of 80%. The continuous improvement strategies making incidence data from TCPI has a significant decline, 0.073% in general wards, 0.039% in intensive care unit in 2019.

**Conclusion:**

This programs uses TCPI report data for series of monitoring. With the presentation of data, it is possible to truly present the items that need to improving. With Evidence-based nursing practice, multi-strategy education programs are promoted all units in the hospital to strengthen the knowledge skills of all health care workers for the purpose of improving pressure injury prevention, management and the integrity of their implementation. Thus, it improves the quality of care.

**Please declare any conflict of interest you may have:** No
Patient safety is dependent on accurate and timely laboratory test results. A process enhancement initiative was taken to improve the error detection procedure in the routine automation chemistry section, Department of Pathology and Microbiology Aga Khan University Hospital, from January 2017 to December 2017. It is an ongoing project to monitor the continual improvement.

**Problem:** The section of chemistry (routine automation) was following traditional QC practice by using few tools manually to detect the analytical errors which were leading to the laborious process like high rechecks of QC, patient samples, staff’s time and associated resources for the process.

**Objective:** To reduce the number of rechecks of quality control (21 % to 5%), patients samples (1.0 % to 0.2%), staff time (18% to 6 %) and resources (33 % to 2 %) for the quality control processes, by improving the processes of error detection in routine chemistry.

**Methods:**

A team was formed consisted of pathologists, technologists of the section of clinical chemistry & quality assurance coordinator lab to conduct this project. Lean six sigma methodology “DMAIC” was applied.

The study scope was included the routine chemistry testing. Body fluids & Urine testing were out of scope Process boundaries was included the Preparation of instrument, analysis of QC and test till finalization of the report in the Laboratory Management System (LIS). (Samples are received from all over the country)

Detailed Current process map for QC & patient analysis was designed to know the non-value added steps. Internal and external customers for the process were identified by SIPOC, Voices of these Customers were translated into measurable Critical to Quality. Fishbone helped to detect the teething troubles of the process. And the impact of potent problems was detected by the Impact control matrix. Every associated waste for each problem was calculated as follows (described in the table under the heading of Measurement of improvement). Sigma scale for baseline performance was <3.0.
The procedure’s cycle time was 6.75 & lead time was 4.5 hrs. The cost for the whole process was 3,973,642 PKR/Year.

Remedies were evaluated & selected using Criteria-Based Selection Matrix e.g. QC reanalysis lessened by applying more rigorous QC rules & patient moving averages. Staff’s time was saved by real-time QC monitoring through software.

While patient retesting was minimized by the integration of threshold limits for each test in the ILMS (integrated laboratory management system) & automatic trapping of analytical errors by Delta check which was incorporated in the middleware of the instrument. Moreover, daily review and evaluation for errors trapping for the analytical phase by a report (Daily amendment report) designed by IT were introduced for early detection and prevention of errors in an analytical process flow.

**Results:**

Every non-value-added step was removed, lead & cycle time for the process was decreased to 4.6/3.1 hrs. After intervention data were statistically analyzed for each problem & results are as follow

<table>
<thead>
<tr>
<th>Problem</th>
<th>Before Intervention</th>
<th>After Intervention</th>
<th>Sigma Level (Before)</th>
<th>Sigma Level(After)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QC Rechecks</td>
<td>21%</td>
<td>3%</td>
<td>2.4</td>
<td>3.5</td>
</tr>
<tr>
<td>Test Rechecks</td>
<td>1%</td>
<td>0.02%</td>
<td>2.9</td>
<td>5.1</td>
</tr>
<tr>
<td>QC Monitoring Time</td>
<td>18%</td>
<td>6%</td>
<td>2.5</td>
<td>3.4</td>
</tr>
<tr>
<td>Resources consumed in QC monitoring</td>
<td>33%</td>
<td>2%</td>
<td>2.5</td>
<td>3.2</td>
</tr>
<tr>
<td>Time consumed in Troubleshooting</td>
<td>3%</td>
<td>0.6%</td>
<td>3</td>
<td>4.1</td>
</tr>
<tr>
<td>Test Reported, 1 hr. before cutoff time</td>
<td>80%</td>
<td>99.99%</td>
<td>3.6</td>
<td>5.3</td>
</tr>
<tr>
<td>Patient Complaints out of Total Complaints</td>
<td>10%</td>
<td>0.01%</td>
<td>2.8</td>
<td>3.9</td>
</tr>
<tr>
<td>Failed PT Results</td>
<td>1%</td>
<td>0.5%</td>
<td>3</td>
<td>4.2</td>
</tr>
<tr>
<td>Biased PT Results</td>
<td>9%</td>
<td>2%</td>
<td>2.9</td>
<td>3.5</td>
</tr>
</tbody>
</table>

**Conclusion:** Overall process cost was reduced up to 469,346 PKR/Year & sigma scale reached up to >3.0.

**References:** Westgard QC
Please declare any conflict of interest you may have: None
Introduction:

The National Academy of Medicine (NAM) published a groundbreaking report in 2015 as part of the Crossing the Quality Chasm series. *Improving Diagnosis in Healthcare* made the stunning suggestion that “most of us will experience at least one diagnostic error in our lifetime, sometimes with devastating consequences”. The report was the culmination of two years of work by a multidisciplinary panel of national leaders (including MedStar leader C. Goeschel) and included 8 action-oriented goals to Improve Diagnosis and Reduce Diagnostic Error. In 2017 the authors worked with a Georgetown medical student to develop a survey that would assess specific knowledge, experiences and beliefs about improving diagnosis, and awareness of the 8 recommendations for action that were part of the NAM report. That initial survey was completed by a convenience sample of 177 faculty and alumni of the Academy of Emerging Leaders in Patient Safety Telluride Experience (TTE). The objective of this follow-up quality improvement activity in 2018 was to assess similar factors among a convenience sample of quality, safety and risk management (QSRM) leaders at MedStar Health, with a goal of comparing the results across survey populations and using results to inform the creation of definitive actions to improve the diagnostic process.

Methods:

An adapted survey (to accommodate addition questions re leadership role) was administered at a face to face meeting of quality, safety and risk leaders at MedStar Health. Survey completion was anonymous and voluntary. The paper survey was placed on tables before the meeting began. Participants completed the survey during break periods and lunch and left completed surveys on the tables or at the back of the room in a box. Participants were informed in advance that results would help inform future improvement initiatives at MedStar Health. Data were entered into Excel and analyzed using Minitab Statistical Software.

Results:

Fifty QSRM leaders completed the survey. Differences between TTE and QSRM responses were not statistically significant. Variation existed in responses regarding beliefs about factors that contribute to diagnostic errors, the frequency with which diagnostic errors
occur, whether diagnostic errors occur in the current work environment and what type of diagnostic errors are most common. Responses were most similar on two questions: over 50% of each group indicated either they or someone they knew experienced a diagnostic error and over 60% in each group indicated diagnostic errors occur in their work setting.

These results provided inspiration for MedStar leaders to support development of a “hub” for action. The MedStar Institute for Quality and Safety Center for Improving Diagnosis in Healthcare was launched in late 2018 and aims to improve the diagnostic process and reduce diagnostic errors by:

- **Convening** interested clinician, patient and family and community stakeholders
- **Collaborating** to identify, prioritize and address diagnostic challenges
- **Creating** goal directed strategies and tactics, training tools, and effective improvement interventions, and
- **Communicating** what we learn with the larger healthcare community through workshops, publications, enhanced training and expanded research.

**Conclusion:** Assessing knowledge, beliefs and experiences related to diagnostic errors is a useful tactic to inspire action and inform the design and development of activities that will engage providers and health system leaders in efforts to improve the diagnostic process.


**Please declare any conflict of interest you may have:** None
Introduction: The National Academies report “Improving Diagnosis in Health Care”, recommends that healthcare organizations (HCOs) “monitor the diagnostic process and identify, learn from, and reduce diagnostic errors and near misses in a timely fashion.” However, most HCOs find diagnostic errors hard to address. Further progress hinges upon HCOs’ ability to overcome challenges of measuring diagnostic error in real-world settings. We identified organizational barriers, facilitators and potential best practices to implement measurement programs related to diagnostic safety.

Methods: We interviewed health systems quality and safety leaders across the United States as a first step of a larger project to develop organizational best practices in diagnostic safety. Participants were recruited through email invitations and represented geographically diverse academic and non-academic settings caring for adults and/or children. The interview guide included questions on measurement, such as use of systematic measurement strategies for diagnostic safety; diagnostic error-related projects undertaken in the past year; changes made as a result and innovative ideas to measure diagnostic safety. We conducted a content analysis of the interview transcripts.

Results: Interviews with 31 participants showed several barriers to measurement of diagnostic error at the health system level, including lack of consistent ways to define and measure diagnostic safety. Participants also reported lack of tools, processes, strategies and specific guidance to facilitate measurement. They made several recommendations (Table) including developing a dedicated committee to oversee a program for improving diagnosis, making electronic reporting easier and developing new types of technology-supported triggers to measure diagnostic errors. Lastly, they reported the need for policymakers and payers to be involved in creating measurement initiatives.

Conclusion: Leading organizations identified specific barriers for measurement of diagnostic safety and suggested actions to bolster measurement for improvement at the health system level. Next steps should include development of organizations that learn and explore diagnostic excellence.
Please declare any conflict of interest you may have: There are no conflicts of interest to disclose.

<table>
<thead>
<tr>
<th>Salient Barriers to Measurement</th>
<th>Recommendations for Next Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of concise definitions and measurements for diagnostic error</td>
<td>· Develop triggers to measure diagnostic safety</td>
</tr>
<tr>
<td></td>
<td>· Develop quality improvement and benchmarking activities around diagnostic safety</td>
</tr>
<tr>
<td></td>
<td>· Develop a system-wide committee dedicated to diagnostic safety activities, integrated within existing quality and safety programs</td>
</tr>
<tr>
<td>Lack of structured organizational processes to find and address errors</td>
<td>· Better interoperability of digital records enables adequate information to learn about missed opportunities</td>
</tr>
<tr>
<td>Antiquated reporting systems that do not include diagnostic errors</td>
<td>· Build a smart phone app that links to electronic medical record and facilitates reporting of diagnostic errors through specific taxonomies</td>
</tr>
<tr>
<td>Lack of measurement infrastructure/tools and insufficient sharing of findings from existing risk-management programs and peer-reviews</td>
<td>· Automate measurement of specific types of high-risk diagnostic errors</td>
</tr>
<tr>
<td></td>
<td>· Work with payers to develop measures for diagnostic safety improvement that can be easily abstracted from the electronic record</td>
</tr>
<tr>
<td></td>
<td>· Disseminate lessons learned by quality and safety committees to the entire organization</td>
</tr>
</tbody>
</table>
Improving nursing staff's quality in wound care after cleft lip surgery

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Introduction:

Wound care is important for reducing scar hyperplasia, especially to cleft lip postoperative care.

The purpose of this project is to improve the integrity and efficiency of wound care after cleft lip surgery.

Methods:

1. Based on the literature and physician opinions, we have developed guidelines for wound care after cleft lip, including dressing procedures and health education guidance.
2. We have developed a monitoring and checking mechanism for care after cleft lip surgery.
3. We have implemented classroom education training and clinical practice teaching.
4. After the operation, we provided QR code to make it easy for family members to watch and download the postoperative care videos.
5. Providing a package of supplies for wound care after surgery.

Results:

1. Wound care integrity improved from 82.6% to 95.8%.
2. Nursing staff’s cognitive accuracy rate increased from 77.8% to 96.8%.
3. Wound care time after cleft lip is reduced from 60 minutes to 32 minutes.

Conclusion:

The wound care after cleft lip is unique and has a decisive influence on the proliferation of scars.

The implementation of this project has significantly improved the awareness of nursing staff and the integrity of performing cleft lip and wound care, it also reduces the nursing staff’s time after performing cleft lip care and improves efficiency.
References:


Please declare any conflict of interest you may have:
none
Interprofessional advanced access: a tale of accompanying organizational change in primary healthcare

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Introduction: Canadians wait longer to for access to primary care than their international peers: only 43% are able to get same or next-day appointments at their regular place of care. Advanced Access (AA) – a major reorganization of scheduling and interprofessional practice – is highly recommended to improve timely access to primary care. AA ensures that patients can access care when they need it. While AA is increasingly popular amongst family physicians, nurses and residents, it has not been widely adopted by other allied health professionals (e.g. psychologists, social workers, pharmacists). Implementing interprofessional AA involves substantial and complex organizational change in primary care practices. Primary care teams need support to implement these changes through evidence-based quality improvement. Very little work has been done on the acceptability and feasibility of a research team accompanying primary care practices in these organizational changes. The objectives of this project was to explore the acceptability of a research team accompanying organizational change to implement interprofessional AA in primary care teams, based on quality improvement and design thinking approaches.

Methods: Five family medicine groups have enrolled in a 1-year project designed to accompany organizational change based on continuous quality improvement cycles and design thinking approaches. Team meetings are organized on a quarterly basis to prioritize objectives, design plan of actions and build engagement amongst the whole team. A local follow-up committee works collaboratively with the research team on a monthly basis to operationalize and implement the plan of actions and measure the effects on patient access and practice change. Interviews were carried out with a purposeful sample of participants from each family medicine group. Inductive content analysis was performed.

Results: The high acceptability of the process was linked with four key themes described by participants: 1) involvement of multiple leaders from various professions and group willingness to change; 2) external support provided by experts in organizational change on the research team; 3) empowerment of allied health and administrative staff; and 4) accompanying multiple teams at a time, which allowed for exchanges across primary care teams. Participants highlighted their appreciation of activities facilitated by the research team, feeling supported when faced with obstacles and being provided evidence-based tools and strategies. While the process generally seemed feasible to participants, it was also
noted that the process was resource-intensive, for both the research team and primary care teams. Moreover, participants considered that some key changes required to implement interprofessional AA were beyond the primary care and research teams’ control (e.g. access to acute care services) and identified this as a limitation to the feasibility of the process.

**Conclusion:** Having a research team accompany them in the organizational changes required to implement interprofessional AA – through quality improvement and design thinking approaches – was deemed both acceptable and feasible to primary care teams. Support provided should be in sync with the team’s needs and progress. Therefore, a one size fits all approach is not recommended.

**Please declare any conflict of interest you may have:** None
Joy in Work – A grounds-up NHG initiative to create a workforce that finds joy, meaning and satisfaction in work

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Introduction:

The increasingly stressful healthcare environment can put healthcare workers at risk of depersonalization, mental and physical exhaustion. Healthcare workers under such conditions may lead to poorer interactions with patients, reduced quality of care, higher staff turnover rates and compromised financial vitality to the institution. Among Singapore medical residents, up to 80% experience professional exhaustion1.

Prominent management thinker Edward Deming highlighted “Management’s job is to create an environment where everybody may take joy in his work”. From this, the IHI published a White Paper on the steps and roles of leadership in promoting joy in work with quality improvement methods and evidence for measurable results. Based on this, we set out to engage staff in a participative initiative for JIW at the team level, nested within NHG’s framework for overall JIW in the NHG cluster.

Objectives:

Our ambition is to create a grounds-up movement to promote a workforce that finds joy, meaning and satisfaction at work by testing a prototype toolkit and using quality improvement methodology. Our long term measures include staff attrition rate, absenteeism, and employee climate survey results.

Methods:

A core workgroup was formed to drive this initiative. The first step was to review published best practices and adapt the IHI framework to improve relatability by local staff. We then developed a self-help tool kit to facilitate team discussions focusing on team micro-processes at work. Tools to facilitate this process were included in the toolkit, such as conversation cards and QI tools to help participants create conversations and to empower teams to resolve pain points at work respectively.

Seven pilots from five institutions joined voluntarily, and each lead recruited voluntary colleagues to join this pilot initiative. Each pilot group tested the toolkit prototype and met monthly to share the results of their experience.
Figure 1. Structure of NHG JIW first pilot

Results:

<table>
<thead>
<tr>
<th>Total Feedback</th>
<th>Positive</th>
<th>Opportunities for improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 1. Qualitative feedback on the toolkit and JIW from 1st PDSA

Positive (non-exhaustive)

- Members found JIW a legitimate platform to bring up these issues at work
- Tools were effective to initiate and create safe spaces for open conversations on pain points at work
- Regular sessions helped established a familiar network for crowdsourcing of solutions and peer support

Opportunities for improvement

- Physical appearance of toolkit prototype could be more vibrant and energetic to enthuse greater participation
- Portability of toolkit could be improved on
- Add on a category “most of the time” in the JIW questionnaire
Further results are pending February 2020. Results of the 1st PDSA will be used to improve the toolkit prototype before introduction to new sites and pilots in a 2nd PDSA (planning stage).

Conclusion:

We used an iterative learning approach and improvement efforts matched to methods to achieve a JIW grounds-up movement. This empowers our workforce to identify pain points and improve team micro-processes.

A combination of an adapted IHI framework, a toolkit prototype and regular facilitated sessions was found to be beneficial in initiating joy in work in our pilot teams.


Please declare any conflict of interest you may have: None

Abbreviations:

IHI – Institute of Healthcare Quality
IMH – Institute of Mental Health
JIW – Joy in Work
NHG – National Healthcare Group
NHGP – NHG Polyclinics
NSC – National Skin Centre
QI – Quality Improvement
YH – Yishun Health
Life Esidimeni Investigation by the Health Ombud; Lessons and implications for the health sector

Monnatau Tlholoe

1Office of Health Standards Compliance, Pretoria, South Africa

Introduction:

In September 2016, the Health Ombud received a complaint and investigate the death of Mental Healthcare Users who died in multiple NGOS after discharge from Life Esidimeni (LE) facilities in Gauteng. The LE investigation by the Health Ombud was released on 1 February 2017. The LE report demonstrated the horrendous consequences of the decisions by politicians, administrators and their teams when they do not listen and act to complaints and disregard the rights of vulnerable healthcare users. The finding and recommendations of the report are implemented and continuously monitored by the Chief Executive Officer of the OHSC. The project intends to identify the critical lesson learnt from the LE Investigation for an effective Complaints Management System and determine the implications of the LE Investigation for the healthcare sector.

Methods:

The methodology used in compiling the project is largely based on a desktop review of the Health Ombud LE report, research articles, media reports and other related publications published after the release of the LE report. No formal protocol was adopted, instead an interpretive and narrative approach is used.

Results:

1. A number of critical Lessons for effective complaints management system were identified which included a culture of openness, user focused, compassionate and respectful interactions with the patient, family and supporting persons, complaints are a great catalyst for change, spirit of collaboration or collective decision making should have room to accentuate individual and professional ethics, intelligence and judgment, involvement of multiple experts and recommendations by Ombud are enforceable.

2. Implications of the LE Investigation for the health sector are that the Health Ombud’s Report was accepted entirely, NGO Licensing process improved and formalized, there were 63/1000 age-adjusted death rate among MHCUs transferred from LE to the 28 NGOs which was almost eight times the preliminary crude death rate of 8/1000, implicated politician, administrators and team faced relevant actions, Constitutional and Legislative provision were adequately tested, the cost to quality was R80,4M,
Health-related legislative review (MHCA & NHA) and the Special Investigation Unit (SIU) is probing unlawful and improper conduct on the part of 28 NGOs.

**Conclusion:**
The Health Ombud has a major contribution to ensuring accountability in the healthcare sector. The Life Esidimeni report has revealed that wrong decisions occur in the movement and placement of LE patients to NGOs. When this happens, how politician, executives and healthcare professionals deal with such events determines whether those wronged receive justice and whether the system learns from that which went wrong.

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**Please declare any conflict of interest you may have:** None
Introduction:

Healthcare contexts present certain leadership and organisational challenges; they are typically very hierarchical organisations and various professional groups (such as physicians, nurses, health and social care professionals) are trained and operate within their professional ‘silos’ and do not receive training on how to work effectively in a multidisciplinary team. Collaborative and shared approaches to leadership have been associated with better healthcare team outcomes. Yet, given these challenges, the enactment of shared leadership in healthcare may be more difficult to realise. This project addresses this issue by exploring how we can analyse team dynamics to understand how these leadership configurations may be associated with staff engagement for quality and safety, problem solving and advice-seeking.

Methods:

Staff members (nurses, doctors, administrative staff, partners, social workers and subspecialties) of a paediatric emergency department at a large urban US hospital took part in an online survey (n=70). The survey collected demographic information, included a brief survey to assess work engagement and explored leadership and advice seeking relationships in the team. Using social network analysis, we measured leadership by using density, which is a measure of the total amount of leadership displayed by team members as perceived by others on a team. We also explored the impact of advice-seeking in the team on leadership for quality and safety. A subset of individuals representing various disciplines and levels of experience in the team were purposively sampled and invited to take part in a semi-structured interview with the researcher to understand the experiences of advice-seeking and leadership for quality and safety within the team. Interviews (n=10) were analysed using an inductive thematic approach. Ethical exemption was obtained for this study.
Results:

The results indicated a high level of shared leadership in the team. Clusters were evident across particular professional groupings; however, a series of ‘brokers’ occupied roles in connecting parts of the teams that would otherwise be more isolated. Advice relationships had an impact on whom individuals looked to for leadership in achieving the team's objectives. Those who reported greater levels of staff engagement tended to be more central in the network (i.e., have more links with others on the team) in terms of leadership and advice. The qualitative results indicated the primary reasons certainly individuals were sought for leadership and advice and these included expertise, length of experience, previous exposure to quality improvement initiatives and based on the quality of their current working relationship. The qualitative results also indicated some challenges for the team, identifying target areas for interventions to promote the quality and safety agenda through a shared leadership approach.

Conclusion:

This research offers a comprehensive and robust analysis of the advice-seeking and leadership networks in an acute healthcare unit by applying qualitative and advanced analytical methods to explore the multiple theoretical mechanisms that may explain the formation of advice-seeking networks. This highlights the role played by social and organizational determinants on team interactions, with considerable implications for care quality and safety in an acute setting.

Please declare any conflict of interest you may have: none
Measuring Quality – Ireland’s National Healthcare Quality Reporting System

Sarah Treleaven1; Rosarie Lynch1; Marita Kinsella1; Ronan O’Kelly1

1Department of Health, Dublin, Ireland

Abstract Title: Measuring Quality – Ireland’s National Healthcare Quality Reporting System

Authors: Sarah Treleaven, Rosarie Lynch, Marita Kinsella, Ronan O’Kelly: Department of Health, Ireland

Introduction:

The World Health Organisation has identified healthcare quality as a goal via Sustainable Development Goal 3.8[1]:

Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.

The OECD also considers that healthcare quality is key dimension health service performance assessment[2]. Transparently reporting on the quality of health services in Ireland is a priority for the Government of Ireland. There are challenges associated with reporting Ireland as health-related information is held by multiple stakeholders and this information is often not published concurrently.

In order to measure the quality of healthcare services in Ireland the Department of Health annually publishes a report called the National Healthcare Quality Reporting System (NHQRS).

Objectives:

To develop and implement an annual reporting system for measuring the quality of healthcare services in Ireland. The purpose of the NHQRS is to publicly provide information on the quality of healthcare services in Ireland. This in turn informs and supports decision-making by patients, policy makers and service providers.

Methods:

The Department also engages with a wide spectrum of national health sector stakeholders to understand the emerging healthcare quality issues and data sources. Once a possible data source has been identified, it is evaluated by a Technical Group across five dimensions of data quality[3]: relevance, coherence and comparability, accuracy and reliability,
timeliness and punctuality, and accessibility and clarity. The metadata and possible graphic presentations are then drafted for approval by the NHQRS Governance Committee.

The NHQRS Governance Committee and Technical Group were established to support and oversee the annual production of the NHQRS. The committee members represent a wide range of stakeholders from across the Irish health service, including patient representatives.

Results:

The NHQRS has been published for 5 years on an annual basis. The 2019 report contained data on 38 indicators from different sectors of health services, with explanatory notes and explanations including any limitations.

The report is distributed across the health service. Its findings and data are used to inform healthcare quality improvement projects and as an evidence base for health policy development.

A one-page illustrated summary aimed at the public is distributed in conjunction with the report’s publication to ensure the report’s key findings are publicly accessible.

Conclusions:

Regularly reported information on the quality of healthcare services provided in Ireland is now in the public domain, in keeping with the principles of openness, transparency, accountability and empowerment of patients, the public, policymakers and service providers at all levels.

Conflicts of Interest

No known conflicts of interest exist for the authors.

[1] https://www.who.int/sdg/targets/en/

[2] https://doi.org/10.1787/440134737301

Introduction: Clinical effectiveness is a key component of patient safety and quality. The integration of best evidence in service provision, through clinical effectiveness processes, promotes healthcare that is up-to-date, effective and consistent. Clinical effectiveness processes include guidelines, audit and clinical practice guidance.

Clinical guidelines are systematically developed statements based on a thorough evaluation of the evidence, to assist practitioner and patient decisions about appropriate healthcare for specific clinical circumstances, across the entire clinical spectrum. The aim of National Clinical Guidelines is to provide guidance and standards for improving the quality, safety and cost effectiveness of healthcare in Ireland. In Ireland, the process for development of National Clinical Guidelines began in 2010 with the establishment of the National Clinical Effectiveness Committee (NCEC). Over the past 10 years, the process of development and supports available to develop such guidelines has evolved.

Methods: In order to provide an overview of the development of NCEC-approved National Clinical Guidelines in Ireland since 2010. A desk top review of the NCEC-approved guidelines published to date. Tools developed to assist guideline development groups were also identified.

Results: The National Early Warning Score was the first National Clinical Guideline published in 2013. By the end of 2019, 21 National Clinical Guidelines have been approved by the NCEC and endorsed by the Minister for Health. A further 14 guidelines are currently at some stage in the development process.

A variety of healthcare themes have been addressed in the published guidelines e.g. 8 related to aspects of cancer management, 3 to the use of early warning scores, 3 to healthcare associated infections.

For guidelines in development, 5 represent an update of previously published guidelines.

Of the 21 guidelines published, 4 guidelines were commissioned directly by the Minister for Health in response to a patient safety incident.

A variety of supporting tools have been created to assist guideline development groups including publication of a guideline development manual, evidence and economic supports, development of templates and an implementation guide and toolkit. In addition, e-learning...
programmes “Involving the patient in developing guidelines and audit” and “How to carry out a budget impact analysis” have been developed. Multiple other training events to share learning with guideline developers in Ireland have also taken place.

**Conclusion:** The existence of National Clinical Guidelines provides guidance and standards for improving the safety, quality and cost effectiveness of care across healthcare services in Ireland.

**References:**

**Please declare any conflict of interest you may have:** Nil
National measurement of waiting times for specialist appointments: Bridging the gaps among providers
Rachel Wilf Miron1,3; Ilya Novikov1; Arnona Ziv1; Osnat Luxenburg2

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Introduction:
Monitoring of waiting time (WT) in healthcare systems is essential since long WTs are associated with adverse health outcomes, reduced patient satisfaction, and increased private financing.

In 2018, 33% of respondents in a national Israeli survey reported waiting for a specialist appointment for over a month. Attempts to develop national indices for WT have encountered challenges, due to different information technology systems among the Israeli health providers.

The objective of the study was to develop a methodology for routine national monitoring of WT for community-based, non-urgent specialist appointments, in a public healthcare system.

Methods:
An observational historical study used data from computerized appointment scheduling systems of all Health Maintenance Organizations (HMOs) in Israel. Data included available appointments for community-based specialists and the actual number of visits. The first 50 available appointments from each specialist appointment book were collected throughout April, May and June 2019. Five most frequently visited specialties - orthopedics, ophthalmology, gynecology, dermatology, and otolaryngology - were included.

WT offered to HMO members (OWT) was calculated. This approach assumed a steady-state, i.e. number of patients actually visiting in a given period is equal to the number of patients scheduling an appointment. Measurement was designed for two scenarios: "specific" (or named) physician and "any" physician in the region of the practice. Distribution of OWT was calculated separately for each specialty and geographical region, combined to create the nationwide distribution, and expressed as mean, standard deviation and percentiles.
Results:

2,560,524 available appointments were collected during the study period from all computerized appointment books of 6,040 physician practices. Estimated national median OWT for "specific" physician ranged from 10 days (gynecology) to 20 days (dermatology), with large variations between geographic regions: OWT for an orthopedic appointment was 3.4 times longer in the Southern, compared with the Northern region (27 and 8 days, respectively). OWT for "any" physician was 21-45% shorter than for "specific" physician.

An interactive application was developed, based on geographic information systems, presenting various statistical measures for regions and towns, by medical specialty. This platform enables periodic public reporting so that patients can explore offered wait times for a specialist in their area of residence.

Conclusion:
The novelty of the proposed methodology lies in the utilization of existing computerized scheduling systems, enabling ongoing monitoring and periodic reporting of WT, at relatively low cost. The integration of patient preferences for physician choice allows analysis of the tradeoff between continuity of care and waiting time. Overcoming differences in information technology systems between health providers allowed for a comprehensive assessment of WT for specialist care, and supplied essential information to policymakers and the public. Identifying disparities in WT could set the ground for interventions to strengthen the public healthcare system.

References:

Please declare any conflict of interest you may have: None
Patient Centricity: Human Experience is A GROWING MOVEMENT

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1Dr. Moopen’s Aster Hospital, Doha, Qatar

Introduction: Patient satisfaction is undoubtedly the outcome of engagement and moments experienced by the patient in the hospital. If we really introspect and think from the patients/patient family perspective all that they expect is genuine care and a personal human touch whilst they are in our care. Literature agrees upon the fact that patient’s view of care certainly leads to improvement in quality. Patient experience (PX) attributes to factors such as quality care, positive clinical outcome, safety, cost effectiveness and service efficiency. Aster has adopted Net Promoter Score (NPS) as the index to measure and ascertain patient satisfaction. Essentially, NPS helps to gauge the loyalty of patients which is an outcome of the experience that we provide. Objectives
To enhance PX by providing patient safety atmosphere, customer interface and engagement activities
To identify and sustain the constituents that retains the customers and fuel growth

Methods
Foundation: The Aster Way
Governance & Leadership commitment to improvement PX personalize human touch.
Enhance clinical care with strong focus on outcome

Our Promise “We Will Treat You Well”
Core training module targeted group. Efforts are to inculcate to understand “what matter to patient/family” feel what they feel and hear what they here
Inspires the conversion of daily interactions into memorable PX, resulting in enhanced courtesy index for nursing and customer service executive

Patient Centered Care – Our Approach
Personalized experience: “Know what matter to patient/family” (interaction feedback)
morning inpatient rounds by multidisciplinary team (8am-9am)
Daily huddle meeting to address concern and provides time for service recovery (10am-10:30am).
Timely counseling to address grievance/concern

Patient Relationship
Aim to collect >90% feedbacks in inpatient services “each patient has a story to tell and hospital have opportunity to learn”.

86
Digital framework to convert feedback into qualitative and quantitative feedback for quick follow-up and action. Tracking patient feedback 360° via Email, WhatsApp, Google Review, Written Feedback, Aster Webpage, Social Media, Verbal etc. To acknowledge patient concern/grievance with 72hrs, revert to patient within max 30 days with action plan/taken.

Results
Date: Jan 2018 to Dec 2019 (2 years)
74% increase in footfall compare to year 2017 in 2019 (business impact)
80 NPS Score (Highest among Aster group of Hospitals and far ahead of global Avg. NPS Benchmark report of Nov 2018)
4.5 Google Rating (Highest google rating score in Qatar Private & Public Sector Hospitals)
Award Winner in Patient Engagement Category - during Patient Experience Forum 2018 Organized by Planetree International and HMC.
90% inpatient feedback collected

Parents delighted with experience at Aster Hospital.
Decided to name their baby as “Aster”!

PLEASE NOTE: Parents WRITTEN INFORMED CONSENT has been obtained to PUBLISH PHOTOGRAPH.

Conclusion: At Aster we emphasize on human relationships as it is essential to know what matters to patient and it can be therapeutic for both patient and healthcare professionals. Through small acts of kindness/gesture, we create a superior “Human Touch” experience and also alleviate feelings of stress & fear in patients while instilling in them a
positive approach towards treatment. Our NPS score of 80 and Google Rating 4.5 is a result of high quality of patient care. We ensure we listen/acknowledge/revert to patient concerns raised via any channel. Among all strategies, the effective one was daily MDT rounds which helped us to understand & resolve most of the patient/family concerns. Also we witness 74% growth in patient footfall compare to year 2017 in years 2019.

**References:** “The One Number You Need to Grow” 2003 Harvard Business Review Article by Frederick F. Reichheld

**Please declare any conflict of interest you may have:** No COI
Predicting hourly emergency department crowding using time series analysis

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Introduction:
Emergency medical care is an important part of the medical safety network. Irrespective of the age, economic status and insurance situation of citizens in a country, the way how to provide them 24-hour and yearly-restless medical care is the main task that should be paid much attention by the government. However, emergency department (ED) crowding was the common problem in many countries. Therefore, it is important to predict hourly ED crowding to control medical quality.

Objectives:
This study aimed to establish an hourly prediction model of ED crowding using time series analysis.

Methods:
The indicator of ED crowding in the study was the rate of ED patient stay for more than 48 hours (EDPSMT48) because EDPSMT48 more than 5% is viewed as ED crowding by the Ministry of Health and Welfare in Taiwan. ED data from January 2016 to December 2016 was retrieved from a medical center in southern Taiwan. The auto-regressive integrated moving average method was implemented to establish a future hourly prediction model of EDPSMT48 rate.

Results:
Among the models with EDPSMT6, EDPSMT24, EDPSMT32, EDPSMT48, and EDPSMT72 rates, new patient arrivals, whether the day is weekend or not, and any combination of patient number of acuity level 1, patient number of acuity level 2, and patient number of acuity level 3, the auto-regressive integrated moving average (0,1,6) (1,0,1) with EDPSMT32, EDPSMT48, and EDPSMT72 rates, new patient arrivals, patient number of acuity level 2, patient number of acuity level 3, whether the day is weekend or not, and estimation error at certain hours was selected as the best fit model, with minimum normalized Bayesian information criterion and maximum stationary R-squared value. The mean absolute error and root mean square error were selected as performance measures. A mean absolute error of 0.808 and a root mean square error of 1.122 were obtained.
Conclusion:
The auto-regressive integrated moving average can be used to provide hourly predictions for EDPSMT48 rate and can be implemented as a decision support system to make the medical team get the immediate prediction information and rapidly adopt appropriate actions.

Please declare any conflict of interest you may have: None

Abbreviations:
EDPSMT : Emergency Department Patient Stay for More Than
[978] PROCESS IMPROVEMENT WITH THE VOICE OF THE PATIENT IN LABORATORY SERVICES

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Introduction:
Acıbadem Healthcare Group (AHG) provides healthcare services in 4 countries with 21 hospitals, 13 medical centers with approximately 23,000 employees. AHG developed its own integrated healthcare system model which includes various healthcare support institutions as well Acıbadem Labmed offers a wide range of services within the healthcare services framework.

Laboratory processes have critical role for clinical decision-making. AHG established the Multidisciplinary Laboratory Satisfaction Working Board in 2016 to review patient feedback centrally, evaluate opportunities for improvement, increase patient satisfaction, and spread actions that will add value to patient outcomes.

Methods:

The board meets bimonthly under the chairmanship of AHG Medical Director Forensic Medicine Consultant with the participation of, Labmed; Assistant General Manager Corporate Functions, Labmed Medical Director, Head of Quality Management, Head of Microbiology, Head of Biochemistry, AHG Patient Services and Communication Director and AHG Patient Communication Manager.

Patient notifications are simultaneously recorded in the electronic patient satisfaction program, improvement actions are taken by the chief physician, contact the patient within 3 days and remarked whether the patient is satisfied. Channels for gathering patient experience data are; satisfaction surveys, outbound calls, website, inpatient visits, mail, e-mail, telephone, face to face interviews and social media.

In the Board, medical feedbacks are examined with the patient's file, if necessary, new actions are planned by evaluating with the physician.

Some of the priorities set and the projects initiated by the Board between 2016–2019 include:

Blood collection tubes that shorten the centrifuge time and prevent hemolysis were started to use.
More sensitive tests to follow-up patients undergoing prostate surgery were set up

Satellite laboratory test panels were updated

The registration process of foreign patients has been improved

Clinical Laboratory Tests Turnaround Time Notification is prepared in English

Pediatric blood collection tubes were changed to prevent hemolysis, plasma gelling etc.

Previous test results up to 2 years ago were included in the report

Reports and test result times revised according to needs

Printers were changed to get over barcode problems

Preliminary Report was started to use for culture antibiogram tests

The result time for the noninvasive prenatal screening test was reduced by 40%

Emergency tests definition and pilot implementation has started

Issues that may affect the results were shared with clinicians

Patient feedbacks were discussed daily with patient services staff

The meetings were held with the process owners to investigate problems on site

In the new hospital, sample waiting times were improved

Results:
In 16 board meetings, 90% of planned improvement actions were achieved. (n=97)

According to the results of AHG Outpatient Satisfaction Surveys between 2016–2019; Laboratory service satisfaction score increased from 87% (n=41.019) to 90% (n=36.275) and access to medical records easily score increased from 88% (n=41.686) to 90% (n=37.792)

Share of laboratory notifications in total patient complaints; compared to 2016, it decreased by 27% in 2019.

Conclusion:
Evaluating the patient voice at each level and using it as an input in process improvements and implement systematic solutions to the whole group provide simultaneous and holistic improvements, add value to patient results and to increase patient satisfaction. The board
efforts have resulted in heightened awareness across the organization with regards to the ambitions of senior management

**Please declare any conflict of interest you may have:**
All authors declared no conflict of interest
**Introduction:** Apollo Health & Lifestyle Ltd. is the largest integrated healthcare provider network in India with a wide network of Apollo Clinics (primary care centers), Apollo Cradles (Women & Children Hospitals) & Apollo Spectra Hospitals (Short stay surgery centers) spread across the country. Unlike a standalone hospital, multiple locations and formats created a problematic situation which made it difficult to monitor the outcome measures and also there was an opportunity to standardize the processes and for continual quality improvement across all the units, to provide uniform care to the patients. There was a need for a robust & comprehensive program for standardization of processes, improving outcomes, validation through external evaluation, and recognition of top performers leading to Continuous Quality Improvement & Patient Safety

**Objectives:**

1. Standardize the data collection and monitoring of quality indicators or outcome measures across the network with a target of 75 as the average Q4E dashboard score
2. Targets were outlined for some of the critical parameters like patient satisfaction rates (>70), Nosocomial infection rates (~0), Avg. IPSG Compliance (>90%)
3. Targets were also outlined for the units to achieve a score of at least 85 on an average in the external assessment of the Q4E Surveys.

**Methods:** The Q4E Program is a comprehensive annual cyclical project which can be outlined with a 5 stage approach, i.e.,

1. Online Q4E Dashboard
2. Action Taken Reports
3. External Q4E Surveys
4. Annual Q4E Awards
5. Revision of the Program

The team executed the program with the following steps in the same order;

1. The concept was created, objectives and targets were outlined by the executive core committee
2. A set of 20 standard parameters for each Business Unit were listed down and defined
3. Online dashboard created for these indicators
4. End users i.e., the staff at the units were trained
5. Pilot testing done at some select centers across business units
6. Data from the pilot study analyzed, issues/concerns identified and modifications were made accordingly
7. The project rolled out in all the business units pan India
8. Monthly data collection and reporting by the units along action taken report for low scoring parameters
9. Data validation and analysis by the quality team.
10. External assessment/validation through Q4E Survey
11. Annual Q4E Award presented to the best performing centers across the business units
12. Program revised at the end of the financial year based on the trends and requirement

**Results:** The results/outcomes of the project were measured through different methods like self-assessment and reporting by the units, automatic data capture from the MIS, data validation by the central quality team and evaluation of the ground implementation by external Q4E Surveys.

<table>
<thead>
<tr>
<th></th>
<th>Average Q4E Dashboard Score</th>
<th>Net promoter Score</th>
<th>Nosocomial Infection Rates</th>
<th>Average External Survey Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baseline</strong></td>
<td>60</td>
<td>40</td>
<td>5.60%</td>
<td>70</td>
</tr>
<tr>
<td><strong>Target</strong></td>
<td>75</td>
<td>75</td>
<td>0%</td>
<td>85</td>
</tr>
<tr>
<td><strong>Achievement %</strong></td>
<td>84</td>
<td>82</td>
<td>0.35%</td>
<td>86</td>
</tr>
<tr>
<td><strong>Improvement over Baseline</strong></td>
<td>40</td>
<td>105</td>
<td>93.75%</td>
<td>23</td>
</tr>
</tbody>
</table>

Results clearly indicated that the project with its multidirectional approach has improved quality of care and service with patients as its primary beneficiary, eventually improving patient satisfaction

**Conclusion:** The project was successful in terms of the improvement in the outcomes of critical parameters. It also helped in streamlining the processes, fostering teamwork at the units & eventually upholding quality and patient safety. Sustenance is key further going ahead and keeping the program up to date and relevant

**References:**
Please declare any conflict of interest you may have: None
Introduction:
The incidence of hospital acquired infection is about 5-6% and the mortality is 3.6% in previous study. The medical cost of hospital acquired infection is around 450 million dollars every year in United States. 36% of all hospital acquired infection is urinary tract infection and the death number is 13,008 persons per year (Klevens R et al., 2007). The incidence of urinary tract infection increases 5-7% per day after urinary catheter use. To decrease catheter related urinary tract infection, sterile implement of catheter, decreasing frequency of disconnecting catheter, and shortening duration of catheter use are important. To decrease infection rate in intensive care unit, we implement bundle care approach from 2018 after multidiscipline discussion.

Methods: 1. Introduce bladder ultrasonography to evaluate residual bladder urine volume. 2. Set up protocol for removing urinary catheter and bladder ultrasonography use. 3. Adjust protocol and check list for urinary catheter insertion. 4. Run on-the-job training for the employee. 5. Use color-card for alerting employee to evaluate the need the catheter and remove catheter as soon as possible. 6. Improve ward cleaning and disinfection: including hired janitors by hospital, on-the-job training, ward cleaning protocol, check of detergent concentration. 7. Follow up result by quality control center of our hospital. 8. Benchmarking bundle care of other hospital’s intensive care unit. 9. Co-care by urologist with medication use.

Results: The incidence of catheter related urinary tract infection in intensive care unit decreased from 5.22‰ in 2018 to 3.40‰ in 2019. The usage rate of urinary catheter decreased from 72.40% to 53.09% after bundle care strategy.

Conclusion: It is an important issue to decrease catheter related urinary tract infection. With team approach, team communication, and evidence-based check list for urinary catheter implementation, the aim to decrease urinary tract infection is reachable.
References:


Please declare any conflict of interest you may have: none
Objectives:
The psychiatric rehabilitation institutions accreditation system has become very comprehensive in Taiwan since 2003. Under the regulation of Ministry of Health and Welfare, all psychiatric rehabilitation institutions are required to receive accreditation conducted by the Joint Commission of Taiwan (JCT) every 4 years. Compared to the psychiatric hospital accreditation, the performance of psychiatric rehabilitation institutions is still inferior to the psychiatric hospital. It is our interest to investigate the main causes of accreditation failure among the psychiatric rehabilitation institutions.

Methods:
We reviewed the performance records of the accreditation reports within the accreditation cycle from 2017 to 2019 and categorized the performance failures (grading C and below) under JCT accreditation standard. We reported the causes of accreditation failure and compared the performance between the daytime and the residential psychiatric rehabilitation institutions by using the Chi-square test.

Results:
There are 78 daytime institutions and 151 residential institutions received JCT psychiatric rehabilitation accreditation. The disapproval rate was 10.3% and 19.2%, respectively. The main causes of failure of daytime institutions are: 1. incomplete accreditation documents preparation; 2. poor implementation of patients’ health maintenance program; 3. fail to hold patients’ self-living support meetings. The main causes of failure of residential institutions are: 1. poor institution administration or management; 2. poor residents’ records documentation and management; 3. inappropriate management of the rehabilitation fund. The distribution of the failure causes is significantly different between daytime and residential facilities (P<0.05).

Conclusion:
This is an initial survey of Taiwan’s psychiatric rehabilitation accreditation report. The results show that most of the psychiatric rehabilitation institutions can attain the standards and maintain the quality of service in a certain level. Our study reveals the causes of accreditation failure. Regular accreditation may help psychiatric rehabilitation institution to
continuously improve their service quality.

**Acknowledgement:** This research was funded and supervised by the Ministry of health and welfare (MOHW), Taiwan, under Tender project (grant number M08B9228, Accreditation of Psychiatric Institutions Project)

**Please declare any conflict of interest you may have:** Without any conflict.
Introduction:

Quality Improvement and Patient Safety Survey is an internal assessment program of UnitedHealth Group Brazil, based on Health Standards Organization (HSO) global standards. The program is planned in three parts: 1) surveyors assess the clinical and administrative processes in a way that promotes staff education about best practices; 2) workshop with leadership clinical manager and front line professionals, using some tools to select improvement priorities after teams consensus, also considering the main points identified in part one; 3) the formation of multiprofessional team, definition of an objective and an improvement plan to be developed in 6 months.

Objectives:

To present an assessment process with a co-creation approach for the selection of priorities to improve the care delivery, aiming to rise quality, safety and the people experience through frontline teams engagement and empowerment.

Methods:

The assessment was performed in 2 hospitals of São Paulo State, medium complexity, in November and December of 2019. The instrument used was based on 15 HSO standards, with 5 surveyors, during 3 days each hospital. The assessment was organized using tracer technique methodology, following clinical pathways, interview with staff, patient and family, observation of the workplace and getting information about therapeutic plan in the medical chart. For the workshop, we used some tools to promote teams consensus as affinity diagram to classify problems identified and one to define priority through urgency, gravity and tendency. The selection of the teams was guided by problems with the highest points and team elaborated improvement projects to bring systemic results in 6 months, including departments connections and sharing responsibilities. After QIPSS survey, we evaluated the experience of providers with this process, also asking for suggestions for improvement.

Results:

Organizations reached different percentage of compliance to the criteria, 66% e 73%, consistent with the maturity in quality and safety journey; but had identified similar problems, also in numbers of priority (highest points of classification: 19 and 20) and focus to medication management (both hospitals), to patient flow redesign from emergency to
inpatient unit, and to structure the care delivery of palliative care. The general evaluation by professionals reached in more than 90% of approval.

Conclusion:

The QIPSS assessment model is a positive way to select priorities to rise the pattern of quality and safety of care delivery considering the scenario and challenges of the hospital, bringing common sense, engagement and empowerment.

Please declare any conflict of interest you may have:

No conflict of interest
Introduction: Hospitals are faced with an increasing production of national reports on many quality indicators. The challenge for hospitals is to use them for continuous quality improvement by the frontline. In 2018, we developed a dynamic clinical indicators dashboard (ID). The use of quality indicators in management involves their dissemination to employees, an analysis of the results and the implementation of improvement actions. A Cochrane review [1] including 140 studies concludes that audits/feedbacks tend to improve professional practice and have an impact on outcome indicators, but depend on the baseline and on the way feedbacks are carried out.

Objective: Develop and test an operational concept of quality management involving the frontline in interprofessional team.

Methods:

Step 1: conceptualization of the process: The dynamics rest on the appropriation of the results by all the collaborators through a display of indicator report (graphics). The analysis of the results is done by persons designated according to the indicator (Nurse Manager (NM), referent nurse, doctor…). Each month, these results are discussed during a 15-20 minute session in an interprofessional team and, if necessary, improvement actions are identified. A summary document relating the session is then displayed next graphics.

Step 2: Design of the report and automation from the ID

Step 3: Training of managers in the technical use of the ID and in the analysis of indicators

Step 4: pilot launch in January 2019

Results:

1. Impact on process and results indicators: We highlight better control of the processes by reducing variability and improving detection rates for the risk of pressure ulcers (Braden scale) and pain on admission as well as on the falling incidence of falls by 30% (table 1)
<table>
<thead>
<tr>
<th>Indicators</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detection rate risk of pressure ulcers</td>
<td>94 %</td>
<td>99 %</td>
</tr>
<tr>
<td>Admission pain detection rate</td>
<td>79 %</td>
<td>86 %</td>
</tr>
<tr>
<td>Fall rate (1000 days / patient)</td>
<td>8,2 %</td>
<td>5.7 %</td>
</tr>
</tbody>
</table>

2. Implementation of improvement actions: For example, around the fall indicator, the teams noted more frequent days and times of falls, which led them to propose a change in the staff day planning and a review of the schedules of night care round. A greater need for prevention equipment was highlighted, leading to the acquisition of alarm mat and new adapted chairs.

3. Team dynamics: The display of the results, their analysis and the discussions during the monthly team meetings allow: A- Improved communication. B- Better knowledge of the resources available. C- Search for practical and concrete solutions. D- Visibility of the impact of improvement actions: strengthening of involvement and motivation of staff.

Discussion: Although the baselines of indicators were good, we improved results, decreased variability and hence better control of the processes. However, these results are limited to one unit.

**Conclusion:**
This structured feedback shows very encouraging results both in terms of the impact on process and result indicators, as well as on team dynamics.

A generalization of the approach at the institutional level (113 care units) is being studied (resources required, deployment planning, etc.), at the request of the medical director and the care director who validated the approach and actively support it.

The reproduction of this quality management model can also be achieved without significant IT development.

**References:**


Please declare any conflict of interest you may have: NONE
[1960] Quality Management Program guided by the requirements of ISQUA's Accreditation Methodology
Fabio Gastal1,2; Stephanie Rodrigues2; Gilvane Lolato2
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Introduction:

One of the biggest challenges for organizations that seek or maintain a standards-based management model is to promote knowledge regarding the application of the quality methodology in the internal processes for all employees. The team's commitment to the pursuit of excellence is fundamental for the maintenance of processes and management of improvements, however it can be a difficult task to engage and involve people in Quality control.

Objective:

The Program was designed with the main objective of bringing employees closer to the Quality Management System, through the integration and knowledge of all the processes carried out at the National Accreditation Organization - ONA in line with the criteria established in the ISQua (International Society for Quality in Health Care) for Accreditation Organizations. Other objectives, such as establishing well-structured procedures and in accordance with ISQua standards, encouraging continuous process improvement and maintaining ISQua Accreditation, were considered.

Method:

The stages of the Program were defined, including the formation of the committees, activities, work rules and meeting schedule. The entire ONA team was divided into 8 committees formed by employees who perform activities related to each of the 8 standards in the ISQua manual and the steps and activities were established. Each committee was represented by a leader responsible for organizing, calling, registering and commanding the meetings. During the committee meetings, each group carried out the study of the criteria, analysis of the relationship and status of the processes in meeting the standard and defined a classification of conformity for each criterion.

Results:

The study and analysis of the criteria made it possible to promote the Quality Management System as the responsibility of the entire team. In the discussions, both the strengths and weaknesses related to the processes that impacted on meeting standards were identified,
as well as the identification of activities that did not have an established system. For these negative points, each group defined an action plan, deadlines and those responsible for implementing the plan, as well as its monitoring. We can see that the classification of the criteria obtained in the preliminary analysis had a significant improvement, after the implementation of some actions. In internal audit, it was possible to show the conclusion of some actions and the evolution of the percentage of compliance with the standard, going from 56% of compliance in the first cycle to 64% in the second cycle.

**Conclusion:**

We received positive feedbacks from the team regarding both the experience of having participated in the committee and the appreciation, demonstrating the importance of the role that each one plays within Quality. The Program brought more proximity, better communication flow, team integration and processes aligned with the purposes and mission, essential for ONA's growth.

**Please declare any conflict of interest you may have:** NO
Quality Orientation and Social Capital of Hospital Management Boards Matters When Implementing Quality Management: Enriching the CFIR Framework with Social Theory By Exploring the Goal-Integration Factor

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Introduction:

Implementation of quality management systems in hospitals is one of the central tasks in quality and safety. The CFIR framework states that personal leadership matters in quality management implementation. But what if there is plural leadership? What makes hospital management boards impactful, giving them implementation power? Our paper will focus on this question using social theory.

The study aims to test the hypothesis that hospitals with strongly quality goal oriented (G) and socially well integrated (I) management boards (GI-boards) are better in implementing quality management than hospitals in which boards are missing goal orientation and integration (Non-GIboards).

Methods:

A mixed-method approach was used in the DUQUE study for data collection in 109 randomly selected hospitals in 7 European countries. We used responses from a) hospitals CEOs to measure integration (via social capital) and quality goal-orientation of the board and b) responses from quality managers to measure the degree of implementation of the quality management system. We developed the GI index measuring the combination of goal-orientation and integration. A multiple linear regression analysis was conducted.

Results:

Hospitals with a strongly quality oriented and socially well integrated management board (GI-boards) had significantly higher scores on the quality management system index than hospitals with management boards scoring low on these features, controlling for several context factors.
Conclusion:

Our findings suggest that the type of plural leadership matters and that it could be worthwhile to improve boards’ team climate and reserve quality time on the agenda.

References:

Please declare any conflict of interest you may have: None.
Reducing the Prevalence of Expired Blood Bottles
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Introduction:
Blood tests are amongst the most common medical tests performed, with numerous uses in clinical practice [1]. The expiration of the blood collection tube has several implications including being rejected by the lab [2,3] and inadequate filling [4]. Crucially, this can potentially result in repeated investigations for patients, causing delayed or inappropriate treatment and impact patient safety.

The purpose of this study was to determine the prevalence of expired blood bottles in a single centre, suggest policy changes to help ensure best practice and re-audit one year later to see the impact of these recommendations.

Methods:
A total of 3,501 blood bottles from 10 wards in a hospital were manually inspected within one month in 2018 to identify the number of expired blood bottles present and their number of days since expiration.

The findings were presented and discussed at a trust board meeting, and the following policy changes recommended: 1) visual reminders to check expiration dates, 2) regular re-audits and 3) arrangement of bottles by expiration date.

The same 10 wards were re-investigated in 2019 using the same method to determine the effectiveness of the implemented changes.

Results:
Following the initial audit and discussions with the board, the hospital removed all expired bottles and implemented only the third recommendation.

The re-audit found that the proportion of expired blood bottles did not decrease significantly (Pre-intervention: 23.9% vs Post-intervention: 20.8%; p = 0.722). The average number of days since expiration was also compared and again yielded a non-significant change (Pre-intervention: 420 days vs Post-intervention: 212 days; p = 0.623).

Wards with an initially high prevalence (>30%) of expired blood bottles improved after intervention. However this was offset by the remaining wards experiencing increased rates of expired blood bottles, resulting in an overall non-significant change (p = 0.792).
Conclusion:

Our audit revealed a high prevalence of expired blood bottles in the hospital investigated, raising concerns regarding patient safety. Additionally, the removal of expired blood bottles did not result in a long-term decrease in the prevalence of expired bottles.

The lack of significant change highlights the limitations to single point interventions. This suggests that further consultations with quality improvement groups are needed, with the implementation of multiple long-term interventions arguably required to mitigate this risk to patient safety. Another key issue underscored in this audit was that institutions may be reluctant to introduce all the recommended changes following quality improvement projects, thus limiting the potential for significant change to occur.

References:
[1] NHS 2016, 27.01.2016-last update, Overview


Please declare any conflict of interest you may have:
None
Reduction in deficiencies related to specific components of medical record documentation: An indicator of quality care.

Noor us sabah farooqui1; javeriah Khan1; kiran jawaid1

1Aga khan university hospital, karachi, Pakistan

Introduction:
The purpose of this project is to reduce deficiencies in medical record documentation, taking into consideration the challenge of six components of standard completion of medical record documentation which affects the medical records as a whole.

Methods:
Delays, measurement and medical errors and variability often undermine the delivery of safe, effective patient care. However, it is possible to minimize them. In the beginning of 2019, Indexing & coding unit of HIMS have applied Define-Measure-Analyze-Improve-Control (DMAIC) methodology for process improvement of completion of medical record. This methodology aims to focus on the root causes of incompletion in medical record documentation.

“Define” phase, where the objective were defined to reduce the deficiencies of medical record documentation. (2) “Measure” phase, where outline the previous occurring deficiencies of past two years and shadowing the common practice by residents / physicians for real time data observation, resulting in enough and accurate information to capture. (3) The “Analyze” phase, which utilized the communication plan as well as implementation of the follow up schedule to inform medical record authors, reduce similar errors through training, and to follow standardization of medical record documentation in order to eliminate the non-value added activities, if they exist; (4) The “Improve” phase, the phase of change, where all possible improvements were made to minimize total medical record deficiencies. The team examined the current state in depth, using brainstorming to explore possible solutions for reduction. Resource utilization was maximized by Indexing and Coding team. Fewer delays were observed. Bottle-necks related to process of editing MR have diminished by continuous follow-up with related author. Improvement noted in specific physicians/resident’s documentation technique whose errors were occurring simultaneously. (5) The “Control” phase, where the follow ups and continuous monitoring were done to maintain the improved results.
Results:

A significant reduction showed in deficiencies of medical record documentation for the year of 2019. More specifically Operation Procedure to Edit (OPE) which was 17, dropped down to 9 and marvelously, Clinical Summary to Sign (CSS) dropped down from 909 to 394. This proves that the challenge has been accepted by indexing and coding team to minimize the number of error and lead to the standardization of medical record completion. The total reduction in deficiency is 55.29% from year 2016 to 2019.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Discharges</th>
<th>CSS</th>
<th>CSC</th>
<th>DSE</th>
<th>OPC</th>
<th>OPE</th>
<th>OPS</th>
<th>FSE</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>2016</td>
<td>89,476</td>
<td>909</td>
<td>97</td>
<td>644</td>
<td>323</td>
<td>17</td>
<td>77</td>
<td>18</td>
<td>2085</td>
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<td>2017</td>
<td>89,349</td>
<td>1143</td>
<td>66</td>
<td>542</td>
<td>386</td>
<td>14</td>
<td>89</td>
<td>13</td>
<td>2253</td>
</tr>
<tr>
<td>2018</td>
<td>89,818</td>
<td>589</td>
<td>60</td>
<td>378</td>
<td>207</td>
<td>5</td>
<td>21</td>
<td>34</td>
<td>1294</td>
</tr>
<tr>
<td>2019</td>
<td>93,330</td>
<td>394</td>
<td>23</td>
<td>342</td>
<td>144</td>
<td>9</td>
<td>7</td>
<td>13</td>
<td>932</td>
</tr>
</tbody>
</table>

Conclusion:

The implementation of this project has had a dramatic impact on creating an environment of best practice and better medical record documentation. Application of the DMAIC methodology provided a structured framework to define the project goals, understand the current state, analyze data to identify root causes, assess statistically significant improvements, and implement a control plan to maintain improvements in reduction of deficiencies. This project has been extremely challenging, due mainly to the complexity of the processes, and the involvement of stakeholders from a variety of levels. However, understanding process dynamics and improving communication and collaboration between stakeholders based on stakeholder analysis ensures a significant and sustainable impact on
project outcome

References:

NA

Please declare any conflict of interest you may have: NA
STRUCTURING A NATIONAL RISK MANAGEMENT PROGRAM
Melissa Chueiri Morais1; Maria Cecilia Curti1; Raquel Leuenroth1; Taissa Sotto Mayor1
1UnitedHealth Group Brazil, São Paulo, Brazil

Introduction:
Epidemiological studies in Latin American countries estimate the prevalence of adverse events in 10 of every 100 inpatients-days, with almost 60% considered preventable. The World Health Organization estimates that thousands each year suffer unnecessary harm from unsafe health services. Good practices in health services include quality management and patient safety actions, among which are the implementation of a risk management program and the development of an institutional safety culture.

Objectives:
To present a method and tools used to structure a risk management program in a group of 33 private Brazilian hospitals that are part of a multinational healthcare system with headquarters in the United States and operations in more than 130 countries. The program aims to decentralize discussions and implement a safety culture that permeates all levels of the organization.

Methods:
Started in 2017 in a group of 19 private hospitals spread across six Brazilian states. Standardized for all units an electronic notification and management system for occurrences and patient safety incidents that allows information management by the local, regional and national quality offices. In 2018, 14 more hospitals were incorporated following the same system standardization. With the increase in the number of hospitals, there was a need to implement flows and tools to prioritize critical situations. Among the tools and flows chosen for management, we highlight: 1) flags on the event notification form that triggers corporate alert; 2) discussion and prioritization in Safety Huddles; 3) activation of the crisis cell when there is assistance/clinical, legal and image risk; 4) escalating sentinel event reports to the global structure.

Results:
The group observe growth of 30% in the volume of notifications in 2018 and 20% in 2019 in relation to the period prior to the implementation of the risk management program. There was an increase of 50% in the early identification of serious events in the first year, which allowed greater agility in mitigation actions and discussion of best practices, resulting in evident improvements in processes. There was also a 41% increase in the identification of potential errors in the first year of work, which shows the development of a safety culture in the hospitals.
Conclusion:
The national management of the events allowed the group to work in a systemic way, acting proactively in the dissemination of the lessons learned from one unit to the other. Although the quality management structure at different levels - local, regional, national and global - has led to greater involvement of the hospital’s leaders with senior corporate management in the discussion of issues related to patient safety, the consolidation of the safety culture and the reduction of serious adverse events is still a major challenge.

Please declare any conflict of interest you may have:

No conflict of interest
Introduction: Worldwide, Computed Tomography (CT) scanners are preprogrammed for consistency and they can hold databases with hundreds of imaging protocols for different body parts, for adult and pediatric patients. CT imaging protocols consist of a technical sub-protocol (acquisition technical parameters such scan mode, kV, mAs, slice thickness, pitch, reconstruction algorithms, expected radiation-dose-index range etc.) and a clinical sub-protocol (indications, patient positioning, IV contrast, reformats etc.). Periodic review and approval of CT imaging protocols by a team consisting of a radiologist, a medical physicist and lead imaging technologist is either required or highly encouraged by various healthcare accrediting bodies. This ensure keeping current with the Standards of Practice and correlating with the performance updates of the CT equipment available locally. Following a series of complains from interpreting radiologists about inconsistencies between the diagnostic image quality the actual technical protocols used on patients delivered and the approved “on paper” protocols, we started to monitor our scanners fleet to find the causes and solution them.

Methods: Once we selected a fleet of scanners to monitor, in several campuses, we made sure that a reviewed and approved CT imaging set of protocols was preprogramed correctly on them. Then we saved this complete set on an external hard drive for later reference. Gemba walks were scheduled at a monthly interval, to observe the interaction of users with the scanner’s protocols, get feedback about users’ perception about the protocols’ consistency in time and to note any other changes from this baseline set.

Results: Gemba walks revealed several causes of the complains such as: successive reviews were done on paper/digital form but were not extended to the scanners’ databases themselves after the initial programming or after new protocols were added, or vice-versa. Scanners were not guarded by individual log-ins IDs and passwords; hence multiple technologists were accessing databases under a generic login that had administrator privileges and saved “on the fly” changes done to protocols. Service engineers, during periodic maintenance (PMs), were reloading different sets of protocols, not being aware of successive updates, hence overwriting the databases. Lack of periodic cleaning of patients’...
images stored caused also scanners’ acquisition technical parameters to drift, and more. To solve the issue, a checklist with CT protocols management instructions was generated and implemented.

**Conclusion:** Maintaining CT imaging protocols acquisition technical parameters’ consistency over time is a daunting task without constant feedback and a corrective action mechanism in place. Adopting Gemba walks to assess, design and periodically tailor a checklist with preventive actions, proves a sustainable Quality Management solution to diagnostic image quality degradation and patient’s radiation safety assurance.

**References:** -

**Please declare any conflict of interest you may have:** None.
The Comprehensive Framework Design for Continuous Quality and Efficiency Improvement within the Medical Centre in Taiwan: CRISP-DM

Shu-Tzu Huang1; Pei-Jung Hsu2; Szu-Fen Huang2,3; Jih-Shuin Jemg2,4

1Information Technology Office, National Taiwan University Hospital, Taipei, Taiwan; 2Center for Quality Management, National Taiwan University Hospital, Taipei, Taiwan; 3Department of Nursing, National Taiwan University Hospital, Taipei, Taiwan; 4Department of Internal Medicine, National Taiwan University Hospital, Taipei, Taiwan

Introduction:

A continuous quality improvement is an important component of health care. The goal of this project was implementing inpatient decision-making with Cross-industry standard process for data mining, known as CRISP-DM, for the improvement of bed-capacity management in the Medical Center. This evaluation examined the outcomes of quality improvement is driven by the decision-making with CRISP-DM to determine the value, which the inpatient quality and efficiency brought to the organization.

The implementation of healthcare information system has resulted in a rapid accumulation of data. Lack of efficiency was found in processing a significant amount of indicators data in hospitals. There are many repeated daily work in data processing, including data filtering, calculating data trend of Statistical Process Control (SPC) by month and by departments or wards, comparing data of the same period of the past years and so on.

Lack of efficiency was also found in processing a significant amount of indicators data in hospitals. There are many repeated daily work in data processing, including data filtering, calculating data trend of Statistical Process Control (SPC) by month and by departments or wards, comparing data of the same period of the past years and so on. Increasingly, technological applications are needed to support the daily practice in hospitals. The issue of bed capacity management is a critical issue for hospitals because inefficient discharges impact patient flow, slow care, and increase costs. It is beneficial in the planning and management of hospital beds.

Methods:

The setting was the university-affiliated medical center in northern Taiwan. Our group including Medical Affairs, Quality Management, and Information Technology worked closely with CRISP-DM to build not only data models and engage in data analytics, but also key performance indicators, provided on a dashboard with drill-through functionality. The primary initiatives were the implementation of modules for the inpatient quality and
efficiency.

Results:
The study utilized the CRISP-DM model to develop a framework for temporal data mining particularly focused on multidimensional time series data mining in the health care environment and indicated the use of the Intelligence Decision Support System provided benefits for efficiency and quality improvement in the hospital. The efficiency of the system was measured. The results showed the drill-down time of inpatient dashboard was 6.5 seconds on average and the system was able to support about 3,000 different users browsing the NTUH IDSS at the same time. Moreover, the consistency of data was more than 90%.

Conclusion:
In this paper, detailed design and implementation of Data-driven Management are presented to create the flexible and extensible intelligence decision support system. By offering more sophisticated analytics capabilities to a broader range of users, the analytics platforms continuously evolves into more accessible and more automated self-service capabilities.
References:

Steffen Hubera, Hajo Wiemera, Dorothea Schneidera, Steffen Ihlenfeldta, DMME: Data mining methodology for engineering applications - a holistic extension to the CRISP-DM model, Procedia CIRP, ISSN: 2212-8271, Vol: 79, Page: 403-408

Please declare any conflict of interest you may have:

This work received no specific grant from any funding agency.
The Implementation of a None-fault Compensation System for Childbirth-related Medical Adverse Event (CBMAE)

Yu-Shan Weng1; Hsun-Hsiang Liao1; Pa-Chun Wang1; Chung-Liang Shih2

1Joint Commission of Taiwan, New Taipei City, Taiwan; 2Ministry of Health and Welfare, Taipei, Taiwan

Introduction/Background:

The Childbirth Accident Emergency Relief Act (CAERA) has been issued in Taiwan since 2015, it is one of most comprehensive, none-fault compensation systems in the world that covers childbirth-related medical adverse events (CBMAE) ranging from birth injury to fetal or maternal deaths. All CBMAE are mandated to report to the authority for investigation and compensation. In this study, we report the CAERA implementation outcomes by describing the distribution of CBMAE.

Methods:

We longitudinally collect CBMAE cases from June 2016 to November 2019 for maternal, fetal, and neonatal cases of major injury or death. The information including: basic demographic information, time and place, type and degree of injury, cause, impacts, and possible preventive measures were registered. We describe and report the CAERA data since its issuance.

Results:

A total of 4,018 cases were collected from 228 institutions. Most of cases are from maternal age of 30–34 years-old (33.8%, n=1360), and the average age of maternal death is 35.2 years-old. High risk pregnancy comprises 33.8% (n=459) of all reported cases; 62.6% (n=2,514) are from medical centers; and 98.88% (n=2,483) are of referral basis.

A total of 1,915 cases suffered from major injury or death, caused by fetal death (41.6%, n=797), neonatal severe harm (18.7%, n=359) and maternal injury (18.4%, n=352).

The main cause of fetal death is intrauterine fetal death (IUFD) of unknown etiology (64.1/per 100 cases), followed by umbilical cord-related problem (13.2/per 100 cases). In addition, as neonatal severe harm, the most common situation for severe neonatal harm is fetal distress (12.8 /per 100 cases), followed by hypoxic ischemic encephalopathy (5.5/per 100 cases). As for maternal injury, the most common situation is forced hysterectomy (31.4/per 100 cases), followed by postpartum hemorrhage (28.1/per 100 cases).
The possible preventive measures (from recurrence or legal law suits) proposed by health organizations are: providing mental support (51.5%, n=1,323) and improve communication (23.6%, n=606).

**Conclusion:**

The report shows that the incidence of CBMAE is around 1/180,000 births in Taiwan, stemmed mainly from fetal death, neonatal and maternal injury, and obstetric complications. The nation-wide data provide useful information for the policy makers, healthcare organizations, and clinicians to plan for risk management. Around 70% of the reporters believed that CBMAE can be further reduced; the recommended measures may include clinical education, team work enhancement, patient support, health literacy gap elimination, and risk prevention or mitigation training.

**References:**


**Acknowledgement:** The project was funded by the Ministry of Health and Welfare ROC

**Please declare any conflict of interest you may have:** None Declared
The safety of health care for ethnic minority patients: A systematic review
Ashfaq Chauhan1; Merrilyn Walton2; Elizabeth Manias3; Reema Harrison1

1University of New South Wales, Sydney, Australia; 2University of Sydney, Sydney, Australia; 3Deakin University, Melbourne, Australia

Introduction:
Extensive resources have been invested in the enhancement of patient safety across health systems internationally, yet few interventions are focused to enhance the safety of ethnic minority consumers. Whilst there are multiple factors that may enhance the vulnerability of ethnic minority consumers to safety events in their care, we lack knowledge of the frequency and nature of safety events arising. This knowledge is critical for patient-centred and relevant intervention approaches.

Objectives:
To establish the evidence base regarding the nature and frequency of safety events arising amongst ethnic minority healthcare consumers internationally; the individual, service and system factors that contribute to safety; how ethnic minority populations are conceptualised in the international literature, and the implications of this in shaping the data.

Methods:
A systematic review of five databases were undertaken using subject headings (MeSH) and keywords to identify studies relevant to our objectives. Inclusion and exclusion criteria were applied independently by two researchers. A narrative synthesis was undertaken due to heterogeneity of the study designs of included studies.

Results:
Forty-six studies met the inclusion criteria. Findings indicate that: (1) people from ethnic minority backgrounds have higher rates of hospital acquired infections, complications, adverse drug events and dosing errors when compared to the wider population; (2) factors such as; language proficiency, cultural beliefs and practices, formal and informal interpreter use, role of consumers, and interactions with health services and providers contributed to increased risk of safety events amongst these populations; and (3) those from ethnic minority backgrounds are conceptualised variably internationally, with implications for the nature of safety events studied.
Conclusion:
Ethnic minority consumers appear to be at higher risk of safety events, but this is inter-related with the way in which ethnic minority patients are conceptualised in the research literature. The factors that appear to contribute to the safety of these populations require more nuanced exploration. Health services and systems must consider the individual, inter- and intra-ethnic variations in the nature of safety events to understand the where and how to invest resource to enhance equity in the safety of care.

Please declare any conflict of interest you may have: No conflict of interest to declare.
INTRODUCTION:

The healthcare services present a growing problem related to the length of stay (LOS) of patients and even more the risks that this carries and also having misused beds means a waste of resources considering the limited availability in healthcare services. Clínica El Golf (CEG) is a private health facility in Lima, Peru, provides outpatient, inpatient, emergency, surgical and obstetric procedures, critical adult and neonatal care. Bringing together the medical staff and the medical leadership of CEG, we implemented a daily control model of inpatient services. It was implemented according to the NHS monitoring system of red and green beds. This System is a visual management system to assist in the identification of wasted time in a patient’s journey. It identifies red days as those that do not add value to the medical management of a patient due to delays that can respond to different causes. This system also identifies, green days as the days that add value to the recovery of an inpatient. Objectives: Reduce the global LOS of the inpatient services of CEG and identify the red days during the treatments of hospitalized patients on CEG.

METHODS The assessment of green and red days was implemented through a daily evaluation that is carried out in consensus with the medical leadership of the Clinic in a medical round. There are some differences regarding the process detailed by the NHS. At noon there is a meeting with the medical leadership, in which all patients are presented and a color is assigned that represents the advances in the flow of the patient in comparison with the previously defined quality standards. To ensure that hospital control was objective, we use the MCG Guidelines, which consists of clinical pathways with milestones that must be met day by day in order to have optimal patient management. Red days are classified in three types: medical motive, hospital motive and the patient motive. It is also important that the green days are those in which there is evidence of progress in the recovery of patients’ health.

As part of the control, a dashboard allows the evaluation of the hospital length of stay as the main indicator. As well as, the unscheduled readmissions. For this study we compare the statistics of two periods, from January 2018 to April 2019, and May to December 2019,
when the intervention was implemented. The variables are: Red/ Green Bed Days Tool implemented, qualitative dichotomous; LOS (Unit: Number of days) Quantitative Continuous

RESULTS: Graph N° 1 shows the trend of hospital LOS during 2018 and 2019, periods before and after the implementation of the green/red bed days monitoring system. The tendency of the monthly hospital LOS is decreasing since May 2019. In the same graph, the level of occupation of the clinic is also plotted, with a decreasing character. For the statistical analysis of the variables, the Student’s T test for paired samples results show a Pearson correlation coefficient of less than 1, establishing a negative correlation, meaning that the intervention has reduced hospital stay. (p = 0.730). Another, finding is the presence of an average of 90% of green days with an average of 10% of red days, also Readmissions is the balance indicator, was lower than the previous year, with a tendency to decrease.

CONCLUSIONS: The red and green bed day system has proved efficient in reducing the hospital LOS of patients at CEG, considering that the average stay is 0.05 days less than hospital LOS in the 2018. It has been possible to verify the presence of 10% of red days. The application of this methodology has not affected negatively the rate of readmissions.

WE DECLARE NO CONFLICT OF INTERESTS
[517] Value-based Quality Improvement on Ischemic Stroke Care Outcome.

Chieh-Yu Sun1; Pa-Chun Wang1; Hsun-Hsiang Liao1; Chung-Liang Shih2

1Joint Commission of Taiwan, New Taipei City, Taiwan; 2Ministry of Health and Welfare, Taipei, Taiwan

Introduction:

The Reporting System for Measurement and Improvement of Hospital Quality (RSMIHQ) was sponsored by the Ministry of Health and Welfare (MoHW) since 2014, aiming to improve the care quality for targeted diseases such as coronary artery disease and stroke. The RSMIHQ provides financial incentive to reward hospitals with excellent quality monitoring and improvement performances. In this study, we report stroke care outcomes of this value-based project.

Methods:

All RIMIHQ hospitals were required to registry patient-level data to the reporting system. The project provide financial reward for well-performing hospitals in terms of guideline compliance.

We used ICD-10 codes to include adult stroke patients. We recruit 68,215 ischemic stroke cases during 2016-2018. Hierarchical logistic regression was applied to adjust risk factors such as hypertension, DM, previous stroke, uremia, dyslipidemia, arrhythmia, smoking, and NIHSS score. Then we developed the enhanced Elixhauser’s CCI model for predicting in-hospital mortality. Clinical audit was conducted to assure data consistency and accuracy. Finally, we used t-test to compare the result of 2016 and 2018.

Results:

A total of 23,311 ischemic stroke patients were reported by 71 hospitals in 2016 and 24,295 by 67 hospitals in 2018. The IV r-TPA utilization rates increased from 4.7% to 5.8% (p<0.05) and the procedures compliance rates, such as anticoagulation for arrhythmia (71.7% vs. 85.0%, p<0.05), statin prescribed at discharge (83.0% vs. 88.7%, p<0.05), and rehabilitation (77.9% vs. 83.8%, p<0.05) rates all showed significant improvement. The inpatients mortality decreased from 5.4% to 4.0% (p<0.05), showing significant improvement of care quality.
Conclusion:

The value-based RSMIHQ appears to be successful in the improvement of care quality for acute ischemic stroke patients. Aside from financial incentive, we believe that through continuous monitoring and data feedback should be essential to sustain the gains.

Acknowledgement: The project was funded by the Ministry of Health and Welfare ROC

References:

2. The Joint Commission(TJC) -Specifications Manual for Joint Commission National Quality (v2016B), from

Please declare any conflict of interest you may have: None Declared
Introduction:
Stroke patients account for the third leading cause of death in Taiwan. It is also the leading cause of disability in the elderly over 65. The investigation found that stroke patients and their families often feel worried and anxious due to disease awareness, use of anticoagulants, re-stroke symptoms and treatment during hospitalization. They face rejection and delay discharge due to the pressure of the disease process and home care. When other situations occur, in order to improve the current situation and achieve care indicators for stroke patients.

Methods:

Standard model of health care team operation

1. Patients with acute ischemic stroke are admitted to the hospital with an "Acute Ischemic Stroke Care Service Manual" given by the care team. The description contains the patient’s current situation, treatment plan and other alternative treatment methods.

2. Each inpatient has its own attending physician and nursing staff. After the patient is admitted to the hospital, the responsible nursing staff will receive the patient and introduce a care team to help the patient know his or her dedicated caregiver.

3. For patients with acute stroke, whether to be administered during the golden treatment time 1. Transvenous thrombolytic agent 2. Decision of transarterial thrombectomy, the team will develop relevant SDM aids and questionnaires for reference by patients and their families To ensure that patients and their families retain their autonomy in medical decisions.

4. For patients who are acutely entering the chronic stage, follow-up rehabilitation plays a great role in functional recovery. There are three types of current trends: post-acute care in the post-acute period. After the assessment of the rehabilitation department, the patient is transferred to the hospital for subsequent chronic rehabilitation.

Results:

(1) Shorten the door to needle time, so that patients can apply the thrombolytic agent within 60 minutes after arriving at the hospital, and the achievement rate is 60% within 60 minutes in 2016. Achievement rate reached 75-90%.
(2) Arterial thrombectomy is to optimize the process and shorten the door to needle time by 60 minutes on weekdays and 83 minutes on holidays, increasing the golden time of the nervous system.

(3) Inpatients of neurosurgery: Analysis of overall service satisfaction in 2019 is 92.5% Conclusion:
Full-body care of patients with acute stroke is an important task that needs to be addressed. The preparation of an inter-departmental team through teamwork and teamwork has improved the PAC transfer rate, the rate of holistic conferences, and the clinical efficacy of stroke (TCPI) indicators. Quality of Holistic Care for Stroke Patients.

References:
none

Please declare any conflict of interest you may have:
none
Introduction:

The Irish Health Service Executive (HSE) Your Service Your Say Complaints Policy stipulates that all health care providers should have a positive, open and transparent attitude to receiving, managing and responding to complaints. However, there is limited published literature in Ireland on the impact of strategic interventions aimed at improving complaint management systems.

Objectives:

1. audit the management of Stage 2 complaints (written) across Acute Hospitals in the RCSI HG (2,002 beds) from July 1st 2015 to 30th June 2016 (Audit 1)
2. introduce 4 contemporaneous quality improvement (QI) strategies to improve (a) any Stage 2 complaint management deficiencies identified and (b) overall management of Stage 1 complaints (verbal)
3. conduct a follow up audit for the period 1st January 2018 to 31st December 2018 (Audit 2) to assess the impact of these QIs

Methods:

A retrospective analysis of 10% of Stage 2 complaints received July 1st 2015 to 30th June 2016 was conducted by 2 trained auditors (Audit 1). One in every 10 complaint files were audited. Complaint resolution had 2 pathways i.e by a formal letter or by a meeting between senior clinical staff and patient and/or family. In both situations, documentary evidence was sought for specific Outcome measures (OM), which included:

1. timeliness of acknowledgement
2. timeliness of final response
3. use of plain English
4. absence of medical jargon in response
5. all questions identified by complainant addressed
6. inclusion of an apology where appropriate
7. identification of learning where appropriate
8. identification of Q.I.'s where appropriate

In a number of cases there was no documentary evidence of the outcomes of the meeting to resolve the complaint, this was reflected in a reduction of the denominator for that OM.

Following analysis of Audit 1, the 4 interventions were introduced contemporaneously:

1. Monthly Performance monitoring of Patient Complaints data with each hospital
2. Monthly Publication of OM2 on RCSI HG website
3. A bespoke education programme to improve staff performance at addressing Stage 1 complaints at point of occurrence
4. An education programme to enable senior staff to address Stage 2 complaints effectively

Audit 2 was conducted in a similar manner on 10% complaints received from 1st January 2018 to 31st December 2018.

Results were expressed as percent compliance with the OM’s 1-8. A Kappa score was performed on a sample size of Audit 1 (34 files) and Audit 2 (18 files) to assess inter-observer reliability between the auditors.

**Results:**

One hundred and nineteen (119) complaint files were assessed in Audit 1 and 95 in Audit 2. Kappa scores were 0.78 and 0.89 respectively.

One thousand one hundred and ninety and 950 complaints were received by the acute hospitals during audit periods 1 and 2 respectively, representing an overall improvement of 20%. Performance for Outcome Measure (OM) 1 reduced from 82 to 60%. OM2 performance increased from 30% to 55%. OM3 and 4 remained unchanged and above 90% compliance. OM5 compliance remained static at 87%. Performance for OM6 decreased by 5% to 88% and OM7 by 1% to 52% compliance. Appropriate identification of QI OM8 increased from 42% to 49%.

**Conclusion:**

This study demonstrates the beneficial impact of a series of strategic QIs in the management of complaints in the RCSI Hospital Group, Ireland. By effective use of Audit Cycles, this study also identifies areas that require ongoing improvement initiatives. This data will inform the next cycle of Complaints Management QIs.
<table>
<thead>
<tr>
<th>OUTCOME MEASURE*</th>
<th>TOTAL COMPLAINTS AUDITED</th>
<th>2016</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>OM 1</td>
<td>Acknowledged within 5 working days?</td>
<td>82% (n=97/119)</td>
<td>60% (n=57/95)</td>
</tr>
<tr>
<td>OM 2*</td>
<td>Formal response within 30 working days?</td>
<td>30% (n=36/119)</td>
<td>55% (n=51/92)</td>
</tr>
<tr>
<td>OM 3*</td>
<td>Answered in Plain English?</td>
<td>98% (n=117/119)</td>
<td>99% (n=86/87)</td>
</tr>
<tr>
<td>OM 4*</td>
<td>Absence of medical jargon contained in response</td>
<td>97% (n=113/117)</td>
<td>95% (n=82/86)</td>
</tr>
<tr>
<td>OM 5*</td>
<td>Complaint response answered all the questions identified by the complainant</td>
<td>87% (n=103/119)</td>
<td>87% (n=75/86)</td>
</tr>
<tr>
<td>OM 6*</td>
<td>An apology is included where appropriate</td>
<td>93% (n=103/111)</td>
<td>88% (n=61/69)</td>
</tr>
<tr>
<td>OM 7*</td>
<td>Learning is identified where appropriate</td>
<td>52% (n=51/98)</td>
<td>51% (n=26/51)</td>
</tr>
<tr>
<td>OM 8*</td>
<td>Q.I.'s are identified where appropriate</td>
<td>42% (n=41/97)</td>
<td>49% (n=75/51)</td>
</tr>
</tbody>
</table>

*Complaints resolved with a meeting, where no documentary evidence was available to validate compliance with outcome measures (OM) were excluded from the absolute numbers.
Handover: implementation of the Patient Safety Practice, experimentation in the Emergency - Medical Ward transition in 6 Hospitals of the North-West Tuscany Trust

MARIO D'AMICO¹; GIUSEPPINA TERRANOVA¹; TOMMASO BELLANDI¹

¹North West Tuscany Trust, Pisa, Italy

Introduction:

The Handover is a Patient Safety Practice promoted by the Tuscany Region in order to decrease the risk due to the inadequate transmission of information between health professionals in taking care of patients. An incorrect Handover can cause dispersion of resources and significant effects on patient safety.

Methods:

The experimentation of the transition was carried out, in the first half of 2019, in 6 hospitals that insist on the territory of the Northwest Tuscany Trust: Livorno Hospital, Cecina Hospital, Volterra Hospital, Portoferraio Hospital, Versilia Hospital and Lucca Hospital. In each hospital, a preparatory meeting was held with the operators of the two settings to define the trial schedule. In this context, the current state of passage of deliveries between the two wards was assessed, then a day of observation was scheduled for the application of Handover "on the ground". Therefore the conclusion of the experimentation included a conclusive meeting with all operators in order to identify improvement hypotheses.

Results:

Two types of results have been obtained:a) were identified, according to the SWOT methodology, in each testing site the strengths and weakness .b) improvement hypotheses were formulated by the operators participating in the experimentation. The current situation does not have the characteristics of a structured and standardized procedure, it is usually verbal and the written part, which includes the data sheet of the software in use at the First Aid, is not filled in uniformly and often some information fields are left empty. The SWOT analysis identified the exchange of structured and verbal information and the ability to manage hyper-inflow situations ; the weaknesses are represented by the lack of integrated handover in which nursing staff is involved and verbal communication which lacks structuring and standardization. There is also a lack of awareness and staff training to correctly fill in the IT tool available. The improvement hypotheses that have been formulated define the specific tasks of all the actors entering the process: Provide
professionals with adequate verbal communication tools that are easily accessible (SBAR, SAFETY etc.); Improve IT tools and ensure the integrated use of the same by all healthcare personnel; Train staff to use the IT tool by implementing the correct compilation of the proposed schemes.

**Conclusion:**
Handover is judged by clinical professionals as an important moment in taking charge and in the patient care process. Too often, the informations that follow the patient are a human-dependent tool. Therefore, the need for all professionals to be equipped with a standardized algorithm that guarantees the transfer of a minimum set of information between the functional care structures was identified. The algorithm can be taken from the literature (SBAR, SAFETY etc.) or arise from the agreement between the two wards, the issuing and the receiving. The use of software and the digital transition for information management can be used as an aid for professionals, however assisted by the cultural belief that the correctness of the information transmitted remains an essential aspect of the care process. Therefore, in support of this, the training of health workers in this sense represents an essential moment of professional growth.

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**Please declare any conflict of interest you may have:**

I declare I have not any conflict of interest
Introduction:

In health care, Centres of Excellence (CE), which may have the quality to be considered as a reference, have been determined in order to ensure the utilization of diagnosis and treatment methods that are of good quality, effective and appropriate for the necessities of the time through providing patients' easy access to health care for the diseases, diagnosis and treatment of which need advanced specialization, qualified labour force, experience and high technology. In healthcare services, the CE can be announced with the conditions set by the specialization association serving a specialization field, the criteria set by the official authority, and the standards of internationally recognized institutions. This study aims to share the experience of Turkey's implementation model for centres of excellence in healthcare services.

Methods:

Between 2018 and 2019, implementations from 13 different countries with a national system for CE were examined. The countries included in the study were Belgium, Denmark, France, Greece, Italy, Netherlands, Norway, Spain, Switzerland, England, the United States, Canada and Australia. National systems prepared on the subject by the countries, legal legislations, criteria and implementations of registered CEs were examined as web-based, and in the light of the information obtained, taking national needs and priorities into consideration Turkey Implementation Model (TIM) was established. Studies regarding TIM were carried out in cooperation with Republic of Turkey Ministry of Health (MOH) and Turkish Health Care Quality and Accreditation Institute (TUSKA).

Results:

Studies on the establishment of TIM consist of the stages of designing the system, specifying the basic criteria, drafting the legislation, identifying the clinical implementation fields and determining the specific criteria for the related fields. The "Circular on Centres of Excellence" regarding TIM was published in April 2019. Defined within the framework of the circular, TIM was carried out by three main agents. These are the Centre of Excellence Commission (CEC), TUSKA and the MOH (Figure 1). CEC is responsible for determining, planning and implementing basic policies and strategies related to CE. The surveys of
candidate CEs will be carried out by TUSKA. MOH is the guarantor of the system and CE registration will be performed by the Ministry. The CE registration process consists of four stages: “application and preliminary evaluation, TUSKA CE survey, CEC decision and MOH-CE registration” (Figure 2). 11 basic criteria related to CE have been determined. The titles for these criteria are as follows: structural competence, quality health service delivery, evidence-based practices, medical competence, experience and results, research, education and training, legal infrastructure and bindingness, multidisciplinary study, national and international cooperations and projects, national registration/information system, fair access, sustainability. Studies are carried out to determine specific criteria for specified clinical fields.

Conclusion:

Establishing centres of excellence provides very important advantages such as equitable and easy access with better health outcomes for patients, while increasing the effective, efficient and quality health service delivery at the country level, improving health outcomes, increasing international competitiveness in the field of health, increasing the potential of health tourism, reducing catastrophic health expenditures. It is anticipated that TIM will make important contributions to the country's health system.

**Figure 1. Turkey Main Agents on CE**
Any conflict of interest is required for all authors.
Reduce the discard of the tube feeding diet in intensive care units in TMUH

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Introduction:

There are 3 intensive care units in Taipei Medical University Hospital (TMUH). The total bed number is fifty-two. Most of the patients in ICU use tube feeding diets for nutrition support. After clinical assessment, doctor will prescribe the diet order, and the nurse enters the diet order to the HIS system in TMUH. The staff of the Nutrition Department will receive the information of diet, and according to the computer information to deliver diets to patients. To avoid cross-contaminations, we discard all the tube feeding diets returned from the ICU which waste the food cost. Therefore, this study established the management of the diet supply in intensive care unit to reduce waste of food.

Methods:

We used the fishbone diagram to identify the root causes. The root causes of returning the tube feeding diets were rated by the 80/20 rule of Pareto chart: Nothing by mouth (NPO) due to various clinical examinations and tests (27.6%), the poor tolerance of feeding (24.5%), gastric intestine bleeding (11.2%), NG tube removed and unable to feed (11.2%) and tube feeding diet was not taken out of ICU with transferred patient (6.1%) etc.. We enrolled these reasons as the key points of improvement.

We used the return rate of tube feeding diets from ICU a monitoring indicator. There were three strategies to improve the return rate. First, dietitian proactively handles patients’ diet orders including: to modify the diet orders when the numbers of tube feeding diet over 2 cans in the bedside, to confirm diet order with physician during the patient rounds, and education for new physicians in ICU every month. Second, dietitian proactively confirms: diet as directed by physician’ dietary prescription and stop meals if no nasogastric tube is inserted. Third, the head nurse announces tube feeding diet should be taken out of intensive care unit with transferred patient. After countermeasures execution from August to October, we collect the return rate of tube feeding diets from ICU.

Results:

The return rate before improvement was 1.48%, and the rate decreased to 0.74% after interventions. The improvement of different reasons of the return rate by NPO due to
various clinical tests was from 0.14% to 0.11%, the poor tolerance of feeding was from 0.36% to 0.31%, GI bleeding was from 0.17% to 0%, NG tube removed and unable to feed was from 0.17% to 0% and tube feeding diet was not taken out of ICU with transferred patient was from 0.09% to 0%.

We calculated the cost of discarding tube feeding diets is NT$ 6523 per month, and reduced to NT$ 2451 per month after interventions. Reduce food cost and waste by 62.4%.

**Conclusion:**
Patients often fail to feed properly due to disease status, various examinations, and nasogastric tubes dislocated problems, etc., and tube feeding diet needs to be discarded. Active monitoring by dietitians, coupled with diet adjustment strategies, can significantly reduce the return rate and the waste of food in intensive care unit.

**References:**
none

**Please declare any conflict of interest you may have:**
none
Introduction:
Medical staffs who meet international patients should understand their culture. Also, medical staffs are expected to have cultural competency by hospitals since behaviors of the foreign patients are decided based on their culture. On the other hand, medical staffs often experience stress because of the differences in culture. Therefore emotional labor and stress are becoming an issue in multicultural patients care. Stress in the workplace can cause low performance, low quality of service, low job satisfaction, and high job turnover, directly contributing to additional costs for recruitment, or education of the new employees. However, studies related to nurses’ stress who take care of foreign patients are rarely conducted. This study identifies the levels of the stress in domestic ward nurses and multicultural ward nurses and factors affecting stress.

Methods:
Researcher distributed self-administered questionnaires to the nurses. After collecting data, in-depth interviews were conducted using questionnaire constructed in advance based on the results of quantitative results.

Results:
Difference analysis in patient relationships by nurse type showed that domestic ward nurses experienced more excessive expectation, aggression, and emotional dissonance than multicultural ward nurses. Moreover, difference analysis showed that Korean patients expressed more excessive expectations, aggression. Also, nurses felt more emotional dissonance from Korean patients compared to foreign patients. This comparison showed that the nurses who care for Korean patients had a higher stress level than the nurses who care for both foreign and Korean patients. Not many inpatient nurses could speak the language of their foreign patients perfectly, so they had difficulties communicating. Therefore the language barrier prevented the foreign patients from complaining as much. This led to the nurses experiencing less excessive expectation, aggression, and emotional
dissonance from the foreign patients. According to the interview with inpatient nurses, nurses who work at the international health care center solved most of the complaints from foreign patients. Difficulties they shared were explaining every detail of cultural differences, hospital systems, health insurance systems, and acquiring empathy from other departments personnel.

**Conclusion:**

On the personal scale, nurses should be open minded and motivate themselves to learn cultural differences or behavioral types of excessive expectations and aggression that might cause unpleasant feelings. On the hospital level, every personnel who work in the hospital should be educated those types listed above and manuals to treat those kinds of foreign patients should be made. Chief nurses should adjust workload as for the nurses who take care of foreign patients because time-consuming workload increases. Importantly, an explanation of the hospital setup and system and perhaps a map for the examination rooms should be provided for the distribution to any patients who are not used to the Korean hospital system. On the national dimension, meetings for the nurses who can share their difficulties and experiences with the foreign patients should be provided on a national scale beyond the hospital system to enhance the national brand image. Based on these meeting results, they should conduct need analysis for the educational materials and contents. Also, institutional frameworks should be supported to educate differences of culture, healthcare systems, and the insurance system not only to the medical teams but also to the foreign patients.

**References: About 100 papers should be listed.**

Please declare any conflict of interest you may have: None
An empirical test of the Broken Windows theory in healthcare

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Introduction:

Broken windows theory (BWT) is a social-psychological theory of urban decline that posits a relationship between visible signs of disorder and petty criminal behavior.1 We have recently argued that BWT applies in healthcare and can help understand the role of the environment in human behaviour within hospitals.2 Specifically, that physical disorder (e.g., broken windows, graffiti, litter) and social disorder (e.g., vandalism, antisocial activities) occur in hospitals, perpetuating a range of behaviors among staff, with potential downstream effects on the quality and safety of care delivered to patients. The aim of this study was to explore the construct of disorder and its applicability to the hospital context and to empirically examine the relationship between hospital disorder and three key outcomes: staff burnout, staff job satisfaction, and patient safety.

Methods:

A multi-site, mixed-methods study involving a cross-sectional survey and structured observation. Participants were clinical and non-clinical staff from four Australian hospitals. We developed and tested survey items to assess staff’s perceptions of hospital disorder in the hospital context. We also included in the survey measures of staff wellbeing (job satisfaction, burnout) and patient safety, as well as open response questions to further explore staff perceptions of disorder. Structured observation comprised a mix of quantifiable and purely qualitative assessments of the physical exterior and interior of each of the four hospitals. Findings were assessed using thematic and statistical analyses (including confirmatory factor analysis and structural equation modelling of the new survey measure). Ethical approval was granted for this study.

Results:

First, we developed and validated a survey instrument for measuring physical disorder and social disorder in hospital settings. Findings from the survey showed that both physical and social disorder were positively related to job satisfaction, that social disorder was positively related to burnout, and that social disorder was negatively related to patient safety.

Further, hospital staff perceived aspects of physical and social disorder in their hospital that aligned with the findings from observations. Qualitative responses were rich with additional
insights into hospital disorder and its potential impacts on quality and safety, including patient confidentiality and infection control.

**Conclusion:**

Following growing interest in using BWT to explain the role of the environment in human behavior, this study explored the concept of disorder and its applicability to the hospital context. We identified perceived aspects of physical and social disorder in hospitals and found relationships between disorder and burnout, job satisfaction and patient safety. This is the first study to empirically test BWT in healthcare and examine the potential impact on the quality and safety of patient care delivery.

**References:**


**Please declare any conflict of interest you may have:** None
Automated Capture and High Uptake Rates of Patient Reported Outcome Measures in Routine Rheumatology Practice

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Introduction:

Patient reported Outcome Measures (PROMs) are an integral part of value based healthcare and outcomes that matter to patients; however resource and time constraints are often barriers for routine collection in clinic.

Methods:

All patients with a clinic appointment were sent an automated text message, one day before their scheduled doctor’s appointment, with a hyperlink to fill in the Routine Assessment of Patient Index Data (RAPID3) [0-30, 30 being worst, calculated as the sum of physical function measured using the 10-item multidimensional health assessment questionnaire (mdHAQ), pain visual analogue scale (VAS), and patient global VAS questionnaire]. The text message was personalised with the attending physician’s name and thumbnail photograph and the questionnaire was presented in the patient’s preferred language (English or simplified Chinese) by detecting their phone configuration. RAPID3 responses flowed back to the electronic medical record and were available for the attending clinician to view during the clinic consult the next day. Patients who did not fill in the questionnaire within 6 hours were sent a reminder, and those still remaining were encouraged to fill it in the clinic waiting room. Hardcopy flyers were distributed to inform patients of the initiative and clinicians were encouraged to discuss the responses at the clinic visit. Patients were sent the survey only once during the study period. Weekly usage reports were sent to the clinicians (Figure).

Results:

4078 patients [mean (SD) age 55.8 (16.3) years, 67.9% female, 70.6% Chinese] were sent the text message invitation over 6 months, of which 64.4% responded. Diagnosis data from SNOMED codes were available for 2262 patients. The most common primary diagnoses were rheumatoid arthritis (653, 29.5%), Spondyloarthritides (SpA), including psoriatic arthritis (318, 14.4%) and lupus (310, 14%). Data on disease duration, clinical features and medications were not available. The mean (SD) mdHAQ score (range 0-3, 3 being the worst)
was 0.3 (0.5), mean (SD) pain-VAS (0-10, 10 being worst) was 2.4 (2.3), patient global was 2.6 (2.2) and RAPID3 was 6.1 (5.2). On multivariable logistic regression, age (OR = 0.38, 95% CI 0.32, 0.44 for the top tertile), gender (OR 1.22, 95% CI 1.06, 1.4 for females), race (OR = 0.79, 95% CI 0.64, 0.98 for Indian vs. Chinese race) and treating physician (OR 0.7, 95% CI 0.61, 0.8 for junior vs. senior doctor) were independent predictors of survey response, while primary rheumatic disease was not. Ten of 11 clinicians (from 13 surveyed) found the information from PROMs useful, and 8/11 supported expansion of the pilot project to include more PROMs. Lack of time was cited as the biggest challenge to implementing PROMs routinely.

**Conclusion:** Automated collection of PROMs in routine clinical care is feasible with high uptake rates and minimal clinician burden.

**Please declare any conflict of interest you may have:** nil
Barriers and Facilitating Factors to Influence the Physician-Patient Relationship Quality When Disclosing Test Results

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Introduction:

The physician-patient relationship (PPR) remains the cornerstone of good modern healthcare. Previous studies revealed that a patient-centered approach had a positive impact on patient satisfaction. However, the participants were mainly recruited from outpatient care. Due to the development of medical technology, more opportunities have arisen for people to obtain medical test results from physicians. Therefore, the present study focused on investigating patients’ experience in receiving medical test results. Moreover, by recording the participants’ overall satisfaction ratings, the present study could provide a more thorough understanding of how the physician’s patient-centered communication style influenced the PPR quality. Hopefully, by considering some variables such as levels of health behavior self-efficacy (HBSE) and physician’s destructive communication style (PDCS), this study could strengthen the quality of PPR when disclosing test results from physicians.

Objectives:

The aims of this study were to: 1) find out whether different ratings on overall satisfaction could have any effects on HBSE, perceived physicians’ patient-centered communication style, PDCS, and the PPR quality, respectively; 2) examine potential differences in the PPR quality by personal attributes and different ratings on overall satisfaction; 3) explore which factors would be more impactful than others on the PPR quality.

Methods:

A pilot study was conducted on 70 Taiwanese people in November 2019 to test the feasibility of the self-developed questionnaire. After conducting exploratory factor analysis and reliability analysis, the 7-point Likert scale questionnaire was determined to be a reliable and valid instrument. Formal data gathering officially began on November 30 and ended on December 19, 2019. There were 735 valid online participants between the ages of 14 – 103 in this study, in which everyone had the experience of receiving medical test results from physicians. Descriptive statistics, one-way/two-way ANOVA, contingency table
analysis, correlation analysis, and stepwise multiple regression analysis were used for data analysis.

**Results:**

About 50% of participants recalled a positive experience while filling out the survey used in this study (n = 374). These participants had a higher level of HBSE, perceived their physicians as having the most patient-centered communication style, and reported the highest PPR quality by a significant margin. In addition, personal attributes and different levels of overall satisfaction had effects on PPR quality. Overall, factors that each independently led to a more negatively perceived PPR in a negative satisfaction situation were: female, a high level of education, high HBSE, and had undergone specific examinations instead of general examinations. PDCS revealed a negative correlation with PPR. In fact, 68% of the participants regarded “The physician conducted my examination in a rushed manner” as their most undesirable physicians’ communication style. A stepwise multiple regression analysis revealed that the overall model was significant, $F (4, 730) = 570.24$, $R = .87$, adjusted $R^2 = .76$, $p < .01$. The four variables that best predicted PPR were perceived physicians’ patient-centered communication style ($\beta = .83$), had a positive patient satisfaction experience ($\beta = .07$), having specific examinations ($\beta = .05$), and with high health behavior self-efficacy ($\beta = .04$).

**Conclusion:**

Perceiving physicians’ patient-centered communication style remained a key element for improving the quality of PPR in this study. Moreover, while examining the quality of PPR, patients’ different levels of overall satisfaction and health behavior self-efficacy status should be taken into consideration.
Introduction:

Clear communication is associated with better quality of care to patients, increase teamwork and job satisfaction for physicians and nurses. Effective team communication in a hospital inpatient setting is challenging and often requiring unplanned communication among busy healthcare providers. Study aims to identify barriers to provide effective communication and collaboration among physicians and nurses in daily inpatients practice and to explore potential recommendations that can overcome challenges.

Methods:

A cross sectional survey were administered from September until November 2015 to the physicians and nurses on pediatrics inpatients wards at Hamad Medical Corporation the main tertiary hospital in Qatar, questioner included details of demographics, perceptions and barriers to proper communication and collaboration in daily clinical practice. Questions offered objective answers utilizing the 4-point Likert scale that can be used to perform statistical analysis.

Results:

Out of 124 responses, 83 (67%) were Physicians and 41 (33%) Nurses. Almost (69%) of physicians stated that they enjoyed communication with nurses compared to (41.5%) of nurses (P < 0.012). Nearly (67.5%) of physicians had a good communication with nurses compared to (44%) of nurses (P < 0.039). Both group identified several barriers to effective Physicians - Nursing Communication; Lack of sharing plan in decision-making, Lack of physician openness to communication, lack of receiving accurate and correct information, difficulty reaching the physician, lack of professionalism and lack of institutional support.

Conclusion:

Our study shed light on barriers to optimal physician - nursing communication in pediatrics Inpatient setting; better understanding of these aspects will insure excellent patients care level. Our finding identified several strategies to overcome above challenges: mandatory
bedside rounds between health care providers and patients, implement structured communication tools, improve organizational culture and organized lectures and workshops to ensure excellent patients care

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Please declare any conflict of interest you may have:

no conflict of interest
Can we prepare healthcare professionals for involvement in adverse events? Feasibility study of a resilience training intervention

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Introduction:
6% of healthcare episodes are affected by an adverse event (AE; 1). In addition to the negative impact these have on patients and their families, around 50% of clinicians who are involved subsequently experience significant mental health problems that disrupt their personal and professional lives (2). When clinicians’ mental health is compromised and burnout is elevated, patient care suffers (3); supporting clinicians with these events is therefore crucial to enabling the delivery of a positive healthcare experience for patients.

Whilst this problem is well recognised, few interventions have been developed to proactively support healthcare professionals with AEs. To address this, the present study evaluated a psychological training intervention designed to prepare healthcare professionals for the occurrence of AEs.

Methods:

Intervention: The intervention comprised a 3.5 hour group workshop and 1 hour 1:1 coaching phone call with a facilitator.

Design and measures: The study used an uncontrolled before-after design. Data was collected at four time points: prior to the intervention (Time 1), immediately following the workshop (Time 2), immediately following the coaching phone call (10-20 days after the workshop; Time 3) and 4-6 weeks after the workshop (Time 4).

The primary outcome measures were confidence in coping with adverse events and a knowledge assessment which tested knowledge about resilience and coping strategies. The secondary outcome measure was self-perceived resilience as measured by the Brief Resilience scale (4).

Results:
We recruited 66 participants to 9 intervention workshops. Linear (mixed) multilevel regression models indicated that there were significant increases in confidence in coping with adverse events (primary outcome measure) from Time 1 to Time 2 (b = 3.12 (95% CI: 2.63-3.62) p <.001), from Time 1 to Time 3 (b = 3.58 (95% CI: 3.03-4.13) p <.001) and from
Time 1 to Time 4 (b = 3.45 (95% CI = 2.83-4.07) p < .001) (see Figure 1). They also indicated significant increases in knowledge (primary outcome measure) from Time 1 to Time 2 (b = 1.09 (95% CI = 0.77-1.41) p < .001), and no further follow up measurements for knowledge were taken. Perceived resilience (secondary outcome measure) increased from Time 1 to Time 3 (b = 2.76 (95% CI = 1.81-3.71) p < .001) and from Time 1 to Time 4 (b = 2.57 (95% CI = 1.49-3.66) p < .001). No Time 2 measurements for resilience were taken.

**Conclusion:**
This paper presented findings from the first study of an intervention designed to prophylactically prepare healthcare professionals for involvement in adverse events. Participants reported higher levels of confidence in coping with adverse events, improved knowledge of resilience and improved perceptions of resilience following the intervention than they did at baseline. These results suggest that the intervention is feasible to deliver in healthcare professionals and trainees and indicate that it may have benefits for improving preparedness in coping with subsequent adverse events.
References:


Please declare any conflict of interest you may have: None
Introduction:
Due to the convenience of visit physicians in Taiwan, people often treat their disease in the medical center without a referral. To allocate the medical resources appropriately, Taiwan is promoting two-way referral healthcare currently. It is the challenge for the Medical center to refer patients to a community hospital or clinic, further improve the continuity and convenience of patient care. Therefore, this project aims to strengthen the promotion of two-way referrals with multiple strategies. We hoped that by integrating community resources, patients will get the most appropriate and healthcare. The Project aims to increase two-way referral outcomes by developing multiple strategies and design convince patient flow.

Methods:
This project was implemented in a medical center. Cross-team members including the deputy medical director, physicians, nurses, IT, administrative staff and quality management center managers., after 6 individual interviews and to collect data from January to March 2019, a two-way referral flow chart was being created. We figure out four major challenges and three major strategy groups. Nowadays, the challenges of promoting two-way referrals for the medical center are that physicians lack the understanding about the benefit of two-way referrals, insufficient connection with the community, lack of information sharing platform and the public are insufficient awareness of the referral information. Therefore, the improvement strategy will be arranged from April to September 2019, and October to December 2019 will be used as the performance measurement interval.

Results:
After implemented the strategy, the number of referrals from the medical center to other hospitals or clinics increased from 21 to 251. The number of community clinic referrals to the medical center has grown from 1,007 to 1,204. We design a patient-centered referral center that provides patients to register all about referral information. The patient also can easily register through hospital apps. The referral sheet printed out QR-code so patients can get community clinic addresses and information easily and friendly.

The referral center nurse will remind the patient to visit physicians and will continue to follow up after the visit until a patient’s disease is stable. Through the convenient HIS
system and intelligent quick link, physicians can complete all referral steps in a single
system, and view all of the patient's medical record. The doctor will take the convenience of
the patient as the primary consideration to arrange the referral of the hospital or clinic.

With cooperation with 178 community hospitals and clinics, we developed an EMR sharing
platform to give physicians a patient's medical records. Finally, we provide physicians with
additional incentives to encourage physicians to referrals, stable patients, to primary care
clinics for continued care.

**Conclusion:**
By improving the two-way referral model, the number of two-way referrals growing up. In
the future, the hospital will continue to publicize to the medical department, continue to
provide people with referral and convenience services in multiple ways and improve the
workflow of administrative staff. We will continue to integrate with community medical
resources, to expect a closer connection and develop integrated medical care from the
perspective of patients.

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**Please declare any conflict of interest you may have:** None.
Development of a computerized patient decision aid using an intelligent robot for shared decision making in intraocular lens selection of cataract surgery

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Introduction:
The continued development of intraocular lens (IOL) technology provides cataract patients numerous options of refractive corrections after cataract surgeries. A proper selection of IOL is an important component to postoperative quality of life. Because of the different strengths and weakness of each IOL models, it is often difficult for patients to choose the best fit for individual needs. Shared decision making (SDM) is well recognized as a valuable approach of patient centered care and is an appropriate tool for patients in the choices of IOL selection. In the SDM process, patient decision aids (PDA) have been shown to increase knowledge, improve risk perception, lower decisional conflict and improve patient satisfaction.

Objective:
In this study, we developed a computerized PDA using an intelligent robot that combines evidence with patient preferences to facilitate decision making in IOL selection of cataract surgery.

Methods:
We searched the literature for clinical researches published in English for IOL selections on PubMed between 2000 and 2019. The retrieved articles were reviewed for their level of evidence. The information regarding efficacy, safety, convenience and cost were extracted from the reviewed articles. Important contents were adapted for the PDA. The PDA consisted of 5 steps. Step 1 is an introduction to the disease of cataract and the surgical management with IOL implantation. Step 2 lists all the IOL options and the strengths and weakness of each IOL model, including a tabular comparison of various options. Step 3 comprises of a questionnaire to help the patients to rank their values and personal preferences of their visual needs in work and daily life. Step 4 is a small quiz to test the knowledge learnt. Step 5 is the final decision making by the patients after considering their preferences and the knowledge they learnt in the previous steps.
The computerized PDA was built on an intelligent robot Zenbo (ASUSTek Computer Inc.). The steps of the PDA were transformed into a user-machine dialogue with DDE (dialogue development environment) Editor and Zenbo APP Builder. We conducted a pilot test for the computerized PDA using Zenbo. The participants went through the decision making process with the computerized PDA on Zenbo. After the process, the participants evaluated the PDA by completing a questionnaire about the effectiveness of being helpful, the anxiety for decision making, and the capability to make decision using 5-point Likert scales.

Results:
A total of 21 participants (6 men, 15 women) were enrolled in the pilot test. Mean age is 55.04 (range 35 to 70) years. The mean score of effectiveness of being helpful is 3.55. There is no significant difference between men and women (P=0.23). The age between 50 and 59 years shows highest score (4.07) in all age groups. The anxiety score decreases from 2.66 before PDA to 2.33 after PDA (P = 0.03). The proportion being capable to make decision increase from 47.7% before PDA to 95.3% after PDA.

Conclusion:
The pilot test for a computerized PDA using an intelligent robot shows an encouraging result. With further improvements in human-machine interface, a robot-aid PDA can play a promising role in future clinical application.

References

Please declare any conflict of interest you may have:
All authors declare no conflict of interest in the submitted work.
Examining nurses’ work experiences in Lean operating theatres
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Introduction:
Hospitals around the world are faced with unprecedented demographic, budgetary and epidemiological challenges. To cope, many are adopting managerial approaches inspired by the Japanese Lean Manufacturing philosophy. While Lean has been shown to help hospitals improve their efficiency, reduce costs and increase their capacity, little is known about its consequences on their medical, nursing, and allied health staff. This study addresses this gap by examining the links between the use of lean and experiences of alienation amongst operating theatres (OT) nurses.

Methods:
Underpinned in a critical realist epistemology and using a qualitative methodology, the research was conducted at a publicly funded hospital in France. Data was collected through non-participant observations in an OT (90 hours), semi-structured interviews (n=19) and document analysis. Participants were OT nurses. Theoretically, the research draws on Blauner’s (1964) taxonomy of alienation.

Results:
Findings of the study revealed that Lean practices were seen as alienating by the nurses who described an increased sense of powerlessness, meaninglessness, and social isolation. Participants chiefly viewed their work as a worthy goal in itself and signs of self-estrangement were only apparent in instances where Lean negatively impacted patient care. Resistance strategies were identified and will be discussed in this presentation.

Conclusion:
While no direct links can be drawn between Lean and experiences of alienation, this study reveals the ways in which Lean can create an alienating environment and lead to negative work experiences. This has significant implications for the quality of care and the safety of patients as previous research has demonstrated correlations between poor staff wellbeing and low-quality patient outcomes. Broadly, this study contributes to the discussion on the future of health services management as hospitals operate in an era of unprecedented challenges. The research argues that along with efficiency, the wellbeing of staff and patients needs to be at the forefront of managerial priorities.
References:


Please declare any conflict of interest you may have: None.
[1993] Focusing on hospital staff: how working conditions affect patient safety culture in South America

Alejandro Arrieta1; Galed Hakim3; Benjamin Carrasco2; Tobar Maria Fernanda5

1Florida International University, Miami, United States of America; 2Sociedad Chilena de Calidad Assistencial, Santiago, Chile; 3Baptist Health International, Miami, United States of America; 4Centro Médico Imbanaco, Cali, Colombia; 5Universidad del Valle, Cali, Colombia; 6Clínica Anglo Americana, Lima, Peru

Introduction:

Two-thirds of all adverse events occurred in developing countries [1], yet research about the structural factors that underline unsafe care in those countries is largely limited [2]. A key factor consistently associated with improved outcomes is patient safety culture [3], which refers to shared attitudes, values, and norms related to safety [4]. In this study, we implemented a survey to staff from South American hospitals to identify the major factors that contribute to a low degree of patient safety.

Methods:

A non-random cross-sectional study was conducted online in 2018-2019 to assess the patient safety culture of hospitals from Colombia, Chile, and Peru. Our instrument was the Agency for Healthcare Research and Quality hospital survey of patient safety culture (HSOPS) [4]. A total of 4,450 staff (48.8% from Chile, 27.7% from Colombia, 23.5% from Peru) completed the Spanish-validated version of the HSOPS. The majority of them had direct interaction or contact with patients (73%) and were mostly nurses (25%), followed by allied health professionals (17%), physicians (16%) and administrative staff (16%). We used a multiple regression analysis to identify the factors associated with a low degree of patient safety. We complemented our analysis with a text mining analysis of the open-ended questions of the survey to identify staff insights on patient safety issues.

Results:

Hospital staff perceptions on the degree of patient safety are similar in Chile and Colombia, but significantly lower in Peru. Staffing (the degree to which there is enough staff to handle the workload and the hours of work) is the component of patient safety culture with the lowest score in the three countries (35% of positive responses in Chile, 35% in Colombia and 28% in Peru). Our multiple regression analysis shows that staffing was a statistically significant issue among staff working in emergency and urgent care units (p-value=2.9%), with a profession of health assistant (p-value<0.1%) and allied health professional (p-
value=1.4%), and with 5 or fewer years of experience in their professions (p-value=3.9%). Our text mining analysis shows that fatigue, high turnover ratios and independent contractual agreements among staff seem to be playing a role in hospital patient safety.

**Conclusion:**

Around 66% of staff from Chile and Colombia considers the degree of patient safety in their hospitals as excellent or very good, below the average of 78% observed in the U.S. [4]. Peru ranks well below with 21%, similar to what we found two years ago in a previous study [5]. The lack of enough staff and working conditions are the most important factors affecting patient safety in the three countries under analysis. Our study calls for interventions that focus on hospital staff as a core element to reduce harm in Latin American hospitals.

**References:**


**Please declare any conflict of interest you may have:** None
Focusing on the person achieves service improvement; a four step integrated plan guided by the patient voice

Natalie Wilson; Kathy Eljiz; David Greenfield

1South Western Sydney Local Health District, Sydney, Australia; 2Australian Institute of Health Service Management, University of Tasmania, Sydney, Australia

Introduction:

Improving staff and services capability to provide safe, quality person-centred care is a goal for organisations globally. This includes enhanced understanding of patients and carers experience accessing health services and supporting staff to sensitively address patient and carer feedback. Implementing this goal in any organisation is a significant challenge that requires emotional engagement, inspiration and creativity. The study objectives were twofold: 1.To identify a system and channels that can provide real time patient experience data at point of care for patient services; and, 2.To provide patient experience data at a unit level, that can be used to engage staff and drive local service improvement.

Methods:

An action-research project was undertaken, comprising multidisciplinary staff and stakeholders (n=32) from South Western Sydney Local Health District (SWSLHD), Australia. The working group, across an eight-month period, developed and refined a patient experience plan through review of academic and grey evidence, best practice and consultation. The plan included 4 key steps; 1.To establish a program that would provide in-time patient experience feedback, 2 Develop a core set of questions that are applicable across the continuum of care, 3. Utilise effective channels for collection of patient experience data, and 4. Construct a timely process to provide data to staff and patients at a Unit level.

Results:

My Experience Matters (MEM) was identified as the program which met the specifications and would provide in-time patient experience data. A core set of questions were identified that were applicable across the continuum of care. The questions were developed based on the subset of validated patient experience questions used in the State Health patient experience surveys and tested with consumers and key stakeholders. Electronic based data collection strategies were selected to obtain real-time patient experience information at the point of care. This included surveys via hand held tablets, I-pads, kiosks, QR codes and an internet link on the SWSLHD website. It was recognised that many inpatients required support to complete surveys therefore volunteers and health students were utilised for support purposes. Finally, a process was identified to support managers and frontline staff to utilise the data. This included 1-to-1 staff training, individual coaching, weekly reports for managers, and automated feedback reports that are displayed units. A database was
developed to support managers to record and report local service improvements, and share this information across services. Since 30 December, 2019, 6500 surveys have been submitted. Overall themes are similar for all areas, with patients and consumers most satisfied with the support provided by staff and least satisfied with access to services.

Conclusion:

The development and implementation of a program to collect real time patient experience data has resulted in an improved capability for SWSLHD to use timely patient experience data to drive service improvements. As a result staff are more engaged with the patient experience data, as it is timely and specific to their unit. The plan implemented here presents a model that other organisations could adopt, with adaption of practical actions to accommodate local resources and capabilities. The key strategy is to establish the emotional engagement of staff to inspire their creativity and desire to deliver high quality care. Challenges to consider for the future include evaluating the various methods used for data collection to ensure they are effective, and translating the survey to ensure feedback from culturally and linguistically diverse populations.

Please declare any conflict of interest you may have: Nil
Focussing on the person: A qualitative study of multi-stakeholder views of cochlear implantation and care for adults with severe hearing loss

Frances Rapport1; Mia Bierbaum1; Jeffrey Braithwaite1; Sarah Hughes2,3

1Australian Institute of Health Innovation, Sydney, Australia; 2Swansea University Medical School, Swansea, United Kingdom; 3Centre for Patient Reported Outcomes Research (CPROR), Birmingham, United Kingdom

Introduction:

Current standards of care (SOC) provide agreed-upon benchmarks for clinical treatment recommendations for adults with severe-profound sensorineural hearing loss (SNHL). Cochlear implantation (CI) is the international standard of care for treatment1, in keeping with evidence-based recommendations. As best practice guidelines are developed in response to SOC guidance, qualitative research can offer rich, multi-perspectival data on approaches to clinical practice in CI and care pathways, especially when treatment recommendations may be challenging.

Objectives:

1) Explore stakeholder experience of CI care pathways;

2) identify perceived barriers and facilitators to CI implantation and use;

3) assess multidisciplinary professional and patient views and responses to CIs.2,3

Methods:

The Australian and United Kingdom (UK) 2018 study used a multi-method qualitative design. Focus groups and semi-structured interviews took place in Australia with adults (>50 years) with SNHL who used either hearing aids (HAs) or CIs, and healthcare professionals (HCPs), including HA and CI audiologists, and general practitioners. To compare with a different health system, UK audiologists participated in focus groups and interviews. All participants were invited to complete a questionnaire and survey. Iterative thematic analysis, alongside consensus-based group-working, ensured rigorous, trustworthy findings.

Results:

143 data capture events took place with 55 participants (n=26 patients; 29 HCPs) including interviews/focus groups (n=55), a demographic questionnaire (n=54), and a follow-up
survey for data saturation (n=46). With an overarching emphasis on patient-centredness, six themes emerged: 1) barriers and facilitators to CI utilisation, 2) patient perspectives on hearing loss burden, 3) impact of CIs on quality of life, 4) HCP views of professional practice, information sharing and shared care, 5) patient perspectives on HCP support, information provision and care, and 6) patients’ future aspirations. Themes were largely consistent across Australia and the UK. Limited awareness and knowledge of implantation, complex referral processes, and poor communication were challenges to CI utilisation, whereas patients’ desire for improved communication and social participation and HCP knowledge and confidence were facilitators. HA users and CI recipients aspired to improved hearing and access to future technologies.

Conclusion:

This study offers a unique qualitative synthesis of multi-stakeholder perspectives across two health systems. As a data repository it can assist in developing and implementing evidence-based practice guidance for international SOCs for adults with SNHL. Importantly, service user accounts will support person-centred guidelines promoting shared care, greater access to CIs, and better quality of life for those with hearing loss.

References:


Please declare any conflict of interest you may have: None
General practitioners’ involvement in diagnosing, treating and referring patients with suspected or confirmed primary cutaneous melanoma: a qualitative study
Andrea Smith1,2; Caroline Watts2,3; Frances Rapport1; Anne Cust2
1Australian Institute of Health Innovation, Sydney, Australia; 2University of Sydney, Sydney, Australia; 3University of New South Wales, Sydney, Australia

Introduction:
In Australia, an individual concerned about a suspicious lesion typically presents first to their general practitioner (GP), after which their care can be managed by the GP, by a specialist or by both. Melanoma care in Australia is noteworthy for several reasons. Unlike the majority of cancers, primary cutaneous melanoma can potentially be diagnosed and treated wholly within the primary care setting. This raises a unique set of challenges for Australian general practitioners (GPs) whose involvement in the management of other common cancers, such as lung, prostate, breast or bowel cancer, focuses on prevention, early detection, survivorship and end-of-life care with definitive diagnosis and treatment being the responsibility of specialist clinicians. Little is currently known about how Australian GPs decide how involved they wish to be in melanoma management: a problem with clear challenges to quality of care and patient safety.

Objectives:
To explore how GPs conceptualise their role in the prevention, diagnosis and treatment of primary cutaneous melanoma and the factors influencing their decision to refer patients on to specialist care.

Methods:
Data were generated through in-depth semi-structured interviews (October 2018 to February 2019) with 21 GPs (male: 10; female: 11) working across a range of settings including medical centre practices and skin cancer clinics. Data were analysed using Braun and Clarke’s method of reflexive thematic analysis.

Results:
The overlapping roles that GPs and specialists (dermatologists and surgeons) can play in melanoma care creates a unique set of challenges for the quality of care delivered by GPs. Considerable variation existed in GPs’ self-reported confidence and involvement in
melanoma management. Multiple factors were identified as influencing GPs’ decisions to diagnose, treat or refer patients with suspected or confirmed melanoma. Health system level factors included the overlapping roles of GPs and specialists, and access/availability of specialists. Practice level factors included opportunities for formal and informal training and having a GP with a special interest in skin cancer within their practice. GP and patient level factors included the GP’s clinical interests, the clinical features (e.g. site and size) and histopathology of the suspected melanoma, eligibility for possible sentinel lymph node biopsy, and patient preferences. For some GPs, concerns over misdiagnosis and the option of referring patients at any stage in the melanoma management continuum (from surveillance to treatment of confirmed invasive melanoma) appeared to affect their interest and confidence in melanoma management.

Conclusions:

Given the increasing burden of melanoma in Australia, GPs will continue to play an integral role in melanoma management. It is therefore important to consider how GPs can be supported to further develop their skills and confidence in the diagnosis and treatment of melanoma to ensure quality care is delivered to melanoma patients. Further education is required for those GPs who manage melanoma to clarify points at which referral of the patient to specialist care is warranted.

Please declare any conflict of interest you may have: No conflicts of interest declared.

* Presented on behalf of the Australian Melanoma Centre of Research Excellence Study Group.
Introduction:

Small and medium-sized hospitals, which play a key role in the nation's medical services, are blind to the problem of patient safety due to communication problems, lack of interest in quality improvement by nurses, lack of educational opportunities, and lack of manpower and systems to improve quality. Furthermore, efforts to improve work for nurses center on large-sized and university hospitals in metropolitan areas where staffing and systems are available. Thus, nurses who work at these hospitals experience significant alienation. Communication during handoffs has been widely implicated in patient-safety issues, but less attention has been paid to the handoff practice to assure safe nursing care in small and medium-sized hospitals.

Objectives:

This study aimed to examine the handoff and patient-safety culture and determine factors associated with handoff evaluations in small and medium-sized hospitals in South Korea.

Methods:

This cross-sectional descriptive study included 423 nurse participants. Nurses completed a set of self-reporting questionnaires containing 4 instruments that evaluated demographic data and current handoff strategies, perceptions of a patient-safety culture, and handoff evaluation. The responses were analyzed using descriptive statistics and regression modeling. The institutional review board for ethical protection of participants' human rights of S University reviewed the study proposal.

Results:

Results of this study indicated nurses performed many handoffs without using standardized guidelines. Our regression model indicates a significant predictor was the degree of cooperation among departments and units, frequency of medical errors reported, presence of handoff guidelines, managers' awareness of patient safety, and the appropriateness of handoff education.
**Table 1** Factors influencing handoff evaluation of nurses in small and medium-sized hospitals

<table>
<thead>
<tr>
<th>Variables</th>
<th>$b$</th>
<th>SE</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>(constant)</td>
<td>2.29</td>
<td>0.56</td>
<td>4.10</td>
<td>.006</td>
<td></td>
<td>0.92~3.66</td>
</tr>
<tr>
<td>Perception of patient safety culture</td>
<td>0.74</td>
<td>0.16</td>
<td>0.94</td>
<td>4.58</td>
<td>.004</td>
<td>0.35~1.14</td>
</tr>
<tr>
<td>Managers’ awareness of patient safety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perception of patient safety culture</td>
<td>1.11</td>
<td>0.15</td>
<td>1.44</td>
<td>7.31</td>
<td>&lt; .001</td>
<td>0.74~1.48</td>
</tr>
<tr>
<td>Frequency of reported medical errors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perception of patient safety culture</td>
<td>-1.76</td>
<td>0.30</td>
<td>-1.68</td>
<td>-5.87</td>
<td>.001</td>
<td>-2.49~ -1.03</td>
</tr>
<tr>
<td>Degree of cooperation among departments and units</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handoff checklist*</td>
<td>1.53</td>
<td>0.34</td>
<td>1.03</td>
<td>4.57</td>
<td>.004</td>
<td>0.71~2.35</td>
</tr>
<tr>
<td>Both handoff guideline and checklists*</td>
<td>1.28</td>
<td>0.30</td>
<td>1.06</td>
<td>4.34</td>
<td>.005</td>
<td>0.56~2.00</td>
</tr>
<tr>
<td>Appropriateness of handoff education time</td>
<td>0.73</td>
<td>0.20</td>
<td>0.54</td>
<td>3.74</td>
<td>.010</td>
<td>0.25~1.21</td>
</tr>
</tbody>
</table>

$F = 13.06 \text{ (} p = .003\text{), } R^2 = .95, \text{ Adj } R^2 = .87$

*Reference = No handoff guideline/checklists.

**Conclusion:**
The contribution of this study to clinical practice lies in identifying the relationship between handoffs and the patient-safety culture. Creating an affirmative culture that encourages reporting of errors and a cooperative atmosphere is important in handoff effectiveness and
patient safety. Providing appropriate education on handoffs and standardized guidelines is crucial to efficient handoffs in small and medium-sized hospitals.

Please declare any conflict of interest you may have: There is no conflict of interest.
Health behaviors, health promoting environment, burnout and job satisfaction among Israeli nurses: differences by gender and workplace

Ilya Kagan1; Liora Valinsky2; Rachel Wilf-Miron1

1Tel Aviv University, Faculty of Medicine, Tel Aviv, Israel; 2Ministry of Health, Jerusalem, Israel

Introduction:

Health behaviors (HB) affect nurses' wellbeing, burnout and their position as health educators and role models for patients. A work environment may contribute to promoting of nurses' health and lifestyle differently according to the nurses' gender and type of organization (community versus hospitals). The current study aimed to examine the effect of gender and workplace on the relationships between health promoting environment, HB, burnout and job satisfaction among Israeli nurses.

Methods:

This study was conducted in three stages (mixed methodology): 1) quantitative - a pilot survey among 171 nurses designed to develop and validate data collection tool; 2) qualitative - two focus groups of hospital and community nurses (n=37) to elucidate the survey themes, domains and items and 3) a cross-sectional multicenter survey. At the third stage, an on-line questionnaire was sent by e-mail to all nurses working in 19 hospital and community-based healthcare organizations in Israel.

Results:

Among 3,542 respondents, 91% were female; 64% worked in the hospital setting, 33% worked in the community and the remaining in other organizations. 64% did not achieve the physical activity target, half reported unfavorable eating habits; 66% slept less than 7 hours and 15% were smokers. Workplaces were rated low as health-promoting environments (M=2.2±.58; 1-5 scale). Health promoting work environment was associated with positive health perception, higher job satisfaction and reduced burnout. Mean burnout score was 3.3, 3.4 and 3.6 among community nurses, hospital nurses without and with night shifts, respectively (p<0.0001); 68% of respondents were satisfied with their job. Males and hospital nurses reported less favorable HBs, higher stress and burnout and less job satisfaction, compared with community nurses.
Conclusions:

Israeli nurses, particularly male nurses and those working in the hospital, demonstrated unfavorable health behaviors and considerable burnout, which may negatively affect their health and wellbeing. There appears to be a direct effect of a health promoting work environment on job satisfaction, as was demonstrated using multivariate logistic regression that showed this association remained even after adjustment for burnout. The combination of unfavorable health behaviors, relatively high proportion (32%) of nurses with low job satisfaction and high burnout levels, demands an urgent action. Health promoting environments in healthcare facilities emerge as a potential focus for intervention. Gender-tailored and workplace-oriented interventions are needed for improving the health promoting component of work environment, which might increase job satisfaction both directly, or by reducing burnout. This intervention has the potential to improve nurses' wellbeing, the function of the healthcare system as a whole, as well as public health.
[717] How can you care if you don’t know who I am? Prevalence, clinical risks and healthcare use of children with Intellectual Disability admitted to a tertiary paediatric healthcare organisation.

Laurel Mimmo1,2; Reema Harrison1; Jo Travaglia3; Sue Woolfenden1,2

1University of New South Wales, Sydney, Australia; 2The Sydney Children’s Hospitals Network, Sydney, Australia; 3University of Technology, Sydney, Sydney, Australia

Introduction:

Children with intellectual disability have a poor care experiences and a heightened risk of harm every time they access tertiary healthcare (1,2). Understanding the risks to this vulnerable group, who are frequent users of healthcare, is critical for improving the quality of healthcare delivery for all children. However, reliable methods to identify children with ID when they access hospital care are lacking both in the Australian context and internationally, impeding the opportunity to improve the quality of care experience for these children. This study sought to identify and learn more about the healthcare experience of this vulnerable group using inpatient medical records and routinely collected data.

Objectives:

To quantify the prevalence of the paediatric ID population; describe the demographics, health utilisation and reported clinical incidents of the paediatric ID population; subgroup analysis for different socioeconomic, geographical and cultural backgrounds.

Methods:

A retrospective chart review of 1021 randomly selected patients admitted at least once for greater than 23 hours to one of the two tertiary children’s hospitals in Sydney, Australia, in 2017. Each record was manually interrogated to identify which children had documented evidence of intellectual disability or developmental delay. Data including patient demographics, length of stay, number of admissions, cultural background, language and reported clinical incidents for each patient were also extracted.
Results:

Initial analysis has found approximately 9% of children admitted during the study period had an intellectual disability. A further 4% were identified as having developmental delay (preschool children yet to be formally assessed). No intellectual/developmental disability were identified in the remaining children. Other findings to be presented will be differences across the three groups in terms of demographics, length of stay, patterns of admission and medical specialty. Analysis of the differences in reported rates and types of clinical incidents across the three groups will also be discussed. Subgroup analysis of children from diverse cultural backgrounds will be included.

Conclusion:

Without knowing the prevalence, health utilisation and deficits in care quality for children with ID in hospital, health services cannot adequately adapt to meet their care needs, and drive improvements in care delivery.

References:


Please declare any conflict of interest you may have: Nil
Identifying and assessing care providers’ experience of key barriers to a paediatric precision medicine model of care

James Smith1; Frances Rapport1; Louise, A Ellis1; Jeffrey Braithwaite1

1Centre for Healthcare Resilience and Implementation Science, Australian Institute for Health Innovation, Macquarie University, Australia., Sydney, Australia

Introduction:

Conducting a barrier and enabler analysis of current models of care is a precursor to designing a clear implementation strategy (Graham et al., 2006). However, there are no guidelines for tailored interventions on how to establish the most effective ways of identifying key barriers in medical care models, nor guidelines on how to select implementation strategies to overcome these barriers (Baker et al., 2010).

Objectives:

The aim was to: (1) provide a new way of identifying barriers and enablers within a paediatric precision medicine model of care; and (2) establish key barriers experienced by care providers and provide information that will assist those wishing to provide tailored implementation strategies to care improvement.

Method:

A mixed-methods design was used with qualitative data that was quantified and graded through sentiment analysis (Pang, Lee, & Vaithyanathan, 2002) to reflect care providers’ positive and negative opinions. Thirty-seven data events (14 multidisciplinary tumour board meetings, 14 curation meetings, and 9 informal conversations) were captured using Rapid Ethnographic methods (mobile methods including observations and informal conversations). Data as fieldnotes were assessed according to the Consolidated Framework Implementation Research (CFIR), with framework analysis used to establish the presence or absence of CFIR components and sentiment analysis used to distil insights into care providers feelings to determine the barriers and enablers of a paediatric precision medicine model of care.

Results:

A traffic light labelling system with warnings highlighted in red are shown in Image 1. This labelling system colour codes the level of severity of key barriers of a paediatric precision medicine model of care identified and graded across different data capture events. The higher percentage of total negative sentiment for core (negative sentiment, N=167, n=116,
69%) and variation components (negative sentiment, N=71, n=38, 53.5%) indicate greater barriers.

<table>
<thead>
<tr>
<th>Core component</th>
<th>Negative Sentiment</th>
<th>Positive Sentiment</th>
<th>Barrier/Enabler</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>n (%)</td>
<td>n (%)</td>
<td></td>
</tr>
<tr>
<td>Variation</td>
<td>71</td>
<td>39</td>
<td>Barier</td>
</tr>
<tr>
<td>Variation</td>
<td>71</td>
<td>39</td>
<td>Barier</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Core Components</th>
<th>N</th>
<th>Negative Sentiment</th>
<th>Positive Sentiment</th>
<th>Barrier/Enabler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adaptability</td>
<td>21</td>
<td>7</td>
<td>14</td>
<td>Enabler</td>
</tr>
<tr>
<td>Complexity</td>
<td>50</td>
<td>35</td>
<td>15</td>
<td>Barier</td>
</tr>
<tr>
<td>Cost</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>Barier</td>
</tr>
<tr>
<td>Design quality &amp; safety</td>
<td>15</td>
<td>14</td>
<td>1</td>
<td>Barier</td>
</tr>
<tr>
<td>Evidence strength &amp; quality</td>
<td>60</td>
<td>45</td>
<td>15</td>
<td>Barier</td>
</tr>
<tr>
<td>Speediness</td>
<td>14</td>
<td>10</td>
<td>4</td>
<td>Barier</td>
</tr>
<tr>
<td>Trialability</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>Barier/Enabler</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variation components</th>
<th>N</th>
<th>Negative Sentiment</th>
<th>Positive Sentiment</th>
<th>Barrier/Enabler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inner setting</td>
<td>25</td>
<td>5</td>
<td>19</td>
<td>Barier</td>
</tr>
<tr>
<td>Outer setting</td>
<td>25</td>
<td>18</td>
<td>7</td>
<td>Barier</td>
</tr>
<tr>
<td>Individual characteristics</td>
<td>10</td>
<td>9</td>
<td>1</td>
<td>Barier</td>
</tr>
<tr>
<td>Implementation process</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td>Barier</td>
</tr>
</tbody>
</table>

**Image 1: Traffic light labelling system showing a red warning representing barriers**

**Conclusions:**

This study provides a method to establish barriers to a paediatric precision medicine model of care, and provide a way to identify the most important barriers to address. The method means we can now better understand and tailor implementation strategies for use within the precision medicine model of care and address specific barriers and ultimately predict implementation success.

**References:**


**Conflict of interest:** None

**Abbreviations:** CFIR (Consolidated Framework Implementation Research).
Implementing a Second victim support process for Radiation Therapists in a Radiation Oncology centre: A Quality Improvement Initiative
Shirley Cronin
1SLRON Beaumont, Dublin, Ireland

Introduction:

This project aims to implement a feasible and acceptable second victim support process for Radiation Therapist second victims in order to provide both organisational and personal support in the aftermath of patient-related adverse events. Unsupported second victims have been associated with an increased incidence of subsequent adverse events, patient/carer detachment, an increased level of burnout and depression, often leading to leaving their roles in healthcare. Second victim support is outlined in national policies and guidelines; however, in practice, departmental policies, and work practices do not reflect this.

Methods:

Surveys used included The 'Safety Attitudes Questionnaire', a validated psychometric test used to analyse safety climate, and 'The second victim experience' survey, a short survey used previously by Susan Scott (2010) to assess the support requirements of second victims and the frequency of the second victim phenomenon. Evidence-based literature describes the accepted recovery trajectory of the second victim and how best to provide support during second victim recovery. It was decided the ‘Scott three-tiered Intervention Model of SV support’ (2010) with minor adaptions resulting from survey feedback best supported our second victims and was implemented accordingly. To measure the acceptability, feasibility, and appropriateness of this intervention, the writer used validated and reliable psychometric measures created by Weiner et al. (2017).

Results:

Feedback from the second victim experience survey showed that approximately 72 % of Radiation therapists surveys experienced second victim syndrome. Despite the high incidence of adverse events experienced by Radiation therapists, it appeared that none surveyed took sick leave as a result of an adverse event, with the majority working their emotional responses out on their own. Many of the second victims surveyed reached the ‘survive’ stage of their recovery process, with 21.05% contemplating leaving their job or
profession, and 31.58% having suffered from anxiety and sleeplessness as a result of an Adverse event. Resultant positive implementation outcomes reported proved endorsement of the change framework used and predict the adoption and sustainability of the change.

Conclusion:

The chief aim of this project was to implement a feasible and acceptable second victim support process for Radiation therapists in a Radiation Oncology Department. This aim has been achieved with second victim supports mainstreamed into working practice. This project achieved its primary objective; however, further longitudinal research concerning the service outcomes and spread beyond just Radiation Therapists needs to be conducted.

References:


Please declare any conflict of interest you may have:

This project was completed as part of a Masters Thesis for the Royal College of Surgeons Dublin.
Introduction:

The world continues to progress in its efforts to deliver quality healthcare to patients. Improving the experience of care has continually sought to breach the gap between how care is “best agreed” to be experienced and how it is “actually” experienced and has become a priority for all healthcare providers. It becomes even more important in pregnant women who generally have been an otherwise stable state of health. The experience of poor-quality care, including disrespectful and abusive care especially in Low- and Middle-Income Countries (LMICs) continues to discourage women from delivering in health facilities where they can be attended to by Skilled Birth Attendants, consequently contributing to high morbidity and mortality in these places. This project aimed at improving the experience of the childbirth process from baseline to at least 90% within 3 months.

Methods:

The project took place in a private primary healthcare facility in Ilorin, Kwara State, Nigeria where an average of 700 deliveries are conducted annually. In August 2016, the Quality Improvement team collected baseline data on the experience of care among 17 mothers who delivered in the facility using an adapted version of the Patient Experience Questionnaire. The questionnaire included an open-ended question to allow for harvesting of other comments and feedbacks from these mothers. The result revealed an average score of 78% with the rating for doctors being the highest and the rating for nurses being the lowest.

A root cause analysis was carried out and revealed that inadequate communication, disrespectful care and delay in care were the major contributors to poor experience of care. Thus, a multi-disciplinary team comprising of doctors, nurses and hospital attendants was set up to increase this rating to at least 90% between September and November 2016. A one-day training on effective communication, professionalism and healthcare quality was conducted for all healthcare staff in the hospital. Following this, the team realised the need to develop a maternity checklist to ensure complete and timely completion of tasks and activities. This was tailored to the need of nurses, doctors and other cadre of staff. Process measurement was the number of clients who had the checklist.
completed for them before hospital discharge. Balancing measure was overall health workers satisfaction.

Results:

Following three months of improvements, the average experience rating increased from the baseline of 78% to 92%. The experience of care from nurses had the biggest improvement from 71% to 84% while that of doctors had the lowest from 89% to 93%. Checklist completion rate was 77% and 84% respectively in months 2 and 3 of implementation. Percentage of clients with expressing gaps and improvement feedbacks also reduced from 76% at baseline to 10% at the final month of the project.

Conclusion:

Focusing on clients’ experience of care can help ensure delivery of care to clients that is of high-quality care by helping providers stay attuned to and be responsive to the needs of clients.
References:


Please declare any conflict of interest you may have: None
Integrate Multi-disciplinary Team to Improve the Patient Flow Management of Stroke Patients

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Introduction:
Stroke disease is the leading cause of death and disability in the global population, that accompanying expenditure is a heavy burden. In recent years, the indicators and clinical applications, multi-disciplinary team care has become the current trend to care the stroke disease in the world (Anderson, E., et al, 2017). Applied a multi-disciplinary team to integrate stroke care processes to improve the patient care quality.

Methods:
From Jane 2018, we organize multi-disciplinary team. Our team members includeneurologist, neurosurgeon, rehabilitation physicians, stroke case manager, pharmacists, physiotherapists, nurses, nutritionists, social workers and department of quality management.

We use patient flow management concept to integrate care process, such as integrate multi-disciplinary team care, develop on-line stroke team care system to improve care quality and continuity.

1. We set indicators to monitor patient flow quality and cases discuss in our regular team meeting (ex: acute ischemic stroke IV tPA timely reperfusion, drug usage compliance, post-acute care of stroke transfer to post-acute care hospital, readmission rate e).
2. In acute care: we designed a web-based, on line “acute stroke emergency treatment system” ex: the reminder to promptly do the CT checklist, reminds the filling assessment form mechanism(IV tPA assessment form, the Intracerebral Hemorrhage(ICh) Score and Hunt and Hess(HHS) Scale assessment form e)
3. In inpatient care: we designed a web-based, on line “stroke team information platform” to integrate information from HIS,NIS, PACS, Lab, multi-disciplinary care data (ex: patient’s profile, consultation record, case manager care record, pharmacists record, physical therapist record e)

In post-acute care: we establish “post-acute care of stroke” on line system, doctor regularly evaluate stroke patients of post-acute care condition, if the patients' eligibility, a post-acute
care icon note on the patient file and a consultation message will be sent to stroke case manager, that will provide the patient's post-acute care transfer to post-acute care hospital information.

**Results:**

1. After applying acute stroke emergency system.
   - Acute ischemic stroke reperfusion IV tPA within 3 hours of the attack is increased from 16% in 2018 to 100% in 2019.
   - The rate of assessing the ICH score with cerebral hemorrhage increased from 32% in 2018 to 76% in 2019.
   - The rate of assessing the ICH Scale with subarachnoid hemorrhage increased from 33% in 2018 to 70% in 2019.

2. After initiating stroke team information platform, inpatient care indicators outcome(1)anticoagulants drug use increase from 80% in 2018 to 100% in 2019.(2)hypolipidemic agents drug use increase from 85% in 2018 to 97% in 2019.(3)patient receive rehabilitation assessment or treatment increase from 80% in 2018 to 99% in 2019.

3. After executing post-acute care of stroke system, post-acute care of stroke transfer to post-acute care hospital rate increase from 3% in 2018 to 36% in 2019.

4. Stroke 14 days of un-scheduled readmission was dropped from 3% in 2018 to 1% in 2019.

**Conclusion:**
The multi-disciplinary team integrated care resources and introduced assistance system to implement patient flow management to continuously improve the care quality and patient safety of stroke patients.

**References:**

**Please declare any conflict of interest you may have:** None
Introduction:

Social Determinants of Health (SDOH) are the conditions in which people are born, live, learn, work, and play that can affect health, functioning, and quality-of-life outcomes. Healthcare institutions are shifting towards systematic SDOH assessment, but research on implementing SDOH evaluation is largely focused on small-scale solutions in primary care settings. Little is known about the direct phenomenological experience of care providers, patients, and staff immediately following a large-scale implementation of electronic SDOH risk assessment across a health system.

Objectives:

To establish a preliminary understanding of providers, patient, and staff responses to the implementation of social determinants questionnaires and data for provider consideration in care delivery.

Methods:

This exploratory study was performed at a large academic medical center, utilizing a qualitative mixed methods approach. The study team observed patient waiting rooms for 3.5 hours. Semi-structured interviews were conducted with eight staff, primary care providers (PCPs), and specialty care providers (SCPs). Ten patients participated in semi-structured interviews following their medical visit.

Results:

Patient reactions to the content of the SDOH questionnaire varied. Many expressed questionnaire fatigue common when arriving for a medical appointment. Perceptions of the questions ranged from irrelevant to their medical care to general approval for inquiring about the social aspects of their health. Patients noted that the questions did not probe for the detail needed to effectively assist with the problem, revealing the need for opacity and expectation setting in how social determinant risk factors are used across the care experience. Within the workflow of the overall visit, patients perceived questions on similar
topics (e.g. anxiety) to be repetitive questions across the SDOH and other questionnaires. Desk staff also vocalized the burden of managing the questionnaire administration via tablets in the waiting room. Technology problems and troubleshooting arose as significant pain points for staff and patients.

Interviews with PCPs indicated their awareness of the benefits of evaluating SDOH risk factors. PCPs expressed their sense of responsibility to provide educational resources to patients coupled with a warm hand-off to social work for further assistance. They saw long term benefits of collecting SDOH information electronically to help with new patients and facilitate care team awareness for all patients. In contrast, specialty care providers were unaware of how to map the risk factors to current medical needs and felt less knowledgeable of the appropriate mechanisms to act. SCPs found some questions as intrusive given their context of care. SCPs perceived themselves as a bridge to primary care—who are primarily responsible for SDOH risk assessment. This suggests that communication design between PCPs and specialty providers and evidence-based education are important for effective utilization of SDOH information.

**Conclusion:**

Preliminary findings suggest that implementation of SDOH assessment across a large academic medical center—encompassing multiple levels of care—can benefit from a more contextual approach to SDOH assessment. Tailoring SDOH questions by department, patient visit type, and patient-provider needs can improve response rates, utilization in care delivery, and patient experience.

**References:**

**Please declare any conflict of interest you may have:** None
Lived Experiences of Family Caregivers of Persons with Serious Illness Can Drive the Co-design of Peer-to-Peer Support Networks

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Introduction:

Learning health systems that aim to deliver optimal “whole person” care may be able to harness value from peer-to-peer connections that exist outside the traditional healthcare system. People are increasingly turning to their peers and community to address the need for emotional support, practical advice, and quick help with emergent problems. Peer-to-peer health networks may be able to meet this need by providing a forum through which caregivers of people living with a serious illness, or those who have lost a loved one to a serious illness, can give and receive support and exchange resources. The objective of this study was to learn about the challenges and needs for peer-to-peer connections among active and bereaved family or lay caregivers of people with serious illness.

Methods:

Patients, caregivers, clinicians, and support staff co-designed surveys to elicit information on the challenges, needs, and desire for peer-to-peer connection among active and bereaved caregivers. We collected 28 surveys from a convenience sample of active caregivers presenting at an outpatient palliative care clinic in New Hampshire, USA. We collected 21 surveys from a convenience sample of bereaved caregivers affiliated with this clinic or its community support partners. We used descriptive statistics to summarize categorical data, and thematic analyses to identify themes from open-ended questions.

Results:

Most caregivers were age 55-74 (68%), female (75%), and caring for (or had cared for) someone with cancer (77%). Active caregivers (currently providing support or care) were most challenged by emotional difficulties (43%), providing care and emotional support (25%), and practical matters (21%). They were most helped by support and resources from the community (43%) and from medical professionals (32%). Bereaved caregivers were most challenged by loneliness (48%), emotional difficulties (29%), and practical matters (24%). They were most helped by support and resources (76%) and developing self-care strategies.
that led to personal resilience and growth (57%). Most active (66%) and bereaved (86%) caregivers were interested in one or more forms of connecting with others who care for someone with a serious illness, or who lost a loved one to serious illness. Caregivers anticipated that a network could provide support, knowledge, and resources, but anticipated challenges associated with time and forming personal connections.

**Conclusion:**

Caregivers face significant challenges when caring for, and after the loss of, a loved one with serious illness. To overcome barriers, solutions should minimize burden and make the connection feel “personal” and safe. A peer-to-peer community network may help meet the needs of caregivers by acting as a safe space for caregivers to connect and share experience and knowledge. These findings support content development and structure of a peer-to-peer network that will focus on co-producing peer-led information, resources, and support for active and bereaved caregivers, within the context of an academic learning health system. We believe a network can extend the scope of services offered by the health system to support lay caregivers, and thereby improve their resiliency and become part of an innovative, sustainable, person-centered value creation system.
Self-management support has become a key strategy for addressing chronic disease burden. And there is promising evidence that self-management Interventions (SMIs), under given conditions, can improve clinical outcomes and patient-reported outcomes. However, there are still several methodological issues when studying SMIs. We focus on 3 challenges:

**SMIs don’t have a consistent definition:** SMI or its components vary widely in research, policy, and practice. This limits the reliability of comparisons and the translation of research into practice.

**Low consensus on outcome selection with little consideration to patients’ preferences:** There is variability in outcomes used to assess SMIs, and often outcomes selected in clinical trials are not relevant for patients. This complicates comparative research and might miss-direct research and implementation efforts.

**Evidence based on direct comparisons:** Evidence on the efficacy of SMIs has mostly come from pairwise meta-analysis of randomised controlled trials (RCTs), requiring RCT’s to have included the same interventions, which often is not the case. We use NMA to assess the relative effectiveness of SMIs. NMA allows for the estimation of relative effectiveness between interventions that have not been compared directly and provides a ranking of interventions by effectiveness.

**Objectives:**

COMPAR-EU aims to identify, compare and rank the most effective SMIs for adults living with type 2 diabetes. The results be focused in a validated taxonomy of SMIs; a Core Outcome Set for SMIs a systematic review and compare the relative effectiveness of SMIs through NMA.
Methods:

We have used specific sets of methods for each of our objectives.

SMI Taxonomy: Based on the literature review and a modified Delphi technique.

COS: Literature review and modified Delphi technique with patients and representatives and a two-day face-to-face consensus workshop with additional health care professionals and researchers.

Literature review: databases of previous European projects and update with new searches in relevant databases. We included RCTs that compare SMIs in adults with type 2 diabetes. We extracted relevant data on SMI, results, study design and risk of bias.

Network meta-analysis: We are carrying out standard and component NMA to create a ranking of SMIs according to their effectiveness.

Results:

We have found significant results for each of our objectives.

SMI Taxonomy: 132 components, in four domains (intervention characteristics, expected patient (or carer) self-management behaviours, type of outcomes and target population characteristics). 34 experts on SMIs (including patients’ representatives) participated in the Delphi survey. The overall agreement was a mean of 8.02 and 8.13 (on scale 1 to 9) in rounds I and II.

COS: the initial list included 86 potential outcomes. 11 patients and patient’s representative participated in the Delphi survey and patients and healthcare professionals and researchers participated in a consensus workshop. The final COS included 13 outcomes and 3 supplementary outcomes.

Literature search: We found 11,798 references, 917 RCTs where finally included. We are currently working on the descriptive results, which will be presented in the conference.

NMA: We will present the results of the NMA, including a ranking on the most effective interventions overall and for key outcomes and most effective components.

Conclusions: The standardization of methodological procedures and the inclusion of patients in the research process can help develop more easily comparable and meaningful research and to improve the implementation decisions taken by healthcare systems.

Conflict of interest: None.
Meaningful measurement of integration: a health informatics enabled model for the maternal pathway

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Introduction:

Health systems struggle to effectively measure performance, particularly where care is delivered along complex pathways by multiple professionals over time, outside of acute settings. This lack of insight stymies improvement efforts.

Performance assessment for the maternity pathway in Tuscany has for several years been framed around mothers, including both administrative and user-reported data. The model has now evolved, in part through developing an m-health system with functionality enabling systematic, continuous collection of user-reported data at multiple points. The health informatics-enabled model facilitates integration and provides value for different stakeholders, from users to administrators and policymakers.

This study describes the development and implementation of the Tuscan maternity performance assessment model, tested in 2016-2018 and since March 2019 piloting systematic data collection.

Methods:

The maternity pathway evaluation model is described based on i) programme documents concerning data collection and m-health systems ii) survey data collected from health professionals on informatics acceptance and iii) interviews with operational leads and regional managers. Participation and response rates are summarised for sample cohorts and pilot operation.

Results:

Longitudinal user reported-data collection was tested in two maternal cohorts, with 6-month recruitments in 2016/17 and 2018/19. Participation rates were >80%, with response rates around 70% from >3,600 women in each cohort.

Since March 2019, an evolution of this longitudinal model has been operating in pilot. The approach is built around health informatics underpinning a digitised service, including a specifically developed app for mothers, hAPPyMamma. Functionality includes visualising the
‘pregnancy book’, enabling appointment scheduling, and collecting PROMs and PREMs. From conception to one-year post birth, eight user surveys are offered according to stage of pregnancy or new-born age. The m-health system provides a convenient and cost-effective mechanism for user-reported data collection. Since March 2019 around 10,700 women engaged in systematic data-collection, with participation and response rates around 70%. Operational and regional managers in the maternity pathway were supportive and satisfied with the model, with mixed results from professionals.

User-reported data is integrated with performance data for hospital and community-based care from points along the pathway from prenatal through to birth and paediatric care. This integrated performance data is accessible online through a single portal in near real-time. Professionals and managers can thus easily access performance data for the whole care pathway, including following transitions of care.

**Conclusion:**

The Tuscan maternal pathway evaluation measures multiple dimensions of care while avoiding single source bias. The informatics model overcomes the main challenges of using patient-reported data in performance assessment; the definition of routine data is effectively broadened to include PROMs and PREMs. The single portal to access data supports cross-setting collaboration and improvement.

The resulting data can be used for: epidemiological monitoring; performance measurement; identifying improvements; incentive systems. This model could be applied to other clinical areas, capturing processes and outcomes of care in multiple settings.

The system could be developed by integrating hospital and community maternal records within *hAPPyMamma* to facilitate clinical consultations.

**Conflict of interest declaration:** The performance assessment model is managed by the Scuola Superiore Sant’Anna (SSSA) under contract with the Tuscan health system. The authors are affiliated with SSSA.
**Introduction:**
Tracheostomy creation was poorly accepted, though with superiorly odds to pros, owing to cultural mis-understanding, in Taiwan. By retrospective cohort data analysis, we try to unveiled the impact of introducing SDM on early Tracheostomy(less than 14 days) in prolonged intubated critical patients.

**Methods:**
Medical record of tertiary medical center adult ICU admitted respiratory failure patient from Jan. 1st, 2016 to Dec. 31th, 2017 was retrospectively reviewed, and further subdivided into pre-SDM and post-SDM(after Jan. 1st, 2017) intervention period for analysis. Data including total Tracheostomy rate, early and late Tracheostomy rate, ventilator weaning rate and ventilator days, in-hospital mortality, and length of hospital stay of prolonged intubated patient were collected. SPSS was applied for statistically analysis, and a p value less than 0.05 was considered significant difference.

**Results:**
Medical records from total 1253 patient from Jan. 1st, 2016 to Dec. 31th, 2017 were reviewed, and total 7137 patient ventilator days were recorded. By inclusion and exclusion, 128 patients from 2016 and 112 patients from 2017 were considered prolonged intubated for further analysis. Pre-SDM early and late Tracehostomy rate were 42% and 58% individually, with ventilator weaning rate(43(79.6%) v.s 46(62.2%), p: 0.034), ventilator days(35.3+-18.1 v.s 47.2+-16.1, p< 0.001), in-hospital mortality(1(1.9%) v.s 6(8.1%), p: 0.237), and length of hospital stay(59.7+-35.1 v.s 69.2+-24.6, p: 0.091) of prolonged intubated patient. Post-SDM early and late Tracehostomy rate were 39% and 73% individually, with ventilator weaning rate(27(69.2%) v.s 56(76.7%), p: 0.389), ventilator days(34.6+-17.6 v.s 47.5+-28.4, p: 0.004), in-hospital mortality(4(10.3%) v.s 6(8.2%), p: 0.737), and length of hospital stay(57.2+-21.8 v.s 68.4+-26.8, p: 0.028) of prolonged intubated patient. After SDM was introduced, ventilator days and length of hospital stay of prolonged intubated patient was found reduced 13 days and 11 days individually in
compared in between groups. The Tracheostomy decision making time delay was found 5 days less after SDM introduced.

**Conclusion:**
Our retrospective cohort study revealed introducing shared decision making on early Tracehostomy in prolonged intubated critical patient might improve total Tracheostomy rate, reduce ventilator days and length of hospital stay, and shorten the Tracheostomy decision time delay.

Please declare any conflict of interest you may have:
NO
Nurses and physicians perceptions & attitude towards effective communication and collaboration in ACGME-I pediatrics inpatients program in Qatar
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Introduction:
Effective communication between physicians and nurses is associated with better quality of care to patients, increase teamwork and job satisfaction for both. In Qatar; Pediatrics Department at Hamad Medical Corporation is 50 beds tertiary care facility, no data on effective communication and collaboration among health care providers are available in Qatar. our aim was to explore and compare the perception and attitude of physicians and nurses toward proper communication and collaboration with each other and to highlight areas that needed the greatest opportunity for improvement.

Methods:
A cross sectional survey were administered from September until November 2015 to the pediatricians and nurses on pediatrics inpatients wards at Hamad Medical Corporation the main tertiary hospital in the state of Qatar, questioner included details of demographics, perceptions and attitude towards proper communication and collaboration in daily clinical practice. Questions offered objective answers utilizing the 4-point Likert scale that can be used to perform statyical analysis

Results:
Out of 124 responses, 83 (67%) were Pediatricians and 41(33 %) Nurses. Almost (69%) of pediatricians stated that they enjoyed communication with nurses compared to (41.5%) of nurses (P < 0.012). Nearly (67.5%) of physicians had a good communication with nurses compared to (44%) of nurses (P < 0.039).small percentage (10 %) of pediatricians stated that they share decision with the nurses similarly (5%) from nurses side ( p<0.172). in term of putting plan together before making decisions pediatricians had (6%) agreement comparatively to nurses who specified (13%) (p < 0.11).

Cooperation in decisions had nearly similar response from pediatricians side (14.5%) and nurses side (14.6%) (p < 0.1).
Conclusion:

Generally this study showed that physicians and nurses share same idea about enjoying communication and collaboration among each. as compared to nurses, physicians were more satisfied with their collaboration with nurses. Sharing decisions is a great area of concern as it represent ignoble percentage of positive result in both sides, which will be an intense area to work on.

Creating a conducive environment with regard to improve the collaborative activities for all staff in the same time conduct an environmental tools to work on nurse-physician relationships will be a huge work load. Implementing job workshops, seminars on interpersonal and professional communication skills which will be excellent tools to be used for improving the collaboration and increase effective communication among staffs. Finally, further study is proposed to identify physician-nurse relationship at large scale by qualitative study.

References:


Please declare any conflict of interest you may have: we had no conflict of interest
Optimising electronic medical record functionality to improve safety and experience for people with disabilities

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Introduction:

People with disabilities frequently highlight the challenges they experience navigating through health care systems and the lack of disability-related understanding held by hospital clinicians. In an Australian context, the introduction of a National Disability Insurance Scheme has increased community awareness about the experience of people with disabilities and the need for improved opportunities for greater self-determination and control. Over the past three years, Alfred Health, an Australian metropolitan health service has engaged in a program of work to improve service provision to patients who may be vulnerable, including those living with disabilities. We recognised that the existing paper systems did not support staff to efficiently identify whether a person entering the system had an existing disability, nor did it support the efficient integration of health- and disability-related care and support information. The introduction of an electronic medical record (EMR) to replace paper in 2018 provided an opportunity to include customisation to improve the identification of people with disabilities and better meet their care requirements, whilst also supporting the workforce to provide safe quality care.

Objectives:

This initiative aimed to improve the experience and safety of people with disabilities through introduction of three specific questions in the electronic documentation designed to support the identification of individuals with a disability and their associated care requirements when they were admitted as an inpatient. Furthermore, electronic workflows in the EMR alerted system users to the presence of a disability so that they could incorporate this information into their clinical decision making when completing assessments and individualised care planning. Care planning was supported by electronic interdisciplinary care plans.

Methods:

Initial questions were developed through attending to patient experience stories, investigating existing work processes, and consulting with other health services and expert clinicians. The questions were included in the system build and identified as mandatory to complete in order to improve the safety of patients with disabilities. Nursing staff were
briefly alerted to the questions during system training in preparation for Stage One of the EMR roll-out.

Results:

Feedback was gathered during the first six months that the EMR was in use through ward-based sessions, periodic audit of alert data, and informal conversations. Staff reported challenges with the purpose of the questions, wording, location in the EMR and duplication with other gathered information. As an opportunity arose for some targeted optimisation of the EMR, further information was gathered through more detailed process mapping, examination of the broader in-built documentation resources, and discussion with consumers and staff with disabilities. This broad feedback process led to changes in the wording of the questions to enable self-identification of disability by the patient or advocate, refined questioning about disability-related care or support requirements, and prompts to ensure information was incorporated into care plan documents.

Conclusion:

People with disabilities may require additional support to navigate the health care system and to ensure that their disability-related support requirements are considered interwoven with their presenting health concern. This paper will present the experience of one Australian health service to co-design an improved system with people with disabilities, family members, staff, and system designers to enhance the safety and experience of people with disabilities in health care.

Please declare any conflict of interest you may have: No conflict of interest.
Patient empowerment: bringing medical scheme beneficiaries living with diabetes to the centre of healthcare funding and delivery.
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Introduction:
Internationally and in South Africa, there is an interest in bringing patient centred care to the centre of healthcare policy. Whether it be jurisdictions with national health insurance or voluntary health insurance. Improving the ability of people living with chronic conditions to manage their conditions, means that healthcare expenditure could be controlled, and quality of life gains are achieved in pursuance of both healthcare equity and equality.

Objective:
The objective of this analysis is to measure the patient empowerment of South African medical schemes’ beneficiaries living with diabetes. Responses from a survey will be assessed to evaluate whether patient-centred healthcare intervention have activated positive psychosocial self-efficacy, that results in patient empowerment.

Methods:
Literature validating psychometric measurement scales for long-term diseases have been reviewed. An attempt was made to synthesise the measured components of constructed empowerment scales. The empowerment measurement scales were: i) the Patient Activation Measure (PAM) scale; Partners in Health (PIH) scale; and iii) the Diabetes Empowerment Scale (DES). A patient experience survey with 4,328 respondents living with diabetes was used to replicate the constructs of these patient empowerment scales.

The study design sought to link observed responses pertaining to patient activation, patient self-management and patient self-efficacy. These patient experience responses associated with causal chain postulating that they shared positive relationships with patient empowerment.

Internal validity was assessed through applying the Cronbach alpha. Construct validity was established through implementing a second order confirmatory factor analysis using SAS structured equation methods proc CALIS procedure.

Results:
Figure 1 shows the results of the second-order factor analysis. The model fit was partially acceptable ( CFI = 0.929; NFI = 0.927; NNFI=0.909; while RMSEA = 0.12). The predicted
parameters among the latent factors high. Suggesting that there is an associated between observed variables describing patient experience and the outcome of patient empowerment.

Figure 1: Second order confirmatory facto analysis of diabetes empowerment scale.

Note: F1 is factor 1 = respect and inclusive decision
F2 is factor 2 = management of diabetes
F3 is factor 3 = emotional and psychological support
F4 is factor 4 = patient empowerment

Obs. 1 to 11 are items that were measured to derive latent factors explaining patient empowerment.

Conclusion:
Allowing beneficiaries living with diabetes to act on decisions arising from a collaborative partnership with healthcare providers, requires a shift from “acute care models” to a patient-centered approach that gives some empowerment to beneficiaries regarding selfcare management decisions and actions. Regulatory intervention is required to the effect that; disease management programmes for medical scheme beneficiaries living with diabetes, factor in sustainable quality of care through employing and monitoring patient empowerment outcomes.

References:

Please declare any conflict of interest you may have:
Introduction:

Severe adverse events (AEs) may lead to substantial harm or even death and have an impact on the lives of patients and relatives. However, there is insufficient knowledge on how patients and relatives experience the formal investigation process after a severe AE, what helps or hinders them in their emotional process and their needs and preferences for support.

Objectives:

This study provides insight into the process that patients and relatives go through after a severe AE. In addition, it focuses on the needs and preferences of patients and relatives during this process.

Methods:

Twelve semi-structured interviews with patients or relatives were conducted in which the topics of the AE itself, the hospital investigation, support/guidance and needs, preferences and perceptions were included. The interviews were audio-recorded, transcribed and then analyzed using a qualitative thematic approach.

Results:

From the interviews, a general process emerged showing the three stages patients or relatives go through after a severe AE, see Figure 1. The first stage relates to the severe AE itself and initial information and support received from healthcare providers. For example, one participant mentioned “The neurologist told ‘I want to tell you that we have made the wrong diagnosis yesterday night’”. The second stage is the investigation process in which themes such as the explanation of the procedures, information on the outcomes of the investigation, regular feedback and updates emerged. The third stage was labelled as follow-up, during which information provision, support and dealing with the consequences
came up as themes. Some of the interviewed patients or relatives went through additional procedures, such as liability claims or disciplinary lawsuits.

The interviews also showed three general routes describing how patients went through the process. The majority of the interviewed patients and relatives expressed a form of acceptance of what had happened to them. Some patients or relatives remained somewhat ambiguous because there was no closure for them, for example when no specific cause could be identified for the severe AE or when it was not feasible to implement improvement measures. For some patients, the process went into escalation, such as when patients or relatives felt they were not (fully) informed, or that the hospital did not take the severe AE serious enough. An experienced lack of openness or honesty and a long process with insufficient contact could also contribute to this escalation.

Figure 1: The stages that patients or relatives go through after a severe AE.

**Conclusion:**

The results of this study show the importance of practical and emotional support from the hospital which is tailored to the individual needs and preferences of the patient or relative after a severe AE. Investigation committees and healthcare professionals should be aware that these needs and preferences can change over time, requiring regular contact to discuss them. In addition, it often helps patients and relatives to be involved in the investigation, but be aware of the potential impact and regularly check whether it is still feasible for patients or relatives. During the formal investigation period, clear information about the procedures needs to be provided and preferably the hospital appoints one contact person to guide the patient or relative through the procedures. Honesty, openness, clear information and showing empathy are important for patients and relatives during all stages of the process.
**Please declare any conflict of interest you may have:** None declared.

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Patients’ perspectives of the World Health organization’s ‘5 moments of mediation safety’ materials.

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Introduction:

The importance of involving patients and the public in their own health and care has been recognised. Patients and the public have been identified as an important group to target as part of the World Health Organization’s (WHO) third Global Patient Safety Challenge ‘Medication Without Harm’. WHO have developed the ‘5 moments of medication safety’ patient engagement tool1 that focuses on 5 key moments where action by the patient and/or caregiver can reduce the risk of medication-related harm. Multiple patient-facing materials have been developed including a booklet, flyer, infographic poster, pamphlet and mobile application. These materials include questions that a patient should ask a healthcare professional to gain a better understanding of their medication. There has been little evaluation of these materials to date. Our objectives were to explore patients’ perspectives of the WHO resources and their views on how they would like to receive them.

Methods:

Structured interviews were carried out with 100 patients and members of the public at a UK hospital outpatient pharmacy. Participants were asked about their views on the materials, as well as when and how they would like to receive them. They were also asked for demographic details. Descriptive analysis was carried out and Chi Squared tests were used to test for associations between variables. Open responses were analysed using inductive thematic analysis. The study was approved as a local service evaluation.

Results:

Eighty three percent of participants thought that the materials would be quite useful or very useful. Potential barriers identified to their use were patients being of the view that healthcare professionals already inform patients about their medicines and that there would be limited time available to discuss the information suggested in the materials during consultations. Fifty nine percent of participants stated that they would prefer to be given the materials in waiting areas before seeing a healthcare professional and 61% thought they should be displayed on television screens in general practice surgeries. The leaflet was less
popular than the other materials (7% preferred this material, whereas preference for other materials ranged from 29-36%). Participants were of the view that it would be difficult to unfold the leaflet easily. Chi squared showed that preference for the app was associated with age (p=0.01). A histogram revealed that this was due to the app being more popular in the younger age groups.

**Conclusion:**

Patients’ views of the ‘five moments of safety’ materials were positive. These materials should be displayed on television screens in waiting areas and given to patients in these areas prior to their appointment. More advice is needed for patients on how to incorporate the questions suggested in the resources into a brief healthcare consultation.

**References:**

   [https://www.who.int/patientsafety/medication-safety/5moments/en/](https://www.who.int/patientsafety/medication-safety/5moments/en/) (accessed 22.01.20

**Please declare any conflict of interest you may have:** None
Introduction:

human papilloma virus is one of the leading cause of genital cancer in both genders, internationally by CDC recommendation vaccine for HPV was included in the children 14 yrs and above. Still many countries dose not including HPV in their primary schedule for Vaccination. Awareness among families for the virus itself and the availability of the vaccine is very important to prevent cancer related viruses in the future, our aim was to explore knowledge of the patents regarding human papilloma virus vaccine (HPV) in Qatar, a rapidly developing country that does not include HPV vaccine in their routine immunization schedule

Methods:

A cross sectional single institution study using a questionnaire conducted in SIDRA medicine, the only tertiary pediatric hospital in the state of Qatar, the questionnaire include details of demographic, the parents' perception and acceptance for human papilloma virus vaccine to their children.

Results:

232 questioners were completed (response rate from parents is 94%). Almost 60% of participating parents were between 30 and 39 year of age. 55% of the parents were having bachelor degree representing their educational level. 60% of the parents were not aware that human papilloma virus could cause cancer. More than 75% of the parents felt about the idea of giving their children the vaccine against virus to prevent genital cancer. Unfortunately 90% of the parents stated that their children primary care physician never mention HPV vaccine. When asked about their idea for the suitable vaccination time with HPV 41% of the parents stated that it showed be given before child is mature while 22% stated it showed be given before marriage and 12% stated that vaccine should be decision of the children when the grow up and be adult and 25% of the parents doesn't have an opinion.
22% of the parents agreed on the importance of the explanation for their Children regarding the vaccine and it is important to protect against sexually transmitted disease

**Conclusion:**

A large proportion of parents residing in Qatar have a positive perception regarding the HPV vaccine. We will share the result of our study with the ministry of public health in Qatar with a goal to incorporate the HPV vaccine in the National immunization schedule

**References:**


**Please declare any conflict of interest you may have:**

no conflict of interest
Person-centred Care: Improving clinical decision-making and shared care to optimise the management of people living with refractory epilepsy

Karen Hutchinson1; Geoffrey Herkes2,3; Robyn Clay-Williams1; Frances Rapport1

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Introduction:

Person-centred care is considered key to safer, higher-quality service delivery for all people living with refractory epilepsy (a complex form of epilepsy where seizures remain uncontrolled despite two or more antiepileptic drug treatments). For one third of people living around the world with this debilitating disease, brain surgery could be a life changing treatment option. However, poor person-centred care including the lack of crucial information, and ineffective epilepsy management can lead to extensive delays in referral for surgical assessment [1]. For those who are suitable surgical candidates, delays of approximately 17 years are recorded in Australia [2]. Thus, lack of adherence to person-centred care practices directly contributes to poor health outcomes and reduced quality of life.

Objectives:

To clarify the degree to which person-centred care forms part of current healthcare practices in primary, community and tertiary epilepsy contexts from the perspective of general practitioners, general neurologists and adults living with refractory epilepsy and their family members.

Methods:

Fifty-two data captured events took place during 2018-2019 with six neurologists, 12 adults with refractory epilepsy and four family members (22 in depth interviews; ten observations of clinical consultations; and 20 general practitioner surveys). Observation fieldnotes and survey data were assessed alongside a thematic analysis of interview data.

Results:

Two main themes emerged: 1) Patient healthcare pathways and care experiences highlighted the many challenges experienced by patients and healthcare professionals, navigating fragmented, non-standardised referral processes and practices across healthcare
settings. These mitigated against person-centred care approaches, leaving patients feeling uninformed and disengaged from their care and decision-making. 2) Factors impacting referrals and patient healthcare pathways indicated that referral processes are affected by the quality of relationships and communication approaches between healthcare professionals, and with patients. Overall confidence and trust in the healthcare professionals’ ability to effectively manage their epilepsy is related to their clinical knowledge of current refractory epilepsy treatments and care.

Conclusion:

This Australian study identified a lack of person-centred and shared care practices across refractory epilepsy healthcare settings, suggesting the need for greater clinical collaboration and integration with patient-centred management planning. Establishing shared care practices with patients involved in decision-making, across primary, community and tertiary contexts may engender more effective treatment and reduce current delays to surgical intervention. Investing in new models of care, while considering appropriate implementation strategies, could enhance patient and family care experiences, patient quality of life and overall satisfaction in healthcare outcomes.

References:


Please declare any conflict of interest you may have:

No conflict of interest.
Predicting and Reducing Errors when Dispensing Medication in Community Pharmacies using a Human Factors Approach
Ahmed Ashour1; Denham Phipps1; Darren Ashcroft1
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Introduction:
Each year over 1 billion medicines are dispensed in community pharmacies in England, and estimates suggest that over 47 million of those contain an error that can be classified as causing significant harm. In order to improve patient safety, methods have been applied from the Human Factors and Ergonomics (HFE) discipline. HFE is the scientific discipline that explores the relationship between the human being and the system around them. One such method of understanding how individuals complete tasks within the system is by completing a Hierarchical Task Analysis (HTA). HTAs not only present the sub-tasks and the plans to be followed in order to complete the task, but they also serve as a foundation for further analysis to predict and potentially reduce errors, using the Systematic Human Error Reduction and Prediction Approach (SHERPA). The objective of this study was to apply these methods to the task of dispensing in order to identify and prevent potential errors.

Methods:
This study used a qualitative design. To generate the data for the HTA, three focus groups were conducted involving six community pharmacists, which were supplemented with non-participant observations of ten community pharmacies. A further focus group with experienced community pharmacies was conducted to apply the SHERPA analysis to the HTA, in order to identify remedial interventions to prevent errors.

Results:
The analysis identified a total of 88 potential errors, with the most frequent potential errors relating to “action” or “checking” task steps, and most common was the pharmacist omitting a check. Remedial measures proposed by pharmacists ranged from physical layout changes within the pharmacy to the introduction of posters within the task workflow. The analysis also revealed variations between the ways pharmacists carried out the dispensing task, giving an insight into the differences between how work is done, compared with how work can be imagined to be done.
Conclusion:

This study has applied a human factors approach to community pharmacy work for the benefit of improving patient safety. HTAs describe tasks in their sub-goals and plans and can be a useful framework for further investigation of training needs and workload discussions. The remedial measures proposed range in potential effectiveness, based on the hierarchy of risk control, and further work should validate the benefit introducing these changes would bring to reducing errors in community pharmacies.

Please declare any conflict of interest you may have:

N/A
[948] Reflection on Compliance to Complaints Management in the Public Sector of South Africa: OHSC Inspection Findings Perspective

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Introduction:
Complaints are treasured responses to the safety and quality healthcare, and they can offer direct and indirect perceptions into what a health establishment is doing well and what it needs to work on. Actively managing complaints can help advance fundamental compliance controls and health service delivery while avoiding for regulatory enforcement and reputational damage to the health sector.

In terms of the National Health Act, 2003 (Act No 61 of 2003) the Office of Health Standards Compliance (OHSC) has a mandate to protect and promote the health and safety of users of health services through monitoring and enforcing compliance by health establishments (HEs) with prescribed norms and standards. The OHSC published its annual inspection report for 2016/17 on its website. For purposes of this study the level of performance with the sub-domain on complaints management is reviewed at provincial level based on the overall performance of health establishments. The measures in this subdomain are risk rated as essential and risk rating cut off level is 80%.

Methods:
Review of the 2016/17 Annual Inspection Report of the OHSC with a view to extract complaints management related sub-domain for all the inspected health establishments in the nine South African Provinces. Grphical depictions will be used.

Results:
There were 649 targeted inspections were conducted in 2016/17 financial year against a total of 3816 public sector health establishments which varied from clinics (n=538), community health centres (n=56) and hospital (n=55).

1. The 649 targeted inspections covered all the nine provinces in South Africa; FS 42, EC 142, GP 66, KZN 109, LP 98, MP 54, NC 29, NW 56 and WC 53.
2. Three of the nine provinces, EC (n=830), KZN (n=643), LP (n=577) have the highest numbers of facilities followed by GP (n=393), NW (n=331), WC (n=311), MP (n=313), FS (n=245) & NC (n=173) with the least of health establishments.
3. None of the nine SA provinces achieved the cut off level of 80% for the complaint’s management subdomain. The standard deviation was very high indicating that the
average subdomain scores among the provinces are spread out over a wider range. Table 1 illustrates the distribution of scores by the sub-domain.

Table 1: Distribution of Average Scores by Provinces

<table>
<thead>
<tr>
<th>Province</th>
<th>Average Subdomain Score (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauteng</td>
<td>65</td>
</tr>
<tr>
<td>North West</td>
<td>49</td>
</tr>
<tr>
<td>Eastern Cape</td>
<td>46</td>
</tr>
<tr>
<td>Northern Cape</td>
<td>56</td>
</tr>
<tr>
<td>Mpumalanga</td>
<td>51</td>
</tr>
<tr>
<td>Limpopo</td>
<td>34</td>
</tr>
<tr>
<td>Free State</td>
<td>40</td>
</tr>
<tr>
<td>KwaZulu Natal</td>
<td>62</td>
</tr>
<tr>
<td>Western Cape</td>
<td>51</td>
</tr>
<tr>
<td>National Average</td>
<td>50</td>
</tr>
<tr>
<td>STD</td>
<td>9.3</td>
</tr>
</tbody>
</table>

The scores show that four of the provinces, Limpopo (34%), Free State (40%), Eastern Cape (46) and North West (49%) are performing below the national average while Gauteng (65%), KwaZulu Natal (62%), Northern Cape (56%), Mpumalanga (51%) and Western Cape (51%) were above the National average (50%). However, all the provinces did not meet the cut off level required (80%).

**Conclusion:**

The inspection data has revealed a need for strengthening complaints management in the public sector which is enshrined in the Patients’ Rights Charter. None of nine provinces were found compliant on the subdomain Complaints Management. It will be potentially better for provinces to align their complaints management program with the regulatory compliance management systems (CMS).

**References:**

Please declare any conflict of interest you may have: None
Seldom heard voices: A meta-narrative systematic review of Aboriginal and Torres Strait Islander healthcare experiences

Benjamin Jones1; Reema Harrison1

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Introduction:

Patient and carer experience is a major contributing factor to healthcare quality and safety. Widely adopted survey methods to enable health systems to capture patient experience provide an avenue for large scale data capture, yet provide limited knowledge of the experiences of key communities who have poorer health outcomes. This review synthesises evidence of the experiences amongst Aboriginal and Torres Strait Islander patients through a meta-narrative synthesis of qualitative literature.

Methods:

A systematic search strategy was developed and applied to six electronic databases between January 2000 and June 2019. Titles and abstracts were screened before applying the inclusion criteria to full text articles. A meta-narrative synthesis was undertaken.

Results:

Fifty-four publications emerged from four research traditions; each with a unique conceptualisation of patient experience. Three thematic areas identified highlighted how; beliefs about wellbeing and healthcare provision, the level of trust, and compounded individual and community health system interactions, inform Aboriginal and Torres Strait Islander consumer experiences. The findings give voice to consumers whose experiences largely remain unrecognised and poorly assessed.

Conclusion:

Reliance on survey methods to capture and report consumer experience across health systems may limit health system ability to gather data from, and attend to, the needs of the minority populations that they serve. In the Australian context, more effectively capturing consumer experience will enable a better understanding of the experiences of Aboriginal and Torres Strait Islander people and consequently enhance equity in care quality and experiences across the health system.
The Causal Pathways Linking Health Literacy to Fluid Intake and Health Outcomes in Patients undergoing Hemodialysis: A Cross Sectional Study in China

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1Sun Yat-sen University School of Nursing, Guangzhou, China; 2Guangdong Pharmaceutical University School of Nursing, Guangzhou, China

Introduction:

Adequate fluid intake restriction is associated with better health outcomes in maintenance hemodialysis (HD) patients, however, constitutes an important and difficult challenge for the patients. A substantial literature have documented that lower ability of health literacy (HL) was related to nonadherence and adverse health outcomes in patients with chronic diseases. However, the causal pathways from limited HL to lower fluid adherence and poor health outcomes in HD patients have seldom been identified or examined. Further, most of the evidence is from western countries. Few researchers examined the impacts of HL on fluid adherence and health outcomes in Chinese HD patients. Our aim was to identify the relationships among HL, self-efficacy of fluid adherence (SEFA), self-reported fluid adherence (SRFA), and health outcomes including relative-interdialytic weight gain (R-IDWG), pre-dialysis blood pressure (pre-BP) and quality of life (QoL) in patients undergoing HD in China. This study adds new evidence in the Chinese context to allow for individualized interventions to improve HD patients’ fluid adherence and health outcomes.

Methods:

We conducted a cross-sectional study in four Nephrology Departments in four hospitals in Guangdong province, China, and 433 HD patients were surveyed during December 2018 and July 2019. HL was measured by the HL questionnaire. SEFA was measured by the SEFA Subscale of Health Belief Model Constructs. SRFA was measured by the Fluid Adherence Subscale of the HD Patients Therapy Adherence Scale. R-IDWG (<5% or ≥5%) was calculated by the mean IDWG (NB: figures were from 3 consecutive HD), divided by the dry weight. Pre-BP level was recorded before the HD. QoL was measured by the 36-Item Short-Form Health Survey. Structural equation modeling was conducted to test a hypothesized model which supposed HL has indirect effects on R-IDWG, pre-BP and QoL through SEFA and SRFA, both direct and indirect effects on SRFA through SEFA. This study was approved by the Ethics Committee of Sun Yat-sen University.
Results:

The hypothesized model indicated a good fit to data: *comparative fit index (CFI) = .956, Tucker-Lewis index (TLI) = .945, root mean square error of approximation (RMSEA) = .056, standardized root mean square residual (SRMR) = .067*. The model results showed that HL had direct positive effects on SEFA ($\beta = .370, p < .01$) and SRFA ($\beta = .318, p < .01$), an indirect positive effect on SRFA ($\beta = .201, p < .01$) through SEFA, a total indirect negative effect on R-IDWG ($\beta = -.130, p < .01$) through SEFA and SRFA or through SRFA, a total indirect negative effect on pre-BP ($\beta = -.067, p < .05$) through SEFA and SRFA or through SRFA, and a total indirect positive effect on QoL ($\beta = .232, p < .01$) through SEFA and SRFA or through SRFA (Figure 1).

![Hypothesized model with standardized coefficients.](image)

Figure 1. Hypothesized model with standardized coefficients.

Note: HL= health literacy, SEFA= self-efficacy of fluid adherence, SRFA= self-reported fluid adherence, R-IDWG= relative interdialytic weight gain, pre-BP= pre-dialysis blood pressure, QoL= quality of life.

**$p < .01$, *$p < .05$.

Conclusion:

Improving HD patients' HL could increase their SEFA, be more apt to follow fluid restrictions and consequently improve their health outcomes.

Please declare any conflict of interest you may have: None declared.
The effect of discharge coordination tool to decrease unnecessary prolonged hospitalization

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Introduction:

Unnecessary days of prolonged hospitalization may lead to the increase in hospital-related complications and costs. Communication gap between patient, patient's caregiver and medical caregiver led medical resource consumption, especially when preparing to discharge, poor communication between patient and medical caregiver can lead to patient's discharge preparation need unsatisfied that lead to prolong needless hospital stay or post discharge medical resource consumption. Constant coordination, communication, education, and learning of “discharge planning” are required to reduce the consumption of medical care resources.

Methods:

The study was conducted from April, 2017 to Sep, 2017 in three general wards of a medical center in Taiwan.

From April 17, 2017 to May 31,2017. A Questionnaire was used to collect the data of the reason that led to unnecessary prolonged hospitalization which means that patient was prescribed to be discharge by the physician but depend on some reason not related to medical problem and cannot discharge on the day that prescribed by physician originally and the unnecessary days of prolonged hospitalization.

Depand on the questionnaire result and reference research result. We designed a communication board that used to every patients during hospitalization. From the first day patient hospitalized, the nurse will record patient's care need and caregiver's care ability on the board, and the board was hanged on patient's bed side that everyone join the discharge process especially patient/caregiver, nurse and physician can clearly see. And during hospitalization every week nurse will adjust again to meet the real situation of patient's care need and caregiver's care skill. And the readiness of that perception by patient/caregiver and nurse also check every week to make sure the coordination between patient/caregiver and medical caregiver. When discharge date was exacted, the date will also show on the board, to make sure patient’s care need and caregiver’s care skill training need can meet before discharge.
Results:
From April 17, 2017 to May 31, 2017, 274 patients were enrolled, and 35 of them had unnecessary prolonged hospitalization, the rate was 12.8%, and unnecessary days of prolonged hospitalization of three general ward were 172 days. After intervention the unnecessary prolonged hospitalization rate was 1.9% (5/260) decreased 85.2% and the days of unnecessary prolonged hospitalization were 11 days.

Conclusion:
Bedside discharge preparation communication board can improve communication between patient/caregiver and medical caregiver and lead better coordination to decrease unnecessary prolonged hospitalization rate and days.

References:


Please declare any conflict of interest you may have: No
Introduction:

In recent years, medical institutions have increasingly placed emphasis on "the participation of patients and their families". Medical staff share empirical results, provide patients with all the options they can consider, derive their important values from structured forms and support them to make the best medical decisions. We used hard copy for shared decision making in 2018. However, we introduced web-based system for shared decision making through QR code since 2019. We aimed to compare the differences of patients’ anxiety between those using hard copy and those using web-based system.

Methods:

1. Derived from evidence-based medicine, through comparison of the pros and cons of treatment as well as patient’s value of the issue, we completed 33 Patient Decision Aid (PDA) in 2018, and 33 Patient Decision Aid in 2019 also.

2. We invited 2 volunteers to review the readability of Patient Decision Aid and make videos to increase the readability.

3. After shared decision making, we gave questionnaires to the patients and their families for anxiety survey.

4. We used IT system to assist patients and their families to use mobile devices for watching PDA instruction videos and making their treatment decisions.

Results:

1. In 2018, 1,490 participants received SDM services (all in paper). In 2019, 2,554 participants (16 PDAs maintained hard copy and 17 PDAs changed to web-based system).

2. We found that 60% to 70% of them considered helpful in understanding the strengths and weaknesses of the treatment as well as providing relevant knowledge. In addition, 88% of patients using mobile devices in 2019 felt that web-based PDAs helped them make appropriate medical choices, which was higher than that of 2018.
3. We found that 82.4% of the patients were "very anxious" and "anxious" before the discussion processes in 2018. The proportion of very anxious and anxious dropped to 7.7% after shared decision making processes. The difference was statistically significant. \((P < 0.01)\).

4. In 2019, 50% of patients and their families were "very anxious" and "anxiety" before receiving the sharing process. The degree of anxiety (inclusive or more) after receiving the sharing process was 42.3%, and the level of "Very Anxious" dropped from 5% to 2.3%.

5. Among people under 49 years, 60% of patients and their families were "very anxious" and "anxiety" before receiving the sharing process. The proportion dropped to 48% after shared decision making process. Among people over 50 years, the proportion of "very anxious" and "anxiety" were similar before and after shared decision making process (68.4% vs. 67.8%, respectively).

**Conclusion:**

1. Patients and their families hold positive attitude toward the SDM process.

2. Shared Decision Making (SDM) indeed has a positive impact on reducing the level of anxiety among patients and their families.

3. We found that caregivers or case managers can spend more time explaining and communicating with patients with paper-based process. However, after switching to web-based SDM, medical staff seemed to have less time for explanation, which might explain why web-based process can’t reduce the anxiety level of patients and their families significantly.

4. In 2019, after the change from paper to mobile devices, people under 49 years old were more familiar with mobile devices and less anxious than those over 50 years.

5. Face-to-face or personal communication with the patients and their family is highly important in order to alleviate their anxiety. Though information technology is helpful, we should not count on it completely. Human touch is still necessary in educating and communicating with our patients and their family.

**References:**

**Please declare any conflict of interest you may have:** NO
Introduction:

The centerpiece of effective care delivery is the personal connection that is developed between patients and their interdisciplinary care team. The Tell Me More® (TMM®) initiative allows patients and team members to connect with each other on a personal level. The TMM® template is comprised of a series of potential questions to be asked of patients/families. The answers to the questions are recorded on the template, and it is secured to the wall in the patients’ room. All who enter the room have the opportunity to view, read and create discussion about the patient as a person.

North Shore University Hospital (NSUH) is an academic, quaternary care, Level-1 trauma center in New York State. This Magnet® accredited organization holds multiple Joint Commission disease-specific certifications including Palliative Care, and was rated the top hospital on Long Island according to the 2019 US News & World Report survey. The 10-bed Palliative Care Unit (PCU) within NSUH primarily cares for those who are at end-of-life, offering patient and family-centered care that optimizes quality of life by anticipating, preventing, and treating suffering.

Methods:

The PCU team decided to incorporate the use of TMM® to improve connectedness of the clinical team members to the patient/family during their stay. A detailed search of the literature noted a gap in a validated tool that could measure connectedness. A study found identified seven attributes of connectedness. A measurement tool was developed applying these attributes resulting in a seven-item questionnaire called the “Clinician-Patient Connectedness Survey.” The survey was administered to all front-line providers and staff in the PCU pre-intervention, 3 months post-intervention, and 6 months post-intervention.

Ethical implications were considered and it was determined that the pilot study posed minimal risk. No protected health information was collected and participation was
completely voluntary.

**Results:**

Results indicate that consistent non-clinical questions address an intervention to improve clinician-patient connectedness. The team’s results were statistically significant, each question’s degree of agreement increasing in strength survey over survey.

To date, the project has put a smile on patient, family, and staff member’s faces, and has even fostered trust to the point of families allowing for clinicians to have crucial conversations and make clinical decisions. The interactions foster feelings of caring, personhood, and dignity for patients, while providing fulfillment for our front-line team members. As we heard from one patient’s family, and we hear from so many others, “Thank you for doing this. This is so important.”

**Conclusion:**

The Connectedness Project changed the way we communicate with our patients and their families, refocusing the treatment plan, creating a dynamic interaction between the team and the patient/family.

The TMM® project is vital as it validates personhood and dignity at a time when patients and families may feel anything but dignified and human. TMM® provides focus on who we are as caregivers as well as the means by which we connect with our patients. The survey and anecdotal feedback justify why we do it.

The framework outlined in this abstract has the ability to cross cultural boundaries, connecting people to people, and is not only applicable for patients at end of life, but can be utilized for any person facing major illness. The connections made are invaluable, allowing patients and families to feel genuinely cared for, fostering communication and understanding of one another, forging bonds that ultimately impact outcomes.

**Please declare any conflict of interest you may have:**

This author has no potential conflicts of interest to declare.
The Patient Experience of a Medical Emergency Team Review

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Introduction:

A Medical Emergency Team (MET) is a team of doctors and nurses with advanced life support skills who urgently treat deteriorating patients in hospital. Up to 7% of hospitalised patients receive a MET review. There are limited published studies describing the patient experience of a MET review. Increased understanding of the patient experience will enable clinicians to provide improved patient-centred care. To explore the patient experience of a MET review, characteristics of MET reviews and the frequency and nature of clinician-patient engagement behaviours observed during MET reviews. The objective was to explore the patient experience of a MET review, characteristics of MET reviews and the frequency and nature of clinician-patient engagement behaviours observed during MET reviews.

Methods:

A descriptive, exploratory, mixed methods design was selected for the three-phase study. The setting was two sites of one large Melbourne public metropolitan health service, Eastern Health, which have Intensive Care Unit led METs. In phase one, MET reviews were observed for clinician-patient engagement behaviours. In phase two, medical records were audited to gather characteristics of the MET review and patient demographic data. In phase three, semi-structured interviews were conducted with patient-participants. A mixed methods convergent data analysis design was used, and interview data was thematically analysed.

Results:

A total of 26 MET reviews for 22 patients were observed. The majority of patients (68.2%, n=15) were female with a median age of 81.5 years (IQR=67-86.5 years). The mean duration of MET reviews was ten minutes (IQR= 8-15 minutes). The most common trigger was hypotension (26.9%, n=7). Altogether 209 clinicians were observed (5-10 per review). Most (95.7%) did not introduce themselves or their role. An explanation was provided for less than half (41.7%, n=40) of interventions performed. Three themes were identified from the
thematic analysis of seven patient-participant interviews. The first theme was ‘an unexpected event’, as participants experienced surprise and fright from the sudden arrival of multiple people in their room. The second theme was ‘a lack of understanding’, as participants were uninformed or confused about their MET review. Finally, the third theme was ‘in good hands.’ Participants felt well-looked after, reassured and trusting of clinicians during their MET review.

Conclusion:

Exploring the patient experience of a MET review is expected to inform strategies to improve clinician-patient engagement behaviours and patient-centred care. A designated ‘spokesperson’ whose role is to provide an explanation for interventions and an opportunity for patients to ask questions and debrief with a clinician at the conclusion of the MET review is recommended. This may increase patients’ understanding of their MET review and improve the patient experience. Enhancing the patient experience of a MET review has the potential to improve patient safety.
The role of communication in producing good outcome for patients undergoing a total hip replacement: results from PROMs in Tuscany Region

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Introduction

The elective Total Hip Replacement (THR) is aimed at improving patients’ quality of life and functionalities. Educational and informative interventions during the hospitalization may have positive effects. Patients generally experience concerns about going home from hospital (Pieper et al., 2007). The communication is a weak aspect when discharging a patient, because not patient-centred (Hesselink et al., 2012; Eloranta et al., 2016; Conn et al., 2018). In literature, there is mixed evidence on the patient education’s effectiveness, with outcome mainly measured as patient experience, self-care knowledge/behaviours and symptoms (Johansson et al., 2004; Fredericks et al., 2010). Recent studies on arthroplasty demonstrated that educating patients is positive associated with post-operative quality of life (Koekenbier et al., 2016).

Objectives

The aim of this research work is to explore the association between patient education, in particular in the discharge phase, and patients’ reported outcomes after elective THR. The outcome variables used are built on the Oxford Hip Score (OHS).

Methods

In this study, multivariate regression models were performed using data from the Patient Reported Outcome Measures (PROMs) Observatory, reported by patients undergoing a THR in Tuscany (Italy) between 2018 and 2019. A number of 1,507 patients were enrolled, 582 answered to the baseline questionnaire, 254 after 30 days, 147 after 6 months, 63 after 12 months.

Results

The mean age of respondents is 67 years (SD 11); 51.4% of them are males; 45.2% have a low educational level. They reported that information at discharge were generally very
clear (life-style related aspects to manage at home – 76%; pharmaceutical therapy – 89%; what to do in case of complications – 72%; health care professional/office of reference in case of need – 70%; post-operative pathway – 88%). The regression models show that being man (coef. -3.7, p=0.012) and the quality of information at discharge on life-style (coef. 3.9, p=0.02) are associated with an higher improvement of the OHS one month after the surgery. The delta of the OHS 6 months after the THR results positively associated with being a man (coef. -3.9, p=0.04), and age (coef. -0.2, p=0.013). After one year, the educational level emerges as negatively associated with the recovery (coef. -6, p=0.05), with age (coef -0.2, p=0.06), and being a man (coef -5.9, p=0.05), while the information at discharge about life-style are positively associated with the OHS improvement (coef. 6, p=0.03).

Conclusions

Providing clear information at discharge was found to be positively associated with the recovery of patients undergoing THR, considering both short and long-term outcome. Conn, L.G., Zwaiman, A., et al. (2018). Trauma patient discharge and care transition experiences: Identifying opportunities for quality improvement in trauma centres. Injury, 49(1), 97-103.


INTRODUCTION:

Health insurers are no longer solely focusing on cost containment and cost-effectiveness but also on the adequate health service design and planning for improved health of the (insured) population. Research on the use of people-reported data by health insurers can help to determine to what extent health insurers respond to citizens’ needs and preferences. However, little is known about how and to what extent health insurers engage insured citizens in decision making about their business, including health care purchasing and contracting.

OBJECTIVES:

This study aims to explore the role, organization, practices and facilitating/hindering factors of consumer engagement in health care purchasing practices of Dutch health care insurers.

METHODS:

This study builds-off on a scoping review where we sought to better understand why, what and how health insurers are using consumer-reported information, in particular, outcome and experience measures (PROMs and PREMs). We conducted 10 semi-structured interviews with key informants (e.g. scholars, consultants) about the Dutch context and practices of consumer engagement by health insurers in the Netherlands. In a later stage of the study, findings of both the scoping review and interviews will inform the development of a focus group script, for which multi-professional groups of the major Dutch health insurers will be invited to take part.

RESULTS:

Preliminary findings of both the scoping review and interviews with key informants suggest that health insurers are strongly engaged in the value-based health care agenda. Consumer engagement initiatives seem not to differ greatly among Dutch insurers, but the
organizational structure of the insurer influences the breadth and depth of such initiatives. Examples of initiatives involving citizens are those of having insured people represented in the governance bodies of the insurer, convening focus groups and conducting surveys to better understand customer’s preferences. These initiatives are also used to moderate institutional distrust citizens may have with insurers and to design new health insurance packages that add greater value to citizens.

Consumer-reported data (PROMs and PREMs) are often used by health insurers for selective contracting (e.g. outcome-based financing), quality reporting (e.g. provider benchmarking) and prediction modeling (e.g. targeting sub-populations). However, the use of these data pose challenges to the insurers because of: 1) the uncertainty about which outcome and experience data is of most interest to all actors; 2) the resources needed for data collection and; 3) mixed and limited alignment between incentives experienced by the insured, the insurer and care providers to have a strong data-driven approach embedded in their mutual relationships.

CONCLUSIONS:

Preliminary results suggest varying but emerging practices among Dutch health insurers regarding the involvement of consumers and the use of consumer-reported data in support of health care purchasing by insurers. Further research is ongoing to better understand organizational aspects that underpin consumer engagement and where consumer involvement could be of best use along the value-chain of a health care insurer.

Please declare any conflict of interest you may have: None to declare.
Introduction:

For individuals with hearing loss who use cochlear implants (CIs), listening is often effortful. The Framework for Understanding Effortful Listening (FUEL) conceptualises listening effort as the cognitive effort needed when a task involves listening, mediated by motivation.(1) However, empirical data in support of the FUEL is limited. Patient-reported outcome measures (PROMs) are self-report questionnaires used to measure aspects of a health condition from the patient perspective. Instrument development includes a qualitative component to develop the PROM’s conceptual framework which is then tested empirically through evaluation of the PROM’s psychometric properties. Thus, PROM construction represents a unique opportunity to both develop and test conceptual representations of latent phenomena.

This paper demonstrates the potential value of PROMs to theory-building, sharing of findings from a multi-phase, mixed-methods study to develop and validate a new PROM of listening effort, the Listening Effort Questionnaire – Cochlear Implant (LEQ-CI).

Methods:

The study was conducted in the United Kingdom with cochlear implant patients (CIPs) and significant others (N = 457). Focus groups and a postal survey were used to develop a Grounded Theory (GT) of listening effort in CI (2). GT findings and the FUEL were used to generate item content. CIPs completed the LEQ-CI by post and Rasch analysis was used to validate its measurement properties(3). Evaluation of item fit and dimensionality assessed whether the LEQ-CI measured only listening effort and not, for example, other constructs such as fatigue or depression.

Results:

CIPs (n=15) and significant others (n=2) took part in focus groups. 110 CIPs completed a postal survey for data saturation. The emergent GT supported the FUEL ex-ante, describing
multiple facets of listening effort (i.e., the effort of attending to and processing an auditory message while adapting and compensating for hearing loss) and the role of motivation in response to listening demands. CIPs (n=330) completed the LEQ-CI for validation. After removing misfitting items, Rasch analysis showed the LEQ-CI to be unidimensional, measuring only listening effort. Variance represented by the Rasch dimension was 32.6 eigenvalue units (60.8%). Unexplained variance in the first contrast was 2.3 (4.4%), less than the expected variance (11.1%). Items clustered according to theoretical subdomains of listening effort. The correlation range for item clusters was 0.92–1.00.

Conclusion:

Qualitative content generation and psychometric validation of the LEQ-CI enriched the FUEL, providing first-hand accounts of lived experiences and positive evidence from statistical modelling. The LEQ-CI shows the potential contribution of PROMs to the refinement of theoretical frameworks of clinically important constructs not yet well understood.

References:


Please declare any conflict of interest you may have:
JB is ISQua President-Elect.
What Are The Patients Saying? Correlation between Clinical Influencers And Patient Satisfaction In A Large HIV Program In Nigeria

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1Caritas Nigeria, Abuja, Nigeria; 2ProHealth International, Abuja, Nigeria

Introduction:

With population estimates of well over 200 Million people, Nigeria remains in the spotlight on the global HIV/AIDS stage. The Nigerian HIV response supports over a million persons living with HIV (PLHIV), making its performance crucial in assessing the fight against HIV in Sub Saharan Africa. There is no gainsaying that patient satisfaction plays a vital role in medication adherence, retention in care and viral suppression of PLHIVs on anti-retroviral therapy (ART) across hospitals offering HIV Care & Treatment services. Caritas Nigeria supports 90 Comprehensive Care & Treatment (CCT) and 35 PMTCT/ART Stand-alone facilities in Delta, Ebonyi, Enugu and Imo States to provide HIV Care & Treatment services for 58,698 PLHIVs. A Patient Satisfaction Survey was conducted in all 4 states.

Objectives:

This study sought to ascertain the correlation between clinical influencers and patient satisfaction and to what extent (if any) the clinical influencers affected patient satisfaction.

Methods:

This is a cross sectional study that used purposive sampling technique. Facilities that met predetermined eligibility criteria were selected for the exercise. The Picker Patient Experience questionnaire was adapted to assess patients’ perception of quality of ART received at 69 CCTs with an intended 7,645 respondents. The tool (available as both electronic and paper tools for ease of administration and collation) had 11 sections and 42 questions covering accessibility & convenience, provider behavior/attitude, facility & confidentiality, respect & caring, payment, integration of services and spiritual support. An online web portal was created for real time and off-line data capture and synchronization. Trained data abstractors administered the questionnaires from July to October 2018 and ensured update on the web portal. Respondents who were unable to complete the questionnaires unaided were offered assistance without bias. 7,376 PLHIVs (F: 5,068; M: 2,189; Not indicated (NI) 119) participated in the exercise and results were analyzed using Microsoft Excel software.
Results:
Analysis showed that 34% of PLHIVs (F-1703; M-690; NI-52) felt clinicians’ response to questions were unclear. 24% (F-1175; M-515; NI-43) stated that sessions with clinicians were often interrupted by phone calls. 20% (F-986; M-433; NI-18) said laboratory staff do not explain the HIV test procedures and 20% (F-964; M-445; NI-32) had experienced poor treatment in the facility. 15% (F-733; M-314; NI-30) have thought about leaving their current facility to find better care elsewhere and 15% (F-738; M-366; NI-14) reported being unable to get prescription/drug pick up in an emergency. 9% (F-460; M-214; NI-5) were not attended to on time during visits.

Conclusion:
The range of discontent with ART services in the hospitals assessed call for engagement of HIV service providers across affected CCTs. Further investments and a multi-stakeholder commitment to routine Patient Satisfaction Surveys in the future can guide the program optimization and monitor improvements in quality of care across all affected hospitals.

References:

Please declare any conflict of interest you may have:
What can a patient experience survey tell us about cancer care in Switzerland?

Chantal Arditi1; Isabelle Peytreman-Bridevaux1; Manuela Eicher2

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Introduction:
Collecting patients’ experiences with care provision is essential to evaluate the quality and safety of care in general, and patient-centeredness in particular, one of the core dimensions of high-quality care. In Switzerland, patient experience data are collected nationally through a short survey for inpatient acute care, rehabilitation care and psychiatric care. To date, we lack data regarding cancer care, despite advocacy for specific surveys to account for the high complexity of cancer treatment pathways. Our main study objective was to conduct a cancer patient experience survey in the French-speaking part of Switzerland to provide robust evidence on the perceived quality of cancer care.

Methods:
The Swiss Cancer Patient Experience (SCAPE) was a cross-sectional multicenter survey, conducted between October 2018 and March 2019, among cancer patients diagnosed with the six most frequent cancers, from four large cancer centers in the French-speaking part of Switzerland. Data were collected with a self-administered questionnaire, including questions on experiences of care adapted from the NHS Cancer Patient Experience Survey as well as questions on socio-demographic and clinical characteristics. Of the 7145 adult patients invited to complete the questionnaire, 3121 patients returned it (43.7% response rate). Of these, 2755 (88%) reported at least one eligible cancer (breast, prostate, lung, colorectal, melanoma, or hematological) and were included in the descriptive analyses. The study was approved by the Swiss local ethics committee (CER-VD).

Results:
Patients rated their overall care at 8.5 on average (1.4 standard deviation) on a 0-10 scale. Over 80% of patients reported positive experiences with diagnostic tests, clinical nurse specialists, and hospital care as inpatient (e.g. confidence and trust in doctors, treated with respect and dignity, enough nurses on duty). However, less than 50% of patients reported positive experiences in relation to the information received at diagnosis and about treatment side-effects and symptoms, and in relation to other supportive care issues, in particular regarding psycho-social, financial, family- and survivorship-related aspects of care.
Conclusion:
In this first overview of patient experiences with cancer care in French-speaking Switzerland, we identified areas of cancer care that are more positively and less positively evaluated by a large number of patients. Our results are currently being discussed with the participating cancer centers to guide local initiatives to further improve the quality and patient-centeredness of cancer care in Switzerland.

Please declare any conflict of interest you may have:
The authors have no conflicts of interest to declare.
What is the Evidence about Patient Preferences and Behaviours to Engage in Safety at the Direct Care Level? Results of a Scoping Review

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Introduction:

One approach to advance harm prevention has been patient engagement in safety at the direct care level. This has included safety ‘tips’ or strategies such as encouraging patients to ask questions about their care, yet much of this work has neglected the voice and experiences of patients, and what they want and believe they can or cannot do to ensure safe care. To advance patient safety to most effectively include patients and their families, it is critical to reflect on existing evidence, to better position future research.

Objective:

As part of a multi-phase study, which included a qualitative descriptive study (Duhn & Medves, 2018), a scoping review about patient engagement in safety was conducted. The objective was to review the literature to determine patients’ and families’ attitudes, beliefs and behaviours about their active participation and involvement in ensuring their safe care.

Methods:

The scoping review questions were: 1) What are patients’ and families’ attitudes and beliefs about their participation role in ensuring they receive safe care, as described in the peer-reviewed literature? 2) What are the behaviours indicative of harm prevention that patients and families engage in independently or at the direction of others [researchers; healthcare providers], as described in the peer-reviewed literature? The databases searched included MEDLINE, CINAHL, and EMBASE (year ending 2019).

Results:

This review included 35 papers about ‘Patient Attitudes’ and 125 papers about ‘Patient Behaviours’. Related to ‘Patient Attitudes’, three patterns emerged. The first is the paucity of evidence about patients’ attitudes toward their role in safety at the bedside. Most investigators have focused on a particular dimension of harm prevention, such medication safety, and there is less known about patients’ opinions about their role in safety and how
to actualize it in a way that is right for them. Second, patients have varied opinions about having an active role in error prevention. The third pattern relates to the second, specifically to those patients who believe they have a role in promoting safe care. While patients may indicate favourable attitudes toward safety involvement generally, intention to act or actual behaviours may be quite different. Four patterns emerged reflecting patients’ behaviours in promoting their safe care. First, there is increasing international interest in this topic in recent years, and an evolving range of how patients are being involved to support safe care. The action of patients asking providers whether they have washed their hands has been a predominant focus of the research. Additionally, there is indication that patients are engaging in behaviours that promote safe care, either independently in their own ways or as requested to varying degrees, and that they see and are aware of safety practices and strategies occurring in the healthcare environment. A third pattern was patients’ behaviours about promoting safe care, specifically investigators have examined factors that influence or impede patients’ participation in safety initiatives. The final pattern was the role of family in advocating for and protecting the well-being of another.

**Conclusion:**

The strength of this review is its depth and breadth, cross-referenced with findings from our qualitative study phase. It provides an important international perspective about initiatives that are underway to engage patients in different elements of safety, and illuminates the gaps that remain.

**References:**


**Please declare any conflict of interest you may have:** None declared.
Introduction:
The Australian Aged Care sector is at a significant juncture in its maturity, as the Aged Care Royal Commission is highlighting many issues regarding the quality and practice of care, and indeed in relation to society’s attitude towards ageing. The intense public scrutiny into the instances of abuse and neglect have highlighted the lack of compassion towards this vulnerable population and the lack of governance systems to review and learn from systemic events. Quality and Safety improvements programs have achieved moderate successes, and the language used and its intersection with practice can be a major contributing factor to this important issue.

The purpose is to gather insights into the language and practice of care delivery. How we think about quality and safety determines what we prioritise and value. Therefore, the successful implementation of quality improvement programs require organisations to collectively see quality as a component of culture and as an organisational competency. This sets a new direction for the broader health care sector, one which demands a more comprehensive understanding of what quality service delivery actually comprises, beyond that of meeting basic compliance standards. The Royal Commission into Aged Care Quality and Safety (ACRC) has provided an impetus to review the determinants of quality and safety and the enablers of cultural change to support vulnerable populations.

Methods:
This study using mixed methods to support and determine, within a discourse analysis perspective, how organisations can be focused on quality, how they choose to ‘transform’ their care practice delivery, and what are those essential elements that enable quality service provision in a coherent integrated fashion.

Results:
Health policy has shifted to reflect a greater focus on customer and quality. Providers are seeking to implement these policy changes and to transform their care delivery to meet changing customer expectations and demand profiles. How these improvement programs are designed and delivered from an organisational perspective varies. An examination of the language, meaning and power of the transformation discourse in this volatile field at a
time of significant scrutinization, is providing some valuable insights into the underlying change process.

In reviewing health and social care policy and literature a number of terms are used interchangeably, Patient, Customer, Client, Consumer, Resident or Care Recipient. The definitions associated with each of these terms add to the potential misalignment between expectations in the Government to consumer, business to consumer, and even consumer to consumer. Many of these terms have been driven by policy approaches such as neo-liberalism, creating inherent tensions for providers as they seek to apply these policy directions within service provision, perpetuating and aggravating the disconnect for people as they seek to provide what should ostensibly be a relational and social model of person centred care. The multiplicity of terms in use, their associated ambiguity and their implications for practice when considered with the associated intersection on culture and quality and their utility to support or adversely impact organizational enablers of culture change and safety.

Conclusion:
If the culture we walk past, is the culture we accept, and language drives culture and behaviour within organisations, is this perhaps the missing link to enterprise quality and safety? Therefore, there exists an opportunity to investigate from a discourse analysis perspective, the intersection and impact on personhood and quality.

Please declare any conflict of interest you may have: Nil
IL VALORE DELL’INFERMIERE DI TRIAGE NELL’IDENTIFICAZIONE PRECOCE E NELLA GESTIONE TEMPO-DIPENDENTE DELLA SEPSI

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INTRODUZIONE

La sepsi è una patologia tempo-dipendente ed è considerata un’emergenza medica. L’identificazione precoce e il tempestivo inizio di un trattamento adeguato hanno un significativo impatto sulla sopravvivenza e sulla mortalità associata. Il timing corretto per un primo intervento sui casi di sepsi è 1-3 ore dall’accesso, entro tale termine devono essere attuati i bundles previsti nel Sepsis-Six (ossigenoterapia, emocolture, terapia antibiotica empirica, dosaggio dei lattati, controllo diuresi e fluidoterapia). Il triage al DEU, considerato il tempo zero per la diagnosi, rappresenta il momento più critico per l’identificazione della sepsi in evoluzione. Tale patologia si manifesta spesso in modo subdolo e al momento mancano dati sufficientemente solidi per dare indicazioni definitive sul metodo da utilizzare per l’identificazione precoce del paziente settico.

OBIETTIVO


METODI

DISEGNO SPERIMENTALE: 1.Formazione degli infermieri di Pronto Soccorso sulle manifestazioni cliniche della sepsi e sui compiti da portare avanti secondo il Sepsis-Six. Promozione della consapevolezza di far parte di un “team work”; 2.Creazione di un algoritmo decisionale al triage per l’identificazione e la codifica dei pazienti con sospetta sepsi (National Early Warning Score 2, refill capillare, dosaggio dei lattati, considerazione dei fattori di rischio e indicatori di allarme per sepsi); 3.Applicazione dei primi interventi del bundle in autonomia da parte del personale infermieristico; 4.Alert del medico con attivazione del percorso sepsi.

STUDIO: analisi retrospettiva pre e post introduzione del progetto. Analisi statistica mediante il test del chi-quadrato.

PERIODO DI STUDIO: Gennaio-Aprile 2018 (precedente all’introduzione del progetto) e Gennaio-Aprile 2019 (successivo all’introduzione del progetto)

PAZIENTI: totale di 188 pazienti, di cui 94 del 2018 e 94 del 2019
CRITERI D'INCLUSIONE: pazienti di età>18 anni ricoverati dal Pronto Soccorso per sepsi o shock settico.

RISULTATI

I due campioni analizzati sono omogenei per sesso, età, codice di ingresso e di chiusura. Le analisi di correlazione evidenziano che dal 2018 al 2019 c’è stato un aumento statisticamente significativo ($p<0.001$) dei seguenti indici: esecuzione di emocolture, dosaggio dei lattati, terapia antibiotica empirica precoce (entro 1-3 h). E’ stato evidenziato un aumento nell’esecuzione della fluidoterapia anche se non statisticamente significativo. Non c’è stata differenza tra l’esecuzione degli indici di flogosi, della terapia antibiotica dopo le 3 h e per il controllo della diuresi (figura allegata). Non è stato possibile comparare l’ossigenoterapia per mancanza di dati nel sistema informatizzato.

CONCLUSIONI

Il progetto ha permesso di migliorare la compliance nell’esecuzione precoce del dosaggio dei lattati e delle emocolture e ha ridotto in modo significativo la tempistica di somministrazione della terapia antibiotica. Un infermiere di triage formato e consapevole, dotato di strumenti per poter identificare rapidamente i pazienti settici e della possibilità di lavorare in parallelo con il medico, può ridurre i tempi di intervento e migliorare la qualità delle cure.

Conflitto di interessi: Gli autori dichiarano di non avere conflitti di interesse.
1. Distribuzione per genere
2. Distribuzione per età
3. Codice d’ingresso
4. Codice d’uscita
Introduction:

Type 2 diabetes (T2DM) significantly contributes to the global burden of non-communicable diseases. Few studies from low resource settings address stigma and grief experienced by newly diagnosed T2DM patients. These reactions however negatively affect T2DM self-efficacy and self-management.

OBJECTIVES

This study aimed to explore and identify barriers towards optimal self-management of T2DM among patients attending chronic disease management clubs (CDMCs) in two health facilities in a township around Cape Town, South Africa

Methods:

A qualitative phenomenological study design using audio recorded Focus Group Discussions (FGDs) with diabetes and hypertension patients attending CDMCs in two healthcare facilities in Khayelitsha were undertaken. Participants were adults aged 38-86 diagnosed with T2DM and/or hypertension between 1997 and 2017, recruited through facility healthcare workers. A total of 41 adults participated in four FGDs: three mixed groups (7 men, 25 women) and 1 female group (n=9). Thematic analysis was undertaken. Inclusion criteria: Adults diagnosed with T2DM and or hypertension > 12 months living and attending CDMC at the two health facilities in Khayelitsha.

Ethics approval was granted by the University of the Western Cape and approval to access the health facilities by the Western Cape Department of Health. Informed consent was obtained from all study participants

Results:

Psychological reactions and stigma experienced due to T2DM diagnosis were among the major barriers towards optimal T2DM self-management. Reactions included shock, fear, denial, confusion, prolonged worry, and anger, before acceptance of the diagnosis. Time to acceptance of the diagnosis varied from weeks to years. Initial shock reactions were
reported by patients with or without experience of living with a diabetes patient. Patients also reported experiencing stigma and discrimination perpetuated by their families, resulting in non-disclosure of T2DM diagnosis to intimate partners.

Conclusion:

T2DM patients experience both grief and stigma related to their diagnosis, which affects their optimal self-management of T2DM. Structured pre- and post-counselling similar to HIV–counselling is hence strongly recommended. Other psychological interventions with proven impact on the quality of life of T2DM, such as family counselling, discussion of emotional wellbeing, motivational interviewing and self-management coaching are suggested. Qualitative study design limits findings to T2DM in Khayelitsha but provides learning opportunity for other high burden townships in South Africa.

References:

Please declare any conflict of interest you may have: none
Assessing the success factors of a primary health facility in Nigeria from a solutions perspective

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Introduction:

Achieving Universal Health Coverage in Nigeria will be impossible without a functioning primary healthcare (PHC) system. This is because the majority of illnesses patients present with can be addressed at this level. However, in Nigeria, this isn’t the case as the PHC system is underperforming. As a result, the majority of these illnesses that can be addressed at the PHC level are pushed to secondary and tertiary levels, thereby overwhelming their staff. Also, less attention is given to PHC leading to chronic underfunding and neglect. But beyond these challenges, a solutions journalism perspective helps identify individuals or organizations working hard to change the status quo. The aim of looking at efforts that are helping to address primary healthcare challenges is to glean insights that can be implemented and scaled up to solve similar problems and provide quality healthcare in other localities.

Methods:

In-depth interviews were conducted with three top management staff, three nurse mothers who recently gave birth with one giving birth through a cesarean section. In-depth interviews were conducted with other patients who have used the services of the facility at different times. Finally, a focused group discussion was conducted with all the heads of different hospital units to gain understanding of their experiences and how all that has played into the growth of the hospital and their ability to sustain quality healthcare delivery in a rural hospital.

Results:

The hospital has recorded unprecedented and sustained growth since its establishment. Previously, they struggled to see 10 patients daily but now they see an average of 11,000 outpatients monthly. Initially, they were unable to perform simple medical procedures such as transfusions and had to refer such. But now, they not only do that but can perform other specialist procedures including cesarean sections and thyroidectomies. Progressive leadership strategies, a sense of ownership created among staff and host community members were integral to this growth. The hospital also implemented a quality improvement strategy called Safecare and implemented by PharmAccess. These
improvements resulted in the elevation of the hospital to a General hospital from a comprehensive health center and the staff is regarded as quality champions in the state. They are invited as trainers for other health facilities.

**Conclusion:**

Lessons from the experiences of the staff and patients at the General Hospital Ijede can help the government understand how to build successful primary health care across the country.

**References:**

**Please declare any conflict of interest you may have:** I don't have any conflict of interest
Introduction:

Currently, we have robust evidence for genomic sequencing as a diagnostic tool across different clinical indications from cardiovascular diseases to cancer and rare diseases. However, health systems need evidence beyond diagnostic utility, such as change in care pathways, economic feasibility, and implementation science research on service delivery. One of the challenges for implementation scientists is to understand the reasons why different stakeholders within the health system are making a case for more diagnostic services. To answer this question, we investigated the experiences of clinicians, laboratory personnel, consumers, and administrators who have been early adopters of genomic sequencing to bring a different lens to the evidence base for the adoption of genomic interventions.

Methods:

Semi-structured interviews (n=41) were conducted with early adopters of diagnostic genomic testing. For a holistic picture, the views of a diverse range of participants representing different areas of the diagnostic pathway were included, such as clinical geneticists, genetic counsellors, non-genetic disease specialists, clinical laboratory scientists, consumer representatives, translational researchers, and health system administrators. Data analysis: Qualitative data were analysed via inductive thematic analysis using NVivo software. Data was coded line-by-line to generate themes. These themes were then reviewed by the research team for refinement and formation of definitions. Two rounds of analysis were performed, first, a semantic approach to analyse explicit content of the data and then a latent approach to understand underlying assumptions and social context.

Results:

This study has indicated that genomic sequencing has an effect beyond the identification of a disease. In paediatrics, it is powerful in giving patients accurate diagnosis early in life which can then determine pathways beyond medical care such as career decision-making, how parents decide to raise their children, risk assessment for parents wanting to have more children, and genetic counselling for other family members. In adults, genomic
sequencing has been transformational in ending the diagnostic odyssey for patients who had remained undiagnosed in some cases for up to 70 years, informed decision-making on transplant donations for families with inherited diseases, avoided unrequired treatment, relived parental guilt, and again informed families on genetic risks of future children, and in some cases grandchildren. Overall, there was consensus on the power of a diagnosis and the unique constellation of positive effects for patients who received a diagnosis via both genomic sequencing and genetic counselling.

**Conclusion:**

Patients with a diagnosis from genomic sequencing have experienced effects beyond that of diagnosis. These experiences need to be included in the evidence base that is used in decision making on the adoption of genomic interventions by health systems.

**Please declare any conflict of interest you may have:** None
3. Education, Knowledge and Learning Abstracts

[255] A Global View of Learning to Improve the Quality of Health Services

Diana Sarakbi1; Syed Shams2; Mensah-Abrampah Nana2; Bingham Melissa2

1Queen's University, Kingston, Canada; 2World Health Organization, Geneva, Switzerland

Introduction:

The World Health Organization (WHO) is supporting countries to achieve quality Universal Health Coverage (UHC) that is effective, safe, people-centered, timely, equitable, integrated and efficient. Quality UHC relies on continuous feedback, learning and improvement. The WHO Global Learning Laboratory (GLL) for Quality UHC is a mechanism for people from across the world to learn from each other by sharing their experiences and expertise, challenging each other and sparking innovation for health service improvement within the context of UHC. One of the priority areas for the GLL for Quality UHC is to support countries to develop, refine and implement their national quality policies and strategies.

A key aspect of this focus is the need for countries to develop implementation-informed policies and strategies that are grounded in frontline realities and informed by experiences across all levels of their health system (community, facility, sub-national, and national). This requires a nation-wide approach for continuous learning and improvement that reflects the complexity of the healthcare system. A learning system can bridge the gap between research, practice and policy by implementing data-driven improvements, generating contextual knowledge from patients and clinicians at the point-of-care, and developing supportive policies to improve the quality of health services.

Objectives:

The objectives of the literature review were to understand how people learn to improve the quality of health services and provide recommendations for building a continuous system of learning and improvement across the health system from government policy to point-of-care delivery.

Methods:

The literature review adapted the methodological framework for literature studies from Arksey and O'Malley and the Joanna Briggs Institute. A consultation exercise was completed
with experts in the field to complement the literature review results.

Results:

There are multiple pathways for learning to improve the quality of health services across the health system, including pre-service learning, learning organizations, learning collaboratives, learning systems and learning networks. Systems thinking is needed to continuously improve the quality of health services at the point-of-care while simultaneously addressing systemic barriers. Positive results are linked to a system approach to improvement that involves multiple stakeholders learning together to achieve improvement at various levels of the health system. The guiding principles for building a continuous system of learning and improvement at the national-level include alignment, collaboration, accountability and knowledge (Figure 1). The premise of these guiding principles is that context is critical, and that the national learning system is built from the ground-up based on the frontline experience. The common vision of the national learning system is building public trust through transparency and accountability.

Conclusion:

It is important to understand how people can learn together to improve the quality of health services from government policy to point-of-care delivery. Government authorities need to consider lessons from the point-of-care when setting their national directions on quality. Experience-based knowledge is needed to complement the findings of this literature review and validate the guiding principles for a national learning system by applying them in several countries and adapting them based on the results.

Please declare any conflict of interest you may have: The authors have no conflict of interest to declare.
Figure 1: Guiding Principles for a Continuous System of Learning & Improvement
Introduction:

Korea’s national patient safety plan promotes the strengthening of healthcare organizations’ capabilities and building of infrastructure to help foster a culture of patient safety (PS). Therefore, the main task is to improve education and training programs to strengthen the competencies of personnel dedicated to PS. However, there is a lack of basic research into this area, such as competencies analysis of quality improvement (QI) and patient safety (PS) officers and understanding the current climate of PS in Korea. The purpose of this study was to develop diagnostic tools necessary for assessing and improving competencies of QI and PS officers, and use them to generate basic data for QI and PS officers’ education and training programs by determining the current status in these areas.

Methods:

First, we reviewed previous related studies [1] to identify competencies needed for improving QI and PS tasks, and held competences building workshops. Then, after identifying the competencies required for QI and PS officers, the final five core competencies, 18 sub-competencies, and 63 competency assessment items were finalized after reviewing expert content validity. A web-based online survey was also conducted with 295 QI and PS officers. This study was approved by the Asan Medical Center Institutional Review Board.

Results:

Among the core competencies, the highest level of competence was found in communication and the lowest in partnership and collaboration. Among the sub-competencies, the highest level of competency was found in written communication, and the lowest in conflict management (Table 1). The overall competency score of survey participants was 69.12(±14.16) out of 100.
Table 1. Core and sub-competencies of QI and PS officer (N=295)

<table>
<thead>
<tr>
<th>Core competency</th>
<th>M(SD)</th>
<th>Sub-competency</th>
<th>M(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Leadership</td>
<td>3.17(0.64)</td>
<td>1.1 Planning and execution</td>
<td>3.15(0.64)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.2 Decision making</td>
<td>3.15(0.62)</td>
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<tr>
<td></td>
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<td>1.3 Change management</td>
<td>3.15(0.66)</td>
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<tr>
<td></td>
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<td>1.4 Outcome management</td>
<td>3.25(0.65)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.1 Oral communication</td>
<td>3.23(0.62)</td>
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<tr>
<td>2. Communication</td>
<td>3.35(0.61)</td>
<td>2.2 Written communication</td>
<td>3.58(0.52)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.3 Presentation skill</td>
<td>3.22(0.69)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.1 Teamwork</td>
<td>3.06(0.72)</td>
</tr>
<tr>
<td>3. Partnership and Collaboration</td>
<td>3.03(0.67)</td>
<td>3.2 Conflict management</td>
<td>2.88(0.68)</td>
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<tr>
<td></td>
<td></td>
<td>3.3 Interpersonal skill</td>
<td>3.16(0.62)</td>
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<tr>
<td></td>
<td></td>
<td>3.4 Coalition building</td>
<td>3.01(0.66)</td>
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<tr>
<td>4. Quality Improvement and Patient Safety Expertise</td>
<td>3.11(0.67)</td>
<td>4.1 Quality improvement science knowledge</td>
<td>3.10(0.69)</td>
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<td></td>
<td></td>
<td>4.2 Patient safety science knowledge</td>
<td>3.05(0.68)</td>
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<td></td>
<td>4.3 Patient safety management</td>
<td>3.22(0.63)</td>
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<td></td>
<td></td>
<td>4.4 Project management</td>
<td>3.06(0.67)</td>
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<tr>
<td>5. Analysis</td>
<td>3.10(0.67)</td>
<td>5.1 Technology literacy</td>
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<td>5.2 Research design</td>
<td>2.96(0.69)</td>
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<tr>
<td></td>
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<td>5.3 Measurement and evaluation</td>
<td>3.13(0.63)</td>
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</table>

**Conclusion:**

Based on the competencies identified in this study, the development of education and training programs to help improve QI and PS and the competency of QI and PS officers is required. The results of this study can be used as basic data for developing competency diagnostic tools.

**Abbreviations:**

QI: quality improvement; PS: patient safety
References:


Please declare any conflict of interest you may have: The authors declare that they have no competing interests.

This research was supported by the Korea Health Industry Development Institute.
Automatic Nurse Scheduling System to Facilitate Healthcare Management

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1Quality Management Center, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan; 2National Sun Yat-sen University, Department of Information Management, Kaohsiung, Taiwan; 3Guilin University of Electronic Technology, Guilin, China; 4National Sun Yat-sen University, Department of Business Management, Kaohsiung, Taiwan

Introduction:

Scheduling for nurse shifts has been a challenging task in healthcare management because it involves complexities in nurse human capital considerations, medical treatment arrangements, patients’ needs, and even patient family communication challenges. Abovementioned complexities have hindered the utilization of automated scheduling and instead relied heavily on the expertise and field knowledge of the head nurses to manually arrange the shifts for nurses. However, the manual scheduling is time and energy consuming. In large hospitals, the head nurse of a regular ward has to spend at least one-working day on arranging the shifts every month. The lack of a proper automatic scheduling system is thus exacerbating the heavy workload of the head nurses.

Methods:

In order to help release the burden of the head nurse, this research designs and develops a web-based automatic scheduling system that applies priority queue with weighting function to schedule the shifts. The priority queue considers both government regulations on nurse workload and the shift histories of nurses. The weight function accommodates the hospital-specific regulations and the individual needs of the nurses. To sum up, the scheduling system takes into consideration regulatory requirements (i.e. labor hours per week) and work-specific requirements (i.e. level of expertise, manpower demand for different shifts, and different schedule for different types of treatments, etc.).

Results:

The system consists six sub-systems: authorization management, off-shift management, holiday calendar management, nurse human capital management, scheduling system (pre-scheduling and formal scheduling), and report-generation. The first subsystem sets the authorization for all nurses in the hospital. The second one is open to authorized nurses to denote their special expectation of off-day next month. The third subsystem allows the head nurse to import the work calendar for the coming year. The fourth subsystem allows the
management of ward-wise human capital. The fifth subsystem considers data collected from previous subsystems to execute the scheduling for the coming month. The final one allows the head nurses to generate shift-related reports for previous months as well as the coming month.

**Conclusion:**
This system is expected to reduce 25% to 50% of the effort in current manual scheduling.

**References:**


**Please declare any conflict of interest you may have:**
There is no conflict of interest.
Introduction:

The Barber Johnson chart is one indicator of hospital assessments performed by calculations Bed Occupancy Rate (BOR), Length of Stay (LOS), Turn Over Interval (TOI) and Bed turn Over (BTO). This research was conducted in five hospitals consisting, the five hospitals have differences between class and type of hospital as well as the way of processing the Inpatient Daily Census data. Hospital Statistics Management is often constrained by differences and changes in the number of hospital beds in the last 5 (five) years, this can affect the calculation of service indicators such as BOR, LOS, TOI and BTO. Related to the frequent changes in hospital beds, it affects the accuracy of BTO calculations at the hospital in Barber Johnson.

Methods:

This research was conducted in five hospitals consisting of three hospitals in Central Java Province and two hospitals in D.I Yogyakarta. The five hospitals have differences between the class and type of hospital and the way of processing the Daily Inpatient Census data. Study Analysis statistical which is a new design that is modified in a new formula that is compared with existing formulas.

Results:

The results of this study with Npar Tests are \( p = 0.001 \) (\( p <0.5 \)) There is no difference between using the new formula compared to the old formula, the conclusion of the new formula is acceptable.

Conclusion:

Its meant indicate that the factors that cause the inaccuracy of the Barber Johnson Graph formula include the filling of a daily census that is not real time, Hospital Information System that cannot accommodate the recording of patient mutation data and the BTO formula that cannot accommodate the calculation if there is a change in the number of beds in a calculated period. This study proves that BTO calculations with changes in the number
of beds can be accommodated using a new formula designed by researchers. The results of the calculation of the new formula can also accommodate the picture in the Barber Johnson chart.

### Current Formula

\[ BTO = \frac{\text{Discharge}}{TT} \]

### Comparison Formula

\[ BTO = \frac{\text{Discharge}}{TT \times t'/t} \]

**Description:**

- **BTO** = Bed Turn Over
- **Discharge** = Number of patients discharged (alive and dead)
- **TT** = Number of beds in accordance with the Decree of the Hospital Director
- **t'** = Period when the number of beds has changed
- **t** = The entire period to be calculated

**References:**


Edi Susilo; Nopriadi : Bed Utilization Efficiency With Graphic Of Barber-Johnson Method In Lancang Kuning Pekanbaru Hospital Year 2011.


Masyarakat [1086] : Pembuatan Program Grafik Barber Johnson di Rumah Sakit Umum Mitra Sejati Medan Tahun 2010


Please declare any conflict of interest you may have:
Construct and Explore The Effectiveness of The Objective Structured Clinical Examination Plan on Clinical Management of burns and Fluid Resuscitation

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Introduction:

This study was to develop a curriculum for nursing and to evaluate the outcome of the OSCE training program. The object of study for medical center personnel agreed to participate in the study, according to the convenience of a total of 168. Expected tests include primary survey, secondary survey, and fluid resuscitation. Each person is expected to test 15 minutes, including 2 minutes reading, a 13-minute test. There are standard patient and 3 examiners in the test station. The three examiners scored on the spot performance of the subjects, with a total score of 28 points and a passing mark of 18 points. The data processing is based on SPSS 20.0 package software.

The average score of the subjects was 18.09 (SD = 4.631). There was a positive correlation between nursing education level and test scores (r = .272, p <0.000). There was a positive correlation between the nursing level and test scores (r = .299, p <0.000). There was a positive correlation between the length of nursing and test scores (r = .221, p <0.004). Nursing faculty expertise and test scores showed a positive correlation (r = -.103, P = .182).

Methods:

Step 1: Establish burns emergency management process and fluid resuscitation guidelines

Step 2: Investigate the ability of medical staff the basic principles of management that should be carried out in each burn case during the first 24 hours. Then execute the pilot test and formal test.

Results:

The average score of the test plan testers in this study was 18.09 points (SD = 4.631), which reached the passing standard of 18 points. The correlation between the education level of the nurses and the test scores was tested and the results showed a positive correlation (r = .272, p <0.000). The correlation between the nurse’s level and the test score was tested, and the results showed a positive correlation (r = .299, p <0.000). The correlation between the nursing staff seniority and the test score was tested, and the results showed a positive
correlation \( r = .221, p < 0.004 \). The correlation between the nurse's expertise and the test score was tested, and the results showed a negative correlation \( r = -.103, P = .182 \).

The average test score for this study was 18.09 (SD = 4.631). Most of the testes did not have a professional care background for burns management and did not receive education training before the test. They still have basic emergency care experience. In the FORMOSA FUN COAST dust explosion event, senior nurses can be flexibly deployed to assist in emergency missions. There is a significant difference in the correlation between the nursing staff’s seniority or education and the score because the seniors have accumulated rich clinical experience and can provide appropriate treatment for patients with acute conditions.

**Conclusion:**

In this study, Delphi's method was used to professional experts to discuss the core competence issues related to the burns management process and fluid resuscitation guidelines according to the needs of the institute. Clinical skill test lesson plans, while shooting videos, examiner training, and standard patient training, etc. This lesson plan can objectively assess the skills of nurses in emergency response to acute burns.

**References:**


**Please declare any conflict of interest you may have:** NO.
DO ALLIED HEALTH STAFF HAVE THE TOOLS TO IMPROVE HEALTHCARE? AN EVALUATION OF QUALITY IMPROVEMENT KNOWLEDGE, SKILLS AND BEHAVIOURS AMONG THE ALLIED HEALTH WORKFORCE OF A TERTIARY PUBLIC HOSPITAL IN MELBOURNE, AUSTRALIA.

Mel Gregory1,2; Caitlyn Green2; Brit Gordon2

1Physiotherapy Department, Austin Health, Heidelberg, Australia; 2Allied Health Division, Austin Health, Heidelberg, Australia

Introduction:

Quality Improvement (QI) activities in healthcare seek to identify performance gaps and implement changes to address them, improving the safety and quality of patient care. Improvement Science Expertise among point of care staff is a key aspect of organisational QI capability [1] and a consistent feature of high performing healthcare systems [2, 3]. The project goal was to assess the current QI capability of the clinical workforce in the Allied Health Division of a major tertiary public hospital in Melbourne, Australia.

Methods:

QI Capability was assessed using a self-report survey, this method has previously been used to assess Research Capability in a similar workforce [4]. Participants rated their overall Improvement Science Expertise using a 5-point scale and scored their knowledge and use of eight QI tools relating to the elements of the Improvement Science Expertise Capability Set (Identify, Understand & Solve Problems and Embed & Sustain Changes). Average response scores for the eight tools were charted on a radar plot, the area of the plot was used to describe an overall QI Tools Use Score.

Results:

Number of participants = 201 (69% response rate). The average Improvement Science Expertise score was 2.1 (Target 3.5). 41% of respondents reported having no knowledge of improvement science and 64% indicated they do not use improvement science. The overall QI Tools Use Score was 11.3 (Target score is 36).
Conclusion:

Improvement Science Expertise and the use of QI tools in the clinical workforce of the Allied Health Division is low. A lack of knowledge about QI was identified as a key contributor to this finding and stimulated the development and implementation of an Improvement Science Expertise training program. This project has delivered a measure of the current QI Capability of the Allied Health workforce, providing a baseline to support future evaluation of the training program.

References:


Please declare any conflict of interest you may have:

The authors declare no conflict of interest.
Effects of Integrating AREC Multi-Sources Media System with High Fidelity Simulation Emergent Management Training on PGY Residents’ Learning Outcomes

Yung-chi Hsu

1Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan

Introduction:

High Fidelity Simulation (HFS) is certainly an innovative teaching method to inspire student learning guided by Student-Centered Learning (SCL), while increasing the student’s knowledge, skills, and abilities regarding patient care. Little is known about the best teaching model of Emergent Management Training through team-based learning for PGY (post-graduate year) residents. Medical education guided by the principles of the SCL framework includes: personalized learning (PL), student-owned learning (SOL), competency-based learning (CBL), and anytime/anywhere learning (AAL). The SCL that recorded the teaching process as a video and shared with others on the Internet via “AREC Multi-Sources Media system (MMS)” can help PGY residents easily capture the medical care procedures. According to SCL framework, HFS Emergent Management Training (HFS-EMT) offers PL, SOL and CBL, and MMS video recording that facilitate AAL.

Objectives:

The study purposes were to examine the effects of integrating MMS and HFS-EMT on PGY Residents’ learning outcomes: learning attitudes, learning satisfaction, self-efficacy, and flow experience and Competence in managing Emergency condition, airway management and Team Resource Management (TRM) concept. Through enhancing the above learning outcomes, we could infer that the PGY residents could improve the quality of emergent management.

Methods:

The study adopted the exploratory design to explore the effects of integrating MMS and HFS-EMT on PGY Residents’ learning outcomes. Convenience sampling was used to recruit the participant residents at a medical center in northern Taiwan. There were totally 72 PGY Residents who received HFS-EMT course: “Enhance PGY Residents’ competence in managing emergent and critical condition through TRM concept and applying HFS” completed learning outcome measurement by using questionnaires. We administered the pretest and post-test
for the CBL outcome measurements. HFS Scenario was designed to contribute to the achievement of the competencies in emergent management in a simulation lab.

During debriefing, we used MMS to record the simulation Scenario training process for the participants to playback and allow them to gain immediate feedback regarding the students’ actions, knowledge, and skills. Learning outcomes were measured by using validated 5-point Likert scales before and after training. Data were analyzed using generalized estimating equation (GEE).

**Results:**

The study results suggest that integrating MMS with HFS in emergent management could enhance the PGY Residents’ attitudes ($B=2.44$, $p<0.001$), self-efficacy ($B=3.03$, $p<0.001$), learning satisfaction ($B=3.25$, $p<0.001$) and flow experience ($B=3.37$, $p<0.001$). Besides, our program could enhance the PGY Residents’ Competence in Emergency Condition ($B=4.70$, $p<0.001$), Airway Management ($B=3.18$, $p<0.001$) and TRM Concept ($B=3.63$, $p<0.001$).

**Conclusion:**

Integrating MMS with HFS-EMT could significantly improve the PGY Residents’ learning outcomes, and the Competence in Emergent Management. The results also support the SCL framework that can be applied to the PGY Residents’ training.

**References:**


**Please declare any conflict of interest you may have:** The author have no conflicts of interest relevant to this article.
Establishing structured quality management courses to improve the training effectiveness of medical institutions

YUAN-HUI LAI1,1; Shih-An LIOU1; Chieh-Liang Wu1; Wayne Huey-Herng Sheu1

1 TAICHUNG, Taiwan

Introduction

The concept of patient safety is a mainstream issue in the management of medical institutions. The medical institutions are setting specific units ex: quality management center, applying management concepts to optimize processes and improve patient safety. The concept of continuous improvement focuses on the level of support of supervisors, quality strategies and education and training. Taichung veterans general hospital has been promoting education and training courses in medical quality and patient safety since 2000, feeling the rigidity of the curriculum, readjusting the curriculum to establish a quality management training academy with a structural concept, deepen the quality management knowledge of frontline staffs and promote a positive patient safety culture.

Methods

The quality management courses have been classified into elementary and advanced courses in 2017. Elementary course design for 5 years working experience medical staff, strengthen the concept of quality management and improvement. The subject include: improvement techniques, Stander of process basic concepts, Root Cause Analysis and Index of Quality management. Advanced course design for team leaders in the unit, To deepen the ability of quality management in clinical practice, and At the same time train the lecturers in the institution.

Results

We completed 29 preliminary courses and 33 intermediate courses from 2017 to 2019, with a total of 2,500 participants. Participation rate of clinical departments in the institution from 23.6% in 2017 to 31.4% in 2018 to 46.2% in 2019, Physician participation increased by 86.4%, and trainee satisfaction increased from 4.65 to 4.81. Patient Safety Culture Survey survey in 2018, there were significant differences in teamwork (77.1VS70.85; P = 0.006) and the unit safety atmosphere (77.4VS73.2; P = 0.037).

Conclusion

Promoting quality improvement activities is a hard task in the hospital. Continuous improvement of medical safety education is the inevitable management strategy and the
basis for sustainable development of the organization. Since 2000, we have concerned about medical quality and patient safety management issues and continuously invested resources to promote. Years of hard work have created the positive cultural about medical quality and patient safety of Taichung veterans general hospital in Taiwan.

References:

Please declare any conflict of interest you may have: nil
Facilitators and Barriers to Clinician Engagement in Quality Improvement – A Survey of ISQua Members and Fellows

Ulfat Shaikh1; Lachman Peter2; Padovani Andrew J.1; McCarthy Siobhan E.3

1University of California Davis, Sacramento, United States of America; 2International Society For Quality In Health Care, Dublin, Ireland; 3Royal College of Surgeons in Ireland, Dublin, Ireland

Introduction: Frontline clinicians play a crucial role in improving, spreading and adapting innovations to the needs of their unique contexts and settings. Nonetheless, health care systems struggle with meaningful and sustainable engagement of clinicians in quality improvement (QI) efforts. Our goal was to identify facilitators and barriers to increasing the development and engagement of clinicians in QI. The objectives of this study were to assess factors that enhance the self-efficacy and perceived effectiveness of clinicians to participate in and lead QI activities. Our hypotheses were that self-efficacy and perceived confidence in conducting and leading QI activities are positively impacted by formal training in QI methods, experience in QI, working in organizations that recognize and reward participation in QI, including QI as part of everyday job responsibilities, mentorship in QI, and connection with a professional or peer network in QI.

Methods: A 25-item survey questionnaire informed by theoretical frameworks and published literature was developed and pretested by clinicians and content experts. Participants in the survey were members and fellows of the International Society for Quality in Healthcare (ISQua), a global professional organization that focuses on facilitating improvements in healthcare quality and safety. The survey was sent by email to a total of 1010 individuals, which included 380 ISQua fellows and 647 ISQua members, some of whom were also ISQua fellows. Key outcome measures were self-efficacy and perceived effectiveness of clinicians to participate in and lead QI. Human Subjects Research approval was obtained through the University of California Davis and the Royal College of Surgeons in Ireland.

Results: We received a total of 212 responses to the survey from 50 countries, with a response rate of 21%. The majority of respondents (80.6%) reported that they had received formal education or training as a clinician. Having dedicated time for improvement activities (OR 4.2), mentorship and coaching in quality improvement methods (OR 4.1), and being part of a professional quality improvement network (OR 2.6) were significantly related to higher self-efficacy in conducting and leading QI activities. The most frequent barriers to conducting QI were lack of time (36.1%), lack of mentorship in QI (19.5%), lack of organizational support for QI (15.8%), inadequate access to QI content or information.
(15.4%), and lack of engagement of frontline clinicians in QI (10%). While implementation challenges are experienced (Figure), factors contributing to clinician success were dedicated time for QI, working within multidisciplinary improvement teams, professional development in improvement methods, the ability to select areas for improvement, and an organizational culture of quality. Personal strengths that contributed to respondents’ effectiveness in QI were the ability to identify problems that need to be fixed (20.1%), reflecting on and learning from experiences (16.9%), facilitating ways to enable people to share ideas (13.9%), being a team-player (11.1%) and making connections between activities and contexts (8.4%).

Conclusion: As the quality movement enters its third decade, we need to elucidate key factors that facilitate the development of sustainable programs to enhance QI and patient safety. Our findings highlight areas that healthcare organizations and professional development programs should focus on to promote optimal clinician development and engagement in QI. Addressing barriers related to training, time, mentorship, and organizational support, simultaneously need to be addressed to augment the effectiveness of other approaches.

Please declare any conflict of interest you may have: None.

Figure: Key implementation challenges in clinical quality improvement

<table>
<thead>
<tr>
<th>Percentage of respondents who scored the implementation challenge as ≥ 8 on 10-point scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adopting new payment models</td>
</tr>
<tr>
<td>Demonstrating business case for quality &amp; safety</td>
</tr>
<tr>
<td>Building a culture of accountability and transparency</td>
</tr>
<tr>
<td>Reducing cost and removing waste</td>
</tr>
<tr>
<td>Managing data collection and reporting</td>
</tr>
<tr>
<td>Improving access to care</td>
</tr>
<tr>
<td>Achieving quality and patient safety metrics</td>
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<tr>
<td>Spreading clinical guidelines and best practices</td>
</tr>
<tr>
<td>Adopting standard reliable processes</td>
</tr>
<tr>
<td>Improving workforce well-being and safety</td>
</tr>
<tr>
<td>Applying quality improvement methods</td>
</tr>
</tbody>
</table>
Introduction:

Vulnerabilities or social risk factors can often cascade and intersect resulting in people at greater risk of experiencing harm in healthcare having reduced participation in their care, poorer access and/or lower quality of care. The impact of this may be longer length of stay in hospital, increased adverse events and clinical complications as well as more frequent hospital admissions.

At Alfred Health, a major metropolitan health service in Melbourne Australia, we have embarked on a 3-year initiative to drive organisational culture change to understand and respond to vulnerable people utilising our health service.

The objective of this initiative is to ensure that vulnerable people have equitable access to appropriate healthcare by:

- Implementing a culture of responsiveness and support so that our whole workforce will be equipped to notice, explore and respond to each vulnerable person within their daily work; and
- Supporting leadership capacity and capability in understanding and responding to vulnerability.

Methods:

The Vulnerable Persons Initiative has followed an improvement science approach, utilising mixed methodology over three years. The methods employed included focus groups, consumer co-design, staff workshops, surveys and multiple embedded projects. Embedded projects relate to family violence, disability, gathering and sharing patient experience stories, design and testing of components of the electronic medical record, staff training, development of policies and procedures and establishment of an academic partnership.

The academic partnership with the University of Technology, Sydney was established to support the development of the work, enable mentoring and engagement, and conduct joint research projects to support the program of work and enable translation of evidence to practice.
Results:

This paper will present the overview of the body of work undertaken highlighting the following specific outcomes:

1. Definition and identification of vulnerable populations as this applies to Alfred Health;
2. Overview of the Implementation of a culture of responsiveness, engagement and support for vulnerable populations across the health service using the sensitive inquiry approach (Shachter et al., 2008);
3. Alignment of activities across the health service with other key strategies and related policy to enable successful implementation and sustainability;
4. Policies and guidelines developed to enhance the response to vulnerable persons; and
5. Identification of appropriate measures to evaluate impact of work undertaken with vulnerable persons.

Conclusion:

The same care does not result in the same outcomes for patients with intersectional vulnerabilities. To change the healthcare outcomes of people with vulnerabilities requires a systematic response with strong senior leadership and commitment. This paper demonstrates how system leadership can support improved organisational culture in addressing patients with vulnerabilities.

References:


Please declare any conflict of interest you may have: None
Introduction:

Adherence to the standards of Infection prevention & control (IPC) practices by all healthcare professionals (HCP) is essential for patient safety and is a good metric for quality. The need to disseminate good IPC practices to all HCPs across the country was addressed by Consortium of Accredited Health Care Organization (CAHO) by developing an interactive one day hands-on training program for Doctors, Nurses, Quality executives & Hospital administrators with an objective of imparting implementation strategies. Post content validation and launch in Dec 2017, about 64 programs have been conducted across India by trained professionals who had 2 training of trainers sessions. This training program has been conducted in teaching/ university, speciality, Mission / trust, public, private, rural and urban health care facilities.

Objective:

To evaluate this interactive training program and to assess its impact on the implementation of infection control standards by the HCPs who underwent training, either at their own facility or those they handhold as consultants.

Methods:

The program was evaluated using validated pre & post test questionnaire and sessional & program feedbacks obtained from participants and faculty. Post Program feedback on implementation of their learning is planned to be assessed by a survey questionnaire administered to the 2437 professionals trained so far, who give their consent to participate.

Results:

The Percentage of the participant’s feedbacks for the 7 sessions of training program when rated poor or average ranged from 2.7% for the session on sterilization and disinfection to 4.8% on antibiotic policy and outbreak investigation which was a didactic lecture based session. Feedbacks obtained from 23 faculty on the format, content, exercises / activity and time allocation were excellent and good for all except 3 faculty who wanted additional or modification of a specific activity and one of them wanted content change of outbreak
investigation. Post program feedbacks collected will be analysed and presented. About 8 of our participants have become our faculty training others and few are individual quality consultants imparting and implementing good IPC practices.

Conclusion:

Preliminary findings suggest effectiveness and Impact of the training program on Implementation of standard IPC practices across the country improving safer patient care.

References:

Please declare any conflict of interest you may have: None
Impact of the Clinical Research Nurse in Paediatric Studies

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Introduction

Clinical Research Nurses (CRN) are registered nurses who are employed in industry, charitable and academic healthcare institutions working as part of an infrastructure to support the conduct of clinical research. The CRN role is a well-established role within the United States healthcare system and the role is seen as pivotal when responding to the clinical needs of the participant alongside ensuring the integrity of the research study. Hastings et al (2012) highlight that despite the CRN role being widely recognized as an important part of the participant’s research journey there remains a lack of clarity surrounding the standardization and definition of the CRN role.

Aim

The purpose of this study is to improve understanding and describe the impact of the role of the clinical research nurse (CRN) on the paediatric participant experience while on a research trial.

SA 1: A focus group of CRNs will be held at each of three sites (1 UK, 2 US). Impact will be explored thru the perception of CRNs working with children in research.

Methods

This qualitative study will use focus groups to explore CRNs, perception of the clinical research nurses impact on the paediatric participant experience while on a research trial. Deductive content analysis of the verbatim transcripts of each focus group will lead to the identification of common themes (Braun & Clark 2006).

Findings

US & UK Data has been collected . Key themes identified in the analysis will be discussed.

Conclusions

Conclusions will be drawn from thematic analysis and presented at the conference. Time will be allowed for group discussion of the international CRN perspective of the impact of their role on the paediatric participant experience.
Implications for Clinical Research Nursing Practice

This work will enhance the understanding of the role of the CRN and their impact. This will support workforce planning and be used to continually develop and improve the participant experience

References:

- Braun V & Clarke V (2006) Using thematic analysis in psychology. *Qualitative Research in psychology, 3, (2) 77-101*

Please declare any conflict of interest you may have

none to declare
Introduction:

The Chinese Association for the Study of Pain also actively promoted “painless” "Hospital", its strategy focuses on the establishment of a unified pain assessment tool and pain management (Taiwan Pain Medical Association, 2011). The hospital has set up a Pain standards provide guidance for medical staff to evaluate and manage patients.

Methods:

Pain assessment includes: Numeric Rating Scale, NRS is the most commonly used pain measurement tool in clinical practice. NRS divides the intensity of pain into 0-10 grades. "0" means no pain, and "10" is the number that can be imagined to be the most painful.

The "Initial Pain Assessment Sheet" is applicable to pain assessment for adults and the elderly. The "Child Initial Pain Assessment Form" is applicable to pain assessment for children under school age. Medical staff need to receive education and training related to pain assessment or treatment, such as "pain assessment", "pain treatment", "implementing PCA care and precautions", "policy and norms for pain management and sedation", etc. to provide patients Health education with family members for pain relief and documentation.

From January 1, 2019 to December 31, 2019, the project members made reference to the improvement plan, and based on the cross-team model, turned pain assessment and treatment into internalized behaviors, and designed related strategies, including: (1) establishment Pain treatment team; (2) Revised pain assessment and treatment process; (3) Cross-team information on pain assessment information; (4) Production of pain reminder slogans. (5) On-the-job and continuing education training, using the TMS platform to mobilize colleagues in pain care across teams, reminding personnel to complete training courses within the deadline, in order to improve the knowledge of overall care for pain in all categories, the course completion rate is 100%

Results:

(1) The team member's assessment of the patient's pain assessment and treatment integrity has been improved from 84% to 100%. The plan can effectively improve the problem, thereby increasing the attention of the medical team on pain management and providing appropriate pain care. (2) Patient satisfaction: The patient satisfaction survey report
increased from 92.8% in 2018 to 95.8% in 2019.

**Conclusion:**
Proper pain assessment and improvement of patient pain are issues of great importance today. The ad hoc group analyzes and evaluates the pain assessment and treatment of critically ill patients through nursing staff. Based on the cross-team model, it designs related activity strategies, promotes simple tips for pain management processes, and organizes activities such as "pain guarding" to strengthen staff. The emphasis on pain assessment and treatment, and the improvement of staff's awareness and attitude towards pain management, have also received positive feedback from patients and their families.

**References:** none

**Please declare any conflict of interest you may have:** none
Improving the Management of Malignant Hyperthermia in the Interventional Radiology and Magnetic Resonance Imaging Suite

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Introduction:

Malignant Hyperthermia (MH) is a life-threatening autosomal dominant disorder that may present with a hypermetabolic crisis when susceptible individuals are exposed to triggers of volatile anaesthetics or succinylcholine.2,3 The reported worldwide incidence ranges from 1:3000 to 1:100000.2,3 In remote settings such as Interventional Radiology (IR) and Magnetic Resonance Imaging (MRI), staff are not familiar with recognising and managing this rare disease. This reinforces the need for a streamlined coordinated effort.2,3 We aim to improve the level of confidence in recognising and managing patients with MH from 45% to 80% in IR and MRI.

Methods:

Our interventions consisted of a didactic presentation given to radiographers, radiologists and IR nurses and a 15-minute simulation with a wireless full body mannequin of 2 MH scenarios held at the IR and MRI Suite. A total of 8 anaesthesiologists, 4 anaesthesia nurses, 16 IR nurses, 7 radiologists, 13 radiographers were divided into 4 groups to take part in 2 simulation scenarios. An 8-point questionnaire assessing participants’ knowledge and confidence of recognising and managing MH was administered pre and post intervention.
Results:

Participants were asked to rate their level of confidence in recognising and managing MH pre and post simulation. Not Confident=1, Slightly Not Confident=2, Neutral=3, Slightly Confident=4, Confident=5. Using the above scoring system, a T test was conducted on both results and the p values derived reflect that the change is statistically significant. It demonstrated an overall increase in the level of confidence in recognising MH from 44% to 75% (\(p=2\times10^{-13}\)), and managing an MH crisis from 43% to 75% (\(p=6\times10^{-18}\)). The results also showed notable improvement in the number of staff indicating better knowledge in the 6 key areas tested. The knowledge of the location of the MH kit increased from 63% to 95%, location of cooled IV fluids from 35% to 85%, usage of the Mini-Spike for dilution of dantrolene from 50% to 82%, location of insulin for hyperkalaemia treatment from 21% to 67%, location of MH task cards from 27% to 96%, and location of crisis manual from 33% to 97%.

Conclusion:

While MH is a rare event, the team’s rapid response to an MH crisis is paramount to improving outcomes. This teaching method facilitates learning in a safe environment. Future simulations are scheduled over the next 9 months to train all the radiology staff.

References:


Please declare any conflict of interest you may have: none
Introduction:

Since Korea’s Patient Safety Act was enacted in 2016, it is mandatory for hospitals with more than 200 beds to assign officers for quality improvement (QI) patient safety (PS). However, job analysis of QI and PS officers, and development of education programs based on them are insufficient. The purpose of this study was to identify duties and tasks of QI and PS officers, to explore the importance, difficulty, and knowledge level of duties and tasks, and to prepare basic data for the development of education and training programs for them.

Methods:

First, based on duties and tasks of the QI officer developed using the DACUM technique by Kim et al [1], duties and tasks of PS officers presented in the Operation Manual of the Patient Safety Act [2], and hospital accreditation standards [3], we developed duties, tasks, and task elements of QI and PS officers through expert advice.

Second, a web-based survey on the importance, frequency, difficulty, and level of knowledge of duties, tasks and task elements was administered to 184 QI and PS officers (one for each hospital). This study was approved by the Asan Medical Center Institutional Review Board.

Results:

First, 10 duties, 35 tasks, and 168 task elements were derived for QI and PS officers. The survey found that the most important duties were PS and hospital accreditation, while the least important duties were research. The most frequent duties were planning and PS, whereas the least frequent duty was research. The highest level of difficulty was research, and the lowest duties were QI projects, customer satisfaction and patient experience, PS, and education. The highest knowledge levels were in QI projects and PS, and the lowest duty was research (Table 1).
The highest priority was PS, followed by QI projects, quality indicators, planning, and hospital accreditation. Lowest priority is indicated by research, consultation and coordination.

Table 1. Importance, frequency, difficulty, and knowledge level by duties (N=184)

<table>
<thead>
<tr>
<th>Duty</th>
<th>Importance M(SD)</th>
<th>Frequency M(SD)</th>
<th>Difficulty M(SD)</th>
<th>Knowledge level M(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning</td>
<td>3.6(0.4)</td>
<td>2.6(0.6)</td>
<td>2.9(0.5)</td>
<td>3.0(0.5)</td>
</tr>
<tr>
<td>Quality indicator</td>
<td>3.5(0.4)</td>
<td>2.5(0.6)</td>
<td>2.9(0.5)</td>
<td>2.9(0.6)</td>
</tr>
<tr>
<td>Critical Pathway</td>
<td>3.5(0.5)</td>
<td>2.1(0.8)</td>
<td>3.2(0.6)</td>
<td>2.5(0.9)</td>
</tr>
<tr>
<td>QI Project</td>
<td>3.6(0.4)</td>
<td>2.5(0.7)</td>
<td>2.8(0.6)</td>
<td>3.1(0.6)</td>
</tr>
<tr>
<td>Customer Satisfaction and</td>
<td>3.6(0.5)</td>
<td>2.5(0.8)</td>
<td>2.8(0.7)</td>
<td>3.0(0.7)</td>
</tr>
<tr>
<td>Patient experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient safety</td>
<td>3.7(0.4)</td>
<td>2.6(0.6)</td>
<td>2.8(0.6)</td>
<td>3.1(0.6)</td>
</tr>
<tr>
<td>Hospital accreditation</td>
<td>3.7(0.5)</td>
<td>2.2(0.8)</td>
<td>3.2(0.7)</td>
<td>2.8(0.8)</td>
</tr>
<tr>
<td>Education</td>
<td>3.6(0.5)</td>
<td>2.3(0.8)</td>
<td>2.8(0.7)</td>
<td>2.9(0.6)</td>
</tr>
<tr>
<td>Consultation and coordination</td>
<td>3.4(0.5)</td>
<td>2.1(0.8)</td>
<td>3.0(0.7)</td>
<td>2.6(0.7)</td>
</tr>
<tr>
<td>Research</td>
<td>3.1(0.8)</td>
<td>1.7(0.8)</td>
<td>3.3(0.7)</td>
<td>2.2(0.8)</td>
</tr>
</tbody>
</table>

※ The importance, frequency, difficulty, and knowledge level were measured on a 4-point scale

※ The top three high scores are indicated in blue, and low scores are indicated in red

**Conclusion:** To improve the competency of QI and PS officers and solve difficulties in performing duties, the development of education and training programs reflecting the results of importance, frequency, difficulty, and knowledge level of duties are needed.

**Abbreviations:** QI: quality improvement; PS: patient safety

**References:**


Please declare any conflict of interest you may have:

The authors declare that they have no competing interests.

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Learning from serious incidents in healthcare

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Introduction:

Concerted efforts to make healthcare safer have been ongoing with healthcare systems from across the globe investing significantly in policies and programmes designed to reduce adverse events (Mannion & Braithwaite, 2017). Macrae & Vincent (2017) comment the most fundamental principle of patient safety is that we must learn from the past to improve the future. Nevertheless despite significant investment and effort, improvements in safety have proved difficult to sustain and disseminate, and there has been no measurable system level improvements seen in the overall number of preventable harm incidents across the world (Mannion & Braithwaite, 2017). The task of managing and learning from adverse incidents in healthcare is a sizable one, and we can see that learning from serious incidents in healthcare is not just routine practice, but perhaps something more complex.

Methods:

A structured literature search was undertaken to identify the enabling features which can help inform and shape improvements to how healthcare organisations respond and investigate serious incidents. Literature relating to learning from patient safety incidents was critically reviewed and key themes were identified, which demonstrate the essential components required to support learning. The literature search was undertaken using Medline and EMBASE databases via Ovid. Search terms were divided into three main concepts; adverse/patient safety incidents AND learning AND organisational changes—the latter concept added as a way of qualifying who was doing the learning. The search yielded 90 abstracts/data sources in total, 70 abstracts/data sources were excluded leaving 20 for analysis. Citation tracking generated a further seven data sources resulting in 27 data sources included for analysis.

Results:

Three key themes related to learning from serious incidents were identified from the literature:
1. Enabling human factors required to support learning—i.e. something related to people that is likely influence the process
2. Enabling safety methods and mechanisms to support learning—i.e. a type of process, technique or mechanism
3. Enabling organisation cultures to support learning—i.e. anything relating to an organisational level response or collective values.

**Conclusion:**

This review identified a number of enabling organisational and individual features which, if implemented, can help inform and shape improvements to how healthcare organisations respond and investigate serious incidents. A conceptual model to support a learning and systems approach to improve patient safety is provided for empirical testing in universal healthcare settings.

**References:**


**Please declare any conflict of interest you may have:** None
Introduction:
Evidence based medicine (EBM) is crucial for quality improvement, since the centerpiece of quality improvement is compliance with the guidelines. Even though there are many established guidelines, the quality improvement team staff still have to get familiar with literature search technique and PICO structure, in order to obtained information to be used for evidence-based intervention. In this study, we intend to investigate the factors may influence the outcomes of EBM promotion effort from the hospitals.

Methods:
1. From 2014 to 2019, we collect 369 sets of the team information (44 hospitals) from our nationwide HQIC-EBM campaign database. We evaluate “quality & quantity of PICO, methods and analysis of literature search, critical appraisal, integrating the appraisal with clinical expertise & patient’s preference, presentation” from EBM promotion, we use 5 steps of practice EBM( Ask, Acquire, Appraise, Apply, Audit) to design the dimensions, and look into the data to see whether the dimension scores improved after EBM promotion campaign.
2. We used the regression analysis to investigate the factors, including: “hospital-level (medical centers, non-medical centers), experience of medical staff (junior teams, senior teams), experience of hospital’s participation ( 1st to 6th )” that may affect the outcome of the EBM promotion in the hospital.
3. We used regression model to analyze whether “hospital-level, medical staff’s experience” are the successful predictors of the EBM promotion. We used Independent-Sample t test to compare the performance of EBM with "hospital-level" and "medical staff’s experiences".

Results:
The results shows that:

1. "hospital-level" affects the dimensions such as "quality & quantity of PICO (medical centers 0.65 V.S. non-medical centers 0.63, P<0.01), critical appraisal (medical centers 0.65 V.S. non-medical centers 0.63, P<0.05), integrating the appraisal with clinical expertise & patient’s preference (medical centers 0.64 V.S. non-medical centers 0.60, P<0.01), presentation (medical centers 0.64 V.S. non-medical centers 0.63, P<0.05)".
2. "medical staff’s experience" affects the dimensions such as “methods and analysis of literature search (senior 0.66 V.S. junior 0.63, P<0.01), critical appraisal (senior 0.66 V.S. junior 0.62, P<0.01), integrating the appraisal with clinical expertise & patient’s preference (senior 0.63 V.S. junior 0.60, P<0.05)”.

Conclusion:

1. We found “hospital-level, medical staff’s experience” affect the outcomes of EBM promotion, these factors can be referenced by the policy makers.
2. Especially “quality & quantity of PICO, critical appraisal, integrating the appraisal with clinical expertise & patient’s preference, presentation” should be strengthen in non-medical centers,” methods and analysis of literature search, critical appraisal, integrating the appraisal with clinical expertise & patient’s preference” should be strengthen in junior teams, and could facilitate hospital staff to involve EBM practice in clinical applications.

References:


Please declare any conflict of interest you may have:

Joint commission of Taiwan (JCT) funded the project; there is no any conflicts of interest to be declared.
Patient-centered interventions to improve hospital food intake among diabetic patients

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Introduction:

For diabetes patients, adequate nutrient intake, including food type and portion size, is an important role of blood sugar control. Among hospitalized patients, it is known that inadequate hospital diet intake is an issue, and may worsen nutritional status of the patients. Therefore, assessing and increasing food intake of patients is crucial, but also challenging for dietitians. Food intake is related to appetite and hunger, and it could also be affected by diabetes-related knowledge among diabetic patients, such as elimination of starchy foods or fruits.

This project aims to identify the factors of inadequate hospital diet intake, and to provide strategies to improve hospital food intake among diabetic patients.

Methods:

We first assessed hospital food intake of 30 diabetic patients over a period of time starting from March 19, 2019. All hospital diabetic diets for patients were individualized and recommended by registered dietitians (RDs) within 3 days of admission. RDs then assessed dietary intake of each patient’s single meal by food weighing method and visual estimation of plate waste classified to food groups. The reasons why patients consumed less than 80% of hospital diets were recorded by RDs during interviews, and classified into five major categories, including food (texture and taste), diabetes knowledge, behaviors, food preferences and diseases.

We designed three programs for this project in order to increase food intake of the patients. First one was to improve hospital foodservice by establishing a tasting process, building up effective training plans for staff, and taking cooks to wards to collect patients’ opinions directly. Second one was to enhance diabetes-related knowledge of patients by educating, creating “Diabetic Lucky Wheel”, a digital interactive learning material, and filming a video called “Top 7 Diabetes Dietary Myths” for the patients. The third program was to strengthen the patients’ motivation by holding a cafeteria simulation-peering group education. We gave patients food tray and food cards to simulate real dining process, and let them share the reasons for choosing certain food. We then conducted the same survey of 30 diabetic patients over an interval again starting from September 1, 2019.
Results:

The ratio of patients consuming more than 80% of hospital diet showed an increase from 47% (n=14) to 83% (n=25) after the patients participated in more than two intervention programs. Complaint of the texture and taste of hospital diets decreased from 25% to 0% after intervention. In addition, we used digital interactive learning material—Diabetic Lucky Wheel—as a post-test tool to assess diabetic-related knowledge of patients, and the percentage of correct answers was 89%. Furthermore, the percentage of patients choosing unhealthy plate decreased from 11.4% to 2.8% after situational simulation peer group sharing and traditional dietary education.

Conclusion:

Increasing food intake of patients is an important yet complex issue. In this project, we used patient-centered strategies to improve hospital food intake among diabetic inpatients, which includes providing better hospital foodservice, enhancing diabetic-related knowledge and strengthening motivation. These strategies may be applied to improve inadequate diet intake regarding food texture and taste, diabetic knowledge, behaviors, and food preferences. Patient-centered interventions have positive influence on hospital food intake among diabetic patients.

Please declare any conflict of interest you may have: The authors declare that there is no conflict of interest.
PATSAFE, a multi-country project to develop and implement a curriculum to improve research on patient safety in Estonia

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Introduction:

Provision of safe and high-quality patient care is defined as one of the priorities in National Health Plan of Estonia 2009-2020. Collaboration between health, educational and research institutions is essential to meet this priority. Despite increased attention for the importance of patient safety in Estonia, there is ample room for improving academic skills to perform quality research on this topic.

Therefore, the European Union funded PATSAFE project which aims to improve and strengthen knowledge and skills in methods, technics and experiences for patient safety research among the early stage researchers (ESRs) and staff from the Institute of Clinical Medicine of the University of Tartu (ICM-UT).

Methods:

A three-year (start September 2019) educational curriculum is being developed and implemented in cooperation with two internationally scientific institutes well known for their expertise in the field of patient safety research—Avedis Donabedian Institute in Spain and IQ healthcare in the Netherlands.

The content of the curriculum will be based on the Core Competencies for Patient Safety Research and the Guide for Developing Training Programmes in Patient Safety Research as defined by the World Health Organisation. The curriculum will be developed based on the constructivist vision that students need to be actively involved in their own process of learning, and the theories of adult learning and reverse learning and teaching. These ideas were translated into concrete principles for the PATSAFE curriculum development (e.g. learners have room to identify and pursue their own learning goals, role-models are available and ‘classroom’ time is allocated to interaction, collaboration, active involvement and deeper learning).

The development and implementation of the curriculum did not require an ethical review by the ethical assessment board.
**Results:**

After successful completion of the curriculum ESRs and staff from ICM-UT have the competencies to:

1. identify and measure risks and hazards in patient safety;
2. measure and improve patient safety culture and patient involvement in their safety;
3. perform and manage research on patient safety (e.g. proposal writing and research ethics). Multiple educational activities will be provided

To achieve the three learning goals. The curriculum development is still ongoing. While the main parts are presented here, more detailed information is provided on the poster.

The first and second year is targeted at acquiring knowledge and skills. E-learnings including videos from experts, assignments and peer learning are developed. Interactive workshops will be provided with a focus on discussions with peers and experts, practical assignments and direct feedback. Staff exchanges are arranged for interaction and learning in and from different contexts. In year three, participants apply their new knowledge and skills in practice through coaching on the job, peer learning and workplace learning. Examples of outcomes are the development of a research proposal, performing a systematic review and validating a measurement instrument on safety culture.

**Conclusion:**

The development and implementation of the PATSAFE educational curriculum is believed to improve the scientific capabilities and performances within ICM-UT in patient safety research, in order to contribute to the overall health care quality and patient safety research and innovation performance of Estonia, and strengthen their international network on patient safety research.
Please declare any conflict of interest you may have: All authors declare that they have no conflict of interest.
[1255] PATSAFE: a Twinning project to strengthen patient safety research and training capability in Estonia

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Introduction:

Provision of safe and high-quality health services is defined as one of the priorities in the National Health Plan of Estonia 2009-2020. Collaboration between health, educational and research institutions and combining expertise is essential to meet this priority. Despite increased attention for the importance of patient safety (PS) in Estonia, there is ample room for improving academic skills to perform quality research and providing training on this topic. The PATSAFE project aims to improve and strengthen PS research capacity among the early stage researchers (ESRs) and academic staff of the Institute of Clinical Medicine at the University of Tartu (ICM-UT) with a focus on the improvement of knowledge and skills in methods, technics and experience in PS research.

Methods:

A thorough SWOT analysis was carried out in 2018 to identify the gaps in the scientific excellence in PS research methodology at ICM-UT and plan the activities necessary for increasing it. The results have served as a basis for the subsequent strategic planning of ICM-UT and setting the objectives for the PATSAFE project in partnership with two internationally leading institutes in PS research – Avedis Donabedian Institute (FAD) in Spain and IQ healthcare (IQ-HC) in The Netherlands (duration: September 2019-September 2022). PATSAFE activities do not raise any ethical issues.

Results:

The SWOT analysis highlighted the main strengths (multidisciplinary research staff with excellent clinical competence), weaknesses (limited knowledge and skills in PS research methodology), opportunities (good collaboration with stakeholders and possibility to link the national eHealth system and PS indicators) and threats (insufficient funding for further research, unfavourable legislation and safety culture to implement the results of the research into practice).
Based on these findings, the PATSAFE twinning partnership activities involve continuous, peer-to-peer collaboration, training of academic staff and ESRs, networking and coordination activities. Looking ahead, active involvement of the ESRs in the project, development of the national research strategy on PS and establishment of the Estonian Patient Safety Research Network will ensure the long-term sustainability of PS research in ICM-UT and in Estonia as a whole. The direct quantifiable impact of the project is expressed in increased research excellence, like increased number of scientific publications on PS, participation in new international research projects, etc. A long-term impact will appear mainly as improved safety of health services:

**Conclusion:**

As a result of the project ICM-UT will have the competences to apply state-of-the-art evidence-based strategies for PS research. ICM-UT will have the capacity to carry out PS research using the appropriate methodology, to promote PS research among the ESRs, and to involve patients in PS research, in order to contribute to the overall health care quality and PS performance in Estonia. For the partner institutions, participation in this project provides new opportunities for networking as well as to expand their research methods application to a culture and setting where it has not been applied to before.

**Funding:** European Union Horizon 2020 research and innovation programme under grant agreement No 857359.

**Please declare any conflict of interest you may have:** All authors declare that they have no conflict of interest.
Prevenzione e controllo del rischio infettivo ed indicatori in cartella clinica: ruolo dei Link Professional nel miglioramento continuo

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Introduzione

Le infezioni correlate alle pratiche assistenziali (ICA) rappresentano un’importante causa di morbilità e mortalità. La Cartella Clinica (CC) rappresenta un utile strumento per facilitare la prevenzione e il controllo del rischio infettivo nelle strutture sanitarie, tracciando l’esecuzione delle specifiche procedure, e la completezza della CC è un indicatore della qualità delle cure erogate.

Obiettivi

Scopo di questo studio è valutare se il coinvolgimento di professionisti già impegnati nell’attività assistenziale e clinica (Link Professional – LP) e la loro formazione specifica sulla prevenzione e controllo delle infezioni correlate all’assistenza abbia un effetto sulla completezza della CC con particolare riferimento agli indicatori riguardanti le corrette pratiche per il controllo del rischio infettivo.

Metodi

A gennaio 2018 (T0) sette LP (medici, infermieri, fisioterapisti) sono stati specificamente formati sul controllo del rischio infettivo e sulla corretta compilazione delle specifiche sezioni della CC presso il Presidio Ospedaliero “Gervasutta”. Da gennaio ad aprile i LP hanno educato tutti i colleghi sulle procedure di controllo infettivo e sulla corretta compilazione delle specifiche sezioni della CC mediante incontri periodici, formazione continua sul campo e feedback sui risultati di completezza della CC. È stata valutata la completezza delle specifiche sezioni di 20 CC in aprile 2018 (T1) e quindi trimestralmente fino a gennaio 2019 (T4) mediante una check-list composta da 4 item. Il feedback ai professionisti è stato dato nell’arco di due settimane dalla valutazione. Per valutare l’eventuale miglioramento è stata calcolata la completezza delle specifiche sezioni e la differenza tra T0 e T1 (T1-T0) e tra T0 e T4 (T4-T0) in termini percentuali ed è stata effettuata una verifica del test d’ipotesi con $\chi^2$ nell’intervallo tra T0 e T1 etra T0 e T4.

Risultati
La completezza complessiva delle specifiche sezioni sul rischio infettivo della CC è migliorata, anche se non significativamente (p=0,91), dal 56,3% (18/32) del gennaio 2018 al 67,6% (23/34) di aprile 2018, con un miglioramento del +11,3% (T1-T0). Significativo (p<0,01) è stato il miglioramento a settembre 2019, raggiungendo il 90,7% (39/43; T3-T0=+34,4%), e a gennaio 2019, assestandosi al 84,2% (32/38), con un miglioramento complessivo di +27,9% (T4).

Conclusioni

Il coinvolgimento dei LP si è ha dimostrato efficace nell’incoraggiare il miglioramento dei comportamenti professionali, supportando il rispetto delle procedure di controllo del rischio infettivo e la completezza della CC nelle sezioni specifiche sul tema.
Introduction:

Self-assessment, self-directed learning (SDL) is one of the cornerstone for new aura of teaching. Consider as one way to support transition from undergraduate to postgraduate learning. Self-directed learning is supporting the concept of lifelong learning and is considered one of the main new methods in medical education and teaching.

Our aim is to explore and compare attitudes, knowledge, and skills about self-assessment, SDL among pediatric residents and faculty that can support residency program to promote residents Self-directed learning culture.

Methods:

A cross sectional survey administered among pediatric residents and faculties from July - November 2016 in Hamad General Hospital, main tertiary hospital in Qatar. It includes; details of demographics, perception, attitude and experience toward Self-directed learning concept. Questions offered objective answers utilizing 5-point Likert scale that can be used to perform statistical analysis.

Results:

Out of 99 respondents, 50% residents and 49% faculties. 90 percentage of both perceived lifelong learning as necessary to physicians. Good understanding of SDL and how to construct effective Individualized Learning Plan (60%) and (50%) respectively. Faculty can assess their own skills (80% vs 50 %, P=0.03), but less comfortable helping their resident write goals (45%vs 30%)

Conclusion:

Faculty believe that SDL improve patient care. they comfortable identify area of strength and improvement compared to residents (86%vs60%).Residents and faculties have different attitudes and skills related to self-assessment and SDL, Better understanding their knowledge and experience will guide residency program on how best to teach and further develop these skills..
Postgraduate residents desire more guidance on how to engage in SDL, Residency programs need to provide explicit education during early years of the residency training on process of SDL, while Faculty modeling of SDL motivate learners and provide opportunity to demonstrate the process

References:


Please declare any conflict of interest you may have:

no conflict of interest
[33] Senior residents orientation workshop: an opening eye to the new seniority life in an ACGME – I pediatric residency program, Qatar
Manasik Hassan1,2; Ahmed Eltayeb1,2; Mohamed Hajjaji1,2; Ahmed Alhammadi2
1hamad medical corporation, Doha, Qatar; 2SIDRA medicine, Doha, Qatar

Introduction:

Transitioning into a senior resident is represents a challenge in any residency program. Prior to undertaking their new responsibilities, residents need an organized skilled preparation to overcome struggles that may appear. Formal training session for the new senior residents is an excellent method to enhance their skills and easiness their new senior resident life. our aim was to explore important themes needed in the new senior resident and to identify the topics that covered in the orientation workshop

Methods:

Cross-sectional prospective study conducted among pediatric senior residents at Sidra medicine in Qatar July 2019. The evaluation survey was paper based pre and post senior workshop orientation

It included all new senior residents in the pediatric program with details of demographics, their perception about training before starting seniority, and the important topics covered in the orientation and their beneficial.

Results:

Total 12/15 (80%) of the new senior pediatric resident attended the workshop. In pre workshop evaluation none of them had formal teaching before starting their seniority, important topics listed by them were; senior on call rules and duty, Handover, How to approach senior staff (PEC/PICU), Teaching skills, Recognizing sick patient, cover Effective presentations, stress related to leadership and communication and consultations.

A new orientation workshop based on ACGME core competency organized by the residency program in which 12(100%) of the resident stated that 6 out 8 topics covered fully in the orientation workshop except of How to approach senior staff (PEC/PICU) communication and consultations were covered on another date. Up on analyzing the beneficial of the topics were given: 12(100 %) stated that handover, senior on call rules and duties, recognizing sick patients and stress related to leadership were beneficial however 8/12 (66%) mentioned that teaching skills and effective presentation were beneficial.
All the seniors mentioned that the new senior orientation workshop day was very organized and overall rating for the day was ranging between 4 (very good) out of 5 and 5 (excellent) out 5.

**Conclusion:**

The study showed none of the senior had formal training before seniority, new additional workshop by the program in preparation for seniority is important. Topics covered in the orientation were valuable however; teaching skills and effective presentation were less in the perspective of the seniors.

Transition to a new senior resident’s period require proper training. Residency training program will help in facilitating the safe transition of that. Multiple approaches such as; orientation workshop, lectures and courses: stress management course can be used to enhance the performance of the new senior residents and smoothing their seniority.

Our study showed that multiple approaches of orientation can be delivered to the new senior and mostly will lead to open their eyes into the new senior residents life.

**References:**


Please declare any conflict of interest you may have:

no conflict of interest
L’errore umano non può essere definitivamente eliminato, ma è quantomeno possibile giungere alla sua individuazione e minimizzarlo favorendo la diffusione di competenze nontecniche (Non-Technical Skills). In letteratura, le evidenze empiriche mostrano che le competenze non tecniche dei chirurghi si rivelano particolarmente importanti per incrementare la prestazione e la sicurezza del paziente. Le competenze non tecniche (o non technical skills – NTS) rappresentano tutte quelle abilità a livello cognitivo e interpersonale che sostengono e rinforzano le competenze cliniche e costituiscono un requisito per la professionalità del chirurgo. Esistono a livello internazionale diversi sistemi valutazione delle competenze non tecniche, quelli a cui si è fatto riferimento per l’intervento formativo in oggetto sono fra i più accreditati e con un approccio interdisciplinare che permette di guardare all’equipe in un’ottica multi-professionale centrata sul percorso e il paziente. In un’ottica di prevenzione degli errori/rischi, per garantire/tutelare la sicurezza del paziente e delle cure e al fine di ottimizzare le pratiche lavorative, il Risk Manager AO Policlinico Umberto I “Sapienza” Università di Roma ha istituito, pianificato ed inserito tra le attività formative da realizzare, nel Piano di Formazione Aziendale e nel Piano Annuale di Risk Management 2015 (PARM), in recepimento delle indicazioni Ministeriali, un corso obbligatorio sul tema della “sicurezza insala operatoria”, rivolto al personale medico ed infermieristico afferente alle sale operatorie dell’Azienda. Tale progetto formativo è nato per diffondere la conoscenza all’applicazione locale del Manuale Ministeriale e della check list di sala operatoria ed è stato incluso per il conseguimento/raggiungimento degli obiettivi di budget. Successivamente nel PARM 2016-2018 è stato introdotto il corso aziendale obbligatorio “Comunicazione e Lavoro di Gruppo per la Prevenzione dei Rischi NTS “per gli operatori sanitari che svolgono la loro attività nei reparti di chirurgia, camere operatorie, e servizi dove vengono eseguite procedure invasive. 

**Obiettivi formativi**

a) Apprendere conoscenze e competenze di base sulle competenze non tecniche;  
b) Comprendere l’impatto della comunicazione e cooperazione sulla sicurezza del paziente;  
c) Condividere stili di comunicazione e strategie di collaborazione per aumentare la
resilienza nei team; d) Apprendere le metodologie di apprendimento legate all’approccio dei “serious game”.

Metodologia

Il corso è stato articolato in alcune sessioni di presentazione frontali, finalizzate ad introdurre i concetti teorici fondamentali come premessa per i successivi numerosi momenti di esercitazione, costituiti da esercitazioni di gruppo basate sulla logica del “serious game”. Questo tipo di approccio didattico era diretto a creare un’esperienza formativa efficace e piacevole, mentre il genere, la tecnologia, il supporto e il pubblico varia. Il percorso formativo ha previsto inoltre momenti di interazione, simulazione d’aula con il supporto di specifici prodotti didattici multimediali. Sono state eseguite n. 12 edizioni per un totale di n.190 professionisti, sono stati utilizzati fondi regionali su linea progettuale orientata al raggiungimento degli Obiettivi di Piano. Oltre a completare la formazione sul personale di SO non ancora formato l’obiettivosarebbe di estendere tale formazione agli operatori del Dipartimento di Emergenza Accettazione.
Introduction:

Cerebrovascular disease ranked fourth among the 10 leading causes of death among Taiwanese in 2018. If the patients with acute ischemic stroke (AIS) can be given intravenous recombinant tissue-type plasminogen activator (rt-PA) without contraindications within three hours after the onset of the disease, it can reduce the damage range of brain tissue in the ischemic area and significantly recover the neurological function. The National Institute of Neurological Disorders and Stroke (NINDS) recommends less than 60 minutes from the time a patient arrives at the emergency room to receive rt-PA. According to the statistical report of the cases given rt-PA in the stroke center of the hospital, the average time from AIS patients arriving at the emergency room to receive rt-PA (door to need) from 2018 was 80.1 minutes, with the proportion of < 60 minutes being only 12.5%, which was not up to the evaluation standard ≥50% of the severe level hospital of the national medical ability classification.

Objectives:

To increase the rate of administering rt-PA < 60 minutes in the treatment of AIS from 12.5% to 50%.

Methods:

Using quality control improvement techniques, cross-team cooperation included emergency physicians, nurses, neurologists, radiologists, medical technologists and transmitters, who examined the treatment process of patients with AIS in the hospital and jointly developed improvement countermeasures. Based on the analysis of 24 patients in 2018, it was found that the main reasons for taking 26 minutes (25%) to notify neurologists were that (1) there were too few clinical cases processed, the triage personnel were not familiar with the treatment process, and there was no consultation reminder mechanism. Improvement measures included case simulation exercises, education and training of stroke treatment, and the establishment of a stroke special area in the triage information system; (2) It took 22 minutes (21.4%) to collect and send the specimen for examination, mainly in that it took
time to take blood samples and establish an infusion line, and the laboratory division could not identify the emergency specimens. Improvement measures include placing the stroke patient's specimen in an independent box so that the examiner can identify, collect blood and set up an intravenous infusion line, so that the specialist and the nurse can be separated to shorten the time; and (3) The main reason for the family members' long decision-making time of 30 minutes (29.1%) was that they were not familiar with the disease and treatment policy. Therefore, improvement measures include providing them with information about the related effects and side effects of rt-PA by making health education videos, before making decisions.

Results:

From February to November 2019, the treatment of AIS patients was statistically analyzed. The time it took for triage to be notified to the neurologist went down from 26 minutes to 10 minutes, the time of sample collection and delivery decreased from 22 minutes to 14 minutes, and the decision-making time of family members fell from 30 minutes to less than 10 minutes. The treatment time dropped from 80.1 minutes to 58.7 minutes. In 2019, the proportion of patients with AIS who received rt-PA < 60 minutes increased from 12.5% to 76%.

Conclusion:

The proportion of AIS patients who receive rt-PA <60 minutes could be effectively improved by notifying the neurologist of emergency triage as soon as possible, and by the emergency medical team's joint efforts to shorten the time of sample collection and delivery for testing, and by making health and education instruction tools that are easy for families to understand and help families make early decisions.
The Impact of Organizational Structure on Organization Communication and Learning of Medical institutions in Taiwan.
Shu-Yung Hsu, Chao-Wei Chin

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Introduction:
Taiwan put National Health Insurance Act into action in 1994 to have universal health coverage. Thanks to the skyrocketing development of information technology, improved medical literacy, awareness of participatory medicine, the healthcare market shows progressively robust yet competitive in recent years. Major medical institutions are seeking ways to remain and enhance enterprise competitiveness by proactive re-inventing and renovation. Through optimal and in-depth structural formalization and adequate enterprise policy population, many medical institutions in Taiwan are transforming themselves from traditional organization model into patient-centered model. And this transformation needs sustainable, extensive and effective communication across the whole enterprise by dint of effective enterprise learning. Our study aims to unveil the impact of organizational structure on organization communication and learning of medical institutions in Taiwan and furthermore, to understand the context of innovation development influenced by enhanced organization communication and learning yielding by positively constructive organizational structure change.

Methods:
Our research subjects are hospital employees in Taiwan, each of whom are older than 20 years old with the capacity to make juridical acts of natural person and with work experience for at least half a year; most questionnaires were sent out personally by our primary investigator with special mention to fulfill the answer sheet after work. At some suburban and rural areas, snowball sampling or chain-referral sampling was used to encourage the surveyees to provide referrals. Primary investigator was scheduled to have direct conversations with some surveyees by phone or face-to-face to provide additional details aside from the normal paper questionnaire content. Totally 381 questionnaires were sent out with 362 (95%) being completed and returned. The survey data analysis was done by SPSS 21 and AMOS 21 statistical analysis software. The quality of questionnaires was assured by exploratory factor analysis and reliability analysis. Regression analysis was used to prove our hypothesis.
Results:

1. The degree of organizational structure change toward centralization and formalization positively affects organizational learning, and formalization alone positively affects organizational communication.
2. Organizational communication and learning have a positive effect on innovation.
3. Reciprocally, organizational learning and communication has mediation effect on organizational performance as well by decreasing organizational conflicts.

Conclusion:
At the heart of achieving organizational change is effective communication and continued learning at enterprise wide scale.
Therefore, organization sustainability is actually the reciprocal of the bilateral commitment through organization structure change from the executive core and organizational communication and learning penetrating the whole enterprise.

Please declare any conflict of interest you may have: No
Introduction:

Odontophobia is a widespread condition amongst patients. Pediatric patients receiving primary dental care may occasionally require conscious sedation for their management because they often lack the necessary coping skills. Presently, there is limited understanding of the drivers of sedation quality. The major gap in quality assurance for invasive procedures is the lack of procedural sedation quality measures.

Aim and Objectives:

This research aimed to evaluate the use of PROSAS to monitor and evaluate procedural sedation in improving oral health care delivery, focusing on patient centered care for anxious pediatric patients in dental clinical practice.

Methods:

We reviewed the prospective data of pediatric dental patients who received pulpectomy treatment at a suburban general hospital from 2018-2019 in this pilot study. Ethical clearance was obtained from the Research Ethics Committee of the health facility. Twenty-two extremely anxious patients (aged 2 to 7 years) were treated with conscious sedation. The caregivers of the patients completed a PROSAS proforma after their wards fully recovered from the procedures. Appointed Quality Improvement reviewers used a structured tool to determine gender distribution, duration of treatment, number of teeth treated, level of cooperation and the presence of error or adverse events.

Results:

Twenty-two cases of procedural sedation were reviewed. Caregivers reported that one child (4.5%) had significant discomfort after the procedures. One case of postoperative coughing due to aspiration was accessed from the records representing a 4.5% prevalence of adverse events. There was a high correlation between caregiver-reported peri-procedure
discomfort and the clinician assessed discomfort (r=0.92; p < 0.01) One error was identified (error rate of 4.5%) which occurred as sedation effect wore off. There was however no unplanned admission or transfer to the medical emergency. There was a reduction in patient and caregivers’ anxiety in the personal values and belief domain. Caregivers were allowed to carry their wards on their lap and were allowed to pray before commencing the procedure.

**Conclusion:**

The PROSAS is a clinically relevant, patient centered tool for appraisal of standardized evaluation of procedural sedation quality. An evaluation of our pilot scheme highlighted the need for consistent use of appropriate checklists during conscious sedations and the value of briefings and debriefings to eliminate procedural errors and adverse events.

**References:**

Please declare any conflict of interest you may have:
Introduction:

Opportunities exist to improve the quality of outpatient cancer care internationally as demonstrated by the American Society of Clinical Oncology’s Quality Training Program (QTP) with more than 581 participants and 219 graduated teams and as documented by the Institute of Medicine.

Methods:

ASCO is licensing its Quality Training Program in Spain (2019-2021) and in Saudi Arabia in (2020-2023). Multidisciplinary teams participate in 5 days of in-person skills-based education and trainings and monthly virtual coaching sessions on quality improvement over a 6-month period. Teams complete an improvement project on topics such as symptom management, oral chemotherapy delivery, documentation of care, and provider burnout. Previous QTP teams have decreased patients utilizing Emergency Room services by 60%, increased response within 2 hours for symptom management calls from 48% to 73%, and increased pain management documentation from 58% to 75% as demonstrated with data in project presentations.

Results:

In 2019, each QTP Spanish team developed an improvement project, following the methodology of the course, which is based on the improvement model from Langley, Moen, et al (See figure below). The projects were mainly focused on the waiting time reduction in the Emergency Area and from the patient’s visit to the oncologist until treatment administration, burnout reduction among oncology professionals, and improvement of the identification and management of complications for cancer patients receiving immunotherapy, among others. QTP participants presented their projects’ results on the third and last session of the program in April 2019 with positive outcomes.
Conclusion:

We predict that participants will increase knowledge and competencies related to process analysis, rapid cycle improvement, quantitative and qualitative methods, and creating and managing effective teams. Post workshop evaluations may reveal improvements in clinical and process outcomes.

References:


Please declare any conflict of interest you may have: None
“Get up and Move”.. An audit of patient perspectives on the orthopaedic ward.

Louise Dowling1; Gillian Douglas2

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Intro & Objectives:
Early patient mobilisation following fracture surgery is imperative to preventing post-operative complications and reducing patient length of stay in hospital. There is a paucity of data examining patient beliefs and understanding surrounding post-operative recovery. We wished to measure the patient perspective regarding getting up and moving following orthopaedic surgery and compare it with current practices on the wards. We aimed to gain a greater understanding of the patient experience in order to optimise patient recovery.

Method:
We interviewed 55 patients on the orthopaedic wards in St Vincent’s University Hospital, Dublin over a six month period (August 2019 – January 2020). Eligible participants included all patients on the wards who did not have dementia. Each participant was asked the same set of questions regarding their current level of activity and their opinions regarding mobilising post-operatively. Ethical approval was obtained by the auditing department in advance of the study.

Results:
We found that 4% of patients believed that they should not be sitting out at all during the day, yet in actuality 22% of patients had not sat out that day. 44% of patients attributed pain and general malaise to preventing them from moving. In addition, 42% of patients were of the belief that they should not be walking after surgery. 30% of the patients interviewed had not walked at all that day. Regarding physiotherapy, 61% of patients believed they should be receiving it daily, yet only 36% of patients had seen the physio that day. 34% of patients believed that going to the gym everyday was important for recovery, however only 23% had attended that day.

Conclusion:
Our results highlight a clear mismatch between patient beliefs and current practices in the hospital. One-fifth of patients had not sat out at all, however less than one in twenty felt this was beneficial. Factors external to patient education may be an important area of focus to improve this. Conversely, 42% of patients felt it was better for recovery to not walk. This highlights an area where greater education and communication could be provided to guide patients in their recovery. It is evident that interviewing patients regarding their views on
mobilisation is a useful and cost-effective method to elucidate problem areas. This allows a patient-centred approach to aid improving patient recovery via more direct and focused communication between patient and physician.

Conflicts of Interest:
There are no conflicts of interest.
Introduzione.
La trasfusione di sangue può essere la causa di eventi fatali dovuti alla non corretta applicazione del “sangue giusto al paziente giusto”, in particolare per incompatibilità ABO da errore umano. Il recepimento della Raccomandazione Ministeriale 05/03/2008 e successiva revisione del 09/01/2020 “Raccomandazioni per la prevenzione della reazione trasfusionale da incompatibilità ABO” e delle Delibere Regionali Toscane 267/2007 “Attestazione buone pratiche per la sicurezza del paziente”, e 730/2013 “Ulteriori iniziative in merito alla sicurezza del processo trasfusionale” ha portato all’elaborazione nel 2018 di una Procedura Aziendale (PA) Trasfusionale in cui sono definiti i ruoli, le responsabilità e le modalità di esecuzione nei diversi step del processo trasfusionale (prelievo, richiesta, accettazione, assegnazione, trasfusione), i metodi di monitoraggio, la segnalazione degli eventi sentinella, l’implementazione della formazione e dell’utilizzo delle nuove tecnologie per la riduzione dell’errore.

Obiettivi.
Lo scopo della PA è l’azzeramento degli errori trasfusionali.

Metodi.
La PA Trasfusionale elaborata da un team di esperti è stata inserita sul portale aziendale in modo da essere accessibile a tutti gli operatori che eseguono terapia trasfusionale. La conoscenza della procedura e il retraining degli operatori avviene attraverso la pianificazione di corsi di aggiornamento aziendali obbligatori, inseriti nel programma formativo aziendale (PAF) e tenuti da esperti trasfusionisti, medici legali e facilitatori del rischio clinico. L’aderenza alla procedura si valuta attraverso i seguenti strumenti: la % di presenza di operatori ai corsi, una verifica annuale a campione nei setting di degenza da parte della Direzione Sanitaria di Presidio, il numero di richieste non conformi, audit, m&m e eventi sentinella che sono stati registrati nel portale del Rischio Clinico.
**Risultati.**

La valutazione eseguita nell’anno 2019 (primo anno dopo l’introduzione della PA sulla Sicurezza Trasfusionale) ha dato i seguenti risultati: la partecipazione ai corsi aziendali (5 edizioni) nella zona di competenza della Struttura Trasfusionale di Livorno è stata elevata, registrando la copertura del 99% dei posti disponibili, l’analisi della tipologia dei partecipanti ha visto una prevalenza (70%) di infermieri rispetto a medici, la verifica annuale a campione da parte della Direzione di Presidio ha visto la valutazione di 20 cartelle, da cui è emerso che in 3 cartelle il consenso informato non era perfettamente compilato e nel 50% delle cartelle mancava la tracciabilità dei parametri vitali post trasfusione. Il numero di audit sono stati 3, mentre gli m&m sono stati 4; le richieste trasfusionali non conformi pervenute alla Struttura Trasfusionale sono state il 2% del totale (95 su 4371).

**Conclusioni.**

La performance della PA Trasfusionale presenta dei punti di forza, sintetizzabili nella diffusione di un’unica procedura trasfusionale tramite portale aziendale, nell’omogeneizzazione e diffusione capillare di modalità operative che si ripercuotono sulle prestazioni erogate in termini di efficacia ed efficienza, nella formazione obbligatoria e annuale del personale attraverso una programmazione. I punti di debolezza sono legati alle variabili organizzative, quali la mancanza di dispositivi barriera e la conservazione del sangue al di fuori della Struttura Trasfusionale. Il miglioramento da perseguire è rappresentato dall’implementazione del monitoraggio dell’attività trasfusionale attraverso delle verifiche non pianificate a campione nei vari setting di degenza.
Nursing staff perform cerebral drainage tube nursing guidance integrity

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Introduction:
Provide effective and complete educational training resources, establish standard procedures for the care of external drainage tubes and check mechanisms for the medical team to use

Methods:
1. Improve the effectiveness of education and training: Utilizing teaching tools such as "operating standards for External ventricular Drainage tube care", "specialized on-the-job education training", and "intraventricular drainage tube correction tools".
2. Through simulated team interaction, film shooting, in-house TMS online questionnaire, pre- and post-test, physical technical test, etc. Student grouping according to level of conduct, strengthen teaching and learning effects
3. Effect maintenance: Technical audits are carried out every two months by the unit quality control team, and the effectiveness is maintained at 100%.

Results:
The results were as follows: 1.2017.9-2017.12 There was no oversight in postoperative care of the external drainage tube; 2. The integrity of nursing guidance was improved from 64.6% to 91.0%.

Conclusion:
Through the implementation of this project, the nursing staff increased the awareness of the Extraventricular Drainage tube care, which in essence reached the target set by the project, and the effect continued to be maintained. This project has added many new measures, including: an updated training flow chart, operation specification, etc., and the project team members and the engineering team jointly design and manufacture the equipment for placing the extraventricular drainage tube device, and increase the accuracy of pressure setting.

References: none

Please declare any conflict of interest you may have: none
The practical experience of introducing shared decision marking for antibiotic treatment decisions in terminally patients with severe infections.

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Introduction:
Infections is common comorbidity in immune compromise terminal patients, and eventually cause the death. The use of antibiotics is a medical option and does not prolong the life of terminal patients.

The shared decision making (SDM) is an innovative, emerging clinical medical decision model in Taiwan.

The purpose of this study was to develop decision-making aids for antibiotic treatment decisions in terminally ill patients with severe infections.

Methods:
This is a cross-sectional study conducted in the hospice unit of a University hospital in Taiwan. This research is divided into 2 parts:

- Patient Decision Aid (PDA) development: The PDA design is cooperation among staffs from the hospice unit and department of Quality management.
- Clinical practice: 30 patients (or families) with infection condition were invited to use the decision aid. The patients’ experience of using the decision aid and participating in the SDM process was surveyed.

All results were analyzed by SPSS

Results:

- Study process:

The study began in October/2019 and is ongoing now. The current research progress has completed the PDA design. Next step will invited patient to participate the PDA.
• Analysis:

- All information will present in descriptive statistics

- Patient( or family) ’s concept of antibiotic treatment will tested before and after use PDA.

Conclusion:
By developing decision aids, we will help medical teams and patients become familiar with the concept of sharing decisions, and evaluate their benefits. It is hoped that it will help the introduction of other medical-patient sharing decision-making models in the future and accumulate localization experience.

References:
none

Please declare any conflict of interest you may have:
none
4. External Evaluation Abstracts

[1713] A journey to improve the national standards for quality management in healthcare in a tertiary 900-bed maternity hospital in the developing country, Viet Nam.

Trang Dien Ngoc1; Hang Phan Thi1; Diem Tuyet Hoang Thi1; Thuy Tran Thi Thanh1

1Hung Vuong hospital, Ho Chi Minh, Viet Nam

Introduction:
The Ministry of Health of Vietnam developed the national standard for quality management in healthcare six years ago. The first version of the standards appeared in 2014 and till 2016 the second version was updated. Currently, it is considered to be the highest standard that all hospitals in Vietnam applied. The standards consists 83 standards with 1585 criterion, divided into 5 dimensions from A to E (A "patient-centered care activities", B "human resource development", C "clinical profession", D "quality management and improvement", E "Obstetrics and pediatrics criterion"). Hung Vuong hospital, a tertiary maternity hospital in Ho Chi Minh city with a-900 beds provided the best healthcare services to pregnant and women in the South of Vietnam. The hospital’s vision and mission is patient centered care, high quality, patient safety and low cost. Our hospital is to achieve a higher score on the external assessment of Department of Health of Ho Chi Minh city, Vietnam through years and is on of the top five of quality management ranking of hospitals in Ho Chi Minh city, Vietnam.

Methods:
The systematic theories of total quality management such as continuous improvement, LEAN, data driven, team involvement, customer focus were applied in the hospital and trained to all members of the quality network. A quality management system was established since 2014. Quality management Commitee is responsible for the implementation of the national quality standards. Quality management department makes a plan, tools, monitors, audits and reports to the board of Directors. A quality network consists of front line staffs and enthusiastic quality leaders in departments. Quality indicators, improvement projects, patient safety Gemba walks, risk management, incident reporting, culture of patient safety, patient experience were thoroughly conducted in the hospital. Internal audit was conducted four times a year and administrative monitoring were conducted by Department of Health of Ho Chi Minh city Vietnam per year.
**Results:**
On the average, every year, the hospital has 30 quality improvement projects, 50 times to conduct patient safety GEMBA walks, 35 root cause analysis meetings, 1800 incidents reports. Quality network members have monthly meetings to share benefits and barriers of improvement. Two way communication was also created via Facebook, Viber, Zalo to connect team members. Rewards were given to those who make voluntary reports, good improvement projects and software healthcare application on the quality and patient safety festival day. From 2014 to 2019, external assessment results of Department of Health of Ho Chi Minh city on the national standards for quality management to Hung Vuong hospital increased from 3.41 to 4.38, with the overall score is 5. During three years, from 2017 to 2019, Hung Vuong hospital became one of the top five of a quality ranking among 110 of hospitals in Ho Chi Minh city. In 2017 and 2019, we achieved the Reproductive Technology Accreditation Committee certification of Australia. In 2019, the hospital was designated as “Center of Excellence for Breastfeeding” by Ministry of Health, Vietnam.

**Conclusion:**
These quality improvement activities need a great time and efforts from all of healthcare team members of hospital. Patient safety culture should be developed and maintained as a core value of the hospital.

**References:**
Please declare any conflict of interest you may have: No

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Accreditation Across Borders: Validity Evidence from a Comparison of Multinational Institution Reviews

Phillips Tara1; Taber Sarah1; Ronson Ashley1; McMillin Christa1; Ray Adam1; Frank Jason1

1Royal College of Physicians and Surgeons of Canada, Ottawa, Canada

Introduction:

Residency education accreditation in Canada includes a review of the postgraduate medical education (PGME) leadership using the General Standards Applicable to the University and Affiliated Sites. For several years, the Royal College of Physicians and Surgeons of Canada has conducted equivalent institution reviews in international jurisdictions. However, little is known regarding the extent to which the standards are transferable.

Objectives

- Determine the validity of offering accreditation services internationally that are equivalent to the standards applied domestically;
- Explore conclusions and next steps based on early experiences in international institution accreditation.

Methods:

We set out to compare the findings of Canadian and international institution reviews using common standards. The citations of strengths and areas for improvement for institution reviews for the most recent review of Canada’s 17 PGME institutions were compared to those of the eight international institution reviews conducted to date. Significant differences in the areas for improvement (AFIs) were explored through qualitative analysis.

Results:

There were no significant differences between Canadian and international institutions in the total number of citations, and patterns of strengths and areas for improvement were similar. Standards related to institution structure and governance represented half of those cited. Faculty development and continuous quality improvement were more commonly cited as areas for improvement for non-Canadian institutions.
Conclusion:

Ongoing monitoring of institution review outcomes and comparison between Canadian and non-Canadian institutions is needed to demonstrate that the fundamental principle of equivalency is maintained. Similarities observed in the frequency and pattern of citations may relate to application of established norms by experienced surveyors rather than evidence of equivalent institution quality, which poses important questions to explore in the context of surveyor recruitment and training.

The extent of similarity in outcomes of institution reviews provides validity evidence for the transferability of Canadian institution standards to non-Canadian jurisdictions and suggests surveyors’ interpretation of the standards is consistent across jurisdictions.

References:

Please declare any conflict of interest you may have: none
Introduction: The purpose of this study is to present an survey model for use in accreditation surveys. The aim of this model design is to present the objectivity, transparency, accountability of surveys, standardization among surveyors and to look for quality culture.

Methods: The starting point of designing the model is the quality management philosophy for survey criterias. In this context, 3 survey criterias (Leadership and Employee Participation, Traceability and Continuity, Scope and Practice) determined are intended to form the basic and holistic approach in surveying the standards. Surveyors were suggested to collect evidence by approaching these 3 criteria while collecting evidence by taking into account 3 principles and 2 techniques. After the model was put forward, it was tested by surveyors in public, private and university hospitals, and their views on the applicability of the model were taken using the 5-point Likert with a questionnaire containing 10 questions (Table 1). This study was performed to 20 surveyors who participated in the accreditation survey conducted in 2019 in Turkey.

Table 1. Questionnaire About Accreditation Survey Model

<table>
<thead>
<tr>
<th>Questions</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Indifferent</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Leadership and Employee Participation criterion is a feasible criterion in survey</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Scope and Application criterion is a feasible criterion in survey</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Traceability and Continuity criterion is a feasible criterion in survey</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Root Cause Analysis is a measurable criterion to identify nonconformities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Area of effect (domain) is a measurable criterion to identify nonconformities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Frequency is a measurable criterion to identify nonconformities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. The Evidence Collection Principles are guidelines for accurate and sufficient evidence collection</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Segregation of Evidence Collection Methods into Document and Qualitative Analysis provides a holistic approach</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. The Matrix guides the surveyor in terms of decision making</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. The Survey Model is useful for survey standardization and survey approach</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
**Results:** The summary of the model is shown in Figure 1.

The surveyor should collect the evidence he has collected, taking into account the materiality (critical and risky evidence for the standard), Qualification (collecting evidence to decide) and Eligibility (collecting evidence directly related to the standard).

Evidence collection techniques are classified as Document Survey for documents and medical records and Qualitative Techniques focused on tracing, observation, and interview.

The last part of the model includes the decision-making technique for coverage the standard's level of decision within the framework of the collected evidence. Coverage level decision: It is one of the options that are met, partially met and not met. If there is no nonconformity, the decision to meet is made directly. If nonconformity is detected, the surveyor should define the nonconformity in 3 parameters. These are defined as the Area of Effect or Domain (whether nonconformity is an individual error or systemic error), Frequency (the ratio of nonconformity in all; little=0-5%, middle=6-15% and high=16%>) and the Risk Size (size of nonconformity threatening patient or employee safety; little=no risk and so little, middle=yes risk but not severe, high= severe and fatal risk). After making these definitions about nonconformity, the surveyor makes his decision according to the Matrix in Figure 2. In cases where the matrix proposes 2 decisions, the first is recommended to the surveyor, but can choose the other according to the conditions.

**Figure 1.** Accreditation Survey Model
According to the questionnaire results, the applicability average score of the model was found to be 4.4. The highest scoring question is about the applicability of the survey criteria and has averaged 4.9. The lowest rate is the definition of Risk Dimension and its average is determined as 3.8.

**Conclusion:** With this model, it was aimed to enable the surveyors to make a decision by taking a common approach. This situation carries value in order to ensure standardization among the surveyors, and the average of the test result made by the surveyors to be 4.4 is important for the use of the model in implementation. Designing the model with an approach that seeks quality culture is also expected to reflect the quality of accreditation surveys and therefore the quality of healthcare delivery. However, the model has aspects that are open to development.

**References:**

Please declare any conflict of interest you may have: There is no conflict of interest about this study.
Introduction:

A present on admission (POA) indicator, the information about whether a condition exists at the time of inpatient admission or not, is collected within the Korean new diagnosis related group (DRG) payment system. The Korean new DRG payment system, subjected to 567 disease groups, is adopted to 99 healthcare institutions currently [1]. There have not been efforts to determine validity of POA indicators in Korea, though validation process should be preceded before utilizing POA indicators to improve the accuracy of health-related indicators. Therefore, this study assessed validity of POA indicators using previously developed validity algorithm by Jackson et al. [2] based on the International Classification of Diseases, 10th revision, Australian Modification (ICD-10-AM).

Methods:

We used Korean national health insurance claim data of the new DRG payment system in 2018 to evaluate validity of POA indicators. Firstly, we assessed the frequency of POA indicators (Y, N, U, W, E, others) to describe the distributions of POA indicators. Secondly, we assessed the validity of POA indicators based on Jackson’s POA validity algorithm developed in the context of Australian healthcare system. Jackson’s algorithm incorporates over ten thousand diagnosis codes, representing conditions unlikely to arise after admission, including 3-digit level, 4-digit level, 5-digit level and full diagnosis codes. Considering the compatibility between ICD-10-AM and Korean standard classification of disease and causes of death (KCD-7), truncated codes until 4-digit level (in total 5,184 diagnosis codes) of ICD-10-AM codes were used for our analysis.

Results:

Among 791,278 claim cases within the new DRG payment system in 2018, 86.37% (683,450 codes) of POA indicators were flagged as Y. While POA N indicators were given to 8.55%...
(67,684 codes), POA U or W flags were assigned to 0.02% (144 codes) and 0.01% (57 codes), respectively. POA indicators flagged as E, presumably representing exempt codes for POA flagging administratively, consist 0.24% (1,932). Other codes, not defined as POA indicators in the guideline, comprise 4.8% (38,011 codes). Among diagnosis codes flagged as N in the POA indicators, 22.82% of codes belong to Jackson’s diagnosis codes. It can be interpreted that 22.82% of N flagged diagnosis codes were conditions unlikely to arise after admission, which means invalid flagging. The proportion of invalid flagging of POA was higher than Jackson’s results (3.9%), though direct comparison have limitations due to not only contextual difference between Korean and Australian healthcare systems but also the use of only 4-digit level diagnosis codes in our study. In terms of claim cases, 7.42% (58,742 cases) had invalid flagging among total new DRG claim cases (791,278 cases) in 2018.

<table>
<thead>
<tr>
<th>Jackson’s diagnosis codes</th>
<th>POA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Flagged as N</td>
</tr>
<tr>
<td>Included</td>
<td>15,444 (22.82)</td>
</tr>
<tr>
<td>Not included</td>
<td>52,240 (77.18)</td>
</tr>
</tbody>
</table>

**Conclusion:**

From the application of validity algorithm for POA flagging developed by Jackson, considerable invalid POA flags were identified compared to the original research outcomes. More sophisticated POA indicators management system is required along with clear guidelines, in Korean POA flagging system.

**References:**


**Please declare any conflict of interest you may have:** The authors declare that they have no competing interests.
Beyond rose diagrams and moving bubble charts: Using a communication science framework to analyse web-based reporting of international comparative health system performance data

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1Amsterdam University College, Amsterdam, Netherlands (The); 2Amsterdam UMC, University of Amsterdam, Department of Public Health, Amsterdam Public Health research institute, Amsterdam, Netherlands (The)

Introduction:

International comparisons of health system performance data are increasingly becoming available in the public domain, usually reported through websites. Public reporting is increasing in importance for research and policy-making as well as for accountability and transparency purposes. Research on web-based public reporting is key to understanding how users interact with reported data and how it fulfils its role. Studies have mainly focused on the content of this kind of reporting, with very little research on target audiences, presentation methods and reported purposes of online reporting. The aim of this study was to explore current reporting practices of online international comparisons of systems-level health performance data using a well-established framework from communication science.

Methods:

We assessed websites that provide publicly available and free comparative data on the performance of different national health systems using a modified framework from communication sciences. The assessment focused on three main areas of reporting as communication: the purpose (including definition of target audience), the performance domains covered by the content and the presentation. Additionally, we conducted expert interviews to validate and supplement the assessment results with user experience insights.

Results:

A sample of 13 websites was identified and assessed (Table 1). Only a minority of these websites reported purpose and intended audience of their reporting. In terms of health system performance domains, most of them reported data on quality, access and cost indicators. Many different visualization approaches were identified, with contextualizing texts and interactive features presented on the majority of websites. The complexity of information presentation differed among websites. The reporter of the data was stated clearly on each website. Expert interviews supplemented the results on the following topics:
the intended audience, explicit purpose, choice of use, diversification of websites, ease of use and contextualization.

Conclusion:

There is a need to identify the audience (and their information needs) and specific purpose of systems-level reporting in order to effectively communicate this information, sparking successful policy change that can lead to health care improvement. Although there are different visualization methods available on these websites, as well as contextualization efforts, more should be done to make these appropriate to target audience, which has to be identified first. Exploring online comparative reports as a means of communication can help identify potential areas for future research, in order to improve the usability of these platforms and help reach their full potential.

Please declare any conflict of interest you may have:

The authors declare that there is no conflict of interest regarding the submission or presentation of this short oral presentation.

Table 1: Reviewed websites

<table>
<thead>
<tr>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHO Global Health Expenditure</td>
</tr>
<tr>
<td>WHO Europe Health for All database</td>
</tr>
<tr>
<td>WHO Global Health Observatory</td>
</tr>
<tr>
<td>OECD Health statistics</td>
</tr>
<tr>
<td>Eurostat database</td>
</tr>
<tr>
<td>Commonwealth fund International Health Care System Profiles</td>
</tr>
<tr>
<td>Institute Metrics and Evaluation Health data</td>
</tr>
<tr>
<td>International Social Security Association Country profiles</td>
</tr>
<tr>
<td>The World Bank Health, nutrition and population data</td>
</tr>
<tr>
<td>The CIA world factbook</td>
</tr>
<tr>
<td>Gapminder Foundation Tool</td>
</tr>
<tr>
<td>Our World in Data</td>
</tr>
</tbody>
</table>
Cigna Provider Segmentation Program – using quality assessment to support customer access to high quality, safe and cost-efficient care

Alf Theodorou1,2; Peter Mills2; Jose Quesada2; Carlos Araujo2

1NewCourse, London, United Kingdom; 2Cigna, Madrid, Spain

Introduction:

Cigna is a leading global provider of health services and is committed to improving the health and wellbeing of their customers. Cigna serves over 86 million customers in 200 countries. Insured customers have access to a medical network of over 11,000 facilities and clinics.

Providers are contracted to provide services to Cigna customers, with these relationships traditionally driven by cost and reimbursement agreements. Customers are free to access care wherever they choose. To best serve customer need and improve working relationships with key hospitals, Cigna has implemented a Provider Segmentation Program. This allows categorization of hospitals based on quality and value to support customer decision making while seeking care.

Objectives:

1. To develop a robust framework to assess hospitals against recognised international healthcare standards
2. To ensure that the assessment process is manageable and provides useable information for internal staff and customers
3. To allow comparison of hospitals across geographies and regions

Methods:

Program design started with a definition of quality based on customer insight data. The identified core domains assess patient involvement in their care; that care is safe and appropriate; and delivered by the right team in the right environment. Focus areas within the domains were based on recognised healthcare standards from national and international accreditation bodies.

Given the size and geographical reach of the hospital network, the design combines online self-assessment with robust validation and analysis. An onsite evaluation protocol was also developed.
The self-assessment comprises 61 elements across 4 domains. Each element has a list of evidence that hospitals should have in place to validate their responses. Tolerances, reliability and conditional measures have been built into the scoring mechanism to highlight potential areas of concern.

The program is voluntary, hospitals were invited to take part and sent the self-assessment exercise to complete. Assessments were reviewed and analysed by the quality team. Hospitals next complete an evidence review – where sample evidence is requested and reviewed for consistency - allowing a weight to be applied to the self-assessment score. Where assessment identified concerns or to improve relationships and engagement with providers, onsite evaluation was completed.

The program launched in April 2019 with 18 hospitals invited to take part. Onsite evaluations were completed between September and December.

**Results:**

<table>
<thead>
<tr>
<th># Hospitals invited</th>
<th>Completion rate</th>
<th>Median return time</th>
<th>Median unweighted score (%)</th>
<th>Median weighted score (%)</th>
<th>Validity checks triggered</th>
<th>Providers completing remote evidence review</th>
<th>Median number of documents shared at evidence review (of 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>100%</td>
<td>31 days</td>
<td>98 (range 85-100)</td>
<td>84 (range 3-96)</td>
<td>2*</td>
<td>9</td>
<td>8</td>
</tr>
</tbody>
</table>

**Conclusion:**

Feedback from hospitals has been positive. Assessment allows conversations that are more transparent and focused on meeting the clinical needs of customers as opposed to the traditional dynamic between providers and payers.

Evidence review – whilst not without its challenge e.g. concerns around confidentiality – has added rigor and allows validation of self-assessment scores.

Most importantly for patients, information about clinical services and quality can now be used to inform decision making.

53 providers have now been engaged in the program. Future development will look at the use of clinical performance data and focus on specific clinical specialties e.g. cancer.
Comparison of the Implementation of Infection Control and Prevention Programs in 14 Hospitals in Indonesia

Elise Garmelia1; Sri Sugiasri2; Sunaryadi Sunaryadi3

1Semarang Health Politeknik, Semarang, Indonesia; 2Stikes Husada Karanganyar, Jawa Tengah, Indonesia; 3Muhammadiah Tuban Hospital, Jawa Timur, Indonesia

Introduction:

Aquired Hospital infection reknown as nosocomial infection is currently one of the causes of increasing morbidity and mortality in hospitals. Infections that occur in hospitals are also called nosocomial infections or Hospital Acquired Infections (HAI's) is a serious problem for public health. Based on the source of infection, the infection can come from the community/community (Community Acquired Infection) or from the hospital (Healthcare-Associated Infections/HAI's). In Indonesian hospital how to control and how to containt infection we have the standart that determined by KARS (Indonesian hospital acreditation commision) that would assess Infection Control and Prevention's (ICP) activities in accordance with guidelines and standards that suitable with all assesment element in ICP standard. The purpose of this study was to determine the description of the implementation of Infection Control and Prevention in 14 hospitals Consist of public and privat hospitals.

Methods:

The analysis of this study uses the independent t-test and one anova test. The data was collected from the survey results from the ICP standard assessment of 103 assessment elements. Survey samples of 14 hospitals consist of public and privat hospitals and were divided into 3 (three) large areas of Java 5 hospitals, Sumatra 5 hospitals and Sulawesi 4 hospitals

Results:

The results showed that there was no significant difference in ICP standard values in government and non-government hospitals (p> 0.05). And there is a significant difference (p = 0.001) of ICP value in hospitals in Sulawesi and Sumatera, Sulawesi and Java, and Java and Sumatra
Conclusion:

The conclusion of this study is that the standard ICP value of hospitals in Java tends to be higher than in Sulawesi and Sumatra. It is recommended that their role is to increase awareness of infection control issues in their ward and motivate staff to improve practice. It is essential that they receive training from the infection control team to ensure their competence. Making a periodic training be provided to ICP officers especially those from outside Java.

References:


Please declare any conflict of interest you may have:
Conducting Open Medical Record Review to Promote Complete Medical Documentation: Does it Work?

Sylvia Fatridha Situngkir1; Revy Ardiani1; Naina Ramesh Rughwani1; Hervita Diatri1

1Dr Cipto Mangunkusumo National General Hospital, Jakarta, Indonesia

Introduction:

Patient medical records are often seen as a reflection of quality and patient safety in a healthcare facility and this may be evaluated through closed and open medical record reviews. In Dr. Cipto Mangunkusumo National General Hospital, Indonesia, closed medical record review (CMRR) has been done since 2015 and results of this review is reported to the healthcare staff every quarter to promote improvement in medical documentation. However, analysis of the results until 2018 showed no significant change. Therefore, an open medical record review (OMRR) system was developed in 2019 to identify incomplete medical records prior to patient discharge.

Methods:

This study evaluates the impact of developing an open medical record review system on the completeness of medical documentation as evaluated through the closed medical record review. Data collected during the first six months of the novel open medical record review system was compared to results of the closed medical record review conducted during the same period, April – September 2019. Fisher’s Exact Test was performed to identify any significant improvements in closed medical record review occurring as a result of the open medical record review.

Results:

A total of 1,552 records were evaluated – 1,018 closed medical record review, 511 open medical record review, and 23 records underwent both. Percentage of complete medical records from the closed review was 0.5%, whereas 18% of records in the open review were complete. Out of the 23 records that underwent both reviews, none were complete on the closed medical record review. Further, Fisher’s Exact Test showed that open medical record review did not bring about a significant change in medical documentation as evaluated through the closed medical record review (P > 0.05). Additional review of individual forms revealed that those filled independently by nurses were 100% complete and forms filled independently by physicians were only 85% complete on closed review when open review was conducted. Considering that open medical record review is performed by the nurses at the in-patient ward, this may increase their likelihood to complete medical records that are...
found to be incomplete. In comparison, physicians would need to be informed by the nurses regarding incomplete documentation before completion of medical records could be done.

**Conclusion:**

Based on the results of this study, open medical record review does not promote significant improvement in complete medical documentation. However, further analysis revealed improvement in the completion of independent forms in the medical record, especially those filled by nurses. In addition, considering the limited number of medical records that underwent both open and closed medical record reviews, further evaluation may be required to establish usefulness of this system in promoting complete medical documentation. One recommendation that may aid in improving medical record documentation is the development of an immediate feedback system to inform healthcare professionals, especially physicians, of incomplete records; thus, allowing those records to be completed prior to patient discharge. Alternatively, as all professionals have been educated on the open medical review process, self-assessment may be performed by all professionals throughout patient care. This will aid in the identification of incomplete records and their completion by all professional prior to patient discharge.

**References:**

**Please declare any conflict of interest you may have:** None
Introduction:

Organization per processes and tasks according to established and documented protocols are basic goals of the quality policy in our institution. Its multicentered character adds the challenge of increasing efficiency and decreasing variability in the application of the procedures. In order to achieve such goals, our institution has decided to develop a new tool for the processes diagramming. This new program will contain all the institutional information that was found in different resources and applications up to the moment.

Objectives:

To unify the documented information, to guarantee its availability to be checked and to assure the information’s validity. Moreover, to unify the system for classifying and coding documents as well as to try to homogenize the particularities derived from being a multicentered institution.

Methods:

Lists with the contents of the information from the different institutional applications (processes diagraming tools and institutional intranet) were checked in order to select such documented information which should be included in the new diagraming tool. A process of rationalization and selection, with transversal vision among centers was performed.
Results:

The most significant findings include:

1. Two corporative applications were in use for the dissemination of processes, procedures and instructions: the institutional **Intranet** and the program for diagramming, **Qualigram**.

2. Large volume of documents “in elaboration”, which did not complete the whole validation sequence to be published (32.7% are in elaboration, and an additional 10.4% were not published).

3. Coding did not follow the established standards: 9.6% of documents in Qualigram and an undetermined number of documents in the intranet due to absence or coding systems from the units. Same codes used for different documents.

4. High percentage of outdated documents or documents without possibility to determine validity or application period (18% in published in Qualigram, 41% in the design area of Qualigram and 58.5% published in the intranet).

5. Dispersion of the information: similar documents are found in different areas.

6. Publication of different versions of the same procedure, instruction or guide.

<table>
<thead>
<tr>
<th>Docs in Qualigram</th>
<th>n</th>
<th>%</th>
<th>Docs in Intranet</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid/Applicable</td>
<td>223</td>
<td>12.4</td>
<td>Valid/Applicable</td>
<td>121</td>
<td>19.1</td>
</tr>
<tr>
<td>Outdated</td>
<td>327</td>
<td>18.1</td>
<td>Outdated</td>
<td>370</td>
<td>58.5</td>
</tr>
<tr>
<td>Not published</td>
<td>187</td>
<td>10.4</td>
<td>Not published</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>In elaboration/Empty</td>
<td>627</td>
<td>34.8</td>
<td>In elaboration/Empty</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Non-assessable</td>
<td>440</td>
<td>24.4</td>
<td>Non-assessable</td>
<td>141</td>
<td>22.3</td>
</tr>
<tr>
<td>Total</td>
<td>1804</td>
<td>100</td>
<td>Total</td>
<td>632</td>
<td>100</td>
</tr>
</tbody>
</table>
Conclusion: To harmonize the process of elaboration, validation and publication of documents is essential in order to address the complex document management in a multicentered healthcare institution. The implementation of a tool for the graphic representation of processes allows promoting the systematization and standardization of such processes thanks to the work performed by transversal teams to reach the quality goals established by the institution.

References:

Please declare any conflict of interest you may have: The authors declare there are no conflicts of interest.
Introduction:

Accreditation of Canadian PGME programs has involved both review of program documentation and an onsite peer review. However, the need for every program to have the onsite review was unclear. We conducted a randomized educational trial of paper versus onsite review of PGME programs at three Canadian medical schools undergoing accreditation.

Objectives:

- Explore the application of a common method for evaluating the accuracy of a clinical diagnostic test (i.e., sensitivity/specificity analysis) to a paper-based documentation review’s ability to predict outcomes resulting from onsite review.
- Understand the value of the onsite external evaluation as a key feature of a rigorous health professions education system.

Methods:

We set a priori rules to review programs’ documentation for eligibility for exemption from onsite review. 178 programs were evaluated, 51 were automatically scheduled for onsite review, and 127 were reviewed based on paper-based documentation to determine eligibility for exemption from the onsite visit. 56 of 127 programs were not recommended for exemption and scheduled for onsite review; the remaining 71 were recommended for exemption. To evaluate the accuracy of paper-based documentation review, 40% (28/71) of programs recommended for exemption were then randomly selected for onsite review. We then compared accreditation outcomes of programs that underwent both document and onsite review. Sensitivity and specificity were calculated for the ability of document-based review to accurately predict the onsite review outcome.

Results:

Document review had 80% sensitivity and 36% specificity when onsite review was used as the gold standard. 12 of 56 programs identified for onsite review based on document review
ultimately received an accreditation outcome other than regular survey); the positive predictive value was 21%. The negative predictive value, or the percentage of programs that were recommended for exemption and received a positive accreditation status following onsite review, was 89% (25/28). However, 11% (3/28) of randomly selected onsite programs received a negative accreditation status, and two had serious concerns regarding the learning environment. Overall accuracy of the paper-based documentation review to predict the accreditation result following onsite review was 42.5%.

Onsite program exemption was associated with modest accuracy, specificity and positive predictive value; several programs that could have been exempted were not, resulting in duplication and decreased efficiency. While associated with relatively high sensitivity and negative predictive value, the document review process resulted in some programs with serious concerns being recommended for exemption.

**Conclusion:**

Document-based review cannot replace onsite reviews in the Canadian accreditation process. The value of onsite review is espoused in medical education accreditation; this study was the first to examine effectiveness of another method, with implications for accreditation systems worldwide.

**References:**

**Please declare any conflict of interest you may have:** n/a
[1977] Epidemiology of patient safety in public hospitals in Madrid Region: the ESHMAD study

Jose Lorenzo Valencia-Martin1; Jesus Maria Aranaz-Andres1; Alberto Pardo-Hernandez2; - ESHMAD Working Group2

1Hospital Universitario Ramon y Cajal, Madrid, Spain; 2Madrid Region Ministry of Health, Madrid, Spain

**Introduction:**
To identify human errors and system failures, the development of incident notification and learning systems is key, although they have important limitations such as information biases and the underreporting of serious or repetitive events. Ad hoc epidemiological studies allow for a good part of these limitations, although they require significant human and material resources.

We designed a multicentric study to improve the knowledge of patient safety in the hospitals of the Madrid Region, through the approximation to the magnitude, significance and impact of incidents (I) and adverse events (AE), and to the analysis of the characteristics associated with the occurrence of preventable AD.

**Methods:**

Cross-sectional observational study, including all 34 public hospitals from 6 categories of medical care in the Madrid Region. It was structured in 2 phases with integrated teams; the first one was carried out during the month of May 2019, coinciding with another study (EPINE) on healthcare associated infection that is carried out annually in most of the participating centers, that was completed with a screening for I/AE, and some other intrinsic and extrinsic risk factors not contemplated in the EPINE study. Phase 2 was performed at the time of discharge, or 30 days later, using a Modular Review Form for retrospective review of case records (MRF-2) modified and adapted to Spanish, completed through the review of the medical records.

**Results:**

Provisional results included information on 9,975 patients, with a proportion of positive screening of 36.7% and 4,711 identified events that potentially compromised the safety of the patients studied. The classification and subsequent analysis of positive screening has recorded 2,258 I/AE. Considering just those with a close relationship with health care (moderate, very probable or total), 102 I and 1,342 AE have been identified, showing a prevalence of 14.5% I/AE, and a prevalence of 11.6% patients with some I/AE. 21% were considered serious AD, with HAIs and complications in care or procedures the main safety
problems identified (83%), considered half of them avoidable.

**Conclusion:**

This multicentric study has allowed to identify local and regional priority areas of patient safety to facilitate and boost prevention processes and to minimize and mitigate adverse events, as well as increase the critical mass of professionals involved in patient safety.

**Please declare any conflict of interest you may have:** Authors declare no conflict of interest
Introduction:

To ensure optimum health service quality in all hospitals which serves oral and dental health services in Turkey, Healthcare Quality Standards based on World Health Organization goals, international developments, country needs and priorities were developed by the Ministry of Health.

Healthcare Quality Standards sets were prepared for all the public, private and university hospitals that give oral and dental health services in Turkey. “Healthcare Quality Standards- Oral and Dental Hospitals guideline” includes 288 standards and 633 assessment indicators. The evaluation of oral and dental health hospitals was done in 2014. Reevaluation had not be done until 2018.

Our aim is to provide information about the status of the healthcare quality standard ranks in the oral and dental health hospitals in Turkey.

Methods:

"Institutional Quality System" is a web-based system for managing healthcare quality assessments in Turkey. With this system quality assessors evaluate the hospitals and they give scores between 0 – 100 according to the meeting status of standards. Healthcare quality evaluation results for all standards in the year of 2018 were reached through "Institutional Quality System".

Results:

220 oral and dental health hospitals were evaluated in 2018. 156 of them were public, 55 of them were private and 9 of them were university hospitals. The mean score was 75.04 between all the hospitals. The mean score of public hospitals, private hospitals and university hospitals were respectively; 86.30, 43.68 and 67.66.

Conclusion:

The healthcare quality scores are not at intended level especially at private and university
hospitals. An important reason for this may be the interruption of evaluations. Especially the employees working in private hospitals change more frequently, so it is more difficult to establish a quality culture. Therefore, more frequent quality assessments may be useful in such hospitals.

References:

- Regulation on the Development and Evaluation of Health Service Quality. Republic of Turkey Official Newspaper, Date / Number: 06.08.2013-28730. (Sağlık Hizmeti Kalitesinin Geliştirilmesi ve Değerlendirilmesine Dair Yönetmelik. T.C. Resmi Gazete, Tarih/Sayı: 06.08.2013-28730)

Please declare any conflict of interest you may have: The authors declare that there is no conflict of interest.
IMPLEMENTATION OF A QUALITY MANAGEMENT SYSTEM ACCORDING TO ISO 9001:2015 AT THE SUPPLIES UNIT OF A MULTICENTERED HEALTHCARE ORGANIZATION

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Introduction:

Resource management is a key process of support in a multicentered healthcare organization. Its activity includes contracts, purchases and logistics and it affects the whole institution. The implementation of a quality management system (QMS) according to ISO 9001:2015 is proposed for period 2019-21 in order to standardize procedures and to improve the results at the supplies unit, and the department of quality of the institution offers methodological assessment. The implementation of a QMS seeks a framework of efficient resource administration and presents benefits for professionals and the whole organization. However, previous experiences have proven this process to be frustrating for the staff of the area involved, particularly in early stages of the implementation, which led the quality unit to question whether the proposal of implementation of a QMS meets the professionals’ needs and expectations.

Objectives:

To describe the process of implementation of a QMS according to ISO 9001:2015 at the supplies unit of a multicentered healthcare organization and to know the perception, needs and expectations of the staff at the unit as well as to obtain feedback on the methodological assessment offered by the quality department of the institution.

Methods:

For the implementation of the QMS, 6 stages were proposed:

1. Informative sessions on the principles and requirements of ISO 9001:2015.
3. Initial assessment of the unit’s situation (review of internal documents, legislation and performance of an internal audit).

4. Survey to obtain the professionals’ opinion: observational, transversal and descriptive study through the design of an online 6-question survey to gather on the need, relevance or contribution of the ISO implementation within the unit. All questions are compulsory to answer, and anonymity is assured.

5. Establishment of a work plan including definition of the map of process, procedures and instructions; implementation and consolidation of the agreed measures.


Results:

The QMS implementation started in March 2019. Up to date, stages 1 to 5 have been completed and phase 6 will be performed in 2021. Main results include:

1. 2 informative sessions
2. Constitution of a promoter interdisciplinary workgroup and establishment of regular meetings (20 meetings from March 2019 to January 2020)
3. For the internal Audit, questions were adapted to meet the requirements of the National Accreditation for Hospitals.
4. 60% of answers (n=21) to the survey. 76% of respondents considers necessary the implementation of ISO. 75% points efficiency improvement as the main contribution of ISO, followed by errors reduction. On the other hand, 35% believes this process will endure a major workload and 20% thinks it implies more supervision or task control.
5. Map of processes defined, and 21 procedures of the unit’s activity identified.

Conclusion:

The implementation of a QMS in the area of resources management in a multicentered healthcare organization contributes to the improvement of the services offered towards all groups of interests. Moreover, to address professionals’ needs, knowledge and expectations eases a better integration of the QMS and guarantees the implication of all the professionals involved. Finally, it allows the development of an adequate model quality management in the healthcare organization.

References:

Please declare any conflict of interest you may have: The authors declare there are no conflicts of interest.
Is hospital accreditation associated with more recommended patient care? A before and after study on the Faroe Islands

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Introduction:
Today, significant resources are spent on accreditation in over 70 countries. Yet the documentation of the effects of accreditation on processes and outcomes of healthcare is still scarce. Thus, robust empirical studies are needed to justify the expense of time and money.

Objectives:
To examine the delivery of recommended patient care before and after the first-time hospital accreditation in the Faroe Islands.

Hypothesis:
Patients will receive more recommended patient care when treated in a hospital that has undergone accreditation.

Methods:
We conducted a before and after study on the Faroe Islands in connection with introducing accreditation in 2017. We compared the fulfillment of process performance measures through audit of patient records. The recommended patient care was evaluated against 67 process performance measures reflecting the national clinical guidelines. Process performance measures were calculated, as an opportunity-based composite score (percentage adherence to process performance measures) and an all-or-none score (100% adherence to process performance measures).

All three hospitals participated. A random sample of patients ≥18 years, with one of seven clinical conditions (stroke/transient ischemic attack (TIA); bleeding ulcer; diabetes; chronic obstructive pulmonary disease (COPD); child birth; congestive heart failure; hip fracture) were included if they were in- or outpatients from 2012 to 2013 (before accreditation) or 2017 to 2018 (after accreditation).
We calculated the relative risk, risk difference and percentage difference for receiving recommended patient care using Poisson and linear regression, respectively. In all cases, we used mixed effects analyses with a random intercept at patient and hospital level.

**Results:**
A total of 475 inpatients and 392 outpatients from the three Faroese hospitals participated. The total opportunity-based composite score, including all clinical conditions, was slightly higher after hospital accreditation (adjusted difference percentage risk (adj. diff. % risk), 4.4% [95% CI -0.7;9.6]) though the increase was not statistically significant. The probability of receiving all recommended patient care was significantly higher after accreditation (total all-or-none adjusted RR, 2.32 [95% CI 2.03;2.67]).
According to clinical conditions, patients with stroke/TIA (adj. diff. % risk, 17.6% [95% CI 9.7;25.4]), bleeding ulcer (adj. diff. % risk, 22.5% [95% CI 18.9;26.2]), COPD (adj. diff. % risk, 14.3% [95% CI 5.5;23.1]) and child birth (adj. diff. % risk, 27.9% [95% CI 24.8;31.0]) all received significantly more recommended patient care after accreditation. In contrast patients with diabetes (adj. diff. % risk, -4.3% [95% CI -6.2; -2.4]), hip fractures (adj. diff. % risk, -5.9% [95% CI -8.7; -3.1]) and heart failure (adj. diff. % risk, -1.2% [95% CI -4.2;1.7]) received less recommended patient care, however the difference was not statistically significant for heart failure.

**Conclusion:**
Hospitals were more likely to provide recommended patient care after undergoing accreditation. However, the overall improvement of process performance measures was modest. These findings provide support for the hypothesis that accreditation is associated with better health care.

**Please declare any conflict of interest you may have:** No conflict of interest
Introduction:

The National Accreditation Organization (ONA) is responsible for the development and management of Brazilian standards of quality and safety in health. Since 1999, ONA has worked for health institutions in Brazil to adopt management and care practices that lead to improved patient care. The aim is to demonstrate the growth of accreditation by health organizations through the Brazilian Accreditation System, as well as the current scenario, 20 years after the application of the methodology.

Methods:

Statistical and Quantitative analysis of the Brazilian Accreditation System database.

Results:

The Brazilian Accreditation System since its creation until today has approved approximately 3,000 certificates, with 868 certifications valid on 31.12.2019, where it completed 20 years of operation in 2019. These certifications are distributed as follow: By region geographic of the country: Southeast 63.6%, Northeast 12.2%, South 10.8%, Midwest 10.4% and North 3.0%; By level we have the following division: Level 3 (Excellence) - 41.2%, Level 2 (Full) - 29.3% and Level 1 (Accredited) - 27.2%, Qualification Seal 2.3%; By type of organization we have the following division: Hospitals 41.1%, Laboratories 14.4%, Ambulatory 14.1%, Diagnostic Imaging 12.0%, Oncological Services 4.7%, Hemotherapy 4.5%, Nephrology 2.3%, Home Care 1.7%, Emergency Care 1.5%, Handling Services 1.0%, Dental Services 0.7%, Clothing Processing for Health 0.6%, Diet Therapy 0.3%, Sterilization 0.3%, Health Program 0.3% and Hyperbaric Medicine 0.3%.

Conclusion:

It was possible to verify an average annual growth of 22.1% and an expressive exponential growth since the first certification granted in 2001, with a notable expansion to all regions of Brazil and in the most diverse types of health organizations. The biggest concentration of accredited Brazilian organizations is in the Southeast of the country and has hospitals as the main reference in the application of ONA standards.
References: ONA Private System - (CertONA).

Please declare any conflict of interest you may have:
Procedural vs. Facility Accreditation: Narrowed Focus - Greater Impact

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Introduction:

Accreditation (A) is a common way of confirming and monitoring quality (Q). Limited data and science exist on the impact that A has on the systems and processes driving Q. Most facility A focus on organizational factors, sustainability, and leadership, with little attention given to how these relate to the delivery of specific services. Procedural protocols directly connect management to outcomes. This presentation discusses how procedural A impacts processes to improve Q. The focus is on the difference between impacting Q and processes, rather than certifying outcomes.

Objectives:

We sought to understand the value of A in terms of changes in care delivery processes to meet standards, and how new systems were enacted and maintained. Examining the utility of accreditation standards, we sought to uncover how standards shaped new processes of care, and how these new processes translated to improved Q.

Methods:

Accreditation for Cardiovascular Excellence (ACE) reviewed corrective action plans for changes to protocols and processes following an initial A review of the cardiac catheterization laboratory (CCL). Common areas for improvement across organizations were identified to improve Q and processes within organizations. Through procedural standards, a measure for change process at facilities resulting in improved outcomes was assessed.

Results:

ACE has accredited over 60 CCLs since 2010, reviewing 4186 individual cases. Corrective action plans from 19 CCLs where the laboratory seeking ACE accreditation failed to meet specific accreditation standards were reviewed. The plans were coded to provide a quantitative overview of common areas for improvement. All organizations (n=19) required improvements in documentation. 73.7% required updates to protocols regarding the use of contrast and follow-up with patients to reduce risk of contrast-induced nephropathy (CIN). 63.2% (14/19) required greater education, documentation and implementation of appropriate use criteria. 52.6% (10/19) required greater education, documentation and
measurement of radiation safety protocols. A majority of organizations (52.6%, 10/19) also required implementation of randomized case reviews as part of their quality processes. Fewer CCLs required establishment of a minimum volume requirement for operators (21.1%, 4/19), protocols for anticoagulants (15.8%, 3/19), and implementation of a nursing supervisor role (15.8%, 3/19). Quality meetings attended by multidisciplinary care teams improved and standardized documentation. Methods to improve case documentation included the use of hard-stops in electronic health record systems and reference cards and education provided to team members.

**Conclusion:**

A extends beyond the evaluation “event,” and should be primarily focused on processes and systems through which care is delivered and should demonstrate improved outcomes. Standards concerned with documentation are especially impactful and changes can be scaled broadly in the facility. The researchers believe that this study could be used by organizations to improve their Q programs, and to adopt proactive solutions to ensure reaching best outcomes.

**References:**

**Please declare any conflict of interest you may have:**
Introduction:

The Haute Autorité de Santé, the French body in charge of the accreditation of hospitals, is currently preparing the fifth version of its accreditation procedure, which is scheduled to be launched at the end of 2020. The results of the 20 years of accreditation show an effective improvement in the quality and safety of care, the next years have the prospect of supporting this development, by giving accreditation a greater role as a lever for improvement.

Accreditation should be more focused on the quality of results for patients, closer to the practices of health professionals, simpler in its implementation and considering hospital recompositions.

The 3 axes of the future V2020 accreditation are:

1. Medicalize, better take into account the result of patient care
2. Simplify the entire accreditation scheme to be easily apprehended by the various actors of the health system
3. Adapting to grouping of institutions

Methods:

Regarding standards: To develop this new version of the accreditation procedure, a wide-ranging consultation process has been initiated with the various stakeholders, the most important of which being representatives of patients. Thus, four seminars bringing together more than 250 field experts were organized around priority themes in the field of clinical specialities and general management. These groups have been commissioned to identify, by thematic, the main critical points of care (what we want to see - what we do not want to see anymore) and to formulate them into operational objectives with their evaluation criteria.

Regarding the accreditation procedure: In parallel, the accreditation procedure has been revised to adapt the survey methodology, to refine the survey tools, to train the surveyors and to reconsider the decision making process.
Results:

The accreditation handbook now includes four chapters: the Patient, the healthcare Team, the Hospital, the Group (i.e. trust); it includes generic criteria and specific criteria depending on the type of activity or the modes of care. Each criterion is the subject of a descriptive sheet including the title of the criterion, its objective, the available input data, the investigation methods, a rating scale as well as documentary (bibliographic) references.

There are three categories of criteria: Standard (= expected); Imperatives (what we no longer want to see) and Advanced (= future standards).

The survey methods include tracers: patient tracer, pathway tracer and targeted tracer; system audits, observations as well as taking into account the indicators for the quality and safety of care (IQSS).

A specific rating system has been developed to assess the level of satisfaction with the requirements of the criterion.

The pool of surveyors has been reconfigured and now includes 380 doctors, including 160 doctors specializing in patient tracer, 220 healthcare professionals like head nurses and 100 managers. All surveyors have undergone reinforced training, combining diversified teaching methods (face-to-face and e-learning). A final exam will endorse this training.

Finally, the decision-making process is simpler and has 3 levels: Above, Achievement and Below (meaning conditional accreditation and denied accreditation).

Conclusion:

The surveys will start in November 2020 and the system will be subject to an evaluation aimed at objectifying the level of simplification of the procedure, the support of doctors as well as the overall performance level of hospitals.

At the same time, the launch of the “quality award” project will identify and highlight best practices.

References:

REENGINEERING OF THE FRENCH ACCREDITATION PROCEDURE: MAIN PERSPECTIVES; M. Jakubowski, A. Chevrier, B. Lucet, C. Grenier; ISQua 2019

Please declare any conflict of interest you may have: none
[1432] Prototyping: Rapid PDSA Cycles for Accreditation System Reform

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Introduction:

Canadian residency education accreditation had evolved into a system with many manual procedures and process-oriented standards. Three accrediting colleges came together as the Canadian Residency Accreditation Consortium (CanRAC) to develop a new conjoint residency accreditation system aligned with the principles of competency-based medical education. Given the high-stakes nature of accreditation, there was a desire to test any new innovations before they were fully deployed.

Objectives

- Apply the “plan-do-study-act” cycle to rapid accreditation system reform.
- Identify the strengths and challenges of the CanRAC prototype approach.

Methods:

Interviews with Canadian postgraduate deans highlighted strengths and challenges of the previous system; >50% identified a need for major transformative change. CanRAC created a governance structure to develop a new accreditation system using a multi-year, iterative development process. Stakeholders identified the need to implement in a way that would recognize the importance and size of the changes, give schools and programs time to prepare and adjust, and continuously seek input and make improvements. Different approaches to deploying a new accreditation system were considered, with attention paid to balancing the amount of time to prepare, test, and adapt against the amount of risk and impact on stakeholders.

Results:

CanRAC developed a three-stage prototype model of implementation; each collected and implemented feedback from previous phases and increased in impact and effort. Prototype 1 focused on a small group of volunteers providing feedback on draft standards and processes while observing the existing process. Prototype 2 expanded to a group of shadow surveyors conducting the new accreditation process in parallel. Prototype 3 consisted of full
testing by schools, programs, and surveyor teams, with regular accreditation reviews conducted using the new processes and standards.

**Conclusion:**

The Canadian residency accreditation system had not undergone a comprehensive reform in more than 20 years. The CanRAC prototype model balanced the need to rapidly introduce major transformative change, while recognizing the length of time needed to prepare for accreditation and the need to continuously improve the new system prior to its full implementation. The CanRAC prototype model of rapid improvement cycles and increasing impact on stakeholders provides a successful, pragmatic change management model for health professions education and accreditation reform worldwide.

**References:**

**Please declare any conflict of interest you may have:** none
Introduction:

Accreditation surveys are carried out with different survey teams for each hospital. For each survey team, the size and capacity of the hospital, the type and the number and quality of surveyors compatible with the services it provides are considered. Although accreditation surveys are performed by different team members, the trainings provided according to the surveyor training program accredited by ISQua tries to provide surveyor calibration. This study aims to investigate how similar the results of the accreditation survey carried out by different survey teams compared to a public and a private hospital, and whether the compliance of hospitals with accreditation standards and assessment criteria varies between sectors.

Methods:

In Health Care Accreditation Standards Hospital Kit Version 1, there are 7 dimensions, 34 chapters, 59 standards and 242 assessment criteria. The surveys mentioned in the study were made through the same version standards. After the survey of a public and a private hospital with different survey teams, the standard and assessment criteria in the survey reports were compared.

Results:

In the public hospital, accreditation surveys were carried out with 7 days 4 surveyors, and in the private hospital 5 days 5 surveyors. When Table 1 is examined, it is seen that the standard compliance level of the private hospital is higher than that of the public hospital. However, the number of not met standards and assessment criteria is higher in the private hospital than in the public hospital. It is observed that the number of standards and assessment criteria partially met by the public hospital is higher compared to the private hospital. In Table 2, the standard chapters were compared according to the assessment criteria compliance levels and partially met and not met assessment criteria common to both hospitals are given. It is seen that there is a match in 10 chapters (29.4%) out of 34 chapters in the standard set. It is observed that the same assessment criteria in the employee's health and safety and safe surgery chapter are not met in both hospitals. In the
facility management chapter, it is noteworthy that the same assessment criterion was rated as partially met in the public hospital, while not met in the private hospital. Apart from these chapters, it is clear that the same standard of assessment criteria of the same standard has similar compliance criteria in document management, risk management, patient feedback, control and prevention of infections, hotel management services, information management and emergency management chapters. The most matching assessment criterion is in the emergency management chapter.

Conclusion:

It is observed that the levels of compliance the standard and assessment criteria of the public and private hospital accreditation surveys compared in the study were quite similar and the sectoral distinction did not make much difference. It would be appropriate to say that hospitals should perform improvement studies on patient and employee safety on similar issues, regardless of in different sectors.

**Table 1. Parameters of Comparison for Public and Private Hospital**

<table>
<thead>
<tr>
<th>Parameters of Comparison</th>
<th>Public</th>
<th>Private</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey Day and Number of Surveys</td>
<td>7 days 4 surveys</td>
<td>5 days 5 surveys</td>
</tr>
<tr>
<td>Standard Rate Met</td>
<td>88%</td>
<td>90%</td>
</tr>
<tr>
<td>Number of Standards Met</td>
<td>52 / 59</td>
<td>53 / 59</td>
</tr>
<tr>
<td>Partially Met Standards</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Number of Not Met Standards</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Number of Partially Met Assessment Criteria</td>
<td>39 / 242</td>
<td>33 / 242</td>
</tr>
<tr>
<td>Number of Not Met Assessment Criteria</td>
<td>3 / 242</td>
<td>6 / 242</td>
</tr>
</tbody>
</table>

**Table 2. Similar Standard Compliance Levels of Public and Private Hospital**

<table>
<thead>
<tr>
<th>CHAPTER’S NAME</th>
<th>PUBLIC Compliance Status of AC</th>
<th>PRIVATE Compliance Status of AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document Management</td>
<td>Partially Met</td>
<td>Partially Met</td>
</tr>
<tr>
<td>Risk Management</td>
<td>Partially Met</td>
<td>Partially Met</td>
</tr>
<tr>
<td>Employee’s Health and Safety</td>
<td>Not Met</td>
<td>Not Met</td>
</tr>
<tr>
<td>Patient Feedback</td>
<td>Partially Met</td>
<td>Partially Met</td>
</tr>
<tr>
<td>Control and Prevention of Infections</td>
<td>Partially Met</td>
<td>Partially Met</td>
</tr>
<tr>
<td>Safe Surgery</td>
<td>Not Met</td>
<td>Not Met</td>
</tr>
<tr>
<td>Hotel Management Services</td>
<td>Partially Met</td>
<td>Partially Met</td>
</tr>
<tr>
<td>Facility Management</td>
<td>Partially Met</td>
<td>Not Met</td>
</tr>
<tr>
<td>Information Management</td>
<td>Partially Met</td>
<td>Partially Met</td>
</tr>
<tr>
<td>Emergency Management</td>
<td>Partially Met</td>
<td>Partially Met</td>
</tr>
</tbody>
</table>
There is no conflict of interest among the authors.
Study of healthcare professionals' perception and users' satisfaction about accreditation

Essaafi Sihem1; Slouma Rim1; Majoul Sihem1; Favre Martial2

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Introduction:

The National Authority for Evaluation and Accreditation in Healthcare (INEAS) is the first accrediting body in North African countries where accreditation remains a new concept. INEAS vision is to contribute to the regulation of the healthcare system through quality and efficiency.

With the aim of developing INEAS' strategic thinking and promoting accreditation as a major tool for improving quality and safety of healthcare, a study was carried out on accreditation with healthcare users and professionals. Its objective is to describe healthcare professionals' perceptions of accreditation and users' satisfaction/expectations.

Methods:

The study is cross-sectional and includes 2 types of surveys:

- A "quantitative" survey on the perception of accreditation among healthcare professionals through a self-administered questionnaire.

- A "qualitative" survey by interview and focus group with users.

It aimed to reach a representative sample of public and private healthcare facilities. For each sector, a sub-sample of institutions involved in the accreditation process and others not yet engaged were selected.

The sampling of institutions was carried out by reasoned choice. The selection of participants was based on both random and reasoned criteria.

Results:

- 423 health professionals (HPs) distributed among the 20 surveyed facilities, with representation from all profiles.

The total number of users met is 177, including 25 in individual interviews and 151 in groups spread over 26 FG Focus Group.
- Accreditation is well considered by health professionals, whether the facilities they are working for are involved or not, but it is clearer for public than for private health professionals.

- The professionals working for healthcare facilities involved in accreditation process are distinguishable by benefiting of a training on quality improvement of healthcare services and by the setting up of quality units.

- The expected benefit of accreditation is more evident for the private sector.

- Expectations relate to improvements in staff relations, comfort, increased confidence and organization.

Regarding users:

- Accreditation is still a little-known concept.

- Their satisfaction was noted in decreasing order:
  
  - relational,
  - hospital stay,
  - medical care,
  - reception,
  - cost,
  - technical platform,

It is more felt in the private healthcare facilities involved in accreditation.

- Dissatisfaction is expressed against private clinics, on
  
  - cost,
  - lack of transparency
  - commercial approach.

**Conclusion:**

This survey has been useful for raising awareness about quality and accreditation.

Thus, INEAS should include information on accreditation in its communication strategy.

The study has benefitted INEAS by constituting a starting point for the elaboration of a satisfaction barometer helpful for the monitoring of the accreditation programme in Tunisia;
References:

Report of the survey on the perception of accreditation by health professionals and user satisfaction in public and private health facilities in Tunisia dated 19/09/2019

Please declare any conflict of interest you may have:

The presenters have no conflicts of interest to declare.
Surveyor Experience in Using Mobile Hospital Accreditation Online Evaluation System

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Introduction:
Hospital accreditation has been conducted in Taiwan since 1988. In the past, hospitals usually prepared accreditation documents in paper form. Similarly, surveyors also recorded the findings in printed evaluation form for on-site survey. However, it required lots of manpower and time to collate scores and survey reports. In addition, a large amount of storage space is required for storing nearly 500 hospitals' documents. With the rapid development and application of information and Internet technologies in recent years, JCT has established the computerized Hospital Accreditation Management System for the accreditation operations. Meanwhile, JCT continues to update and expand the functions for both hospitals and surveyors to make the system more friendly and efficiency. The functions include application and data submission and downloading of evaluation results. In 2019, an online, mobile evaluation system was introduced to replace printed evaluation form. Surveyors can upload their findings to the system real-time with great efficiency. The purpose of this study is to investigate the satisfaction of surveyors in using the system.

Methods:
Considering the popularity of personal mobile devices, JCT used the Responsive Web Design (RWD) technology in the evaluation interface for fitting different devices screens properly (such as mobile phones, tablets, notebooks, and etc.), it can reduce the operational behaviors such as zooming, panning, and scrolling. In addition, in order to understand surveyors' satisfaction of using the system, we used the Computer System Usability Questionnaire (CSUQ), which includes system usefulness, information quality, and interface quality. In this study, we investigate the surveyors who participated the on-site survey in 2019. A total of 164 questionnaires were collected (response rate 94.3%).

Results:
It is shown that the surveyors’ overall satisfaction for using the online , mobile evaluation system is 4.34 ± 0.62 (with 0 the worst, 5 the best satisfaction) , and the satisfaction with the system usefulness is 4.38 ± 0.63. It is considered that the system is easy to use and can assist to complete their work efficiently; the satisfaction of the information quality (such as reminder, auto completion check for survey report, etc.) is 4.35 ± 0.64; the satisfaction of the interface quality is 4.22 ± 0.72.
Conclusion:
Majority of surveyors were satisfied with the use of the online mobile evaluation system as compared to the printed evaluation form. According to the study, the interface can be regarded as the priority for improvement in the future. It is recommended to decrease the frequency of switching evaluation page, in order to reduce the difficulty and waiting time of using this system. In addition, sufficient and proper reminders can also assist surveyors in using the system and aggregate the accreditation data for improving efficiency. JCT will continue to collect user suggestions of system design and operation as a reference for adjustment. Through the process of hospital accreditation information renovation, it shows positive impacts on the workload of the hospital accreditation preparation, work efficiency of surveyors, the convenience and safety of data storage management, and the automatic aggregation of evaluation results.

Acknowledgment:
This research was supported by Ministry of Health and Welfare R.O.C. Tender Project No. M08A3187 "Plan of Hospital Accreditation, Teaching Hospital Accreditation, Follow-up Survey, and Survey Program".
Introduction:
The "Government Service Quality Award" is the highest honor to promote innovations and enhance quality of service for all government sectors in Taiwan. It has been implemented for eight years with a total of 233 units being selected from various fields. Taichung Veterans General Hospital won this award in 2016 and then again in 2019. The following efforts and achievements were those that we provided in 2019.

Method:
The main theme of our services targeted at “Starting from the Heart, 3C Innovation and Holistic Health Care”, whereas 3C stands for Completeness, Continuity and Creativeness. We had maximized patients care with the integration of innovative case management services and 24-hour health counseling services in order to ensure continuous patient-center services.

Result:
To provide high ranking of safety during pharmaceutical services, we adopted and then modified the PharmaCloud system into hospital cloud platform and designed an “unique time series” pattern that can clearly illustrate patient’s immediate past and current uses of all medication in screen. In addition, the system helps to check high-risk medication to avoid repeated use and interactions of potential medication. These implementation greatly reduced number of concurrent medications and costs. The aforementioned integrative medical processes yielded following benefits: (1) the satisfaction rate of case management system run as high as 4.43 points in 5, while outpatient satisfaction significantly improved; (2) the PharmaCloud improves patient medication safety effectively; (3) 24-hour health counseling services take care of people without time lags.

Conclusion:
Our efforts in combing medical services with information technology have made us a smart hospital and go the highest honor of the “Government Service Quality Award” in 2019. We will continue to offer state-of-art medical service to our patients and contribute to their welfare in central Taiwan.
References:


Please declare any conflict of interest you may have: no
Introduction:

The Department of Pathology processes over 23 000 histology requests annually. Samples are processed in a comprehensive and time-consuming manner, mainly by medical scientists. Cassettes used in the processing are coloured and coded depending on the specimen type and how they are to be prepared.

Turnaround Times (TATs) help monitor the function of the lab and are an important element of quality, due to its impact on the clinical management of patients. TATs are measured, in days, from the time the laboratory receives the specimen to the time the report is authorised. The targets are that 80% of small biopsies (P01) and GI biopsies (P02) are authorised in 5 days, For other non-biopsy samples (Cancer resections p03 and non-cancer p04) the target is 80% by day 7.

Problem:

TAT targets were not being met for a number of years, particularly P01 & P02. The department is expected to get busier and staff recruitment challenging.

Objectives:

Meeting all TATs within 3 months with cost neutral changes.
Methods:

This QI project focused on the analytical part of the laboratory work cycle. This phase begins with grossing & ends with typing of a report. A working group (2 biomedical scientists (BMS), consultant histopathologists) reviewed work practices and work flow. A Lean improvement approach was used to identify areas of change and eliminate waste. All staff were encouraged to propose improvement ideas.

Streamlining and standardising of process: The process map demonstrated multiple areas of redundancy. Increasingly complex and overlapping coding of samples had become the norm (e.g. a skin biopsy had up to 10 potential codes for the generation of cassettes). The process was simplified and standardised for similar samples. Now there are 5 colours options for the different samples and two codes for skin samples.

Smoothing workflow: BMS were to cut and stain in smaller batches, allowing a more continuous flow from the lab, eliminating peaks and troughs.

Rota changes: The consultant rota had not changed in over 10 years while workload increased 40% since 2010. The process map suggested this needed to change for other improvements to have an impact on TATs. The old rota did not reflect TATs or the new workload. The rota was: inpatient cases, outpatient GI biopsies, other outpatient biopsies and material from another hospital. This was complicated and had two main impacts. 1. At
“check out” BMS had to sort similar samples for different pathologists depending on the source. 2. It was not obvious what the target TAT was as there was mixed workload. The rota was streamlined into 4 categories which reflected the coloured cassettes. Urgent samples (grey), P01 (pink/green), P02 (in&out-patient) (blue), P03/P04 (white). Samples from off-site hospital was divided by p-code. In trays were colour coded to match the cassettes.

Work practice and rota changes introduced 20 May 2019. Outcome measure was change in TATs.

**Results:**

TATs were compared to the equivalent 7 months in 2018 (June- Dec). There was an almost immediate and sustained improvement. P01 met and exceeded the TAT in 4 of 6 months (median 83%), while p02, P03 and p04 met TAT every month. Every category failed in 2018

**Conclusion:**

The purpose of the QI intervention was to deliver an effective and streamlined histopathology service with reduced TATs in a challenging work environment with consequent improvement in a patient’s care pathway. This has been achieved and sustained. Other improvement projects stemming from these initial changes to enable continual QI.

**Please declare any conflict of interest you may have:** None
Introduction:

Standards of Accreditation in Health (SAS) Coding System was developed in order to ensure the traceability of standards by providing them an identity. In the Coding System; code of standard consists of four parts. First two parts consists of letters and last two parts consists of numbers. Alphabetical parts include two letters, and are abbreviations of related aspect and chapter. Numbers at last two parts (3rd and 4th parts) include two-digit numbers. Third part corresponds to standard number in chapter. Fourth part corresponds to assessment criterion number of standard. In fourth part, “00” corresponds to standard itself, increasing digits like “01” and so on corresponds to order of assessment criteria. For example: YO.OY.02.05: Management and Organization Aspect, Organization Structure Chapter, second standard and fifth Assessment Criterion.

Our aim is to get feedback on the SAS Coding System from the SAS surveyors. Professionals who have the qualifications determined by Turkish Health Care Quality and Accreditation Institute, and have completed the surveyor training program adequately and who evaluate the level of health accreditation standards in health institutions within the framework of the defined principles are defined as “SAS surveyors”

Methods:

The universe of the research was 134 SAS surveyors. The sample has not been determined since it is aimed to reach the entire universe. The questionnaires were sent to the surveyors via e-mail, and 70 of the surveyors responded the questionnaire.

The questionnaire consisting of 6 closed-ended questions in 5-point Likert type scale was sent to the surveyors via e-mail. Likert type scale domains are: Strongly Approve- Approve- Undecided- Disapprove-Strongly Disapprove.
The questions are:

1. There is a clear framework for the standards that makes them easy for organisations and surveyors to use.
2. SAS coding system is easy to understand.
3. The explanation provided for the coding system of the standards is sufficient.
4. Standards are grouped logically.
5. There is a convenient structure for easy access to information about standards.
6. The pages of standard set is identified, so that its content can be easily located.

Results:

70 SAS surveyors filled out the Coding System Questionnaire. The rates of participants who approve or strongly approve on the basis of questions are:

- For question 1; 97.14%
- For question 2; 97.14%
- For question 3; 91.42%
- For question 4; 95.71%
- For question 5; 90%
- For question 6; 87.14%

The most disapproved question is the sixth question. (12.85%)

The most approved questions are the first and second questions. (97.14%)

Conclusion:

Assessing accreditation standards of hospital is complex. So the coding system used in assessment should be useful and traceable. With this regard feedbacks of surveyors are very important and this study shows that the coding system was developed in the need of surveyors.

References:

- Standards of Accreditation in Health Hospital Kit- 1 Ministry of Health, Turkey Directorate of Healthcare Services Department of Quality and Accreditation in Health, 2018.
• **Standards of Accreditation in Health Laboratory Kit v2.0** Ministry of Health, Turkey Directorate of Healthcare Services Department of Quality and Accreditation in Health, 2019.

• **Standards of Accreditation in Health Hemodialysis Kit v2.2** Ministry of Health, Turkey Directorate of Healthcare Services Department of Quality and Accreditation in Health, 2018.

• **Standards of Accreditation in Health ODHS Kit v2.0** Ministry of Health, Turkey Directorate of Healthcare Services Department of Quality and Accreditation in Health, 2018.

**Please declare any conflict of interest you may have:**
The authors declare that there is no conflict of interest.
The financial impact of postoperative complications from eight surgical departments

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Introduction:

Starting in 2018, a web based management and reporting tool for surgical patients, was developed by the University of Applied Sciences in Upper Austria. This program provides transparency concerning morbidity and mortality, processes and cost of care for the medical departments.

Herniotomy, cholecystectomy, colectomy and proctectomy are among the most frequent reasons for abdominal surgery. Evidence-based guidelines exist, detailing the use of laboratory and radiologic tests as well as other services necessary for the patients. These guidelines have made it possible to standardize patient care. However, in case of complications patients may need other services that are not covered by specific guidelines. As additional services are costly, it can be assumed that complicated cases are more costly than non-complicative patients.

Hence, the aim of this study was to determine the financial burden of complications and examine the cost differentials between complicated and uncomplicated hospital stays for the included operations.

Methods:

The study was conducted at eight small to medium-sized Austrian hospitals. Resource use for laboratory and radiologic testing as well as other services performed was analyzed in patients with hernia repair, cholecystectomy, colectomy and proctectomy. A random sample of 50% of patients undergoing one of these operations during a 13 months period was included into the study.

The number and cost of services provided for the patients was compared in patients with one or more complications to patients without complications.
Results:

1267 patients undergoing herniotomy (n=621), cholezystectomy (n=456), colectomy (n=138) and proctectomy (n=52) were included in the study. The participating hospitals performed a mean (min-max) of 55.3 (0 - 569) laboratory tests at a cost of 230.9 € (0 € - 2407.8 €) and 3.9 (0 - 38) radiologic tests at a cost of 719 € (0 € - 22666 €) in a group of patients without complications as compared to a number of 142.4 (0 - 566) laboratory tests at a cost of 583.7 € (0 € - 2359.8 €) and a number of 10.3 (0 - 45) radiologic tests at a cost of 2324.1 € (0 € - 18179.3 €) in a group of patients with complications (p< 0.001; p< 0.001; p< 0.001; p< 0.001). The ratio in mean costs between complicative and non-complicative cases was 3.1.

The complication rates between the different operations differed between 5.2 and 25.0%.

In herniotomy, the ratio in mean costs between complicative and non-complicative cases was 3.3 (251.1 € vs. 836.1 €), in cholezystectomy 2.0 (1371.3 € vs. 2681.5 €), in colectomy 1.7 (2677.7 € vs. 4464.3 €), and in proctectomy 2.4 (2060.0 € vs. 5039.5 €).

Conclusion:

As we were able to demonstrate, variable costs for services provided for the patients, differ significantly between complicative and non-complicative cases. Hospital resource use increases with the incidence of complications. There is a two to threefold financial gap between the groups. Although the absolute increases in cost depend on the operations performed, complications in general present a significant target for cost reduction. Given the substantial costs associated with postoperative complications, reducing morbidity may provide sufficient cost savings to offset the resources needed to invest in management and reporting tools. These tools may further enable the medical departments to compare their work on a fair and transparent basis and to improve care.

References:

Please declare any conflict of interest you may have:
Introduction:

Most healthcare regulators use inspection frameworks to guide and standardize regulatory site visits. Some, like the Dutch healthcare inspectorate, publish these inspection frameworks to inform the public and providers about regulatory procedures, also seeking to improve quality of care as healthcare providers are encouraged to comply with standards laid down in the inspection frameworks. Little is known, however, whether and how providers use inspection frameworks for quality improvement.

Objectives:

This study aims to explore the consequences of publishing inspection frameworks, with the objective of gaining insight in the functioning of inspection frameworks for regulation of quality and safety in healthcare.

Methods:

We selected three inspection frameworks that were recently published and used for inspections in three healthcare settings in the Netherlands: nursing home care, dental care and hospital care. We conducted 37 interviews with 39 respondents (healthcare professionals, managers, policy advisors and inspectors) and explored awareness of and experiences with these frameworks. A group interview with three inspectors was held to reflect on our findings. All data were analysed through thematic content analysis.

Results:

We found that the institutional infrastructure of a sector plays an important role in how inspection frameworks are used and valued as quality instruments. This firstly relates to the sector’s perception of ‘doing’ quality improvement. In hospital care, quality improvement through standardization and quality improvement measures have become common practice, and in nursing home care this is increasingly the case. In dental care though, quality improvement work much more depends on individual initiatives and is far less regulated on national level. Secondly, the size of an organization matters, with larger organizations, such as nursing homes, hospitals and chains of dental practices that employ
quality staff who closely monitor the website of the inspectorate and translate the frameworks and reports of inspections to the workplace. Finally, the inspectorate’s grip on a sector plays an important role. What happens with the framework depends on the possible consequences that healthcare providers expect in the event of non-compliance with the standards from the framework. Respondents mentioned differences in how frameworks are used in organisational contexts. In some organisations, the framework served as an accountability mechanism to check if quality meets basic standards, whereas in others it was adopted by professionals to stimulate discussion and learning across teams.

**Conclusion:**

In developing inspection frameworks, attention should be paid to the relation and coordination between the design of an inspection framework, what a regulator intends to achieve with a framework and the capabilities and possibilities for learning and improving within a healthcare setting.

**Conflict of interest:** None declared
THE ROLE OF ACCREDITATION FOR TURKISH AND FOREIGN PATIENTS’ HOSPITAL PREFERENCE
ÖZGÜL ÖZKOÇ2; ZUHAL ÇAYIRTEPE1

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Introduction:

The aim of this study is to define comparatively, the factors that are important in the hospital preference and the role of having international accreditation certificate in hospital preference of Turkish and foreign patients.

Methods:

This research is descriptive study. 4 hospitals were chosen from 32 international accredited hospitals in Turkey, by using ‘easy sampling method from Improbable Sampling Methods. The sample size was determined by considering the weight of the number of Turkish and foreign patients in the total number of patients admitted in the previous year.

Cronbach’s Alpha coefficient of the questionnaire found as 0.754. Descriptive statistics (frequency distribution, mean and standard deviation) and Independent Sample t-test were used in data analyze.

Results:

The first three factors in hospital preference of Turkish patients found as presence of the specialist physician in their field, having modern technology and equipment and hospital quality. The first three factors in hospital preference of foreign patients found as hospital quality, having modern technology and equipment, physical appearance and cleaning. Having international accreditation certificate placed 9th rank for Turkish patient and placed 6th rank for foreign patients.

5 of the 12 hypotheses regarding that having significant difference in hospital preference between Turkish and Foreign Patients were accepted and 7 hypotheses were rejected. 3 of 4 hypotheses measuring differences in attitudes of Turkish and Foreign patients about having international accreditation certificate were accepted and 1 hypothesis was rejected.
Conclusion:

The results of the study show that the hospital quality is placed in top three factors in the hospital preference, however having international accreditation certification is not so important as hospital quality. It was seen significant difference between Turkish and foreign patients about the factors affecting hospital preference and the importance given to international accreditation certificate.

References:

Please declare any conflict of interest you may have:-
What is evaluated through an emerging Accreditation Process?

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1INEAS, Tunis, Tunisia; 2GIZ, Tunis, Tunisia

Introduction:

Evaluating the quality of care in health structures is a fundamental step towards improving the health system.

The Tunisian National Authority for Evaluation and Accreditation in Health care (INEAS), created in 2012, the first accreditation body in North Africa, has carried out an evaluation of the quality of services provided by public and private health care institutions against its accreditation manual which enabled it to assess the overall functioning of the institutions. This manual was accredited in 2019 by ISQua, demonstrating compliance with the most rigorous international requirements for the development of standards and is the basis for INEAS to develop and encourage quality improvement in its clients.

But what type of evaluation is concerned by the INEAS accreditation procedure in its 1st iteration: is it the resources, the policies and procedures or the results?

Objective:

To analyze the INEAS accreditation standards’ framework in order to judge the relevance of the criteria for the external evaluation of Hospitals

Methods:

- Descriptive, cross-sectional study.

- A quantitative and qualitative analysis was carried out using all the criteria of the accreditation manual for 2nd and 3rd line hospitals.

- A tool was developed for classifying and analyzing references and criteria according to items: resources, policies and procedures or results

Results:

The INEAS Accreditation Manual consists of 4 parts, 22 domains, 137 requirements structured according to the PDCA and 560 criteria. 20% of the criteria relate to resources, 40% to policies and procedures and 20% to outcomes. The focus is therefore on aspects related to policies and procedures.
A multitude of procedures is required by the standards and their assessment is relevant and easy to implement but only verifies their compliance to the criteria.

The reduced number of outcome indicators does not really reflect the link of these policies and procedures to health outcomes achieved.

On the other hand, satisfaction indicators are used by professionals to evaluate their hospital structures without having a real link between patient/user satisfaction and quality of care.

**Conclusion:**

Accreditation should not be just a one-time assessment but an action for continuous improvement of the quality and safety of care. Good quality of care should be reflected by good results in terms of health indicators.

**References:**

Accreditation manual for 2nd and 3rd line health care organizations

**Please declare any conflict of interest you may have:**

The presenters have no conflicts of interest to declare
Introduction:

In 2015, the University of Applied Sciences in Upper Austria started the LeiVMed program, whose aim is to compare and significantly improve the costs and outcome of surgical treatments in hospitals. LeiVMed benchmarks surgical treatment classes with high frequency and potential for standardisation. LeiVMed is in use of an infrastructure ensuring sufficient semantic data quality for benchmarking in general and in particular for machine learning. This warrants valid medical benchmarks at reasonable costs and amount of time. Likewise, high flexibility and low complexity of benchmarking in general and especially for machine learning is considered.

Methods:

This study investigated data preparation and validation in LeiVMed in the form of participatory observation. Development on the LeiVMed infrastructure has been started in 2010 with the funded research project "ontology based benchmarking infrastructure". Since then the LeiVMed infrastructure has been improved continuously. LeiVMed infrastructure is currently used for a research project on medical benchmarking with Gesundheitsholding, the holding of eleven regional hospitals in Upper Austria.

Results:

The governance of ETL in LeiVMed represents the result of this study, which is shown in Figure 1. Besides the ontology this includes rules and procedures for preparing and checking data. The ontology defines standardized medical concepts, relationships among them and data structure for benchmarking data. The ontology is the semantic basis for preparing data extracted from hospital applications, a web client used for manual completion of data or manual gathering of test data and a reference for data elements in hospital information systems. Data from hospital applications is complemented with data on medical complication generated through
ML-algorithms for (retrospective) data prediction. Multiple rules are applied for the application of ML-algorithms and multiple automated and manual plausibility checks are made to validate the data acquired. Finally benchmarks are computed with the data validated, which leads to continuous improvements on medical management and besides the ontology. Data privacy plays a major role. With usage of ML-algorithms LeiVMed is able to compute benchmarks for 45,000 medical cases (out of 75,000 cases treated in total) per year (published per month) with 1,5 employees responsible for preparation and validation of data.

**Conclusion:**

Its infrastructure enables LeiVMed to compute benchmarks of about 60 % of medical cases of surgical departments (depending on medical discipline) on the basis of routine data at low expenditures and in short time. This enables management to make data-driven decisions and to gain new insights from different surgical departments of their departments hospitals.

**Abbreviations:** ML – Machine Learning, ETL- Extract Transform Load
5. Facilitating Future Health Abstracts

[1729] A regional hospital in the north uses an information system to reduce the rate of repeated medication days for 60 categories of drugs
Ching-Feng LIN1; Chiung-Fang YAO1; Jiing-Chyuan LUO1; Yu-Wen LIN1

1Ching-Feng LIN, Keelung, Taiwan

**Background**: National Health Insurance in 2017 collected patient drug recovery volume. It is estimated that at least 193 metric tons of medicines will be discarded in one year. In order to avoid wasting medical resources, the development of a patient-centered NHI MediCloud system for physicians to prescribe and adjust for pharmaceutical personnel. Patients are given complete medication information, and the inspection of 6 types of drugs has been repeatedly expanded to 60 types of drugs to ensure the safety of drug use by the public.

**Method**: The medical system sets up a repeat reminder system for medication orders, uses the NHI MediCloud system to query the complete medication information of the public and combines the pro-active reminder function of repeating the issuance of medical orders across hospitals to remind physicians to avoid repeated medication and the National Health Insurance regularly returns days and rates of repeated medication.

**Result**: Through the above-mentioned computer medical order system restrictions and alerts, the number of repetitive medication days for 60 drugs in the first quarter of 2019 decreased from 18,629 days to 12,314 days in the second quarter, a total of 6,315 days. 0.36% in the first quarter decreased to 0.24% in the second quarter, a total decrease of 0.12%. There was a significant decrease in the number and days of repeated medications.

**Conclusions**: In order to avoid wasting limited medical resources, the development of the NHI MediCloud system and the re-issuance of inter-hospital medical orders pro-active reminder function reminds the institution and the institution's self-management mechanism to reduce repeated drug use, promote patient drug integration, ensure reasonable drug use and improve patient drug safety.
Objectives:

Patient safety is defined as the absence of a preventable harm to the patient during health procedures by World Health Organization. Falls are one of the most important patient safety and quality problems. For this reason, it is important to prevent patient falls and fall-related injuries by evaluating the fall risks of patients and identifying high-risk patients and taking necessary precautions. Determining the risk factors that may cause patients fall in hospitals, examining the causes, analyzing them, ensuring that preventive measures are taken in a timely manner and preventing harm to patients, will provide quality effective and efficient health services.

Methods:

In this study, the data of the research was collected through the “Falling Patient Data Collection Form” and “Falling Patient Data Analysis Form” developed by the Ministry of Health Quality and Accreditation Department and followed regularly by the quality units in hospitals. The universe of the research consisted of patients who fell and were registered in 8 Education and Research hospitals operating in Istanbul in a year 2018. With this study, it is aimed to determine the causes of falls in patient falls in hospitals, to determine the measures to be taken within the scope of patient safety and to improve health. In the study, the data obtained based on the “Falling Patient Data Collection Form” and “Falling Patient Data Analysis Form” based on the patients falling in the hospital were evaluated with SPSS program and statistical results were obtained.

Results:

170 patients falling recorded at one year in these hospitals and most of these records notified by nurses and midwives (%98) remaining by doctors. %62 of these are men and %65 of older than 50. Falling patients were the inpatients of which %34 surgical clinics, %49 internal medicine clinic, %4 intensive care clinics, %14 child clinics. Including total inpatients at these clinics in order, falling rates were %0,08, % 0,20, % 0,09 and % 0,21. Most of falling patient (%85) were recorded as high falling risk. Looking their diagnosis %20 Neurological, %19...
Chronic and Heart Diseases, %18 Cancers, %17 Infection, %4 Genetic Diseases, %5 Orthopedic, %17 Others. Most of falling were recorded in toilets (%32), patient room (%29) and hospital corridor (%29) and some of in operating rooms (%3) and intensive care units (%4).

**Conclusion:**

As a result, patients with neurological and chronic and hearth diseases had a high risk of falling. When we look at the reasons, it was found that the patients got out of bed without support from their relatives or nurses and they fell because they could not provide their balance. In this case, it was evaluated that inpatients do not have enough information about falling, and even if they feel good, they do not understand the necessary importance to get out of bed with a helper and to satisfy their needs. Since the hospitalization of patients with high risk of falling, the patient should be educated about falling, prevention of falling, complications that may arise as a result of falling, and its importance should be explained in ways that the patient can understand in accordance with individualized care. Also, in order to prevent falling, methods that will ensure the ergonomics of the patient should be developed in the patient room, clinic and toilet, and necessary measures should be taken to prevent falling.
Introduction:
Optimal pain relief for critically-ill patients highly relies on adequate pain assessment tools and correct pain assessment. Information related to available tools’ responsiveness, and pain intensity rating agreement between patients and nurses is limited. To examine the responsiveness, and the measurement agreement between patients and nurses of three pain assessment tools.

Methods:
This prospective study was conducted at three adult intensive care units in a medical center. Study participants included 30 critical care nurses, and 38 conscious patients with mechanical ventilation. Patients were requested to self-report pain intensities by using the Numerical Rating Scale (NRS) when they were at rest, and received turning over procedures. Nurses simultaneously used the NRS, Behavioral Pain Scale (BPS), Critical-care Pain Observation Tool (CPOT), and Face, Legs, Activity, Cry, Consolability (FLACC) to assess patient’s pain intensities. Collected information was used to examine the three used pain assessment tools’ responsiveness, and the measurement agreement between patients and nurses.

Results:
Analyses of the responsiveness and measurement agreement resulted in an effect size of 1.88 and a Pearson r of 0.266 (p<0.05) for the BPS, and an effect size of 1.30 and a Pearson r of 0.223 (p<0.05) for the CPOT. For the FLACC, an effect size of 1.62 and a Pearson r of 0.187 (p>0.05) were obtained.

Conclusion:
Our study results suggest that the BPS is a tool with better responsiveness to detecting pain comparing
Barcoding, value beyond compliance

Elisabeth (Els) C.M. van der Wilden - van Lier1; Hinne A. Rakhorst2

1GS1 AISBL, Brussels, Belgium; 2ICOBRA, MST, Enschede, Netherlands (The)

Session description:

Clinicians look for ways to reduce administrative burden by automated data entry using global standards. Incidents with implants potentially harm patients. Affected patients need to be traced, at the same time preventing reputation damage. Globally regulations drive the unique identification (with barcodes) and data sharing of medical devices and implant registries, resulting in patient safety and full traceability of implants, requiring compliance from manufacturers and healthcare providers. Global standards enable the availability of the required data at any time for the healthcare provider and the patient. This session highlights the added value from the perspective of a plastic surgeon and an international overview of how global standards reduce administrative burden, improve data quality and data sharing for quality of care.

Target audience:
Senior health care managers, policy makers, clinicians & patients.

Objectives:

After this session, participants will be able to:
1. The role of clinicians in adding value beyond compliance
2. Understand the applicability of regulation on medical devices for clinical work
3. Understand the added value of unique identification of implants for efficiency and safety

Please declare any conflict of interest you may have:
None for session leader and none for the presenter.

Suitability - Why should ISQua choose this session?

This topic is actual and the session will highlight added (clinical) value from regulation.

Session leader: Elisabeth (Els) C.M. van der Wilden-van Lier, MD MPH, Director Healthcare Providers GS1 AISBL; Belgium/the Netherlands

Presenter: Dr. Hinne A. Rakhorst, co-founder of Dutch breast Implant registry (DBIR), active member of ICOBRA (International Consortium Of Breast implant Registries), past president
of the Dutch Society for Plastic, Reconstructive and Hand Surgery and treasure of ICOPLAST (international confederation of plastic surgery societies); the Netherlands
Introduction:

Clinical Practice Guidelines (CPGs) for cancer treatment are designed to guide evidence-based treatment decisions. They are often used as tools to measure and improve the quality of care provided to patients, and to reduce unwarranted clinical variation. While the literature on barriers to general CPG adherence is considerable, including limited awareness of, access to, and agreement with CPGs, the literature regarding barriers to cancer-specific CPG adherence, and Australian clinicians’ views on cancer CPGs, is limited. Furthermore, rates of adherence to cancer treatment CPGs vary in Australia, despite CPG adherence being associated with higher survival rates in some cancers.¹,²

Objectives:

To identify Australian clinicians’ perceived barriers and facilitators to cancer CPG adherence, along with their attitudes to CPGs, their development, and use.

Methods:

This three-phase, mixed-method Australian study³ will involve: qualitative semi-structured interviews (n=30) conducted with oncology specialists across 1 private and 6 public hospitals in New South Wales (NSW) (phase 1); a quantitative survey (n=200) (phase 2) conducted with oncology specialist clinicians across Australia to quantify the findings from phase 1; and a facilitated workshop (n=40) with clinicians, researchers and consumers who attend an invited conference in Sydney (phase 3). These data will examine clinicians’ attitudes to CPGs and perceptions of barriers and facilitators to CPG adherence. The interviews and workshop will be recorded, transcribed verbatim, and analysed thematically. The survey will quantify phase 1 findings and will be analysed using frequencies and logistic regression. Human Research Ethics approval has been received in NSW, Australia (2019/ETH11722, #52019568810127).
Results:

This study will examine perceptions of barriers and facilitators to cancer CPG adherence and will identify associations between clinician characteristics and attitudes towards CPGs. The study will be published in peer reviewed journals and presented at conferences.

Conclusion:

The study findings will inform the development of future cancer CPGs, and identification of implementation strategies most likely to increase CPG adherence.

References:


Please declare any conflict of interest you may have: None
Introduction:

In 2008, French lawmakers commissioned the French National Authority for Health (HAS) to develop certification standards for Computerized Physician Order Entry (LAP). The project was a great success with nearly all marketed software used by general practitioners certified by December 2017.

Since then, the European context changed. In its judgment rendered on December 7, 2017, the Court of Justice of the European Union (CJEU) qualified LAP as a medical device, requiring CE marking.

Given this context, the question of maintaining HAS certification of LAP arises, as well as the interest of making two certification systems coexist: national and European.

The objective of our work was to compare the main characteristics of CE marking and certification for LAPs according to the standards developed by HAS.

Methods:

A comparative analysis between CE marking and HAS certification was performed, focused on each systems’ objectives: certification scope, expected performance, risk management, methods of compliance control.

Results:

This study did not identify any element likely to call into question the pursuit of the HAS mission:

- The objective of the national HAS certification is to guarantee improvement of prescribing practices for healthcare professionals. It is required that LAP make available a minimum set of medical functionalities, in order to prevent medical errors, facilitate prescriber workflow, reduce cost while maintaining quality and assist with therapeutic strategy compliance.
- CE marking guarantees the performance claimed by the manufacturer for software, with a high level of protection in terms of security within the European Union. It also
makes it possible to identify the natural or legal person who assumes marking and required post-marketing vigilance.

Since the entry into force of the CE marking for LAPs, HAS certification schemes have continued, although they are not compulsory. National certification is still sought by publishers and LAP users, in response to financial incentives: 85% of general practitioners and 52% of healthcare establishments have HAS certified software.

Conclusion:

The French legislator has decided to maintain national LAP certification in coexistence with required CE marking, since both national and European certification meet complementary objectives.

References:

Please declare any conflict of interest you may have: No conflict of interest
Exploring the effectiveness of visceral osteopathic therapy on pain and quality of life in patients with non specific chronic low back pain: A literature review

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Introduction:

Chronic low back pain (CLBP) is one of the most common types of musculoskeletal disorder affecting people of all ages. Thus, CLBP causes psychological distress, social isolation and frequently leads to restricting physical disabilities. The lifetime prevalence in the general population, low back pain can reach up to 84% and the chronic low back pain prevalence can reach up to 23%, of which 11 to 12% of these patients will suffer from severe disability. Most CLBP cannot be explained by anatomical or pathological abnormalities. However, some CLBP are identified as non-specific given the absence of a clear pathological explanation. Currently, there is no cure for these patients who use a lot of resources in healthcare systems and guidelines support a multidisciplinary approach including complementary and alternative medicine (CAM). CAM such as osteopathic manipulative approaches are often used by people who suffer CLBP. Visceral osteopathy is a common clinical approach to CLBP used by osteopaths. We therefore undertook a literature review to synthesize evidence related to the effectiveness of visceral osteopathic manipulations in individuals with non-specific CLBP and assessed the quality of these evidences.

Methods:

A literature review was undertaken. Using a combination of three keywords categories: 1) low back pain 2) Osteopathy 3) Visceral, 4 electronic databases (i.e. CINAHL, Medline, AMED, SPORTDiscuss); and also citations pertaining to the study’s objectives were identified. To be included, articles must report using a randomized controlled trial (RCT) and be accessible in peer-reviewed journals. The grey literature and the reference list of included manuscripts was also consulted to increase the number of citations. The quality of included manuscripts was assessed with the CONSORT RCT checklist.

Results:

Of 762 original citations, 8 RCT articles were included. The studies were conducted mainly in Europe (62.5%), South America (25%) and Australia (12.5%) by senior osteopaths (75%) and by senior physiotherapists trained in visceral mobilization (25%). Overall visceral mobilization showed an increasing pain pressure threshold (PPT), reduction of pain intensity
(PI), improvement of functional capacity (FC) and quality of life (QoL). The results demonstrate beneficial effects mainly in short term (75%) and long term (25%), on the perception of pain it may also improve the visceral range of motion of the bladder and the kidney for symptomatic CLBP patients. The sample size overall remains small, between 15 to 241 participants. The subjective assessment instruments used in the studies had good psychometrics qualities for CLBP. Some studies use real-time ultrasound even though the validity of this technique concerning the mobility of healthy organs were not discussed. However, several different scales and assessment tools were used making the comparison difficult. Overall, these studies were of moderate to good methodological quality. Given the large heterogeneity, it was not possible to carry a meta-analysis.

**Conclusion:**

In this literature review it was shown that osteopathic visceral manipulation for CLBP has positive effects on different aspects of pain, and it may improve visceral range of motion. These results are based on small number of studies, and we noted the absence of a valid placebo for group comparison. To better address the heterogeneity in study populations, tools and methods; future research should adopt clear and standardized approaches to promote comparability.

**Please declare any conflict of interest you may have:** We have no conflict of interest to declare.
Introduction:

Healthcare policies, clinical guidelines and a growing body of research strongly advocate for the implementation of shared decision-making (SDM) as a central element of patient-centred care. Patients have the right to learn about available treatment options and their implications, and to participate in decision-making regarding their health. Despite multiple implementation initiatives and widespread support, SDM is not yet implemented in routine care. Leaders in healthcare organizations are keen to run their service more efficient and responsive to the needs from client and resource of the facilities. The aim of this study was to integrate patients’ decision-making preferences, SDM outcomes management into information technological application in a public university-affiliated medical centre in Taiwan, Asia. The hospital system has 5 branches located in different parts in Taiwan. The headquarter is located in northern parts with 7,929 employees and a medical staff of more than 1,400 physicians, has 2,600 beds and serves over 9,000 outpatients, 290 inpatients and 300 emergency patients daily.

Methods:

We applied the IT application of Research Electronic Data Capture (REDCap) from Vanderbilt University Medical Center as the primary strategy to form the infrastructure of electronic SDM developed by the teams from 26 clinical departments, Information Technology Office and Centre for Quality Management of a university-affiliated medical centre.

Results:

The web-based patient decision aids (PDA) developed by each team with empirical evidence in a multi-digitized way, allowing patients to scan QRcode on a leaflet using their mobile phones, and then read the PDA content multiple times online. Patients could also share this information with other family members to make decisions together, and finally feedback the preference online case-sensitively. Each SDM manager/coacher can also dynamically track the preferences of each case in REDCap, and can also understand the effectiveness.
evaluation of patients and their families answered online, saving time and improving management efficiency. 2019 A total of 38 SDM topics have been implemented in the hospital.

**Conclusion:**

We have demonstrated facilitating patients’ participate in medical decisions digitally without restrictions on time or space. The outcomes can be benefit for comprehensive improvement to other hospital.

**References:**

1. Ottawa Personal Decision Guides ([https://decisionaid.ohri.ca/decguide.html](https://decisionaid.ohri.ca/decguide.html))

**Please declare any conflict of interest you may have:** No.
Improving influenza vaccination rates in elderly patients with an acute hip fracture in Singapore General Hospital (SGH)

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Introduction:

Influenza is a significant cause of morbidity and mortality in the elderly. In Singapore, influenza vaccination is recommended for all elderly1. However, influenza vaccination rates remain low amongst the elderly surgical inpatients due in part to concerns regarding potential adverse consequences of influenza vaccination on post-surgical outcomes. In Singapore General Hospital (SGH), only 11% of the elderly admitted for hip fractures were vaccinated against influenza upon discharge. Intriguingly, a recent retrospective cohort study, that included 42777 surgical patients, did not find a significant increase in the risk for fever or clinical work-ups for infection in patients who were vaccinated against influenza during their inpatient stay2, suggesting that it might be safe to vaccinate post-surgical patients against influenza.

Objectives:

We therefore undertook a quality improvement project aimed to opportunistically improve influenza vaccination rates in elderly patients admitted for a hip fracture, and due for their yearly influenza vaccination, over a three-month period (9 January 2019 to 9 April 2019).

Methods:

Using Plan-Do-Study-Act (PDSA) quality improvement methodology, we aimed to identify ways to improve influenza vaccination rates of all patients admitted for a hip fracture under the Orthogeriatric service in SGH. Fish bone analysis identified the root causes. The importance of each root cause was determined by Pareto vote. We found that the main factors contributing to low influenza vaccination rates were (i) influenza vaccination is not included in the hip fracture bundle, (ii) junior doctors were not taught to screen for vaccinations, and (iii) junior doctors were not taught the importance of vaccinations. We then prioritized these interventions using a prioritization matrix and decided that education of the
junior doctors on the Orthopedic and Geriatrics services as well as designing an acronym expansion for use in clinical documentation would be the most cost-effective.

**Results:**

Influenza vaccination rates improved to as high as 57.14% on two of the twelve weeks analyzed. Unfortunately, none of the patients were vaccinated in the last six weeks of the post-intervention analysis period as SGH was awaiting a new batch of influenza vaccines in anticipation of the upcoming influenza season. There were no reported adverse effects to influenza vaccination, despite patients having undergone hip surgery.

**Conclusion:**

Our simple interventions (education of junior doctors and design of an acronym expansion) led to increased influenza vaccination rates. Influenza vaccine batch cycles can, however, affect inpatient vaccination rates. It appears to be safe to administer the influenza vaccine to elderly patients who had recently undergone hip surgery.

**References:**

1. Influenza vaccine. In: Clinical Practice Guidelines on Adult Vaccination in Singapore. Society of Infectious Disease (Singapore); 2016

**Conflict of interest:** None
Improving the implementation of standardized structured reporting in pathology: development of an evidence-based implementation toolbox

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Introduction:

Standardized structured reporting (SSR) usage results in improved treatment decisions and patient outcomes and therefore, it is included in national and international oncology guidelines. However, the actual use of SSR varies widely in oncology related medical disciplines. Previous research among pathologists and other multidisciplinary team members (MDTMs) showed multiple impeding factors regarding SSR implementation. The aim of this study is to develop an evidence-based implementation toolbox based on the impeding factors of SSR to improve the implementation of SSR in pathology.

Methods:

Based on impeding factors found and a literature study, we selected the implementation tools in collaboration with an expert panel, including multiple stakeholders. Next, we developed the tools in an iterative process with stakeholders. At the end of the development phase, the tools were alpha tested prior to real world testing. First, to minimize the burden of the participants, the acceptability and content of the implementation tools was assessed by presenting the toolbox during a yearly meeting with PALGA liaisons and a meeting of the SSR-template working group, attended by pathologists. Second, five experts, two PALGA representatives, a pathologist, a pathology resident, and an implementation expert evaluated the different elements of the toolbox. Third, all tools were tested on content and usability by three pathology experts and an additional expert in communication.

Results:

We developed an implementation toolbox to improve the implementation of SSR in pathology, including the following elements: 1) A webpage including information on benefits of SSR and the development of SSR templates; 2) E-learning modules to improve
the knowledge and skills of pathologists regarding the use of SSR templates; 3) A communication protocol including information regarding the communication of SSR templates; 4) An improved feedback process, including a ‘Feedback’ button within the SSR templates and a Frequently Ask Questions section on the webpage; 5) A new tab within the SSR templates with information regarding updates of SSR. Acceptability testing resulted in recommendations from both PALGA liaisons and pathologists regarding additions to the e-learning and communication protocol content. Expert testing contributed mainly to the content of the webpage and the instruction videos within the e-learning modules: we added figures of the development process of the SSR-templates to the webpage and audio instructions to the instruction videos to improve content and usability.

Conclusion:

The alpha test of the implementation toolbox to improve the implementation of SSR showed promising results regarding its acceptability, content and usability. The next step is to test both feasibility and effectiveness of the implementation toolbox in daily practice.

References: -

Please declare any conflict of interest you may have:

The authors declare that they have no conflict of interest.

List of abbreviations

SSR: Standardized structured reporting

MDTMs: Multidisciplinary team members

PALGA foundation: the Dutch network and registry of histo- and cyto-pathology
La digitalizzazione della documentazione sanitaria presso ASST Sette Laghi (Lombardia): un esempio vincente di programmazione multidisciplinare.

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Introduzione

La digitalizzazione della documentazione è volta alla gestione appropriata del percorso del paziente, integrando attività e professionisti, migliorando la tempestività delle informazioni, uniformando la redazione dei documenti.

Obiettivi

Dare una risposta concreta a quanto previsto nel nuovo Manuale del Fascicolo di Ricovero (Regione Lombardia, 3° edizione, 2019), in particolare accessibilità, integrabilità.

Metodi

Il progetto ha coinvolto 7 ospedali, 2078 utenti (medici, infermieri, operatori socio-sanitari, assistenti sociali, dietisti, case manager).

Definizione dei metodi

1. Fasi del progetto: avvio, analisi del contesto, delivery, supporto al cambiamento

2. Team di lavoro: livello di governo, livello di gestione e controllo con identificazione diproject manager medico, livello operativo

3. Strumenti: applicativo WHospital, rete wifi e pc fissi e portatili

4. Step di pianificazione: cronoprogramma integrato tra livello di governo/gestione, comprensivo di formazione, go-live, supporto al go-live
5. Ambiti di intervento: processo ambulatoriale e processo di ricovero, con esclusione di terapie intensive, sale operatorie, riabilitazione; non previsto l'interfacciamento con gli strumenti elettromedicali

6. Formazione: differenziata per personale medico e comparto (combinata frontale e sul campo)

7. Avvio: progetto sviluppato con la seguente successione: avvio dell'area ambulatoriale, strutturato per aree dipartimentali; avvio della cartella di degenza, strutturato per ospedali, con definizione di unico modello. La cartella assistenziale prevede l'applicazione degli strumenti di pianificazione/presa in carico infermieristica

7. Monitoraggio: avanzamento monitorato sia sul campo che sulla base dei ritorni pervenuti al project manager, con conferma o rimodulazione del cronoprogramma incondisione con la direzione strategica

Risultati

Rapidità di estensione del nuovo strumento e compliance all'utilizzo sono stati i primi risultati. Le utenze attivate si dividono in 47% medici, 20% specializzandi, 25% infermieri.
Per il referto ambulatoriale si sono definiti 3 form (generico, cardiologico, ostetrico-ginecologico), per la cartella di ricovero un unico layout.
WHospital in un anno è stato attivato in 137 ambulatori, 32 reparti ospedalieri. La cartella ambulatoriale è integrata l'accettazione per la ricezione delle liste, il ritorno dell'erogato e con il repository aziendale per i referti. La cartella di ricovero è integrata con l'accettazione l'elenco dei pazienti presenti e la loro movimentazione (trasferimento e dimissione).
L'introduzione di uno strumento unico aziendale consente la standardizzazione delladocumentazione sanitaria, favorisce il lavoro in sicurezza dei professionisti (riconciliazione farmacologica tracciata per facilitare l'integrazione col territorio, accesso alle interazioni farmacologiche in fase di prescrizione..).

Conclusioni

Miglioramenti attesi in relazione al progetto sono l'implementazione della gestione dell'archiviazione nonché l'ottimizzazione dei controlli sia esterni che interni aziendalisulle cartelle cliniche sulla codifica SDO e l'appropriatezza. E' stata pianificata l'estensione della piattaforma alla fase di pre-ricovero nella gestione del paziente chirurgico, con conseguente completamento della tracciabilità del processo.
Introduction:

This work describes the actual situation of the e-Health in Romania as not being aligned yet to the international standards for the medical specialists. This way the medical act is not yet able to guarantee the patient’s safety.

Methods:

While researching and compiling specifications, quality management specialists, environmental, healthcare, work safety specialists, experienced external assessors for healthcare units accreditation, medical lawyers, software engineers and business management specialists, all have contributed to the success of MediQApp. They analysed the documents, held interviews during management audits, simulated processes, tests and gathered feedback, working towards optimal results.

Results:

The patented MQA device can collect the most important information through its users from all the levels of hospitals system in Romania, and further select and centralize the data in order that the identification of the clinical risks to be performed towards a better medical act quality.

This performance is assured through the solutions accepted by the whole team while providing to specialists the basic clinical information not just formally and superficially built, but being accompanied by modern molecular data.

It is envisaged therefore that the collected information to be optimized at centralized level, through details associated with environmental exposure (including lifestyle conditions and pollution) and with exposure in the hospital environment (including working conditions).

Conclusion:

The software system, starting with the answers in the questionnaires integrated in MQA, provides solutions for improving the working environment and quality of the health professional life. Moreover, its use in the fundamental and applicative research projects is
assured by the friendly interface between the clinical, personal, hospital data and the scientific molecular ones. This way, the domain of the personalized and precision medicine as well as the systems medicine approaches is evidenced and correctly used.

The optimized big data device MQA offers 5 advantages as compared to other IT solutions:

1. Digitizes all processes in quality management - faster and more efficient processes are obtained
2. It can significantly reduce the time required to prepare hospitals for accreditation
3. You gain confidence, built automatically through the solutions accepted in the team, not just formal, superficially built records;
4. Integrates all operations, completely eliminating wasted time in the old system
5. It is a system designed to solve problems without additional resources

All MediQApp users fill in a confidentiality agreement through which the General Data Protection Regulation (GDPR) is processed; this is not violated the ethics rules and no conflict of interest is registered.
Multidisciplinary interventions could improve the nutritional status of malnourished children in rural Cambodia
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1 Kaohsiung, Taiwan

Introduction:
Globally, around 45% of all deaths among children aged under 5 years can be ascribed to undernutrition. This issue remains a major public concern in Cambodia, which has one of the highest malnutrition prevalence rates in the world.

This study investigates the impact of multidisciplinary interventions that aims to improve the nutritional status of children under 5 years old and to change the caregivers’ behaviors related to child-feeding practices, care giving, and health-seeking practices in rural Cambodia based on randomized community program.

Methods:
The study was conducted among 329 children aged under 5 years in rural Cambodia from August 2017 to December 2018. Four local program coordinators and thirty-two Village Health Support Group members were enrolled and trained before the program started. Nutrition education workshops were conducted every 2 months and household visits with maternal counselling and check list were performed each month throughout the program periods. The topics in the interventions included three kinds of food, breastfeeding, complementary food, hygiene and sanitation, food and water safety, health seeking, and yellow card information. Body weight and height were measured every two months and undernutrition was assessed by using three standard anthropometric indicators after intensive interventions. Blood examinations were performed two times when the program started and ended.

Results:
The baseline prevalence rates of stunting and underweight in this rural region of Cambodia were 32.7% and 25.8%. After program periods, the stunting and underweight rate decreased to 21.1% ($p = 0.003$) and 17.1% ($p = 0.066$), respectively. The achievement of preparation of balanced meal was improved from 14% to 36%. The rate of normal blood Calcium improved from 46% to 77% ($p = 0.037$), and that of normal albumin increased from 78% to 99.2% ($p = 0.004$).
Conclusion:

Reductions in undernutrition can be achieved through multidisciplinary interventions. Education to mother about complementary feeding and maternal counseling led to significant gain in weight and height. These interventions can reduce the stunting and underweight in developing countries and are recommended in the nutritional program.

References:

1. World Health Organization; 2018
2. Joint child malnutrition estimates 2018 [Internet]. The World Bank; 2018
5. Roy SK et al., J Health Popul Nutr.2005;23(4):320

Please declare any conflict of interest you may have:
NO
Predicting crisis in the delivery of emergency care in acute trusts in England: a longitudinal study

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Introduction:

The demand for planned and unplanned (emergency) services in hospitals are increasing around the globe. The last few winters, hospital trusts in England experienced extreme pressures with its advice to cancel/delay outpatient appointments and day-case surgery and extend an existing deferral on non-urgent surgery. In our study, we defined an episode of organisational crisis within an acute trust based on the concurrence of two performance characteristics: 4-hour target and Accident and Emergency (A&E) diverts. The 4-hour target in the National Health Service (NHS) is used as a barometer for the overall performance, is a proxy for inpatient flow and is highly correlated with inpatient occupancy. A&E diverts are used only as an action of last resort and hence show the trust’s ability to meet demands. We aimed to create a predictive model to estimate the probability of a crisis in the delivery of emergency care in acute trusts leading to A&E diverts and 4-hour A&E breaches.

Methods:

A retrospective longitudinal study using data from 131 acute trusts in England collected over three winter periods: 5 December 2016 – 12 March 2017, 20 November – 4 March 2018, 3 December 2018 – 3 March 2019. An advanced statistical (mixed modelling analysis, generalised estimating equation [GEE]) and novel machine learning (boosted multivariate trees) methods were applied to create the prediction model. Based on the literature review and data available, in the model we included 19 trust-level covariates such as the number of admissions, occupation level, A&E diverts and etc. To assess the results of each model a leave-one-out cross-validation technique and c-statistic were used.

Results:

During the study period, almost 49% (64) of trusts had an episode of crisis at least once. There were, on average, 17 episodes of crisis per week. The median daily number of admissions was 271, of which 39.4% were emergency. Over 94% of daily A&E attendances were at Type 1 departments (a consultant-led 24-hour service with full resuscitation facilities and designated accommodation), of which 27.7 % were admitted. In all models, the number of previous A&E diverts were the most significant for predicting the episode of crisis.
in the delivery of emergency care occurring the following week. For each additional period during which there were A&E diverts, there is 48.7% (mixed-effects) and 77.5% (GEE) increased risk for the episode of a crisis occurring the following week. Model performance for GEE mixed-effects model was similar (c-statistic 0.75 vs 0.74), and the boosted multivariate trees method outperformed latter methods (c-statistic 0.86).

**Conclusion:**

Using routinely collected administrative data we were able to predict two weeks in advance an episode of crisis in the delivery of emergency care in acute hospital trusts. A fundamental limitation is the limited time period and information available in the dataset; however, we still believe that this study is a step forward to create a model for predicting an episode of failure within a trust, and when applied to real-time data, could assist trusts in preparing or even preventing a crisis in emergency care delivery.

**Please declare any conflict of interest you may have:** None
Introduction:
Our hospital has implemented electronic medical records (EMR) with the goal of providing patients with comprehensive electronic health information since 2009. The medical staffs have high expectations for paperlessness because information systems can significantly reduce handwriting and improve work efficiency. However, we faced many difficulties that need to be overcome in this process, especially when the paperlessness was not properly planned may lead to medical procedures errors and threaten patient safety. Debugging has always been our biggest problem. The purpose of this project was to establish a standard process for implementing a patient-centric EMR model.

Methods:
In 2014, the EMR Promotion Committee was formed by the Medical Records Office, the Information Technology Department, and many medical specialists. The inter-departmental working group conducted a comprehensive inventory of all hospital records and procedures. The survey identified three main issues: a piece of recording paper has different operating processes in different departments, the recording process has no concept of workflow sequence, and the EMR was decentralized rather than integrated. Therefore, we have established a systematic promotion strategy: 1. Inventory. 2. Discussion of recording methods. 3. Confirmation of specifications. 4. Classification based on purpose, subject, and timing. 5. Established an EMR implementation priority and focused on integrated forms. 6. Set education courses to train medical staff.

Results:
Only 10 EMRs were implemented from 1998 to 2013. The implementation of this project in 2014 was fully supported by senior management. The implementation number of EMR was 21, 30, 4, 15, 47, and 113 each year from 2014 to 2019. From 2016 to 2017, the major goal was to reorganize the standardization of the integration process of medical information systems to accelerate the promotion and establish Enterprise Information Portal to provide offline use.
Conclusion:
The reconstruction of the electronic medical records implementation must continuously collect the needs of different users and take the personnel's opinions, working places, recording time, equipment compatibility and the treatment process into account. At the same time, the system needs to be continuously optimized to improve the user experience and avoid medical errors. We have developed our own procedures to integrate medical records by using effective strategies. It can share health information and standardize medical procedures between disciplines to improve the quality of patient care and create a more convenient and safe medical environment.

References:

Please declare any conflict of interest you may have:
None.
Introduction:

In recent years, advances in perinatal care have resulted in a significant reduction in early neonatal mortality rates without affecting prenatal mortality. The implementation of the etiological and pathophysiological knowledge of antenatal mortality is therefore indispensable in order to obtain a consistent decrease in the perinatal mortality rate, provide adequate care pathways and define research priorities in perinatal medicine. The purpose of the presentation is to highlight, through the description of a case, the importance of the hospital autopsy in the protection of safety, in the improvement of diagnostic and therapeutic processes, in the increase of knowledge on pregnancy disorders and education of health professionals.

Methods and Results:

The present report introduces the case of a 30-year-old woman in the 38th week of pregnancy who was hospitalized for pelvic pain and the absence of a fetal heartbeat. Following immediate transport to the delivery room, a cesarean section was performed with the extraction of a dead female fetus. Consistent with the current protocols, the fetal autopsy involved the removal of cervical, thoracic and abdominal organs en masse, according to the Letulle technique, with subsequent fixation in formalin. The brain was widely colliquated, with symmetrical hemispheres and swollen convolutions as per edema. Examination of the organs of the Letulle block after formalin fixation showed no significant pathological changes. Macroscopic examination of the placenta and funiculus after formalin fixation highlighted the eccentric insertion of the funiculus, the normal morphology of the membranes and the absence of meconium pigmentionations. The fetal side showed dispersed chorionic vessels, while the maternal side presented prominent cotyledons, free from macroscopically appreciable pathological alterations. Histological investigation results demonstrated the presence of massive and widespread changes due to the protracted retention of the dead fetus in the uterus. Despite similar alterations, it was possible to appreciate multiple cotyledonary infarcts with not recent onset and in an initial phase of organization. No signs of inflammation were found in the funiculus, in free membranes, in membranes adherent to the chorionic plate (fetal side) or in the basal decidua (maternal
At the end of the investigation, the cause of sudden intrauterine death was identified in a significant fetal distress due to the progressive and exponential effect of ischemic lesions on the cotyledons.

Conclusion:

Obstetrics and gynecology need valid and reliable quality and safety measures that are significant for clinicians and feasible to collect. The use of indicators presupposes a cultural change that makes health professionals skilled in measuring quality and implementing processes. In this sense, the role of the hospital autopsy cannot be excluded precisely because of the possibility of promoting and evaluating patient safety through the procedure.

Please declare any conflict of interest you may have: No conflict of interest to declare
Whether the use of smart bracelet to monitor and reward walking steps can effect living-alone healthy elders

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Introduction:
As the elderly population increases year by year, the World Health Organization pointed out that the well health and quality of life of the elderly can reduce the waste of medical and social resources in 2017. Therefore, prevention and treatment of weakness has become a topic of global aging. According to the Health Promotion Administration’s method of promoting health and fitness, the decline in physical fitness is closely related to lack of exercise, which is an important risk factor for endangering health. Therefore, it’s an important issue to improve the muscle weakness of the elderly through moderate regular exercise training and further improve their physical fitness to improve the quality of life. The purpose of this study is to investigate the effect of whether by wearing smart bracelet monitored and recorded the walking steps for the elderly healthy people, also served as a reward system to increase the will to increase the activity and social participation, can they increase walking steps, therefore ameliorate the functions and quality of life.

Methods:
A smart bracelet was being worn by 7 elders, who lived alone and were being listed as caring subjects in a certain Class I Teaching Hospital. The bracelet monitored and recorded the walking steps for these subjects, also served as a reward system to increase the will of these subjects to walk more. 3 months after the bracelet was intervened, a mid-term test was performed and the steps were rewarded. Post-evaluation were performed after 6 months. Effectiveness evaluation includes a function scale of life (3M up and go test, 5M walk test) and a quality of life scale (SF-36) Compare the differences before and after intervention.

Results:
Through monitoring and rewarding by the smart bracelets, the average number of walking steps increased to a certain level of more than 7,100 steps which has achieve the benefits of health promotion. The functional scale of life was tested with 3M Up and Go test, with the average improvement of 30.21% from 14 seconds in the initial evaluation to 9.77 seconds in the post-evaluation which has reached significant difference. The 5M walking test also reached a significant improvement of 25.49% from the initial evaluation of 1.02 m/s to the
post-evaluation of 1.28 m / s (p = 0.028). SF-36 can divide into Physical Component Score (PCS) and MCS (Mental Component Score). In the PCS (Physical Component Score), the average was 51.64 points in the initial evaluation to 52.47 points in the post-evaluation, an increase of 1.61% (p = 0.612). The Mental Health Score (MCS) increased from an average of 44.25 points in the initial evaluation to 45.32 points in the post-evaluation, an increase of 2.42% (p = 0.398). The quality of life scale, which sums up physical health and mental health, increased by 1.98% from 95.89 points in the initial evaluation to 97.79 in the post-evaluation (p = 0.753), but the differences before and after did not reach statistical significance.

Conclusion:
This study shows that monitoring and rewarding the number of walking steps through the smart bracelet can increase the number of walking steps, significantly promote the function of the elders, and improve the quality of life.

References:

Please declare any conflict of interest you may have: No
Sportello Nascite: nuove modalità di presa in carico della famiglia nella transizione al digitale, la documentazione del nuovo nato.

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INTRODUZIONE

L’evento nascita comporta per i neogenitori dover adempiere a pratiche burocratiche ad oggi frammentate. Per questo l’introduzione delle tecnologie digitali consente la creazione di uno sportello unico per tutte le pratiche burocratiche attraverso il quale poter realizzare quei processi di interazione tra la famiglia e l’azienda sanitaria.

OBIETTIVI

Implementare - in termini di sicurezza e costo-efficacia - un flusso nativamente digitale per la documentazione del nuovo nato, sulla base della Legge n.221/2012 e del Codice dell’Amministrazione Digitale, che permetta di:

- favorire i processi amministrativi riducendo i tempi di attesa ed i costi per la gestione documentale
- aumentare la sicurezza con strumenti che agevolino e favoriscano il piano vaccinale
- introdurre nuove tecnologie che consentano l’interazione famiglia-pediatra di famiglia con scambio di informazioni, documenti ed immagini

METODI:

Due fasi dispiegate su tutti gli otto punti nascita aziendali. La prima consiste nella reingegnerizzazione del flusso documentale con l’introduzione di strumenti quali:

- la firma digitale degli operatori aziendali per un totale di 190
- la firma grafometrica dei genitori
- il protocollo informatico, la posta elettronica certificata ed il sistema di conservazione a norma.

E’ stato così possibile creare un’interfaccia unica dove poter reperire sia la documentazione amministrativa sia sanitaria garantendo la completa tracciabilità.

Per la valutazione qualitativa è prevista la somministrazione di un questionario strutturato al termine della procedura di registrazione del nuovo nato.
La seconda fase prevede l’introduzione sperimentale degli strumenti di interazione famiglia-azienda sanitaria-pediatra di famiglia quali:

- sperimentazione del libretto pediatrico digitale on line che preveda una parte dedicata ai genitori ed una dedicata al Pediatra di Famiglia
- servizio di prenotazione online per gli appuntamenti vaccinali
- servizio di alert via sms e/o mail per i genitori in merito agli obblighi vaccinali dei propri figli, soprattutto dal 5 al 14° anno di età.
- Prenotazione del primo vaccino nei tre giorni dalla nascita in ospedale

Per la valutazione qualitativa è previsto un questionario strutturato da compilare al termine della procedura on line di prenotazione vaccinale

**RISULTATI:**

La prima fase si è conclusa con l’introduzione della firma digitale per n.172 ostetriche e n.18 operatori amministrativi delle Direzioni di Presidio. Sono state istallate al 100% le risorse tecnologiche previste in tutti i punti nascita. Nel 100% dei casi previsti, la registrazione presso le anagrafi comunali avviene tramite posta elettronica certificata con l’eliminazione della raccomandata a/r.

Per la seconda fase è stata conclusa la definizione degli ulteriori strumenti aggiuntivi quali il libretto pediatrico digitale e le funzionalità di prenotazione on line e alert per i vaccini, prevedendo la sperimentazione tecnica presso un punto nascita.

**CONCLUSIONI:**

Il percorso aumenta la qualità percepita dalle famiglie, in termini di efficienza, appropriatezza, di minor tempo dedicato alle pratiche burocratiche del nuovo nato e per una maggiore interazione con l’azienda sanitaria. Aumenta la sicurezza delle cure in merito all’adesione al piano vaccinale grazie agli strumenti di alert e prenotazione on line.

La digitalizzazione comporta un risparmio in termini di rapporto costo-efficacia per la gestione documentale.

Gli autori dichiarano di non avere alcun potenziale conflitto d’interesse.
6. Designing for People Safety Abstracts

[1335] A national study of patient safety culture in hospitals in Bulgaria
Rumyana Stoyanova1; Rositsa Dimova1
Medical University of Plovdiv, Plovdiv, Bulgaria

Introduction:

Patient safety culture (PSC) is an essential component of the care quality. An important contribution to the evaluation of hospital culture and the enhancement of PSC is the HSOPSC questionnaire elaborated by the Agency for Healthcare Research and Quality (AHRQ) [1]. The questionnaire displays reliable psychometric characteristics and has been validated in more than 20 countries.

This study aimed to assess the patient safety culture among hospital staff using the Bulgarian version of Hospital Survey on Patient Safety Culture (B-HSOPSC) and explore the areas of deficiencies and opportunities for improvement regarding this issue.

Methods:

A national cross-sectional survey was conducted using a special developed Internet-based software platform. The questionnaire for assessment of Hospital Survey on Patient Safety Culture (HSOPSC) includes 42 questions, organized in 12 domains. To the Bulgarian version of B-HSOPSC two new items were added [2]. In total, 545 healthcare professionals from hospitals in different regions of Bulgaria were enrolled. The data were exported to SPSS 17.0 statistical software and analyzed with descriptive statistics.

Results:

In general, results show positive assessments of patient safety culture, regardless of few of exceptions. The dimensions “Handoffs and transitions” and “Supervisor/manager expectations and actions promoting safety” showed the highest mean values, respectively 3.76±0.79 and 3.64±0.79, whereas the “Staffing” and “Non-punitive response to error” have received the lowest mean values, respectively 2.79±0.60 and 2.99±0.89.

Conclusion:
For the first time in Bulgaria, with the aid of a web-based platform to report adverse events and errors in medical practice, the level of hospital patient safety was measured. Special attention should be paid to the staff turnover in hospital, as well as the introduction of a patient safety reporting system in our country.

References:


Please declare any conflict of interest you may have: No
A Pilot study of applying an AI model for detecting intracranial hemorrhage based on non-contrast CT images at emergency department.

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1Quality Management Center, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan; 2Department of Business Management, National Sun Yat-sen University, Kaohsiung, Taiwan

Introduction:
This clinical pilot study conducted in 2019 at KSVGH (Kaohsiung, Taiwan) using DeepCT (Deep01, FDA-approval software under QAS code, 2019) is a small-scale study in preparation for a larger investigation in 2020. It was designed as a non-control non-randomized blinded trial. This software is used by emergency physicians to analyze the head computed tomography images of a patient suspected of having ICH. The system automatically sends out the notifications to the ordering physician based on pre-defined settings. The role of the AI assistant was evaluated based on calculated results, including sensitivity, specificity and accuracy to determine if it fits in the rapid imaging triage for patients suspicious of having intra-cranial hemorrhage.

Objectives:
The purpose of this pilot study is to validate the performance of AI software to assist in the detection of ICH by exploring the efficiency and the accuracy of the DeepCT AI models.

Methods:
A deep residual convolutional neural network (aka Residual Network or ResNet for short, see He et al. https://arxiv.org/abs/1512.03385) was adopted as the core learning model. The head CT scan is imaged as a series of DICOM data used as inputs for model training, performance validation and product qualification. The whole operation procedure is Web-based and needs zero installation effort. The major effort for the ED physicians is to prepare a set of DICOM images after browsing on PACS (picture archiving and communication system, Extrawonder, Syspower, Taiwan, FDA approved).

This pilot study is approved and consented for the use of the retrospective image data for DeepCT development and deployment without relevant ethical concern.

Results:
The speed of the AI detection needs an average 30±12 seconds to interpret images of a patient who underwent brain CT examination. The accuracy is 0.941 with a sensitivity of
0.949 and a specificity of 0.932. From this pilot study, aside from the high performance of lesion detection of the software, the greatest value of this implementation is to build up a new encountered point to assist emergency physicians to exclude any evidence of intracranial hemorrhage, thus confirming the negative results, which further allows them to quickly make a decision that it might not be necessary to consult radiologist or other specialists, especially overnight.

**Conclusion:**

In conclusion, this pilot study demonstrates that the AI assistant, DeepCT, might be a necessary step in exploring novel interventions and novel applications of lean medicine in ER units using AI technology in a small subset of ER patient population presenting with concern for ICH. Pilot results inform feasibility and efficacy and harness the confidence for further multi-center trial under a joint IRB in the future.

**Abbreviations:**

KSVGH: Kaohsiung Veterans General Hospital.
AI: artificial intelligence
ICH: Intracranial hemorrhage
PACS: Picture Archiving and Communication System
DICOM: Digital Imaging and Communications in Medicine

**Please declare any conflict of interest you may have:** No
A pointing and calling campaign may be useful to prevent patient misidentification.

Hironobu Akino1; Kazuyo Terasaki1; Miyuki Uno1; Ayumi Inoue1

1University of Fukui Hospital, Fukui, Japan

Introduction:

Patient misidentification is a cause of serious medical accidents. We investigated the effects of a pointing and calling campaign to prevent misidentification of patients on the number of incident reports of patient misidentification as well as the frequency of risk factors underlying patient misidentification.

Methods:

Our institution is a 600-bed university hospital with approximately 2,800 incidents (all types) reported annually. We examined incident reports of patient misidentification from April 2017 to October 2019. Our pointing and calling campaign began in April 2018. We compared the number of reports of patient misidentifications by year in a variety of settings: surgery or treatment, examination including laboratory or physiological examination and radiological imaging, meals and nutrition, administration of oral medication, administration of intravenous injections, administration of blood or blood products, medical information, and the others. The frequency of risk factors reported in patient misidentification reports was also compared by year. The risk factors examined were the following: time pressure in busy health care; identical or similar patient names; presence of multiple objects on the same work table or task list, which may lead to failures of attention or memory; and work interruption by concurrent or new tasks. The chi-square test was used for statistical analysis.

Results:

The number of patient misidentifications reports was 111 in FY (financial year) 2017 (April 2017 through March 2018), 83 in FY2018 (April 2018 through March 2019), and 54 in FY2019 (April 2019 through October 2019), showing a decrease in FY2018 compared to FY2017. Regarding clinical settings, the number of patient misidentification incidents in the administration of oral medication for in-patients decreased from 33 (30%) in FY2017 to 10 (12%) in FY2018 and again to 4 (7%) in FY2019 (p <0.05, Chi-square test for trend). There were no statistically significant annual changes observed in the other clinical settings. The frequency of risk factors for patient misidentification did not change by year during our study period. However, in patient misidentification reports on the administration of oral medications, the frequency of reports of the presence of multiple objects on the same work
Table or task list as a risk decreased from 16 (48%) in FY2017 to 2 (20%) in FY2018 and to 0 (0%) in FY2019 (p <0.05, Chi-square test for trend). This suggests that mistakes in selecting the correct medicine for the patient from multiple medicines on the same work table, such as a wagon were decreased. Since no survey has been conducted on the implementation rate of pointing and calling, it is unclear whether the changes since FY2018 are due to any direct effect of pointing and calling itself, however, we speculate that the pointing and calling campaign was effective at least in raising the awareness of medical staff about the prevention of patient misidentification.

**Conclusion:**

The pointing and calling campaign reduced the number of patient misidentification incidents involving oral medications for hospitalized patients. A pointing and calling campaign may be useful for preventing patient misidentification.

**References:** None

**Please declare any conflict of interest you may have:** None
A potential solution of Emergency Department overcrowding with team resource management

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Introduction:
Emergency department (ED) overcrowding is a tough nut to crack in the global health system. A conceptual model proposed by Asplin et al. partitioned the ED crowding to 3 interdependent components and the ED length of stay (ED-LOS) had a contribution in two components of the three and be an obstacle to conquer(1). The information mismatch between the ED physician and the registry is also another difficult chasm to cross. The rotating and duty rule for admitting the patient to ward is another problem. A team was assembled by the emergency physicians as a leader to cut the ED-LOS from the output component with better utilization of admitting patients.

Methods:
A multi-specialty team was established by an emergency physician since 2019 March with team members from Internal medicine physicians, nurses, registry and information engineering to find a solution to relieve the ED overcrowding problem with the tool of team resource management (TRM). The problem and key metrics and solutions were defined by the lean canvas model and discussed with the team members with scrum activity. The new platform software was developed with the method of scrum and was integrated into the hospital information system (HIS) to solve this problem.

Results:
The averaged ED-LOS over 48 hours and over 72 hours were collected from as before (Oct. 2018 to Sep. 2019) and after (Oct. 2019 to Dec. 2019) for comparison. ED-LOS over 48 hours was 4.32% before and 3.72% after the new system was implemented (P=0.23). ED-LOS over 72 hours was 1.28% before and 0.29% after the new system was implemented (P=0.046).

Conclusion:
The new co-designing system was collaborated with the new cross specialty intelligence and combination of methods of management and software development. The concept and method of scrum may be promising in the future development of tools and solution for patient safety.
References:


3. Jeff Sutherland, AGILE DEVELOPMENT: LESSONS LEARNED FROM THE FIRST SCRUM, 2004

Please declare any conflict of interest you may have:
I declare no conflict of interest
Introduction:

Patient safety is a key dimension of quality. Safety rounds are frequent meetings between the general management of the hospital and the healthcare professionals of a specific unit in order to address issues related to patient safety. This program started in 2015 in a cancer institution in the area of hospitalization followed, in 2017, by the unit of day-care and chemotherapy.

Objectives:

To describe the actions for improvement derived from a safety round implemented in the area of hospitalization a cancer integrated institution.

Methods:

At least one meeting per work-shift is performed annually. It is a 2-hour meeting that includes 15 guided questions on patient safety. This session is coordinated by the representative from the general manager of the hospital. 3 patients and 3 patients’ relatives are interviewed in order to address aspects of the care and services received and there is a final visit to the hospital settings to detect other aspects that should be considered. Additionally, the perception of patient safety is assessed pre and post each safety round. A workgroup was created to evaluate the proposals obtained so as to plan actions for improvement and their follow-up.

Results:

From the first round performed, 10 areas with 48 proposals of actions for improvement were obtained; from the second round we obtained 9 areas with 31 actions for improvement and from the third round, we obtained 9 areas with 22 actions. In summary,
from the total of 115 proposals made, 102 were resolved and implemented successfully and only 13 actions are left in process of implementation up to date. Actions for improvement included:

- To improve communication between healthcare teams
- To improve communication with patients and their relatives through informative panels
- To increase the number of healthcare professionals
- To improve some facilities: to purchase new beds and chairs, to level out the toilets’ floors, to install automatic doors, to adjust the sinks’ height at the bathrooms, to purchase new serum sticks, to improve the Wi-Fi connection.
- To develop procedures to prevent adverse events from happening (delirium, falls prevention)
- To revise the connectivity of the computer program for the electronic prescription of medicines at the hospital

<table>
<thead>
<tr>
<th>Area</th>
<th>incident/total</th>
<th>actions for improvement</th>
<th>implemented</th>
<th>non-implemented</th>
<th>% resolved actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>8/10</td>
<td>9</td>
<td>1</td>
<td></td>
<td>90,00%</td>
</tr>
<tr>
<td>Team work</td>
<td>5/5</td>
<td>4</td>
<td>1</td>
<td></td>
<td>80,00%</td>
</tr>
<tr>
<td>Devices</td>
<td>15/16</td>
<td>15</td>
<td>1</td>
<td></td>
<td>93,75%</td>
</tr>
<tr>
<td>Facilities</td>
<td>38/45</td>
<td>44</td>
<td>1</td>
<td></td>
<td>97,78%</td>
</tr>
<tr>
<td>Prevention</td>
<td>6/6</td>
<td>5</td>
<td>1</td>
<td></td>
<td>83,33%</td>
</tr>
<tr>
<td>Medication</td>
<td>8/8</td>
<td>4</td>
<td>4</td>
<td></td>
<td>50,00%</td>
</tr>
<tr>
<td>Processes/procedures</td>
<td>8/8</td>
<td>6</td>
<td>2</td>
<td></td>
<td>75,00%</td>
</tr>
<tr>
<td>Accidents/patient behaviour</td>
<td>2/4</td>
<td>4</td>
<td>0</td>
<td></td>
<td>100,00%</td>
</tr>
<tr>
<td>Leadership</td>
<td>10/13</td>
<td>11</td>
<td>2</td>
<td></td>
<td>84,62%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100/115</td>
<td>102</td>
<td>13</td>
<td></td>
<td>88,70%</td>
</tr>
</tbody>
</table>

Conclusion:

The actions for improvement implemented had a positive impact in terms of organization of the hospitalization and, in the patients’ safety and thus provided a better care quality. Thanks to the safety rounds the culture of safety is promoted and adverse events and risks...
are identified and detected. Moreover, the direct involvement of the general manager in the program helps to improve the communication among healthcare professionals.

References:

Please declare any conflict of interest you may have: The authors declare there are no conflicts of interest.
Aggressioni al personale sanitario: esperienza del Pronto Soccorso dell’Ospedale San Luca di Lucca

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INTRODUZIONE

La definizione di atti di violenza sul posto di lavoro comprende ogni aggressione fisica, comportamento minaccioso o abuso verbale che si verifica sul posto di lavoro. Le aggressioni al personale sanitario sono eventi sentinella la cui frequenza e gravità sono in aumento con crescente attenzione da parte dei mass media e delle Istituzioni.

SCOPO

In seguito ad alcuni episodi di aggressione a danno degli operatori del nostro PS, a partire dall’anno 2013 abbiamo pianificato la raccolta dei casi con lo scopo di quantificare e monitorare il fenomeno. L’analisi di questi dati permette di individuare le criticità da affrontare con azioni di miglioramento.

METODI


RISULTATI

Dal 1 giugno 2013 al 31 dicembre 2018 sono state raccolte 258 segnalazioni. Per l’anno 2018 le segnalazioni sono state 61 di cui 41 erano operatori socio sanitari, 14 infermieri e 6 medici. L’89% era di sesso femminile. Le fasce orarie 8-14 e 14-20 vedono rispettivamente il 33% e il 30% degli eventi. Il 37% si verifica dalle 20 alle 8, in cui è stato individuato un periodo critico dalle 20 alle 24 con il 68% delle aggressioni notturne. La distribuzione rispetto ai giorni della settimana o ai mesi dell’anno non è risultata significativa.
Il 54% delle aggressioni si verifica in sala d’attesa esterna, 21% negli ambulatori, 15% nella sala d’attesa interna, 7% nei corridoi e 3% al triage.
L’aggressore in 39 casi è un accompagnatore e in 18 il paziente stesso. Il 52% degli aggressori è di sesso maschile.
Il 33% dei casi riguarda pazienti o accompagnatori di pazienti inseriti in codice giallo, il 33% in codice verde, il 17% codici a bassa priorità, il 3% codici rossi (pazienti in stato di agitazione psicomotoria). Il 7% delle aggressioni si è verificato tra operatori.

L’aggressione è stata sempre un’aggressione verbale, nel 43% con minacce esplicite, nel 12% con contatto fisico, nel 3% con gesti violenti, in un caso con arma da taglio.
Le motivazioni dell’aggressione nel 43% riguardano il mancato rispetto di regole necessarie (criteri di chiamata, ticket, regolamentazione della presenza degli accompagnatori), nel 29% dei casi motivazioni varie (non condivisione di certificazioni, prescrizioni, ecc.), nel 15 % l’aggressore si trovava in stato di agitazione psicomotoria, nel 13% il motivo dell’aggressione era per il tempo di attesa.
Rispetto ai dati dell’anno 2017 si è notata una drastica riduzione delle aggressioni per i tempi di attesa (dal 30% al 15%) e da parte di soggetti in stato di agitazione (dal 26 al 15%). Nel primo caso il fenomeno è legato alla riduzione netta dei tempi di attesa dopo la riorganizzazione del PS; nel secondo all’adozione di un percorso prioritario per questi pazienti che ne permette il trattamento in tempi più rapidi.
Il 35% dei casi si è risolto senza intervento di terzi, nel 29% dei casi è intervenuto un altro operatore, nel 12% dei casi è stato richiesto l’intervento della vigilanza interna e nell’8% delle Forze dell’Ordine.

CONCLUSIONI

L’analisi dei dati ottenuti ci ha permesso nel corso degli anni di pianificare azioni di miglioramento contestualizzate alla nostra realtà strutturale ed organizzativa. Oltre all’adozione di accorgimenti per la riduzione dei tempi di attesa e di percorsi prioritari per i casi di agitazione psicomotoria, è stata introdotta la presenza di una vigilanza interna, la cartellonistica informativa nelle postazioni sensibili, la partecipazione del personale alla formazione aziendale, l’analisi degli eventi con incident reporting, la partecipazione al Gruppo di Lavoro Aziendale con percorsi per la presa in carico dell’aggredito.
REFERENZE

Raccomandazione Ministeriale n. 8 Novembre 2007: Raccomandazione per prevenire gli atti di violenza a danno degli operatori sanitari
Documento di valutazione dei rischi. Criteri di valutazione del rischio aggressione.
ATNO. Rev 1 29/03/2019

Gli autori non hanno conflitti di interesse.
Aggressioni sui social: quali implicazioni per la sicurezza degli operatori sanitari? Un’indagine qualitativa

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Introduzione

Nel 2008, in Italia, il Ministero della Salute ha diffuso una raccomandazione per la prevenzione degli atti di violenza contro gli operatori sanitari, secondo la quale è definita violenza “ogni aggressione fisica, comportamento minaccioso o abuso verbale che si verifica sul posto di lavoro”. Tuttavia, l’avvento dei social network ha determinato lo sviluppo di nuove forme di aggressione, a causa dell’emergere dei “leoni da tastiera”, utenti del web che scrivono in modo aggressivo, offendendo, screditando e minacciando altri utenti con conseguenze talora disastrose (suicidi).

Obiettivi

Indagare il fenomeno del cyberbullismo verso gli operatori sanitari, pressoché sconosciuto in letteratura.

Metodi

Abbiamo realizzato uno studio qualitativo fenomenologico, ricercando e analizzando post e commenti, relativi all’Azienda Sociosanitaria Ligure 5 di La Spezia, pubblicati dal 2013 a oggi sulla pagina Facebook della più grande comunità locale (90.000 “mi piace”), selezionandoli con le parole chiave “medico/i”, “infermieri/e”, “aggressione/i”, “ospedale”. Abbiamo identificato e classificato il sentimento degli utenti che commentavano e condividevano i post e, attraverso un’analisi delle categorie di significato più ricorrenti (framework method) elaborato una matrice tematica.

Risultati

Esaminati 72 testi (post e commenti): 22% positivi (ringraziamenti, elogi) e 78% negativi (critiche, offese, minacce). L’analisi ha evidenziato 3 categorie di significato principali:

1. mancanza di strutture adeguate e funzionali
2. POV (point of view) negativo degli utenti verso alcuni reparti
3. ringraziamenti verso gli operatori di altri reparti.

Alcuni utenti comprendono le difficoltà degli operatori nel lavorare in condizioni
precarie e il sentimento negativo è alimentato dalle notizie circa il prolungamento dei tempi per la costruzione del nuovo ospedale. Vengono lamentati comportamenti di scarsa umanità e sensibilità da parte degli operatori ["un corso di buone maniere andrebbe inserito nel piano di studio" (riferendosi al corso di laurea in Infermieristica)].

Fra i maggiori fattori contribuenti all’aggressività vi sono la condivisione tramite post di articoli giornalistici denigratori e le attese, momenti in cui il sentimento negativo arriva a sfociare nella minaccia di aggressione fisica (“bisognerebbe prenderli a randellate...”) o nelle offese personali (“la sua supponenza è pari solo alla sua ignoranza [...]”).

Non osservate differenze significative fra le varie categorie di operatori.

**Conclusioni**

E’ evidente una grande “distanza” tra utenza e operatori, generata da mancanza di informazione, da un lato, e precarie condizioni lavorative, dall’altro. Sebbene lo studio presenti dei limiti (es. non esaustività dovuta alla censura applicata dagli amministratori della pagina ad alcuni post), ladiffusione di tali risultati all’interno di corsi di formazione potrebbe aiutare a modificare organizzazione e comportamenti. Eventuali provvedimenti dell’azienda nei confronti degli autori di alcuni post potrebbero supportare le vittime e dissuadere ulteriori episodi. Potrebbe essere utile infine estendere lo studio alle pagine degli Ordini professionali, sede talora di episodi di aggressione inter/intra-professionale che pure contribuisce a minare la fiducia dell’utenza.

Gli autori dichiarano di non avere alcun conflitto d’interesse.

Anwar Alghamdi1; Richard Keers1; Adam Sutherland1; Darren Ashcroft1

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Introduction:

Medication-related safety incidents are commonly reported as the most frequent safety incident in hospitals, and are thought to be more frequent in children than in adults. The likelihood of these incidents in children may increase in critical care settings compared to other general hospital wards. This study aims to determine the incidence, nature and contributory factors of medication safety incidents reported in children’s intensive care settings across England and Wales in order to make recommendations for changes to improve medication safety.

Methods:

We carried out a retrospective cross-sectional mixed methods study. This included quantitative analysis of data from medication-related incidents that involved children (0 to 18 years of age) admitted to intensive care settings and submitted to the National Reporting and Learning System (NRLS) database from all NHS organisations in England and Wales over a nine-year period (January 2010 - December 2018). A purposive sample of incident reports were selected to undergo a detailed thematic analysis of free text descriptions of incidents to understand potential contributory factors underpinning incidents.

Results:

There were 25,567 eligible incident reports. Most incident reports involved infants less than 28 days old (12,235/25,567, 47.9%) and children between one month and one year old (9,337/25,567, 36.5%). Incidents were commonly involved with administration (13,668/25,567, 53.5%) and prescribing (7,412/25,567, 29%) stages. Drug omission (4,812/25,567, 18.8%), wrong dose (4,475/25,567, 17.5%), wrong frequency (3,193/25,567, 12.5%) were the common error types. Incidents mostly did not cause patient harm (22,438/25,567, 87.8%). Of 3,129 (12.2%) harmful events, 2,833 (11.1%) resulted in low
harm, 286 (1.1%) caused moderate harm and 10 incidents (0.04%) led to severe harm/death. Medications to treat infections (6,483/25,567, 25.4%) were the commonly drugs involved with incidents followed by drugs for nutrition and blood (4,505/25,567, 17.6%) and central nervous system agents (2,613/25,567, 10.2%). The common contributing factors comprised individual-related factors including failure to adhere to policies and procedures and executing unsafe actions such as interruptions and poor documentation of drug administration records. These factors were notably associated with organisational-related factors such as heavy workloads, insufficient numbers of staff and variable or inadequate guidelines.

Conclusion:

Preventive strategies to improve medication safety in children’s intensive care settings should target administration and prescribing stages as well as drugs to treat infections. To improve drug safety in these settings, we recommend focusing on the systemic organisational factors as a target for improvement when designing remedial interventions.

Please declare any conflict of interest you may have:

Anwar A. Alghamdi, Richard N. Keers, Adam Sutherland and Darren M. Ashcroft have no conflicts of interest that are directly relevant to the content of this study.
An innovative hand restraint device can reduce unplanned extubation in intensive care units

Mei Lin Yeh1,2; Wei-Chun Huang1,2; Yaoh Shiang Lin1,2

1 Kaohsiung, Taiwan; 2 Kaohsiung, Taiwan

BACKGROUND

Intubation and ventilation provide the most critical support for patients in intensive care units (ICUs). However, unplanned extubation is still challenging in daily practice. The traditional design of the hand restraint device has several disadvantages, including small space to move, poor air permeability, easy to induce sweating, odor, and pressure ulcer and unable to use the oximeter and nursing calling bell. Furthermore, nurses are not easy to observe the temperature and color of the hands of patients. Besides, the patient lacks physical contact with the caregiver.

This study aimed to investigate the impact of an innovative hand restraint device on reducing unplanned extubation in intensive care units.

METHODS

This study enrolled patients in adult intensive care units from Dec 2017 to Nov 2018. A new restraint device by ergonomic concept was invented to resolve the disadvantage of the traditional device, which also included an early detect unplanned extubation device. The new design obtains the Taiwan patent. Forty ICU patients receiving hand restraints were randomly divided into two groups, and two restraint tools were used simultaneously for the patient both hands in different choices. After 24 hours of restraint, a structured questionnaire was used to investigate patient satisfaction. Furthermore, the satisfaction of 42 nursing staff with the innovative restraint device was also collected.

RESULTS

In the innovative hand restraint device group, unplanned extinction was 0%, which was lower than traditional design. The new design had better satisfaction in patients than the traditional design (p<0.005) in all dimensions, including comfortable, fingers movement, a nursing call used, physical contact, air permeability, arm movement, and respect.

This innovative design also had better satisfaction with the restraint site with arterial catheter insertion than the traditional restraint tool (p<0.001).
The satisfaction of nursing staff was also higher in the new design (p<0.001), including ease of operation, prevented unplanned extubation, observation, a medical device used and treatment, a nursing call used, air permeability and restraint injury.

CONCLUSIONS

This study demonstrated that an innovative hand restraint device could reduce unplanned extubation in intensive care units. Furthermore, satisfaction survey in new design showed higher than traditional design both in the patient and nursing staff.
Application of Diversified Strategies to Reduce the Incidence of Physical Constraints in the Inpatients

WAN ZHEN CAI1; WEI HUA YU2

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Introduction:

Physical constraints originated in Psychiatry to prevent patients from harming themselves or others. While rises of patients’ self-awareness, the Taiwan Medical Quality Indicator Project (TQIP) is monitoring closely of incidence rate in physical constraints. The goal is to provide higher quality of patient-centered nursing care. Based on statistic that was collected from Shin Kong Hospital in Taiwan, there was 4.31% incidence of constraints in 2017 and 2.57% in 2018. Furthermore, 70% of these patients are over age of 80 years and hospitalized for renal disease. Different types of physical constrains includes 60% of the “table tennis gloves”; 72% occurred in the night shift, and among them, 87% related to treatment needs (45% related to the patients with indwelling nasogastric tubes). This study targets the root cause analysis and diversified strategies to avoid constraints in a general and surgical ward to improve the nursing care quality.

Methods:

After brainstorming using tree diagrams and root cause analysis, our team identified the causes of the events, and strategies for improvement were designed with an emphasis on the following issues:

I. Emphasize evaluation of the need for constraints in the nursing staff: 1. Establish clear indication and principles for physical constraints to allow nursing staff better recognize the timing of an appropriate protective constraint and its correct standardized proceeding. 2. Enhance the evaluation for the need of a constraint. 3. Redefine the physical constraint as a patient’s physical activity is restricted as some items, such as tubing, should be fixed.

II. Improving tubing fixations and effective communication: 1. According to our statistics, the age group above 81 years old accounted for 70% of the constraint events. The use of graphics cards may help these patients establish better understanding. 2. To improve the fixation of the nasogastric tube setting behind the shoulders.

III. Recommend using two-piece designed nasogastric tube: 1. According to our data, 45% of the events occurred in patients with an indwelling nasogastric tube. 2. The patient might
still be able to remove the tube even after constrained with the table tennis gloves if it is a regular nasogastric tube. The use of a two-piece nasogastric tube may prevent this problematic situation due to its shorter exposed length.

**IV. Periodic audit of constraint events:** 1. The leader of each shift registers the constrained patients and each case should be discussed during change of shifts on the need and possible alternative measures. 2. The cases should be evaluated monthly by the nursing team with particular emphasis on the patients constrained over 24 hours, and those being continuously constrained.

**Results:**
After improvement was implemented in May 2018, the audit made in May and December 2018 on 6 to 10 patients, respectively, the correct evaluation for a physical constraint was 100%. From July to December 2018, a total of 11 patients used the newly introduced two-piece nasogastric tube. The statistics revealed two cases of constraint in this period with an average incidence rate of 0.19%. The incidence rate in the period from January to October was 0.15%.

**Conclusion:**
A physical constraint may be necessary for some circumstances, but prolonged constraint would lead to profound physical and psychological distress, and prolonged hospital stay. The intervention of diversified preventive measures, periodical assessment of the causes and needs of constraint may help to reduce the use of physical constraints for a safer and more humanized nursing care for the patients.

**Please declare any conflict of interest you may have:**
Nil
Applying multidisciplinary team to prevent patient fall

Sheng-Hui Hung1; Yu-Hsun Cheng2; Hsiao-Chen Hu1; Pa-Chun Wang3

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Introduction:
The fall incident ranks second in the hospital and in the national patient safety reporting system in Taiwan. Severe falls can lead to death or irreversible injuries, prolonging hospitalization and medical costs, but the factors that cause falls are complex and rely on the multi-disciplinary team to intervene to find effective prevention to improve patient safety. With the intervention of the multi-disciplinary team, the development of fall prevention measures to promote patient safety.

Methods:
A series of improvements were made to patients' high-risk fall assessment, medication, environment, patient and caregiver factors in a multi-disciplinary team model, including physician, nursing, pharmacy, nutrition, rehabilitation and administration. In the assessment of high-risk falls, with the confidence-based Morse assessment scale, invited patients and caregiver to participate in the joint fall assessment of inpatients, will be prone to cause dizziness, hypotension and other drug prescriptions into the scope of the fall high risk group assessment, at the same time in the medical information system automatically brought into the prevent-fall reminder, the nursing record system automatically brings out the fall risk factor according to the evaluation results.

In terms of nutrition and rehabilitation, special nutritional care for high-risk fall patients and strengthening of patients' muscle strength are strengthened. In terms of the environment, (1) the wards of the toilet handrails, the addition of emergency call bells, the ground to be converted into anti-slip bricks, the door to add a comprehensive anti-slip mat, door bumps and gaps to serve as a warning of eye-catching tape, teaching patients in and out of the toilet using slippers. (2) the hospital room aspect: ward walkway to maintain a clear air, to avoid personnel due to obstacles caused by falls, small night lights using LED lights to increase lighting; (3) Public area stairs: plus handrail equipment and stair sliding strips; (4) The road surface is renovated to level the ramp. As regards caregivers, strengthen the education of the caregivers, develop multi-language teaching tools, to the characteristics of different caregivers.
Results:
From the 2018-2019 falls occurred 104 and 107, respectively, accounting for 30.1% and 29.3% of all patient safety incidents, respectively, the number of occurrences is not different, but for the risk-causing related factors analysis, after a series of environmental improvements, there has been no recurrence because of environmental factors caused by patients to fall. In terms of the patient's fall injury level, the level of injury in 2018-2019 was significantly reduced by moderate injury and severe injury (P<0.001), which showed that it was effective to prevent significant injuries caused by falls.

Conclusion:
Through multi-disciplinary team cooperation, intervention in all aspects of improving patient falls, in addition to strengthening the patient and caregiver's awareness of the prevention of falls, but also effective to reduce the extent of the damage caused by falls.

References:

Please declare any conflict of interest you may have: None
Designing gastroenterology operating theatres for people’s safety: The Australian FLOURISH Study

Frances Rapport1; Jeffrey Braithwaite1; John Cartmill2; Robyn Clay-Williams1

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Introduction:

Hospitals are currently designed according to a Work-as-Imagined (WAI) not Work-as-Done (WAD) model [1], largely driven by a top-down, managerial imperative about how work should be performed, rather than an in-depth understanding of what actually happens in the workplace. Until hospitals are adequately designed to match the needs of the workforce, expensive, impactful mistakes are likely to continue to be made, lowering standards, putting undue pressure on the workforce and challenging patient safety and care quality [2]. Hospital designs, including operating theatres and other surgical spaces, are not sufficiently being assessed according to WAD. This need a critical, global re-think to ensure care is delivered in safer, more effective healthcare environments by satisfied, high-functioning healthcare professionals.

Objectives:

To use novel mobile methods to examine WAD in one gastrointestinal (GI) surgical unit’s operating space in an Australian private metropolitan hospital. To assess the effects of different spatial use on professional function, satisfaction, safety and care quality.

Methods:

A qualitative, intra-method study used: In-situ observations of spatial use recorded through fieldnotes; shadowing and informal conversations with healthcare professionals and patients moving through space (‘mobile methods’) [3]; and, drawings, photographs and architectural plans of the GI surgical unit. The study was conducted between June 2018 and April 2019 [4].
Results:

Six themes (Table 1) indicated both fit- and unfit-for-purpose spaces.

Table 1. Six Themes of WAD and Workspace Use in GI Surgery

<table>
<thead>
<tr>
<th>Theme No. and Title</th>
<th>Fit-/Unfit-for-Purpose Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Spatial Reminders Through Objects</td>
<td>Fit</td>
</tr>
<tr>
<td>2. Accommodating Space</td>
<td>Fit</td>
</tr>
<tr>
<td>3. Sterile and Contaminated Space</td>
<td>Unfit</td>
</tr>
<tr>
<td>4. The Alcove</td>
<td>Unfit</td>
</tr>
<tr>
<td>5. The Changing Dynamics of Space</td>
<td>Unfit</td>
</tr>
<tr>
<td>6. Cold Space</td>
<td>Unfit</td>
</tr>
</tbody>
</table>

Themes 1&2 highlight how space can help professionals work efficiently while enabling empathic relationships with patients and others. Objects in space are key to preparing staff for the roles they are about to enact and enhance mental wellbeing. Well-planned space also encourages trusting relationships, leading to higher-quality performance. Unfit-for-purpose spaces (Themes 3-6) indicates a range of problems, such as the challenge of demarcating sterile spaces, breaches to private, bounded spaces, the inability of staff to fulfil their roles, interruptions in key procedures, delays affecting safety, and cold space impacting care quality.

Conclusion:

By designing safe and harmonious working environments that support team communication and movement, we could build safer spaces for GI surgical teams to function and adapt within. We recommend a redefinition of arrangements of workspace that positively affect happiness, health, productivity and safety, suggesting accommodating, dynamic spaces can contribute to positive health outcomes.

Please declare any conflict of interest you may have: None
Effectiveness analysis of an on-demand call-for-help system for urgent nursing consultation

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Introduction:
It is very important to ameliorate nurse workplace quality, to reduce nurse workload so as to depeak work stress and to have improved satisfaction of nursing staff. Urgent situations are not uncommon for nurses working alone, especially during night shifts and they usually need extra support or assistance to achieve better patient care. An on-demand call-for-help system (Call4Help) was developed for the nursing staff to outreach immediate assistance from other team members. This pilot system proves that digital workflow enabling nurse mutual support to ensure better quality of care. Our purpose is to develop a profile of urgent nursing consultation by implementing a novel on-demand call-for-help system and further explore and analyze the impact on varied dimensions of nursing teamwork.

Methods:
This study used two-group experimental designs to encompass pre- and post-test results, which were carried out a medical center. The study objects were nurses in inpatient wards. The new Call4Help system provides small gadgets mounting on walls to enable nurses at four wards to call out for help and assistance immediately at the spots confronting challenges and difficulties. The study used questionnaires to collect data from nurses before and after intervention to explore the effectiveness of the Call4Help system. The content of the questionnaire is composed of four categories including the effectiveness of teamwork support, work pressure of nursing staff, work efficiency of nursing staff, and job satisfaction of nursing staff.

Results:
A total of 293 nurses were included in the study, with an average age of 31.9±9.0 years and an average work year of 7.1±8.3 years. The basic information details showing the majorities of the study parameters are as follows: female (96.9%), unmarried (73.7%), and college education (experimental) (84.3% in group), shift on duty (82.3%), normal health status (74.1%), and no hospitalization experience (76.5%). The only significant difference from the basic data calculation of the two groups is average working experience (years): 5.5 years in the experimental group and 7.7 years in the control group, showing that average working...
experience (years) of the control group was significantly longer than that of the experimental group (p <0.02).

Job satisfaction score of the control group is significantly higher than that of the experimental group from the pretest result (p = 0.006). From the post-intervention results, all scores of the four categories are significantly higher of the experimental group than of the control group (p<0.05). For experiment group, after pilot running of the novel system, all four scores show significance comparing the pre- and post-intervention results (p<0.001). Further analysis with Generalized estimating equation (GEE) shows that the scores of the experimental group on the four-category scale were significantly higher than those of the control group (p <0.01), indicating that the Call4Help system has great impact on the experimental group as compared with the control group.

**Conclusion:**
Our novel Call4Help system proves an effective tool to promote mutual assistance and support among teams from different wards. A larger investigation across the whole medical center is expected based on the efficiency and efficacy from this pilot study. Promoting the concept for giving birth to this novel system is worthwhile.

**Please declare any conflict of interest you may have:** No
Effectiveness of Reducing Unplanned Readmission Program and Readmission Causes Analyze to Intensive Care Unit in Taiwan

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Introduction:

Unplanned readmission to intensive care unit is a performance indicator of the quality of intensive care, and also associated with increased cost and worse patient outcomes. In 2017, 2.3% of patients had unplanned readmission to the medical intensive care unit (MICU) within 48 hours from general wards in our hospital. This rate was higher than the average of the medical centers in Taiwan (0.9%). We aimed to improve clinical nursing care and handover between MICU and general ward to prevent the unplanned readmission, and want to understand readmission causes in this project.

Methods:

In 2018, we developed respiratory programs from three multidisciplinary strategies for MICU and ward team. First, the SWIFT (Stability and Workload Index for Transfer) score was used for screening the high risk (≥15) of readmission by physicians enrolled into the program (include chest percussion/posture drainage, naso-gastric feeding skill, making media). Second, we establish a process and manual for teaching and handover. Third, the effect of the family learning was evaluated and handover by MICU team before patient transferring to ordinary ward.

Results:

After implementation of the respiratory programs from January to December in 2019, 854 patients were transferred from the ICU to ward during the period. 121 patients were screened as high-risk of readmission and the respiratory care programs were performed. The rate of unplanned readmission within 48 hours decreased from 2.3% to 1.2%. In addition, 10 patients were unplanned readmission. The respiratory problems still were the main causes (50%) and infection problems (20%), the average were 79 years old, man (8 persons) more than female (2 persons) of MICU readmission within 48 hours. Additionally, three patients (mortality was 0.35%) were dead and two patients death related to respiratory problem. However, unplanned readmission total costs reduced 61.1% (US$ 141,395 vs. US$ 55,042) in this project.
Conclusion:

This project were developed a respiratory programs, handover strategies and the ability of providing respiratory care among the family members improved during the hospitalization. Implementation for one year can reduce the unplanned readmission within 48 hours and medical costs. In addition, the program can enhance family care ability and may prevent the patient not only unplanned readmission to the ICU, but also to the hospital.

References:

Please declare any conflict of interest you may have: None
Examining the inclusion of patients and their family members in infection prevention and control policies and guidelines in Asian countries where provision of care by family members considered a norm

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Introduction:

Interventions aimed at curbing the rise of healthcare associated infections (HAIs) mainly focus on health care workers (HCWs) reflecting the primary care providers in the Western countries. However, it is considered a norm in many Asian countries that family members of patients assist a patient with inpatient care activities. Although familial involvement during inpatient care is not uncommon in Western countries, types of caring activities that family members provide in Asian countries are significantly different. Given the types of caring activities that patients’ families are involved with and the length of time that they are present in the hospital wards, consideration may need to be given to their protection from HAIs as well as their education within Infection Prevention and Control (IPC) policies and guidelines. Hence, this study examined whether the role of patients’ families has been accounted for in IPC policies and guidelines, using case studies from Bangladesh, Indonesia and South Korea.

Methods:

WHO website and IRIS, CDC website, Australian Government Web Archive, Open Grey, Grey Matters, World Bank and advanced Google search as well as the Health Department/Ministry of Health websites for each target country and 4 Western countries (Australia, Canada, England and the United States of America) were searched. Other databases, i.e. Embase, Medline, CINAHL, Global Health, ProQuest databases, Google scholar, Web of Science and Scopus, were also searched. This is to review the reflection of the cultural influence in IPC policies and guidelines by reviewing those from the global organisations which are often used as a blueprint for policy development as well as those from Western countries which hold different culture in care arrangement. Search was conducted with attention to the key areas; definition and role of carer in the acute healthcare facility, involvement of patients/family members in IPC activities, patient and family member hand hygiene and IPC education.
Results:

92 documents were identified based on the criteria for the study. 6 acknowledged that care is provided to hospitalised patients by their family members and only 1 recommended that family members receive the same level of training as HCWs on IPC precautions. Other guidelines recommended the provision of information on IPC measures as means of patients involvement in the IPC program. None of guidelines and policies from the target countries acknowledged alternate arrangement of care provision other than HCWs or cultural consideration to the care involvement of family members. Recognition of family carers or inclusion of them in the IPC strategies was also not included in the target countries’ guidelines.

Conclusion:

IPC guidelines and policies are found to be quite similar regardless of cultural differences in countries. It may be because many countries have developed their guidelines and policies with reference to the large public organizations. Adaptation without consideration of cultural influence in health care brought about significant gaps between actual practices and guidelines in the target countries, and it may have negative implications to patient safety. While HCWs are the primary actors when it comes to providing care in acute healthcare settings, it is important to expand the IPC guides by considering the role of other caregivers. This is especially important when cultural values strongly influence over healthcare arrangements and the healthcare accommodates these cultural influences in the practice. Policies and guidelines should reflect this difference.

Please declare any conflict of interest you may have:

authors do not have any conflicts of interest to declare
INTRODUZIONE

L’Organizzazione Mondiale della Sanità ha identificato l’H come un processo chiave per la sicurezza delle cure. Questo processo nel contesto dell’emergenza è complesso e prevede il coinvolgimento di più team con la necessità di centrare le attività sul paziente per non perdere informazioni cruciali.

SCOPO

Lo scopo di questo progetto è di migliorare l’H al momento della transizione del paziente dal 118 al PS e dal PS all’AC nelle strutture afferenti al Dipartimento di Emergenza Urgenza (DEU) dell’ATNO attraverso il coinvolgimento di tutti gli attori nella analisi e progettazione del nuovo processo di H.

METODI

E’ stato costituito un gruppo di lavoro che ha condotto un’indagine conoscitiva per la presenza di procedure specifiche per H tra 118, PS e AC nei vari Presidi Ospedalieri (PO) afferenti al DEU dotati di Terapia Intensiva. E’ stata quindi realizzata una fase pilota presso il PO di Lucca con la raccolta di informazioni attraverso le fonti disponibili (First Aid, cartella elettronica C7) e l’asomministrazione agli operatori di un questionario anonimo.
Il questionario prevede una parte introduttiva con quesiti generali relativi all’H e una parte specifica per le diverse professionalità (medici e infermieri) e i diversi setting di appartenenza (118, PS, AC).

RISULTATI

In nessun PO è presente una procedura specifica per H tra 118, PS e AC.
Gli accessi totali al PS di Lucca nel 2018 sono stati 63.156, di cui 17.643 arrivati tramite 118 (2802 con medico, 1383 con infermiere e 13.458 con i volontari del soccorso). I ricoveri dal PS all’AC nel 2018 sono stati 128 (M:F=78:50) di età compresa tra i 19 e i 96 anni.
Sono stati distribuiti 184 questionari e ne sono stati restituiti 119 (65%).
Tra il 95% e il 100% degli intervistati ha risposto che nel processo attuale di H sono presenti criticità.
Le principali criticità rilevate riguardano ciò che è stato fatto al paziente, dispositivi
applicati, anamnesi clinica e farmacologica, risposta alla terapia, azioni necessarie nel breve periodo, situazione sociale, tracciabilità delle informazioni.

Queste criticità sono state attribuite a diversi fattori: gravità clinica, mancanza di tempo, interlocutore non ben identificato, mancanza di uno schema di comunicazione condiviso, utilizzo di strumenti cartacei e mancanza di interfaccia tra i diversi software.

Inoltre per il 50% di coloro che hanno risposto, l'utilizzo di una check list facilita l’H e per il 60% facilita il lavoro del ricevente. Solo il 10% ha risposto che la check list costituisce un ulteriore carico di lavoro.

Le possibili soluzioni individuate attraverso i questionari sono state quella di elaborare uno schema di comunicazione condiviso, di garantire l’H al letto del paziente tra gli operatori coinvolti, di migliorare l’interfaccia informatizzata, di elaborare una check list.

CONCLUSIONI

Il processo di H in emergenza è estremamente delicato e richiede un elevato livello di situational awareness da parte di tutti gli attori per poter essere condotto in modo efficace.

Il coinvolgimento degli operatori li rende parte attiva nell’individuazione delle criticità oltre che nella proposta di possibili strategie di miglioramento e ne garantisce la compliance successiva.

Tra gli schemi di comunicazione proposti in letteratura è stato individuato lo SBAR per il quale è prevista la presenza di uno strumento mnemonico presso le aree di lavoro.

E’ in atto lo studio di fattibilità dell’adeguamento dei software in uso (LifeCall, First Aid e Cartella C7) attraverso il miglioramento dell’interfaccia tra essi e l’introduzione di campi obbligatori che comprendano un set minimo di informazioni necessarie a garantire la continuità del percorso (check list).

REFERENZE


Gli autori non hanno conflitti di interesse.
How healthcare accreditation can improve safety

Majoul Sihem1; Essaafi Sihem1; Slouma Rim1; Mackereth hill Jan2

1INEAS, Tunis, Tunisia; 2MB3 Healthcare Ltd., London, United Kingdom

Introduction:

In Tunisia, health care providers are aware of the frequency and scope of adverse incidents, which are largely preventable, but they do not have sufficient data on the safety of care (SC). Similarly, the visibility and accessibility of information on SC at the institutional level remains low for all actors in the health system. The National Health Evaluation and Accreditation Authority (INEAS), the only external evaluation body in North Africa, has integrated the International Patient Safety objectives (IPSGs) set by the WHO for patient safety into its accreditation manual. The main challenge of accreditation is to develop risk management in the service of patient safety and to strengthen the culture of quality. However, will accreditation persuade HEs to put in place adequate mechanisms and tools to reach IPSGs?

Hence this study has the following objectives:

- to assess the actions put in place by health authorities for patient safety
- to assess the degree of applicability of the requirements of the references relating to IPSGs

Methods:

Descriptive, cross-cutting study conducted among the first 6 HEs involved in accreditation

The IPSGs were studied and the most relevant to the current issues faced in Tunisian healthcare became the primary focus for integration into the first edition of the standards, these being: patient identification, communication during patient handovers, look-alike, sound alike medication names, control of concentrated electrolyte solutions, single use of injection devices, improved hand hygiene to prevent health care-associated infections. Other safety solutions integrated into the manual include accuracy of medication at admission, implementation of the safe surgical checklist, and reducing the risk of injury from patient falls. Each IPSG integrated into the standards in 36 references (objective to be achieved by the HE) structured according to the PDCA and 156 criteria (to achieve the objective). Each criterion was evaluated during the accreditation visits and rated from 0 to 3, allowing the reference to be scored automatically. The evaluation is considered satisfactory if the score is ≥ 50% and therefore the institution meets the reference totally or globally.
Results:

-Mobilization of professionals around the challenges of the SC

- Establishment of a dynamic of improvement of the SC among all the HE

- Most of the documents required by the standards have been developed, but no evaluation

- Significant variability in reference applicability scores between HE

- The reference with the highest score of achievement was the implementation of an identity-vigilance system

- The references relating to the control of an episode of infection associated with care and the implementation of a falls prevention policy had the lowest scores of achievements

Conclusion:

The evaluation of the IPSGs through the accreditation process has enabled professionals to improve their knowledge of the previously little-known concept of safe care and to strengthen the risk management culture.

In order to make accreditation a pragmatic and realistic approach, INEAS will:

- Include indicators in the next version of its accreditation manual;

- Integrate all ISPGs into the next edition of the standards

- Introduce the HEs to the culture of the indicator so that it remains a steering tool;

- Make generic information available to the HEs to facilitate the implementation of the ISPGs as part of its service to clients.

References:

INEAS standards for 2nd & 3rd line healthcare establishments

WHO ISPGs

Please declare any conflict of interest you may have:

The presenters have no conflicts of interest to declare
Il campione emolizzato e la sua gestione nell’ambito della sicurezza del paziente

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Background.

La qualità del campione biologico è il prerequisito per garantire l’affidabilità delle informazioni rilasciate dal laboratorio. Le evidenze scientifiche dimostrano, tuttavia, che i campioni non idonei rappresentano la percentuale più elevata di errore imputabile alla fase pre-analitica.

L’emolisi è l’interferenza più frequente e può inficiare il risultato del test, provocando un bias positivo o negativo in relazione alle caratteristiche del sistema diagnostico. L’identificazione e la corretta gestione dei campioni emolizzati è, quindi, una procedura fondamentale per evitare il rilascio di risultati errati e prevenire un esito negativo per il paziente.

Scopo

di questo lavoro è identificare i punti di debolezza nell’identificazione dei campioni emolizzati ed il loro impatto sulla sicurezza del paziente.

Risultati.

L’analisi della letteratura ed i dati relativi agli indicatori di qualità (IQ) gestiti nell’ambito del Progetto del Working Group “Laboratory Error and Patient Safety” dell’International Federation Clinical Chemistry and Laboratory Medicine evidenzia che i campioni emolizzati rappresentano la più comune causa di errore. Tuttavia, la corretta identificazione dei campioni emolizzati è strettamente correlata alla modalità di rilevazione, mediante misura dell’indice di emolisi (HI) o mediante ispezione visiva (IV). Infatti, l’analisi dei dati degli IQ raccolti negli anni 2017 e 2018, evidenziano che la percentuale di campioni emolizzati rilevati mediante HI è superiore a quella rilevata mediante VI (HI = 2.0 e 1.81 vs IV = 0.30 e
0.29). Inoltre, è stata osservata un'ampia variabilità tra i risultati forniti dai diversi laboratori partecipanti al progetto per entrambi gli IQ. Questo può essere spiegato dalla soggettività dell'operatore, in caso dell’IV, e dalla carentearmonizzazione delle soglie per rilevare HI, definite dai sistemi diagnostici disponibili.

I dati evidenziano, inoltre, che i campioni rigettati a causa di emolisi (2017: 0,32% e 2018: 0,43%) risultano sottostimati rispetto agli attesi, se paragonati alla percentuale di campioni emolizzati rilevati. Questa incongruenza può essere causata da una mancata registrazione del dato o al mancato rigetto del campione con conseguente rilascio di un risultato non corretto.

La valutazione del rischio associato al mancato rigetto del campione, rileva le seguenti possibili conseguenze: errore diagnostico, inappropriato trattamento, dubbio sull’affidabilità del risultato da parte del clinico con richiesta di ripetizione dell’esame e conseguente ritardo nella gestione del paziente. Inoltre, altro elemento fondamentale che emerge dalla valutazione del rischio è l'incorretta identificazione degli esami i cui risultati possono essere inficiati dall’emolisi e, per ciascun di essi, la concentrazione per la quale è corretto rilasciare il risultato con la notifica di emolisi o rigettare il campione.

**Conclusioni.**

Nonostante siano disponibili linee guida e raccomandazioni, nazionali e internazionali, sulla corretta gestione dei campioni emolizzati e sulle modalità di refertazione degli esami che ne possono essere inficiati, la strada è ancora lunga per raggiungere l'armonizzazione delle procedure tra i laboratori.
Introduction:

Between 5 and 10% of hospitalized patients develop infections related to healthcare provision. The infections caused by microorganisms of special epidemiological relevance are particularly serious. In some cases, the neutralization of the carrier status is feasible. We have detected a deficit on the follow-up of these patients when they were taken care at the ambulatory area. The increase of cases requires more healthcare resources. This led us to reevaluate the follow-up and control made toward these patients.

Objectives:

To evaluate the impact in the patients’ safety after the implementation of a procedure to control carriers of multi-resistant microorganisms’ patients in the ambulatory area.

Methods:

Elaboration of a procedure for the follow-up of carrier patients or patients with active infection due to microorganisms of special epidemiological relevance, in the ambulatory area.

Setting: Day care onco-hematological unit.

Design: Post intervention study performed in 2018. The intervention consisted in the elaboration and dissemination, through compulsory training sessions of the procedure.

Population of study: Onco-hematological patients taken care at the ambulatory area and containing an alert due to multi-resistant germen in their clinical record. Additionally,
patients discharged to the hospitalization unit with ongoing treatment or control were also included.

Variables: type of germ, result in clinical sample, carrier status, proposed intervention, case conclusion.

Data collection: prospective analysis of the performed interventions.

Results:

29 patients were included in the controls. 76% of patients (n=22) had an activated alert in their medical records due to positive clinical sample of microorganisms of special epidemiological relevance and 24% (n=7) because of nasal and/or rectal carrier. Controls of the carrier status through smear were performed in 69% (n=20) of the cases and treatment and later control smear in 21% (n=6) of the cases. The carrier status was neutralized in 93% (n=27) of the patients in follow-up process and the alert at the informatic system was cancelled in 55% of the cases (n=16).

<table>
<thead>
<tr>
<th>29 Patients</th>
<th>Interventions</th>
<th>Interventions’ Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive sample: 80%</td>
<td>Smear: 69%</td>
<td>Negative Carrier: 93%</td>
</tr>
<tr>
<td>Carrier: 20%</td>
<td>Treatment + Smear: 21%</td>
<td>Alert deactivation: 55%</td>
</tr>
<tr>
<td>MRSA*: 45%</td>
<td>None: 10%</td>
<td>Non alert deactivation: 45%</td>
</tr>
<tr>
<td>ESBLs**:41%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*methicillin-resistant Staphylococcus aureus  
**extended-spectrum bet-lactamases

Conclusion:

The implementation of a follow-up circuit has allowed to reduce the prevalence of carriers of multi-resistant microorganisms’ patients in the ambulatory area. This has made their healthcare process simpler and the costs derived from unnecessary isolation measures have been reduced.

References:

Please declare any conflict of interest you may have: The authors declare there are no conflicts of interest.
IMPORTANCE OF ANTIMICROBIAL CONTROL TO ENSURE HOSPITALIZED PATIENT SAFETY

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Introduction:
Introduction: Resistance to antimicrobials is a major public health concern, since they are becoming ineffective. The current lack of new antimicrobials on the horizon to replace those that become ineffective demonstrates the urgency of this problem, determining the need to protect the effectiveness of existing drugs (WHO, 2014). Given this context, the objective was: to evaluate the management of antimicrobials in a public hospital.

Methods:
This is a cross-sectional, quantitative and descriptive study, carried out in a public, municipal urgency and emergency hospital in the city of São Luís in Maranhão/Brazil. Using randomization of the systematic random sampling type, antimicrobial prescriptions were selected according to a fixed interval and 78 samples were collected for analysis. The project was approved by the Research Ethics Committee of the Faculty of Health Sciences of Trairi, Federal University of Rio Grande do Norte (Opinion: 3.390.982).

Results:
In the initial quality assessment of 78 antimicrobial prescriptions, based on two criteria, which are: safe prescription of antimicrobials and prescription according to an empirical antibiotic guide, a total compliance of 4% ± (4%) was observed in the first criterion and 12% ± (4%) in the second.

Conclusion:
The need for improvements in the management of antimicrobials to reduce infections, hospital costs, prescription errors and, finally, a reduction in the average length of hospital stay and the reduction in the readmission rate of patients in need of treatment with antimicrobials, became evident. The importance of improving the safety of prescription as recommended by the third International goal of patient safety is emphasized.

References:


Please declare any conflict of interest you may have: Not conflict of interest
Importance of healthcare system design after national disasters focusing on the patient

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Introduction:

On April 16, 2014, The Sewol Ferry carrying 476 people sank, leaving 299 people dead and five others missing. Most of the bereaved families had traumatic stress syndrome, and the government was also busy providing a mental health-oriented health care system. But many studies suggest that post-traumatic stress disorder tends to spread around areas where the bereaved families reside and it leads to poor physical health. In this case, the same deterioration in physical health has begun to be observed. Nevertheless, in order to receive support for the state-provided medical expenses for bereaved family, the deterioration of physical health had to be proven due to the Sewol Ferry incident.

Objectives:

In response, this research will examine the deterioration of health before and after the Sewol Ferry disaster, including mental and physical health focusing on area of Danwon-gu where the bereaved families and acquaintances reside.

Methods:

We used 2011-2017 data of health information which is big data which is collected, possessed and managed by National Health Insurance Corporation. This study conducted a Propensity Score Matching(PSM) by selecting the area of Cheonan with similar population structure and regional characteristics as the control group. PSM is the work of controlling factors other than disaster occurrence. And then we conducted a Difference-In-Differences(DID) analysis. The DID analysis method is to observe whether certain diseases have increased significantly before and after the Sewol ferry disaster.

Results:

Danwon(Experimental group:78,293 people) and Cheonan(Control group:78,293 people) residents who were proved through PSM. As a result of the DID analysis, depression(difference=3.9%, p=.023, p<.05) hypertension(difference=6.5%, p<.031, p<.05) heart disease(difference=2.1%, p=.000,p<.001), cerebrovascular disease(difference=1.6%, p=.011, p<.05), metabolic syndrome(difference=3.6%, p<.024, p<.05), there was a statistically significant difference between the two groups at the significance level of 0.05.
As a results depression, hypertension, heart disease, cerebrovascular disease, and metabolic syndrome were proved to show a statistically significant change after the Sewol Ferry disaster.

**Conclusion:**

It is meaningful that the current policy focused on mental health has been evoked into physical health for resident of Danwon in South Korea. As a result, medical assistance should be carefully provided after a national disaster based on review the health status of patients. The one-dimensional approach that the health condition of the bereaved family will stay in the state of mental health will hinder the provision of comprehensive medical services. In other words, identifying the medical services to be required by patients should be based in advance.

**Please declare any conflict of interest you may have:** I declare it!
Improving phlebotomy efficiency of rookie nurses for difficult venipuncture patients

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Introduction:
Peripheral venous access creation (venipuncture) is a common procedure performed in everyday clinical practice. If the on-duty nurse fails, she or he would feel stressed and anxious. Literature review shows that keeping venous access patent causes 86.6% new nurses quite stressed and deciding to resign from their jobs. From the data collected from two inpatient wards in a medical center in Southern Taiwan, 33% of venipuncture cases costed more than 2 peripheral venous catheters and took 35.3 minutes on average. Thus “difficult venipuncture” is defined as the procedure taking more than 2 catheters or 30 minutes. Thin-slicing the whole task of “difficult venipuncture”, two encounter points were identified, i.e. one being the point of “in-charge nurse performing phlebotomy procedure” and the second being “assistive nurse to perform venipuncture”, collectively account for 79% of the time; therefore these two processes were chosen to be the improvement points in our study.

Objectives:
The goals of this study are as follows: to decrease total procedural time or decrease the number of catheters used, and indirectly reducing work hours and associated material cost.

Methods:
Three intervention strategies for improvement were (1) to create or invent high fidelity teaching aids to simulate difficult venipuncture cases, (2) to produce teaching videos for such cases as well and (3) to establish bedside instructions and reminders for venipuncture preparation tips. The application of high-fidelity teaching aid is innovative, simulating vascular elasticity and dermal contact sensation, which is not high cost and easy to use. And this teaching aid was enrolled on the checklist of learning for new nurses. For producing difficult venous access teaching video, the clips were composed from the processes when support or backup nurses was helping difficult venous access creation. These videos are also posted onto the staff’s learning website.
Results:

1. Venipuncture time by primary in-charge nurse: from 17 minutes to 12 minutes after intervention.
2. Venipuncture time by supporter or backup nurse: from 11 minutes to 8 minutes after intervention.
3. Number of Catheters for difficult intravenous access: from 5 to 3
4. Average difficult venipuncture time: from 35.3 minutes to 24.5 minutes; the goals were 100% achieved.

Conclusion:
Subjects of this project were for all nurses from two wards of internal medicine, including experienced and new nurses. If the project focused on rookie nurses, the performance assessment would be more drastic. In addition, we are also convinced that if the interventions could be enterprise-wide deployed, these results would be more remarkable.

Please declare any conflict of interest you may have: None
Improving the management and follow-up of laboratory results in primary care – A quality improvement project.
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1Fairgate Medical Practice, Drogheda, Ireland; 2Irish College of General Practitioners, Dublin, Ireland; 3Health Service Executive, Navan, Ireland

Introduction:

The ordering of laboratory tests by clinicians for the purpose of screening, diagnosing and monitoring patients, is a vital and increasing part of routine primary care worldwide. However a successful testing and result communication process in primary care, requires the coordinated efforts of general practitioners (GPs), patients, administrative personnels and laboratory staffs.

Though the reasons for ordering tests may vary, the timely communication of results is central to ensuring the provision of appropriate care.

For patients and their relatives, poor test result handling systems may lead to avoidable harm and distress, delayed treatments, unsatisfactory care experiences. For general practitioners, missed results and poor test follow-up, can lead to delayed clinical judgements on diagnostic and treatment decisions, thereby potentially impacting on patient safety.

Objective:

The objective of this project is to improve patients safety, by improving the monitoring of patients’ blood results and effective communication of same to the patients.

Methods:

We performed a systematic review of the current system of monitoring laboratory results in our General Practice (GP) surgery / medical practice by looking at the current process and subsequently improved it.

The current process involves the following:

- Patient sees the physicians in the practice, who identifies the need for a blood test(s)
- Patient books an appointment and subsequently, attends the nurse to have the blood(s) taken
- Patient is informed by the nurse to ring the surgery after few days for the results
- Blood samples are sent to the hospital laboratory
- Blood results are sent back to us via secured online platform
Blood results is securely downloaded by a designated administrative staff on a daily basis, to a designated electronic folder and integrated into the patient’s clinical note. The physician reviews the results, actions it, and communicates it to the patients with same documented in the patient’s chart. This is usually done by patient calling for results, or by chance consultations, whereby the patient presents for something else, and blood tests done previously, are then discussed / acted on.

However from our review, we discovered that blood results, were not adequately followed up or acted on by the physicians. This constitutes nearly 30% of all blood test results combined, as the review of results is dependent on the patient contacting the GP practice, which is not a reliable process.

Consequently, we redeveloped the process of reviewing blood results through the following process:

- Promptly reviewing blood results returned from the laboratory daily
- Creating a platform on the current software used by Doctors, to enable them to make comments, recommendations and actions to be taken on any particular blood results, which is also integrated into the clinical notes
- We created a buddy system between the doctors and the nurses to ensure effective communication and timely review / actioning of blood results
- We created protocols for the doctors, nurses and the administrative staffs as regards the process (from the ordering, sample taking, and giving results)
- Creation of patient information leaflet for patients as regards the process of obtaining their blood results

Results:

This project is on-going, the findings will be presented at the conference.

Conclusion:

The effective follow-up of blood results and communication of same to the patients, cannot be overemphasized, as this project is still on-going, the initial findings from the improved method of monitoring results, has been encouraging for both the patients, clinical staffs and administrative staffs alike as it improved patient safety.

References:

Please declare any conflict of interest you may have: None
[1329] Infection prevention as a shared responsibility - improving the patient experience during contact isolation

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Introduction:
Being cared for in contact isolation can have negative effects on the psychological well-being of patients in hospitals. Improving the patient experience during contact isolation might alleviate the adverse psychological effects. Our objective was to map the experience of patients in contact isolation in a Dutch university hospital and to explore opportunities for improvement from a design perspective.

Methods:
Semi-structured, qualitative interviews with patients (n=6) and healthcare providers (n=10) and direct observations of patient care at two different wards (3 hours) were performed. Literature review on patient experience and collective action theory were conducted to explore opportunities for improvement of the patient experience during contact isolation.

Results:
Based on the results, a patient journey was made, revealing three main findings:

1) the sense of responsibility among healthcare providers, patients, and visitors is shattered;
2) the experience during contact isolation differs among patients. Three personas were identified: a] Independent Isa, appreciating autonomy, b] Compliant Chris, accepting isolation and c] Social Susan, feeling socially isolated;
3) the first time in contact isolation is overwhelming for patients.
Collective action theory has potential to be applied to the context of infection prevention. A community feeling among healthcare providers, patients, and family might increase the sense of joint responsibility in curbing the spread of multi-drug resistant microorganisms. Providing information throughout the isolation process may contribute to patient understanding and knowledge: Information is best received when patients and family actually have questions. For patients to feel comfortable asking questions, healthcare providers should be receptive to questions about contact isolation.

**Conclusion:**
An improved patient experience during contact isolation could be established by considering the following three design principles: 1) Infection prevention programmes should be designed as a shared responsibility, 2) Information about infection prevention and contact isolation should be provided at multiple moments throughout the patient journey and accessible when patients and family have questions and 3) Information on contact isolation should be tailored to different stakeholders and patient types.
Innovation in the method of analyzing adverse events to promote a patient safety culture in a Brazilian Health institution: sharing experiences

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Introduction:

The analysis of adverse events is extremely important for the promotion and strengthening of the safety culture in institutions, as it enables learning while opportunities for process improvement are understood and identified, establishes a broader view of contributing factors and consolidates a fair culture. Considering this macro objective and the strategic objectives of the institution, a private hospital in Rio de Janeiro (RJ) has been developing an innovative method of analyzing adverse events that has contributed to strengthening the culture of patient safety, team engagement and improvement of care results. This is an analysis of a serious adverse event that occurred in a private hospital in RJ in the Emergency Department with a patient who suffers a cardiorespiratory arrest during care with the outcome of death.

Objectives:

The work aims to share the experience of an innovative method of analyzing adverse events that can add value to healthcare institutions and improve team engagement.

Methods:

The methodology used to analyze the event was the London protocol. The innovation proposed by the board was to fill out the protocol in its stages of analysis using the images from the hospitals internal monitoring system to identify the opportunities for improvement during the attendance. The team was gathered in a meeting room and the chronological order of the event was reviewed using the video images. Photos were taken of the key steps of the care process, which enabled a detailed analysis of the moments they could have taken actions that would change the outcome.

Results:

The analysis of the event with this method made it possible to review, in real time, the opportunities for improvement that were identified by the team itself. At first, the scenario was of extreme commotion of the team that had sufficient material and human resources, established protocol, adequate training and defined care lines for the case, however, in that...
situation, every favorable scenario was not enough to avoid the damage.

**Conclusion:**

With this method we can highlight in the possibility of looking at the process and each step in which the error occurred, revisiting it point by point and carefully identifying the opportunities for improvement. It was observed that the focus turned to the process as everyone was involved in the results and took responsibility for it while showing solidarity to the distress and pain caused and aroused when looking at the images of a life being lost. This analysis brought a sense of responsibility, role appropriation, justice and compassion that is not observed when looking only at a piece of paper. The action plans that were structured from there have, until today, the mission of preventing the same outcome for another patient.

**References:**

**Please declare any conflict of interest you may have:** No conflict of interest
Introduction:
Accreditation is a strategy for improving the quality, safety, and effectiveness of hospital services. Developing hospital disaster risk management accreditation standards is necessary due to the hospitals’ critical role in providing services to society in disasters. This study aimed to develop hospital disaster risk management accreditation standards for Iran.

Methods:
The comparative approach was used in this study. Disaster Risk Management accreditation standards of 10 countries including the USA, Canada, Australia, Malaysia, India, Turkey, Thailand, Egypt, Saudi Arabia, and Denmark were extracted, compared and analyzed using the qualitative content analysis method. The validity of the standards was evaluated by 22 experts and the results were analyzed and finalized.

Results:
Differences were observed in the quality and quantity of those countries’ disaster risk management standards. The national accreditation standards of the United States had the highest number of standards (12 standards and 113 criteria) and covered all aspects of the disaster risk management cycle. The Australian and Canadian hospital accreditation standards ranked as the second and the third, respectively. Finally, 27 standards were proposed for developing Iran hospital disaster risk management accreditation standards. The CVI & CVR validity of the proposed standards were an acceptable range.
Conclusion:

This study proposed comprehensive standards based on international standards and documents on disaster risk management that can be useful for policymakers and accreditation managers of the Ministry of Health and their appropriate implementation may improve hospitals’ preparedness and response in disasters.

References:


Please declare any conflict of interest you may have:
Introducing a successful Safety Month Program to promote the Safety Culture in a Tertiary Hospital in Southern China

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1Department of Medicine, University of Hong Kong-Shenzhen Hospital, Shenzhen, China; 2Department of Medicine, University of Hong Kong-Queen Mary Hospital, HKSAR, China; 3Clinical Service Department, University of Hong Kong-Shenzhen Hospital, Shenzhen, China; 4Nursing Department, University of Hong Kong-Shenzhen Hospital, Shenzhen, China

Introduction:
It is becoming increasingly important for healthcare institutions worldwide to promote high quality care and safety culture. Our hospital, based in the Metropolitan City of Shenzhen and the Greater Bay Area in China, is an Australian Council on Healthcare Standards (ACHS)-accredited hospital and contains all the relevant Departments for promoting such high quality care. In 2019, we designed a “Safety Month” program to bring together the broad concept about safe practice in the hospital. In order to promote local Chinese health care workers’ and patients’ understanding and knowledge about the broad issue of safety in healthcare setting, we chose a wide range of safety topics and presented them in different formats in the entire month of December 2019.

Methods:
In 2019, our hospital Incident Management Team, Quality and Risk Management Team, Patient Relation Office, Occupational Health Service, Nursing Department, Pharmacy, Dietetic Team designed together a Safety Month program to improve healthcare workers’ and patients’ knowledge about safety. Based on reported incidents and complaints from the past as well as our 2020 Top Ten safety objectives, a month’s program was arranged, using lectures, workshops, ward visits, games, competitions and so on.

Results:
The Program began with an Opening Day opened to our as well as outside hospitals. The Pharmacy Department prepared a public talk in our hospital public foyer about “correct use of antibiotics” and a separate talk directed to staff about “reducing medication errors”. The Dietetic Team prepared a talk to inform the public about nutritional screening and management of malnourished patients within hospital. The Patient Relation Office invited representatives from the clinical departments to a workshop to share experiences and challenges. The Nursing Department delivered a talk to raise the awareness of “falls prevention” in the public foyer, then went into the wards to talk to the patients and carers. A Shenzhen and Hong Kong Joint Occupational Health Forum was held to raise the
awareness of occupational health hazards and how we might minimize them. There was also a special lecture on “consent”. The final event was our hospital’s annual CQI competition. Out of a total of 32 CQI entries, 10 went into the final competition where the winners were selected.

**Conclusion:**
Our overall December “Safety Month” was well received by staff and the public. The topics were chosen by a multidisciplinary team and were part of the Hospital’s Top Ten Safety targets for 2020. Different formats were used to make the “Safety Month” more interesting and appealing to all.

**References:** none

**Please declare any conflict of interest you may have:** no conflict of interest
Introduction:

As technology advances, many healthcare workers are using smartphones and wearable devices on a daily basis. These devices do not have a cleaning standard enforced to prevent the spread of bacteria. To date, there have not been any real-world trials which have examined bacterial elimination on devices such as smartphones and wearable technologies in a hospital setting.

Wearable devices such as smartwatches are not recommended. As per the Island Health Infection Prevention and Control Reference Guide, hand and wrist jewelry, rings or watches should be removed when providing patient care.

Cleaning of smartphone and wearable devices with a disinfecting wipe is recommended by Island Health policies. Unfortunately, approved disinfection products within Island Health are not recommended for use by smartphone manufacturers. Manufacturers recommend using a microfiber cloth.

As per the CleanSlate UV manufacturer, UV-C has been shown to significantly reduce the number of bacterial organisms on small items, but has not been investigated in real-world trials for disinfection of healthcare workers’ smartphones and wearable devices.

Objective:

To determine if ultraviolet-C (UV-C) disinfection devices are more effective at eliminating bacteria on smartphones and wearables when compared to usual care.

Methods:

A prospective, before-and-after study was conducted at three hospitals on Vancouver Island, British Columbia, Canada. This study included clinicians who routinely used smartphones or wearable devices during their daily clinical practice. After enrollment, clinicians were required to complete a baseline questionnaire to examine how they used and cleaned their devices. Participants’ devices were swabbed at baseline to determine the amount of bacterial growth on each. Following baseline swabs, clinicians were instructed to
place their smartphones and wearable devices into a UV-C disinfection device for a 30-second cycle at the beginning and end of their shifts. After the UV-C regimen was implemented, swabs were collected at pre-determined intervals both prior to and following a UV-C disinfection cycle to again determine the amount of bacterial growth on each. The primary outcome was determined by comparing the amount of total bacterial growth prior to UV-C to the amount of total bacterial growth post UV-C. Inoculation of inactive smartphones and wearable devices with common hospital bacteria was completed in a laboratory setting to assess the secondary outcome.

**Results:**

At baseline, 21% of swabbed devices grew bacteria (other than skin flora). Following a run-in period of twice daily UV-C disinfection, 20% of devices grew bacteria prior to UV-C use. Comparatively, only 4% of devices grew bacteria post UV-C. The difference between bacterial growth at baseline and pre UV-C during the intervention phase was not significant, however, the decrease in bacterial growth from pre UV-C to post UV-C during the intervention phase was statistically significant (p = 0.002)

**Conclusion:**

UV-C appears to be more effective at eliminating bacteria on smartphones and wearable devices when compared to usual care and is a useful disinfection device in a hospital setting. Further studies are needed to determine the interval at which UV-C should be used to prevent bacterial growth and spread and to ensure compliance of healthcare workers using the UV-C disinfection device.

**COI:**

- presenter has unrestricted research grant from Vocera Inc (no COI in relation to this project)

**References:**

Figure 3: Percentage of Baseline Isolates (Prior to UV-C initiation)
[781] Investigation on the implementation of root cause analysis of medical adverse events in Taiwan

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1Deputy Director, Taipei, Taiwan; 1PhD student, Taipei, Taiwan; 2Director and Professor, Taipei, Taiwan; 3Chief, Taipei, Taiwan

Introduction:
Since 1999, the IOM has published a medical error report, "To Err is Human", which has led the global health care system to address patient safety issues. Since 1996, many countries have been conducting adverse event investigations using the standardized Root Cause Analysis Tool, RCA. Taiwan applied this tool in 2006, because medical adverse events are confidential hospital data, since the implementation of the hospital's internal self-investigation and analysis, the investigation method and quality is unk. This study will explore the current situation of investigation and analysis of the root causes of adverse events conducted in Taiwan hospitals.

Methods:
We use cross-sectional investigation. According to the literature to develop structure questionnaire, a total of three parts, 34 questions. The subjects of investigation are the units responsible for patient safety incident report in hospital and the personnel of the units with experience in RCA.

Results:
The questionnaire CVI was 1.0 and Conbach's alpha is 0.90. The study starts from 2018 December to 2019 December, total 136 hospitals were sent out and 122 were included, the recovery rate is 89.7%.

In the first part, hospital internal report and investigation policy, a total of 122 hospitals were surveyed, 21 medical centers, 74 regional hospitals and 27 district hospitals. 97.5% hospitals set up the responsible units to deal with medical adverse events report, nearly 90% are autonomous. The content of the report 36.9% was anonymous, the report was made online, by written or oral means. 29.5% of monthly reports was 31 to 60 pieces, 26.2% was 11 to 30 pieces, 19.7% more than 100 pieces. 89.3% initiated RCA with SAC, by sentinel event, or by supervisor. 91% had RCA teams, 97.3% of the members were composed by event. The majority of the cases were initiated by the quality control unit and 30% by the unit itself. The result can be seen that the reporting culture and investigation system in Taiwan has been quite mature.
In the second part, is the investigation mechanism, total of 590 RCA investigators were surveyed, professional background to nursing 59.3%, administrative 20.2%, paramedical 8.5%, physician 5.6%, which was the supervisor accounted for 60.8%. The result shown that investigators generally have more than 10 years of seniority. 45.4% have 5 to 10 cases survey experience, and 24.8% more than 10 cases. Of the survey's methods, 91.4% conducted interviews with employee, collected medical records, and on-site inspections. The average time to complete an investigation is about 4 to 8 weeks, the same with the JCAHO announced within 45 days to complete the RCA report. The results of the survey generally have a mechanism for feedback and tracking improvement at least 1 to 6 months. But only 8.7% of those who can implement improvements for the results of the survey.

80% of the investigators were trained in the RCA, 35.8% still felt inadequate, only 1.5% of confidence believe that the current methods of investigation can effectively tap all contribution factors, and 94.2% said there were obstacles to conducting investigations, such as difficult to backtrack after the event, inexperience, lack of manpower, the culture did not encourage, and lack of the standard. Which merited further investigation by managers and government agencies.

Conclusion:
This study sharing experience in the current adverse event investigation situation in Taiwan, that should be encouraged more research in this area to improve patient safety.

References:

Please declare any conflict of interest you may have: None
Introduction:

Within healthcare, we increasingly recognise the importance of staff well-being and job satisfaction in promoting patient safety. We, a busy London teaching hospital operating theatre department, therefore sought to promote Joy in Work amongst staff members.

Objectives:

This project set out to understand staff job satisfaction within our operating theatre department, with the aim of introducing change ideas to promote Joy in Work.

Methods:

We collected data for a period of one week in September 2019. All staff members working in the operating theatre were encouraged to complete the survey for every day they were at work. The survey was publicised via email as well as through the morning safety huddles. In order to reach a wide target audience, we made the survey available in both paper and electronic formats. The survey consisted of three main questions. The first question was about the respondents role in theatre. This was followed by a question to determine if staff members had a ‘mostly good’ or ‘mostly bad’ day at work. The final question explored the reasons for the way they felt. For this question, staff members were asked to choose the top 3 reasons from a list.

Results:

During the one week period, we received 100 survey responses. Of the 100 responses, 80 (80%) had a ‘mostly good’ day, while 20 (20%) had a ‘mostly bad’ day at work. The survey was completed by staff members from a wide range of specialties. The main reasons that staff members gave for feeling that they had either a ‘mostly good’ or ‘mostly bad’ day were along the themes of teamwork (n=62), staffing (n=46), leadership (n=36) and respect (n=36). For the 20 staff members who felt that they had a ‘mostly bad’ day, the themes were respect (n=8), appreciation (n=7), equipment (n=7) and staffing (n=7).
Discussion:

The results of our survey showing that 80% of staff had a ‘mostly good’ day at work were unexpected. We felt that staff members who had a ‘mostly bad’ day may be less likely to complete the survey, thus introducing a selection bias. The staff group completing the most number of surveys were the scrub nurses followed by the ODPs/ anaesthetic nurses. This reflects the large representation of these staff groups within the operating theatre. Interestingly, we found that 5 out of the 26 forms (19%) completed by a scrub nurse indicated they had a ‘mostly bad’ day, while 6 out of the 16 forms (38%) completed by a ODP/ anaesthetic nurse indicated the same.

Based on our results, we introduced change ideas within the operating theatre with the aim of improving staff job satisfaction. The first change idea targeted the theme of appreciation. We introduced a ‘Appreciate your colleague’ month, during which staff members were encourage to actively seek out opportunities to thank and praise each other. Along the same theme, we started nominations for colleagues who were felt to have performed well during a day at work. The staff member with the most nominations at the end of the month received the ‘Staff of the Month’ award. These change ideas have been well received within the department.

Conclusion:

This project has identified areas within our operating theatre department which contribute to staff having a ‘mostly good’ or ‘mostly bad’ day at work. We have introduced two change ideas thus far with subjectively positive impact. We are looking to perform another survey in the near future to objectively quantify the impact on the department.

Acknowledgements:

Royal Free London operating theatre Joy in Work team – Ronald Agble, Nima Roy, Sukran Erdogan, Syed Muazzal, Jerwin Dispo, Helen Agunloye
La completezza della Cartella Clinica in Day-Surgery: l’esperienza del Presidio Ospedaliero di Latisana-Palmanova

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INTRODUZIONE

La completezza della Cartella Clinica (CC) è un indicatore della qualità delle cure erogate, per questo la valutazione regolare del contenuto rientra nelle attività di miglioramento continuo. **OBIETTIVI**

Scopo di questo studio è valutare se il coinvolgimento e la formazione specifica di professionisti già impegnati nell’attività assistenziale e clinica abbia un effetto sulla completezza della CC.

METODI

Nel 2018 la Struttura Operativa Complessa di Chirurgia Generale (Presidio Ospedaliero di Latisana-Palmanova) ha implementato un programma di miglioramento della CC presso il servizio di Day-Surgery (DS), con particolare attenzione alla sezione della Valutazione Medica (VM). Un gruppo di lavoro multidisciplinare composto da 2 medici del DS e 3 componenti della Direzione Medica (DM) ha esaminato la documentazione esistente e la sua completezza (T0) e ha condiviso le modifiche da apportare. Sono state create, quindi, cinque VM specifiche per ciascuna tipologia di intervento eseguito (ernioplastica, posizionamento port, rimozione varici, interventi proctologici, interventi generici). Nel gennaio 2019 è stata introdotta la nuova documentazione sanitaria e contestualmente sono stati formati 10 professionisti attraverso incontri periodici di formazione e approfondimento sul tema. A giugno 2019 (T1) e a dicembre 2019 (T2) è stata nuovamente valutata la completezza della VM. Le valutazioni sono state effettuate dalla DM su 254 CC. Per valutare l’eventuale miglioramento è stata calcolata la completezza complessiva e la differenza tra T0 e T2(T2–T0) in termini percentuali ed è stata effettuata una verifica del test d’ipotesi con \( p^2 \).
RISULTATI

La completezza complessiva della VM è aumentata significativamente (p<0,01), passando dal 52% (T0) all’88% (T1). Al T1 è stato raggiunto un miglioramento significativo (p<0.01) nella VM riguardante gli interventi di ernioplastica (32%), i posizionamenti di port (32%), le rimozioni di varici (26%), gli interventi proctologici (40%) e gli interventi chirurgici generali (32%).

CONCLUSIONI

Il modello adottato, basato su un approccio multidisciplinare alla modifica della documentazione sanitaria, si è dimostrato efficace nel supportare il processo di miglioramento della completezza della cartella clinica.
Let’s Talk Safety, an international expert panel study to develop the Safety Climate Thermometer, a tool to increase the patient safety on surgical departments

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Introduction:

Safety climate is crucial for both patients and healthcare professionals. Most safety climate instruments to measure safety climate are perception-based and used once every one or two years to measure fluctuations in the safety climate. Dutch surgeons felt that a practical team tool to support team communication to evaluate the safety climate more frequently was lacking. To address this limitation, researchers at Johns Hopkins University, Baltimore MD, United States, and University of Applied sciences Rotterdam; Erasmus MC Rotterdam; and University Medical Center Utrecht, all in the Netherlands collaboratively developed and outline for the Safety Climate Thermometer(SCT) for surgical teams.

The objective is to co-design a short-form patient safety climate measurement and debriefing tool for surgical teams to support and structure team discussion, set common goals (short and median term), and how and when to achieve them. The short form will allow more frequent assessment of safety climate and the debriefing tool will enable frontline providers and staff to deliberately respond to safety climate fluctuations.

Methods:

A literature search for any available instruments yielded in 13 instruments and three reviews. Themes were extracted from the instruments and analyzed by a small group of safety culture experts. The result was a draft of the SCT comprising 9 safety climate domains, a global item representing each domain and between 9-28 items that described expected team behavior. To enrich the draft an anonymous international expert panel study was conducted. 73 experts in patient safety and surgery were invited to participate and to provide feedback on the SCT concerning design, content, usability, grammar and vocabulary. Thirty-six of the experts came from Europe, 36 from the United States of America and one from Canada, and 78% published papers concerning patient safety in scientific journals.
**Results:**

In total 22 experts agreed to participate. Sixteen (72%) were experts with clinical experience (17% non-surgical and 56% surgical) and six were experts with a science background. These experts provided high-quality feedback on the draft of the SCT. Based on the feedback the draft was re-designed. The resulting design of the SCT includes eight safety climate domains, a global item use to measure each domain, and eight items that reflect expected team behaviors associated with each domain.

**Conclusion:**

The first design of the SCT is ready for a clinical pilot. Based on the experts’ feedback and design priorities, this pilot study will be conducted for testing the usability and the adaptability and lastly the necessary support structure of it.

**Please declare any conflict of interest you may have:**

The authors declare that there is no conflict of interest.
Medication safety among patients from ethnic minorities
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Introduction:

The third WHO Global Patient Safety Challenge: Medication Without Harm has highlighted medicine safety as a global health priority. The challenge proposes to reduce the harm related to medication by 50% by 2022. Although the WHO has proposed solutions at various levels to achieve this goal, the scope of these resources may not address the specific issues faced by patients from ethnic minorities.

Objectives:

To understand the nature and rate of medicine related safety events among ethnic minority patients and to identify factors contributing to this disparity.

Method:

A systematic review was conducted using MEDLINE. PUBMED. PsycINFO, EMBASE, and CINAHL. A combined search strategy of keywords and terms search in title and abstract was employed to identify relevant studies, with primary empirical, conceptual or theoretical work related to patient safety and ethnic minorities published from January 2000 to October 2019 included. A narrative synthesis was undertaken due to heterogeneity of the study designs utilised.

Results:

Patients from ethnic minorities are at higher risk of medicine related safety events as compared to the mainstream population but this differed in the context of the setting and population studied. Dosing errors, non-adherence, misinterpretation, and limited knowledge of the condition and the effect of the treatment were identified as common safety events among people from ethnic minorities. Factors such as cultural and religious beliefs, unrecognised bias, presumptions and prejudices, language and communication barriers, patient-provider expectations and consumer engagement were identified as factors leading to medicine related safety events. Interventions such as the use of professional interpreters, bi- or multi-lingual staff, culturally competent healthcare providers and instructions in the native language of the consumers may reduce the disparity in the occurrence of safety events; however, the evidence is sparse.
Conclusion:

This review has highlighted a number of specific contributory factors to medicine related safety events, specific to patients from ethnic minorities. Although the review has identified a number of targeted interventions used to ameliorate these issues, the limited efficacy suggests that a systemwide approach may need to be adopted to better service the needs of patients from ethnic minorities.

Please declare any conflict of interest you may have: No conflict of interest to declare.
Outcomes of delirious and non-delirious critical care patients treated in ICUs with or without hospital specific delirium managements

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On behalf of the Delir-Path Research group: Dr Haller, Alois, Dr. Steiger, Peter; Prof. Dr. Rudiger, Alain; Dr. Schürch, Roger; Dr. Garcia Nuñez, David; Stähli, Marina; Prof. Dr. Spirig Rebecca

Introduction:

Delirium, characterized by concurrent disturbances of consciousness and attention, cognition, psychomotor behavior, emotions and sleep-wake rhythms perception, thinking, memory, is a frequent complication, of which between 26% and 82% of critical care patients are affected [1-3]. Predominant delirium risk factors in ICU patients are age, history of delirium, preexisting neurological disease, perioperative events, and the presence of multiple organ failure [1, 2].

The objectives of this study were to compare delirious and non-delirious critical care patients, who received a hospital-specific delirium management or standard care with respect to defined endpoints like length of stay, duration of mechanical ventilation, nursing workload and cost per case.

Methods:

Observational, multicenter study including retrospective data from 4862 critical care patients.

Patients hospitalized in five critical care units with a hospital specific multicomponent delirium management (Hospital 1, 2,3) or standard care (Hospital 4) were compared by subgroups regarding lengths of critical care unit and hospital stay, mortality, duration of mechanical ventilation, cost, nursing hours and care activities. Data were analyzed using descriptive statistics (e.g. means, standard deviation, median quartiles) and multivariate statistic i.e. logistic regression, binomial generalized linear models.

Results:

Delirium prevalence was 5% (Cantonal Hospital with standard care) and 13%, 18% and 20% (University Hospital 1) in the hospitals with a delirium management. The comparison of the
660 delirious with the 4077 non-delirious patients shows, the delirious patients stayed significant longer in the Intensive Care Units (5 to 10 more days) and hospital (6 to 15 more days) and the ventilator (2.5 to 8 days) time. They had also higher mortality, costs, nursing hours and care activities per case. Patients hospitalized in hospitals, where delirium management included non-pharmacological interventions, had better outcomes than those hospitalized in the hospital in which the non-pharmacological interventions in the delirium management were not included.

Conclusion:

A hospital-specific delirium management improves the outcomes of delirious critical care patients. Specifically, non-pharmacological interventions seemed to be beneficial, as shown by the better outcomes of the delirious patient treated in hospitals where the delirium management includes non-pharmacological interventions. Hospital type and ICU specialization seems to be also relevant factors affecting outcome.

References:


Please declare any conflict of interest you may have: No conflict of interest.
INTRODUCTION:

The National Patient Safety Program (PNSP), was established in Brazil in 2013, in order to contribute to the qualification of health care. The PNSP actions must be linked to other health care policies to integrate and add efforts to health care networks.

There are also two Ordinances of the Ministry of Health (Portaria GM / MS No. 1,377, of July 9, 2013 and Portaria No. 2,095, of September 24, 2013) that support basic patient safety protocols, which are based on the International Health Safety Goals of the World Health Organization (WHO).

One of the challenges faced by health institutions is to monitor the application of good practices on a daily basis. On-site auditing is recognized as one of the most effective measures to identify the root cause of a problem and to produce a quality process and continuous improvement of assistance. In turn, a bundle is a structured way of improving patient care processes and results.

Institutions with a good patient safety culture anticipate adverse events and prepare to deal with them at all levels of the organization, developing the team to convert such adverse events into opportunities for improvement.

This study aimed to structure a specific bundle, which included good patient safety practices, in order to demonstrate its effectiveness as an instrument to improve healthcare quality.

METHODS:

Since December / 2017, on a quarterly basis, the practice was ongoing due to clinical audits that took place. Based on these audits, the tool was structured, focused on the following international safety goals: safe identification, drug safety, prevention of falls and prevention of pressure injuries. The tool also contemplates the knowledge and involvement of patients and companions in safety processes. After structured, the bundle was applied in all the care units of the institution, both in patient and outpatient clinics.
RESULTS:
The results were discussed and scored on the spot with the team that provides direct assistance to the patient and later with the managers of the clinics where planning was carried out according to the weaknesses found in the relates month. Since the beginning of the application of the on-site assessment methodology, it has been possible to observe a significant improvement (53% improvement) in the professionals' adherence to patient safety processes. It is expected that with the structuring of the bundle and the change in the routine of visits, the professional adherence may remain above 95%.

CONCLUSION:
The patient safety bundle do not only access the service's performance but also provides managers with strategic information about their process. It can effectively contribute to the allocation of resources to reduce the occurrence of adverse events. In addition, it is a great tool to encourage professionals to adhere to patient safety routines.

REFERENCES:


Introduction:

Patient safety is a central issue worldwide. Permanent changes in working conditions (more complex patients, turnover of professionals and permanent technological evolution), associated with the demands of users of the health system can threaten the functioning of the best team and the excellence of professionals.

In recent years, research on patient safety in outpatient clinics has evolved considerably. Adverse events are also common in outpatient care, where a greater number of interactions happen, therefore, there has been a growing interest to patient safety factors outside the hospital environment. Thus, provoke debate and reflection on the subject, to support the implementation of actions that improve the safety culture and the quality of care in outpatient providers (TIMM; RODRIGUES, 2016).

In this scenario, we decided to apply Medical Office Survey on Patient Safety Culture to meet initially some of the AHRQ purposes: raise provider and staff awareness about patient safety, assess the status of patient safety culture, identify strengths and areas for patient safety culture improvement, and conduct comparisons within and across organizations.

Methods:

The Survey on Patient Safety Culture was conducted at the outpatient units of a private healthcare system in Brazil from June 2 to July 15, 2019 through electronic questionnaire and the results analyzed according to AHRQ Medical Office Survey on Patient Safety Culture: User’s Guide (2018).

Results:

During this period, 1,397 responses were received and the response rate was 44.6%. Response rates varied significantly between the outpatient clinics, with the lowest result at primary care clinics at 34.2% and the highest at ophthalmologic clinics with 75.4%.
According to AHRQ, the survey is suitable for all employees of the institution, from housekeeping and security, through nurses, physicians, to supervisors and managers. However, participation is best suited for professionals who have direct interaction with the patient or whose work directly affects patient care. For this survey, the guideline was to send the invitation to all clinical and non-clinical employees (hired, outsourced and clinical staff), with the indication of the external medical staff at the discretion of the medical board.

The Cancer Center clinic had the best overall score, with a positive response rate of 78.7%, which according to external benchmarks may represent a strengthened Patient Safety Culture.

The dimensions that stand out in favor of the Patient Safety Culture, presenting 3 of the 4 units that participated in the survey with positive answers above 75%, are: Teamwork and Patient Care Tracking/Follow-up.

The dimensions with the greatest opportunity for improvement are Work Pressure and Pace: favorability ranging from 37.9% to 56.8%; Communication Openness: favorability range between 46.0% and 65.7%; and Communication About Error: range between 47.6% and 71.0%.

**Conclusion:**
There are great opportunities to improve patient safety culture in outpatient providers. The main objectives were achieved that were to raise provider and staff awareness about patient safety, assess the current status of patient safety culture, identify strengths and areas for patient safety culture improvement, and conduct comparisons within and across organizations. After the reports were published, the units communicated their results to staff and worked on their plans.

**Please declare any conflict of interest you may have:** No conflict of interest
Introduction:

Reporting culture is one of important components of patient safety culture. In Japan, hospitals are requested to have an in-hospital reporting system of adverse events and near misses, and to report unexpected patient deaths caused by medical practices to a third-party organization named Adverse Event Investigation and Support Center (external reporting system). Both in-hospital reporting and external reporting are important in improving patient safety and need to be encouraged at hospitals, but how to activate them has not been investigated sufficiently. Some of the hospital systems and activities may contribute to its activation.

This study aimed to identify the hospital systems and activities related to reporting culture at hospitals.

Methods:

A mail survey was conducted for 3,215 hospitals which were selected by stratified random sampling according to bed-size in 2017. The questionnaire included questions about the patient safety management systems and activities, an annual number of reported events in in-hospital reporting system, and experience of reporting unexpected patient deaths to the external reporting system in the last two years. The relationship of the patient safety management systems and activities in hospitals with the number of in-hospital reports and the experience of external reports was analyzed.

Results:

The response rate was 18.8% (603/3,215). Among the respondents, the proportions of acute care hospitals, long-term care hospitals, psychiatric hospitals and the others were 78.1%, 12.8%, 7.6%, and 1.5%, respectively.

According to the results of multivariate analysis, the number of in-hospital reports per bed was positively related to “identifying events from complaints or questions of patients or family members”, “using root cause analysis (RCA)”, and “creating manuals or case books based on reported events”, and negatively related to “the unification and standardization of
medical devices and equipment”. The experience of external reports was positively related to the acute care hospital, the critical care center and “the in-hospital reporting system of complications and accidental symptoms”.

**Conclusion:**

Our study revealed that some hospital systems and activities may relate to the reporting culture at the hospital.

In-hospital reporting may be activated by using patient’s complaints or questions for patient safety, using RCA and using reported event in a visible way such as creating manuals based on them. Several studies have reported the usefulness of patient perspective for identifying adverse events. Those feedbacks may allow healthcare workers to recognize the need for reporting. The RCA may have some positive secondary effects on patient safety since previous studies have also suggested positive effects of RCA on in-hospital reporting and patient safety culture with no blame. The unification and standardization of medical devices and equipment may have an effects of reducing adverse events and near misses.

External reporting of unexpected patient deaths may be activated by introducing an in-hospital reporting system for complications and accidental symptoms because those cases may include problematic cases.

**Please declare any conflict of interest you may have:**

None declared.
Introduction:

Preventable harm to patients is a goal to which all healthcare professionals should be committed.

Since the publication of the landmark report, To Err is Human, there has been an appreciation of not only the magnitude of preventable harm in the hospital settings, but also the importance of understanding the contribution of complex systems within the healthcare settings to these errors.

Administration of medications via invasive routes presents itself with unique risks. Intravenous (IV) medications are associated with 54% of potential adverse drug events, according to Kaushal et al\textsuperscript{2}.

Adding to the problem, is a common practice, of preparation of medications at the bedside, by nurses. The rate of error in the preparation and administration of IV medications at the bedside is surprisingly high. Taxis and Barber performed a study in 10 wards in the UK and found that errors in preparation and administration occurred in 49% of doses. Of these, 1% of the errors were severe, and 58% were judged to be moderate in severity. Errors included slips and lapses, mistakes (particularly with new types of preparations, and deliberate violations in safe practices (often because of the assumption no harm would occur).

One of the more common risks of medication or fluids administered by peripheral or central lines is the potential for infections. There are high morbidity and mortality rates for central line associated bloodstream infections.

Methods:

DMAIC-Define, Measure, Analyze, Improve and Control was used. All Clinical leaders, Managers and Nursing incharge supported as active change agents in the quality improvement (QI) initiative.

Methodology designed

1. Orientation phase-Q2 FY 2019-20
2. Implementation phase-Q2
3. Assessment phase-Q2-Q3
Six months calendar was made

Specific task group were assigned to audit & interview the staff nurses using PRIME Audit toolkit to review

1. Medication Preparation
2. Initiation of therapy
3. Medication administration
4. Maintenance of vascular lines
5. Surveillance of HAI’s and Incidence reporting

Following gaps were found during initial audit

1. Drug calculation
2. Medication preparation
3. Placement and Maintenance of Vascular Access Devices

Results:

Tangible

1. Overall compliance to PRIME program -Increased from 79% in Q2 FY 2019-20 to 93% by end of Q3
2. CLABSi Rate Reduction by 28% by Q3
3. Overall Medication Error Reduction by 20% by Q3
4. Medication Bay in MICU- dedicated Infusion Preparation Area and manned by especially trained nurses

Non Tangible

1. Building culture of safety
2. Team Building
3. Peer Support concept
4. Shifting Focus on identifying Preventable Harms by more Self reporting
5. Start of Drug Information center for Medical Staff
6. Pilot start of Medication BAy in Medical ICU-A dedicated Infusion Preparation Area and manned by especially trained nurses.
Conclusion:

The PRIME Program Implementation at fortis Hospital Mohali has a multipronged strategy of awareness, education, implementation at bedside, assessments, continuous updates through webinars, and consultative sessions with experts to focus on potential errors. Within each category and skills, discussion there was a focus on developing an understanding of why harm occurs pertaining to each selected topic of risk and instruction on proper application of the skill to prevent harm resulting in improved patient care and decreased mortality/morbidity.

References: JCI Standards

1. IPSGs3& 5
2. QPS
3. MMU
4. PCI

Please declare any conflict of interest you may have: None
[2060] Qualimed – a network for developing public policies regarding quality assurance and patient safety in the Romanian Healthcare System

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Introduction:
Qualimed is the acronym for a network of NGOs with relevant expertise and interests in the field of healthcare quality assurance and patient safety. Developed in the framework of an EU-funded project, the network consists of 52 members representing 20 NGOs with different focus in the healthcare system: oncology patients, chronic diseases patients, rare disease patients, unions, representatives from public authorities (National Authority for Quality Management in Health). The main goals of the network are: i) Development of an instrument of integrated data collection system necessary for continuous evaluation of public policies in the field of healthcare; ii) Aligning the participant NGOs into a militant structure which aims at improving the social dialogue by promoting submission and support of alternative proposals to the public policies in the field of healthcare quality assurance and patient safety.

Methods:
In order to be able to submit formal proposals for public policies in the field of healthcare a specific current issue from Romania was approached – The Patient-Care File. Based on the hands-on expertise of the Qualimed network members, a 12-questions survey was designed and implemented at the national level. The participants were nurses from various departments of various specializations.

Results:
Results yielded there is strong need in increasing the awareness and the importance of the patient safety procedures and also the usefulness of the patient-care file and its full deployment in the Romanian healthcare system.

Conclusion:
Another key novel concept is that the Qualimed network’s activity is not time-limited and is designed to accommodate matters raised from various stakeholders in the Romanian healthcare system.
Please declare any conflict of interest you may have:
I hereby declare on my own responsibility that there is no conflict of interest regarding this work. The paper was not sent for publication or presentation to other national or international bodies. The study was conducted in compliance with all the deontological criteria regarding the research carried out in the medical field. The employees included in the study were informed about the relevant aspects of the study, and on the basis of this information they expressed in writing their consent to participate freely when conducting the evaluation.
Regional collaborative rescue: An ECMO rescue pattern for primary patients with severe cardiopulmonary disease was constructed in China

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Introduction:
At present, the application of ECMO in primary hospitals is limited to some extent in China. The aim of this study was to explore a pattern of ECMO regional cooperative rescue of critically patients between tertiary hospitals and primary hospital, and to maximize the application of medical resources among medical institutions.

Methods:
A longitudinal survey in one public hospital from November 2016 to November 2018. In one ECMO regional collaborative rescue center in the central of China and it's branches' of 53 public hospitals located in the central of China. Three parts was included in this pattern: Establishing the ECMO regional collaborative rescue call center, medical teams and equipping with relevant equipment, etc., the strength of our hospital's regional coordinated rescue has improved. The online and offline multiple measures was provided to the primary hospitals to improve the level of critical care; Ensure the normalization of coordinated rescue in the ECMO region by establishing a long-term mechanism. IBM SPSS22.0 software was used for statistical analysis. Data are presented as percentage, differences were considered significant when \( p<0.05 \). Ethical aspects are not covered in this study.

Results:
There were significant differences between indicators after the regional collaborative rescue model implemented. Establishing the ECMO regional collaborative rescue call center, medical teams and equipping with relevant equipment, etc., the survival rate of hospitalization for severe cardiopulmonary disease increased to 50% (20% versus 50%, \( P<0.05 \)), the time of ECMO for preparation to establish boarding time is shortened to 45 minutes (mean ± SD, 85.6±32.1 versus 29.3±16.4, \( P<0.01 \)). The online and offline multiple measures was provided to the primary hospitals to improve the level of critical care, the diagnosis rate increased to 18‰ (14‰ versus 18‰, \( P<0.01 \)), regional mortality has dropped to 39‰ (58% versus 39%, \( P<0.05 \)). Ensure the normalization of coordinated rescue in the ECMO region by establishing a long-term mechanism, ECMO regional cooperative
rescue of up to 36 cases (mean ± SD, 4.2±1.8 versus 28.7±7.9, \( P<0.01 \)), and regional rescue satisfaction increased to 99% (65% versus 99%, \( P<0.05 \)).

**Conclusion:**

The ECMO rescue pattern for severe cardiopulmonary disease is effective. The high-quality, efficient diagnosis and rescue services can be reached to the primary hospitals, critically ill patients get a chance to reach a center of maximum medical care.

**References:**

**Please declare any conflict of interest you may have:** All authors have no conflict of interest to disclose.
Relevance of home mechanical ventilation and incidence of ventilator-associated pneumonia at home

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Introduction:

The use of home mechanical ventilation (HMV) has increased substantially in Brazil, as an alternative to in-hospital mechanical ventilation, with a reduction in related costs and benefits such as social reintegration of patients and reduced complication rates. Ventilator-associated pneumonia (VAP) is a common complication of mechanical ventilation in intensive care units (ICUs), but its rates at home are unknown. The objective is to highlight the importance of HMV in the current health scenario in Brazil and to compare the incidence of VAP at home versus in ICUs.

Methods:

The criteria for VAP were based on the guidelines of the APIC, NHSN-CDC, and ANVISA. VAP density in 2019 was calculated and compared with the incidence of VAP in ICUs according to the 2017 ANVISA report. The rate of ventilation use in this period was analyzed.

Results:

Home Doctor provides home care to a mean of 450 patients/day with ventilatory support, about 60% with noninvasive and 40% with invasive mechanical ventilation. It uses a VAP prevention protocol adapted from that proposed by the Institute for Healthcare Improvement for hospitals (head-of-bed elevation, oral hygiene with chlorhexidine, and venous thromboembolism prophylaxis). In 2019, 49 patients had VAP; of these, 15 were pediatric patients (30%). VAP density was 1.01 cases/1000 patients-day, much lower than that reported in ICUs (p50 ANVISA: 12 cases/1000 patients-day). The rate of ventilation use was 16% (p50 ANVISA: 30.2%). The mean HMV duration until the development of VAP was 247 days, with a median of 114 days. Of 49 patients with VAP, 79% were treated at home and 21% in the hospital, with a mean length of hospital stay of 8 days.
Conclusion:

The use of HMV is crucial for the sustainability of the health system, with optimization of resources and hospital beds. The home environment promotes a reduction in the incidence of VAP as compared with the hospital setting, which should prompt early dehospitalization as soon as the patient achieves clinical stability.

References:

1. APIC- HICPAC. Surveillance Definitions for Home Health Care and Home Hospice Infections. The Association for Professionals in Infection Control and Epidemiology (APIC) and Healthcare Infection Control Practices Advisory Committee (HICPAC), February 2008, EUA.

Please declare any conflict of interest you may have: no
Introduction:

Thyroid surgery represents a particular field due to the potential postoperative complications that sometimes have a significant impact on patients' quality of life. Such a type of surgery involves significant risk of bleeding, airways impairment, nerve injury, vocal cord paralysis and death. These complications represent a significant issue in healthcare and patient safety management due to the persistent nature, economic impact and possible preventability of the phenomenon.

Objectives:

The purpose of the present study is to review the thyroid surgery related claims in order to obtain a profile of risks related to this type of surgery. As a secondary objective, the study aims to characterize pitfalls and to propose possible strategies to improve the safety of care pathways and reduce litigation.

Methods:

The study was conducted on thyroid surgery related claims occurred at Umberto I General Hospital in Rome from 2007 to 2018. Data related to the claims recorded in the study period were collected at Hospital's Legal Affairs Office. All claims were classified according to gender and age of the patient, type of event, patient outcome, date of the event, complaint date, amounts requested and amounts paid. The definitions of disputed events were elaborated matching Diagnosis Related Groups (DRGs) with the types of event codified in the International Classification for Patient Safety (ICPS) system. Finally, a descriptive statistical analysis of categorical variables with the representation of frequencies in absolute terms and in percentage was performed.

Results:

During the study period, 47 claims, mostly managed through a self-insurance plan, were reported. The sample under study was predominantly composed of female patients (45:2). As regard the type of event, thyroid surgery related claims were classifiable as “clinical
process and procedure” (44; 94%), “blood and blood products” (2; 4%) and “organizational management problems” (1; 2%). In the context of procedural inadequacies, the adverse events identified were recurrent laryngeal nerve injuries (31; 70%), incomplete removal of the thyroid (6; 14%), incongruous removal of the parathyroid glands (4; 9%), development of keloid scars (2; 5%), and dental avulsion due to airways maneuvers during anesthesia (1; 2%). Nowadays, out of the 47 total claims, 32 (68%) are still open, 8 (17%) were liquidated and 7 (15%) were rejected. The overall economic impact was € 261,883 with an average amount of € 32,735 per claim.

Conclusion:

The results obtained demonstrate that the methodological assessment of claims allows identifying critical points in the care pathways and planning risk management measures able to increase treatment standards and reduce litigation.

Please declare any conflict of interest you may have: The authors have no conflicts of interest.
Signal to noise: improving the assessment of safety culture in hospital
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Introduction:
Safety culture explains organizational variables that affect patient safety, including safety-oriented staff behaviours and norms (e.g., reporting incidences, communication across units) and organisational values (e.g., respect for nurses, leadership prioritisation of safety). Over two decades, safety culture assessments in hospitals have become important means by which researchers, managers, policymakers and external evaluators diagnose safety issues, evaluate patient safety interventions, conduct benchmarking, and fulfill regulatory requirements. Assessment of safety culture has primarily used validated survey instruments. Can we go beyond the preoccupation with using surveys, improving how safety culture is assessed? In this presentation, we examine some of the common problems with the assessment of safety culture, both in research and practice. We then propose solutions for how to make the most of assessing safety culture in hospitals.

Methods:
We conducted extensive literature reviews of safety culture assessment and weighed up our own long-term experience in conducting surveys in hospitals. We examined trends in assessments of safety culture and identified limitations in how these are conducted.

Results:
The sheer number of assessments of safety culture in hospitals has increased over the years. Our review identified 481 published studies assessing safety culture between 2007-2017, the vast majority of which (n=457, 95%) exclusively used surveys. Two surveys (Safety Attitudes Questionnaire; Hospital Survey on Patient Safety Culture) were used in almost three-quarters of studies (n=355, 74%). We inferred that safety culture measurement, via these tools, has become increasingly commonplace but faces problems including questions about what is actually measured, social desirability bias, low response rates, potential negative reactions to findings and how to implement changes. One major issue is that safety culture is variously treated as an outcome and a predictor of safety, but the relationship between scores on safety culture surveys and actual safety is not always clear.
Conclusion:

We often hear “We can’t measure what’s important, so we make important what we can measure”. Assessing safety culture has long been seen as important to provide a useful gauge of how safe a hospital is. We need to complement surveys with other measures of safety such as the Resilience Analysis Grid and the Functional Resonance Analysis Method. To ensure safety culture questionnaires add value, those using them should target response rates higher than 60%, and ensure measurement is conducted at suitable intervals with clear aims. Feeding results back to staff is vital in encouraging participation and further prioritising safety. Qualitative and mixed methods can be used to follow up surveys to more deeply understand any issues identified.

References:


Please declare any conflict of interest you may have:
none
Introduction:

Turkey Health Care Quality and Accreditation Institute (TUSKA) is the responsible institution to carry out accreditation activities in health care services in Turkey, and Accreditation Standards in Health (SAS) Hospital Kit is used within the scope of Hospital Accreditation Program. Drug Management has an important place in the Health Care Services which is one of the 7 aspects in the SAS Hospital Kit. This study aims to analyze the relation between SAS Hospital Kit and other standards included in the SAS Hospital Kit in order to ensure the effective and efficient implementation and control of the standards in the Drug Management chapter.

Methods:

In the study, TUSKA SAS Hospital Kit (v2.0-2017) was used which is consist of 7 aspects, 33 chapters, 58 standards, 239 assessment criteria (AC). Each standard contains its own standard requirements, which are prepared to help understanding and implementing the AC and ACs. One of the standards' chapter is “Drug Management (DM)”. DM consists of 1 standard item 6 AC and related requirements. The comparison study was conducted on the basis of standard, AC and standard requirements, and the relation between the standard, AC and requirements included in DM chapter, and 239 AC and requirements within the scope of SAS was probed. The relation of the drug-specific assessment criterion with other criteria was evaluated in all implementation fields in the hospital within the framework of all relevant processes. If the AC and the requirements affected and / or were affected by each other in relation to the concerning implementation processes, they were considered as “related”. The data obtained were analyzed statistically.

Results:

The drug management chapter was found to be associated with 22 chapters and 47 standards within the scope of the SAS Hospital Kit. 31% of the ACs (75) are related to the DM chapter. Taking precautions for patient and employee safety during the preparation and implementation stages of drugs is the highest rate (40%) AC, which is determined to be associated with other ACs. Besides, the criterion that the basic and critical stages of all the
processes of the drug in the institution should be identified, their methods and rules should be determined was found to be 33% related to other ACs. (Table 1)

Conclusion:

Within the scope of accreditation standards for hospitals, it is observed that drug management processes are related to other parts of the standards. This suggests that drug management should be dealt with in many implementation fields of hospitals and the implementation should be standardized in all processes related to the subject. It is vital for patients and employees to apply measures for patient and employee safety in all processes concerning the subject during the preparation and implementations of drugs. By establishing a good documentation system in the hospital, identifying the basic and critical stages of all the processes of the drug in the institution and determining the relative methods and rules will increase the effectiveness of the practices related to the standard. Moreover, the interrelation of the standards is considered essential by auditors during the accreditation audits to inspect all relevant fields of the hospital and to interpret the practices as a whole.

There is no conflict of interest among the authors.

<table>
<thead>
<tr>
<th>Standard of Drug Management</th>
<th>Assessment Criteria of Drug Management</th>
<th>Relationship Status</th>
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<tbody>
<tr>
<td></td>
<td>Standard (a)</td>
<td>Assessment Criteria (a)</td>
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<tr>
<td>Institutions must ensure an efficient and safe drug administration.</td>
<td>3</td>
<td>6</td>
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<td>A drug management structure that will provide an effective implementation of drug administration and coordination must be created.</td>
<td>16</td>
<td>25</td>
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<td>The basic and critical stages of all processes in the institution related to drugs must be identified and their methods and rules must be determined.</td>
<td>3</td>
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<td>The right drug must be provided at the right time and an effective stock management for drugs must be provided.</td>
<td>2</td>
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<td>Drugs must be preserved in appropriate physical conditions</td>
<td>18</td>
<td>30</td>
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<tr>
<td>In the drug preparation and implementation stages, precautions for the patient and worker safety must be taken.</td>
<td>5</td>
<td>9</td>
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<tr>
<td>Traceability of drug processes must be provided by using reporting infrastructures and related improvements must be done.</td>
<td>47</td>
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</tr>
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Total

There is no conflict of interest among the authors.
Introduction:

Severe burns cause systemic response throughout the body. Inflammatory and vasoactive mediators such as cytokines, histamines, and prostaglandins are released causing a systemic capillary leak, intravascular fluid loss, and large fluid shifts. These responses occur mostly over the first 24 hours after injury. Along with decreased cardiac output and increased vascular resistance, it can lead to marked hypovolemia and hypoperfusion shock.

The burn team’s practical experience in taking care of the FORMOSA FUN COAST dust explosion cases, the subsequent analysis and modified the Parkland Formula. And use the blood flow monitor (Flotrac) adjusts the patient's fluid rate every hour by directly responding to the patient's physiological parameters.

We established a complete fluid resuscitation flow chart for the burn patients, but calculation with each step, there will often be inconsistencies or conflicts of uncertainty. Therefore, the "Burn fluid resuscitation Smart Medical Platform" was designed to build a comprehensive infusion therapy and cultivate Seed instructors, education training, planning of actual works, the building of community software, the introduction of videos, etc. The total failure rate of fluid resuscitation after implementation is 0% on a quarterly basis, and the correct rate of 100% for medical personnel to perform burn patient fluid resuscitation procedures is not only improved Patient safety and also reduced medical costs, and medical colleagues have significantly improved the convenience and correctness of performing fluid resuscitation.

Methods:

We design the major burn patient fluid resuscitation process, cascade each step of the fluid resuscitation flow chart. Provide the flow chart of fluid resuscitation explain the functions and requirements of the web page. ASP.NET MVC and SQL Server Express is the main development tool for basic function development. Common problems of Parkland Formula was collected, then write the fluid resuscitation flow chart logic and automatic calculation
processes, then perform system function measurement, operability evaluation and satisfaction survey in the unit to establish the burning fluid. The resuscitation process webpage implements version 1.0.

Results:

It effectively maintains the safety of patients, the mortality rate of severe burn patients decreased from 44.43% to 0%. And also reduces the occurrence of complications such as renal failure, pulmonary edema, and ARDS within 48 hours of initiating burn fluid resuscitation. It also avoids errors in transmitting patient information due to human transcription errors or scribbled writing. The burns team can also more clearly know the entire course of treatment and achieve common clinical treatment consistency, providing a complete, timely and continuous. It can improve the quality of patient care.

Conclusion:

1. Improve patient safety, enhancing the quality of care: The integration of documents through the computer provides staffs with accurate to relevant information, which is convenient and fast, can also improve the accuracy of calculations, and greatly improve the tedious calculation process. It effectively prevents the errors caused by human factors.

2. Clinical quality improvement benefits: lowering healthcare costs and shorten the hospital length of stays.

3. Improve work efficiency and quality assurance, making it easy for physicians, nurses, and technicians to use the devices available to them.

References:


Please declare any conflict of interest you may have: NO.
Introduction:

Over the last two decades, clinical work in the Emergency Department (ED) has changed as new models of care (e.g., Fast-Track, Triage) and technology (e.g., software, mobile devices) are developed and introduced into everyday practice. At the same time, work performance indicators and methods for capturing performance indicators has changed (e.g., manual data collection, automated data collection). The contribution of new models of care and technology for improving ED clinical work have received inconsistent levels of attention in the literature with extensive literature reporting on some models of care (e.g., Advanced Nursing Roles) while others receive little attention (e.g., mental health services). Similarly, the indicators used to capture ED performance has received limited attention in the literature. The future design and implementation of models of care, technology and performance indicators into ED requires a thorough consideration of the existing models of care and how performance is measured in the ED.

Objectives: Our study aimed to map the research evidence provided by reviews of interventions (i.e., models of care, technology) used to improve performance of an ED, and how performance is measured in the ED.

Methods:

We performed a scoping review, searching Cochrane Database of Systematic Reviews, Scopus, EMBASE, CINAHL and PubMed (from inception to July 9, 2019; prospectively registered in Open Science Framework https://osf.io/gkq4t/). Eligibility criteria: (1) review of primary research studies, published in English; (2) discusses a) how performance is measured in the ED, b) interventions used to improve ED performance and their characteristics, c) the role(s) of patients in improving ED performance, d) the outcomes attributed to interventions used to improve ED performance; (3) focuses on a hospital ED context in any country or healthcare system. Pairs of reviewers independently screened studies’ titles, abstracts, and full-texts for inclusion according to pre-established criteria. Discrepancies were resolved via discussion. Independent reviewers extracted data using a tool specifically designed for the review. Pairs of independent reviewers explored the quality of included reviews using the Risk of Bias in Systematic Reviews tool.
Results:

Narrative synthesis was performed on the 77 included reviews. Reviews were published between 2000 and 2019 from 13 different countries. Three reviews reported ED performance measurement, identifying 202 individual indicators. Seventy-four reviews reported 38 different interventions used to improve ED performance: 27 interventions describe practice and process changes (e.g., triage, technology), and a further nine interventions describe team composition changes (e.g., scribes, pharmacy). Two reviews reported two interventions addressing the role of patients in ED performance, supporting patients’ decisions and providing education. The outcomes attributed to interventions used to improve ED performance were categorised into five key domains: time, proportion, process, cost, and clinical outcomes. Few interventions reported outcomes across all five outcome domains.

Conclusion:

The introduction of new models of care into the ED can better align people (cognitive, social), structure (organisation), tasks (work) and the physical system (hardware, software, facilities). Our findings provide overarching guidance on the evidence-based strategies and measures for improving ED performance.

Please declare any conflict of interest you may have: All authors declare no conflicts of interest.
Introduction:

In-hospital cardiac arrest (IHCA) is common and associated with a high mortality rate. However, it has received little attention compared with other critical cardiovascular conditions.

Objective:

This study is aimed to analyze the association between IHCA patients and healthcare related risk factors.

Methods:

The Taiwan Clinical Performance Indicator (TCPI) system, founded by The Joint Commission of Taiwan (JCT) in 2011, enrolled IHCA patients from 14 regional hospitals, 2 district hospitals, and 5 medical centers between 2013 June to 2018 December. Primarily, the registry enrolled patients once “collapse” event was disclosed regardless of the witness, and a total of 7,731 cases was included initially. Patients with index hospitalization for Out-of-Hospital Cardiac Arrest (OHCA), IHCA patients without acute life support (ALS) attempt, undetermined sex, Age £18 or ≥120 years old, and patients with “do not resuscitate (DNR)” consent were excluded. Finally, a total of 5,306 patients were included in the analysis.

Results:

As for overall IHCA patients, HR for mortality was higher in older patients (HR = 1.11), and those underwent vasoactive agents in ALS (HR = 1.20). While, initial rhythm as ventricular fibrillation (HR = 0.62) reduced the risk of mortality in IHCA patients. With regard to subgrouping IHCA patients in ICU and ER, patients underwent vasoactive agents in ALS (HR = 1.19) had poor survival. Whereas, better survival was reported in patients with initial ventricular tachycardia (HR =0.63) and ventricular fibrillation (HR = 0.59). Regarding patients in general wards, old age (HR = 1.21) and shift between 24:00 to 08:00 (compared to 08:00~17:00) (HR = 1.26) lead to poor outcome.

Conclusion:

The majority of initial detected rhythm in IHCA patients was non-shockable. Factors for poor survival included old age, overnight shift, and vasoactive agents. While, better survival was
noted in patients with witness, those underwent targeted temperature management, and those with initial detected ventricular fibrillation. With regard to conditions at discharge, patients with regained conscious and those with good neurologic performance had better survival.

Please declare any conflict of interest you may have:

NO
The Development and Implementation of the First National Patient Safety Strategy in the Irish Health Service Executive (HSE)

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Introduction:

Patient safety is now being recognized as a large and growing global public health challenge. WHO highlights that the need to ensure patient safety spans almost all health systems attributes, fields of care, demographic groups and thematic areas and that a system approach to designing and implementing patient safety policies, strategies and plans is essential in different settings and at different levels.

National and international evidence indicates that as many as 1 in 8 patients suffer harm while using healthcare services and up to 70% of this harm is preventable. It is for this reason that the development and implementation of the first overarching Patient Safety Strategy 2019 – 2024 is a priority for the Irish health service (Health Service Executive (HSE)).

Many excellent patient safety initiatives have been implemented throughout the Irish health service. However, this work was being undertaken in the absence of a national level Patient Safety Strategy that could coordinate, link and measure the vast array of patient safety work being undertaken.

Methods:

The Patient Safety Strategy 2019 to 2024 has at its heart a vision for patient safety where all patients and those who use our health and social care services will consistently receive the safest care possible.

A co-design group consisting of HSE staff and service users developed the Strategy during 2018 and 2019, the final draft of which was completed following widespread consultation with services, staff, patients and service users.

Results:

The Strategy is both a Charter for action with 6 core patient safety commitments, as well as a set of actions focussed on service level activities to build on many of the initiatives already underway across the health service.
The Strategy commits to the nurturing of a culture of patient safety which places emphasis on transparency and organisational learning. This must be supported by meaningful involvement of patients and staff, effective governance and leadership and a commitment to enhancing our safety capability, including safety science and quality improvement methodologies, to design and implement safe systems of care.

A High Level Implementation Plan and Investment Plan was developed to accompany the Strategy.

To support and monitor Strategy implementation, a Patient Safety Programme and Team were established within the HSE, under the auspices of the Chief Clinical Officer.

Governance structures to support implementation have been identified and which will include Patient Representatives.

Using the Strategy and Implementation Plan as a template, services within the HSE will include patient safety improvement actions within their annual Delivery Plans. The Patient Safety Programme Team will provide leadership, oversight, co-ordination and monitoring of the implementation of the Strategy.

**Conclusion:**

The Patient Safety Strategy has resulted in the

- Development of a co-ordinated and comprehensive approach to Patient Safety Improvement
- Implementation of a strategic approach to provide cohesion between patient safety improvement efforts to drive consistently delivered safe care.

The co-design of a Patient Safety Strategy between HSE staff and patients/ service users was a critical success factor. Recognition of, and alignment to the vast amount of on-going, excellent patient safety work, and the development of cohesion between similar initiatives throughout the organisation, is also crucial.

**References:**

**Please declare any conflict of interest you may have:** None
Introduction:
High surgical quality decreases hospital length of stay and costs and increases patient safety. We aim to increase diversity assessment and improve surgical quality of joining American College of Surgeons' National Surgical Quality Improvement Project (ACS-NSQIP).

Methods:
This study was conducted retrospectively. Purposively sampling was conducted and outcome measures including: readmission, re-operation, mortality, infection rate, Pneumonia, Unplanned intubation, Ventilator >48 hours, Renal failure Venous thromboembolism, Cardiac complications, and transfusion within 30 days after operation.

The indicators higher than the peer hospital would be discussed by the original professional committees.

According to different issues, the inter-departmental projects were newly formed to discuss the issues, then increase and improve the diversity of medical quality.

Results:
1. The medical quality department conducted a diversified valuation to confirm the international performance of surgery quality and increase the depth of problem analysis.
   1. Hospital regulations clinicians use NSQIP Surgical Risk Calculator to reduce Surgical complications for high-risk patients before surgery.
   2. The variables of the whole hospital are lower than those of international peer hospitals. After further analysis, it was found that there are superficial incisional SSI (3.2% - 6.5%), deep superficial incisional SSI (0.6%), and blood transfusion rate (2.9% - 8.3%) of many operations were higher than the peer hospital.
Further analysis of the original surgical site infection indicators was only for inpatients, but NSQIP included outpatient patients followed up, it will keep followed up.

It is also found that orthopedics and neurosurgery perform the same operation, but the blood transfusion rate of orthopedics is 33.0% higher than that of neurosurgery. Transfusion rate is lower after transfusion team project.

**Conclusion:**

The original clinical performance Indicator can understand the general situation of surgical quality, but most of the surgery indicators are collected in hospitalizations or current month, and abnormal events after discharge or next month cannot be completely monitored.

With NSQIP consistency, diversity online assessment, and multiple drill-down analysis by department, operation, patient characteristics and complications, it can fully inspect the quality of care of the surgical team, then accurately identify problems.

Next, we will accumulate more cases, continue to monitor the indicators higher than the international peer hospital, and include cost-effectiveness analysis.

**References:**

none

**Please declare any conflict of interest you may have:**

none
[987] The Role of Laboratory Analysis of Gastric Content for Dry-cough Tuberculosis Victims

Nung-Chu Yeh1; Pei-Shan Yang1

1Department of Nursing, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan

Introduction:

Patients will be isolated when enrolled on the list of active spreading of tuberculosis (TB) to threaten the integrity of public health.

Evidence from the research articles shows that the time needed to have the optimal sputum specimen for laboratory confirmation is the determinant factor for controlling the rate of disease outbreak. Currently the confirmative test uses sputum as the main target for TB confirmation. Yet for dry-cough patients on suspicion of TB, they need to tolerate the consequences of being alone in negative pressure isolation rooms, such as depression, anxiety and poor appetite. Thus gastric fluid analysis might be an alternative for confirmation clinically for this subset of population. Our study aims to figure out the accuracy of gastric content analysis as compared with sputum.

Objectives:

To better understand the sensitivity, specificity and positive predictive value (PPV) and negative predictive value (NPV) by laboratory confirmation of specimens based on sputum and gastric content.

Methods:

We run our research on several databases, including Pubmed, Cochrane, Trip, MEDLINE using different keywords to search publications from four dimensions, i.e. patient/problem, intervention, comparison, and outcome and one article from Michael 2007, Prospective Study of sputum induction, gastric washing, and bronchoalveolar lavage for the diagnosis of pulmonary tuberculosis in patients who are unable to expectorate, was adopted as the main reference to complete our research.

Results:

Totally 34 victims on suspicion of TB were enrolled as the research subjects. Three sets of sputum samples and three sets of gastric content were collected for each subject. Acid fast stain (AFS) and bacterial culture were done for all these specimens. The AFS result shows sputum group beats the gastric content group by 60.7 folds of odds ratio, yet the culture result shows no significant dominance of these two groups. The sensitivity, specificity, PPV
and NPV for the sputum-based group are as follows: 0.452, 0.850, 0.679 and 0.689; and for the gastric-content group, results are as follows: 0.262, 0.933, 0.733, 0.644; the accuracy for sputum group is 68.6%, slightly better than the group of gastric content, 65.7%.

Conclusion:

Our study proved itself that it might be feasible for clinical experts to use gastric content as the test subject for any patients on suspicion of TB without or with less optimal sputum production to shorten the time for disease confirmation. This recommendation might decrease the anxiety and depression of patients admitted to isolation rooms and decrease medical cost as well.

Please declare any conflict of interest you may have: None
The role of mixed sex wards in women’s experiences of acute hospital care: A secondary analysis of the Irish National Inpatient Experience Survey

Tracy O’Carroll1; Daniela Rohde1; Conor Foley1; Rachel Flynn1

1Health Information and Quality Authority, Cork, Ireland

Introduction:

Internationally, women of all ages across a variety of healthcare settings have reported poorer experiences of care than men. Reasons for this discrepancy have not been fully explored.

Objectives:

The aims of this study were to explore 1) sex differences in overall care experiences in acute hospitals in Ireland, and 2) the impact of mixed sex wards on the care experiences of women.

Methods:

This study analysed survey data from the 2019 National Inpatient Experience Survey (NIES). NIES collects feedback on patients’ experiences of public acute healthcare in Ireland. All patients discharged during May 2019, who spent at least 24 hours in a public hospital, were eligible to participate. Patients rated their overall experience on a scale from 0 (very negative) to 10 (very positive), with scores of 0-6 indicating a poor to fair experience, and 7-10 a good to very good experience. Respondents also had the option of providing free-text responses to three qualitative questions. Data were analysed using logistic regression models. Odds ratios (OR) and 95% Confidence Intervals (CI) are presented. Ethical approval was granted by the Royal College of Physicians in Ireland.

Results:

In total, 12,343 people participated, resulting in a response rate of 46%. 18,658 free-text responses were received, of which 215 explicitly referred to mixed sex wards or other mixed sex treatment or examinations areas, shared bathroom facilities, or unwanted personal care delivered by a member of the opposite sex. Women were significantly more likely than men to report a poor to fair experience [OR (95% CI): 1.40 (1.30, 1.52)], with 18% of women and 14% of men reporting poor experiences. Women were also four times as likely to provide unprompted references to mixed sex wards than men, with 3% of women and <1% of men mentioning mixed wards [OR (95% CI): 4.32 (3.27, 5.71)]. In adjusted analyses, poorer
overall levels of experience were reported by women who were younger, who waited longer to be admitted, had longer lengths of stay, had private health insurance, and mentioned their experience of mixed sex wards. The free text comments indicated that women felt unhappy, uncomfortable, embarrassed and distressed in mixed sex wards, with concerns over privacy, dignity and safety, as well as dissatisfaction with the cleanliness of shared bathroom facilities.

Conclusion:

Women reported significantly poorer overall care experiences than men, reflecting previous research across multiple countries. Women were more likely to highlight experiences of mixed sex wards in their qualitative responses, which were in turn associated with poorer overall experiences. The practice of providing mixed sex accommodation, care and treatment areas in public hospitals appears to disproportionately negatively affect women, and may in part explain their consistently poorer overall care experiences compared to men. National standards recommend that hospitals, where possible, should provide patients with same-sex bedroom and bathroom accommodation. This study suggests that the use of mixed sex wards is one factor contributing to women's poorer experiences of acute public hospital care. Quality improvement efforts should consider the elimination of mixed sex wards to ensure the privacy and dignity of female patients during an especially vulnerable time.

References:

Please declare any conflict of interest you may have:

None
Introduction: Healthcare associated infections (HAI) are an important and global health issue with great impact in morbidity, mortality and healthcare costs all over the world. Urinary tract infections (UTI) are recognized as the most common and preventable HAI outside the Intensive Care Units, as the majority of it are device use related. A cohort study performed in our Internal Medicine Ward has shown high rates of inappropriate bladder catheterization (36,5%), as well as high and CAUTI density rate (14,5 infections/1000 catheter-days)(1). To mitigate this preventable problem a quality improvement project (QIP), which was called RITUAL, was designed, using the improvement model of Institute for Healthcare Improvement.

Methods: Taking advantage that our hospital is a HIMMS EMRAM stage 7 certified hospital, we aim to develop a tool that allows us to monitor RITUAL project in real time, in order to reduce time wasted in manual data collection and to increase QIP efficiency. Firstly, a multidisciplinary clinical team defined which parameters would be important for the QIP monitorization. The IT team then developed the real time dashboard with the information that could be retrieved from the system.

Results: RITUAL dashboard in now implemented and in use by the clinical team to monitor the QIP. We have real time information about the number and percentage of patients that have a bladder catheter placed, device prescription, patient’s responsible doctor, number of device-days per patient, maintenance bundles compliance and patient length of stay.
**Conclusion**: This designed tool shows that we can use creativity and multidisciplinary teams to co-design systems for patient safety. We believe that the real time information we can use is one of the key success factors of this QIP, contributing for the 30% CAUTI rate decrease verified in three months since the implementation of the tool. We are now developing collaborative work to improve it in order to include real time CAUTI rates information.


**Please declare any conflict of interest you may have**: None.
Tool for monitoring and analyzing the efficiency of anesthesia equipment use according to patient safety guidelines in the Intensive Care Unit of a clinical hospital in Cluj Napoca.

Mintau Florin1; Iusan Rares2; Nicorici Claudia2

1CREST Association, Satu Mare, Romania; 2Cluj Napoca Municipal Clinical Hospital, Cluj Napoca, Romania

Introduction:
Monitoring the efficiency of the maintenance and service processes of the anesthesia devices ensures an increase in the safety of the processes during the surgical interventions and the efficient use of hospital costs. Checking the anesthesia devices every day and at the beginning of each working sessions according to the procedures established within the Order no 398/2019 of the Minister of Health for approving the Guidelines on patient safety in anesthesia-intensive care / 2019 is a task that requires approximately 45 minutes a day, depending on the total number of interventions within the Operating Theatre at it causes delays in the operating schedule up to 35 minutes in 12 hours of continuous work in the operating theatre.

The objective is:

1. improving the efficiency of the daily monitoring of the anesthesia devices and their maintenance process, implicitly improving the use of the operating theatre up to 85%

2. increasing the satisfaction of staff involved in daily monitoring of anesthesia devices by 90%

Methods:
Development of a standardized tool for monitoring the process of maintenance/servicing of the anesthesia devices and that of the efficiency and effectiveness indicators of the use of anesthesia devices and the operating theatre.

The stages of the project are:

1. Development of the multidisciplinary team involved in the construction, development and use of the standardized tool

2. Defining the workflow of activities within the process of verification, maintenance and servicing of the devices
3. Identifying of the data to be collected by the technical service - maintenance plans and reports, servicing reports, interventions, types of faults, analysis of the causes of failures, inactive periods of the devices due to defects, average time between two interventions per device, costs / anesthesia device

4. Standardization of the daily activity for verifying anesthesia equipment and reporting on errors of the personnel in the operating theatre according to national standard, the time that the anesthesia staff spent in the current verification of the anesthesia equipment and their satisfaction, monitoring the compliance with the duration of interventions according to the operating protocol

Results:
In progress

1. Reduction of time allocated for daily verification and checking of the anesthesia equipment before each surgery

2. Improving the efficiency of the use of anesthesia devices and the operating theatre

3. Improvement of the satisfaction of the operating theatre staff responsible for the current verification of anesthesia devices

Conclusion:
Our project of standardization of the monitoring processes of the medical devices using IT tools has achieved good results and will also be disseminated in all the medical services of the hospital that are using medical equipment. The main result of the project is the improvement of the efficiency of the use of the medical devices and the operating theatre by facilitating the joint approach by the medical and technical personnel of the technological and clinical risks generated by the use and operation of the medical equipment.

References:

Please declare any conflict of interest you may have:
I hereby declare on my own responsibility that there is no conflict of interest regarding this work. The paper was not sent for publication or presentation to other national or international bodies. The study was conducted in compliance with all the deontological criteria regarding the research carried out in the medical field. The hospitals and employees included in the study were informed about the relevant aspects of the study, and on the basis of this information they expressed in writing their consent to participate freely when conducting the evaluation.
Using innovative teaching strategies to reduce the incidence of unexpected in hospital cardiac arrest

HUI CHIH TING1; Chua Su-Kiat1

1Shin Kong Memorial Wu Ho-Su Hospital, Taipei, Taiwan

Introduction:

In-Hospital Cardiac Arrest (IHCA) is one of the most important patient safety issues. The incidence of unexpected in hospital cardiac arrest in Q1 2019 was 2.77% and Q2 was 2.31%; while in the cardiology ward the incidence in Q1 was 9.09% and Q2 was 6.04%, the research revealed the cause of mortality among the patients in hospital, the vital signs of the patients who experienced in hospital cardiac arrest were changing unobvious but with better prognosis. Therefore, a more appropriate evaluate tools are needed to provide earlier intervention hence reduce the incidence of in hospital cardiac arrest; 94.7% of the new staff always in panic, overwhelmed and frustrated, so it is important to provide relevance education and training to reduce the pressure of clinical work. The learning needs in new generation is no longer limited to acquire knowledges and skills in the classroom but require more creative teaching strategies to encourage their interests and gain from it, competition is a more attractive way to let them pay full attention.

Methods:

1. Developing an Early Warning System (EWS). 2. Imply innovative teaching course which including: ECG interpretation, Early Warning System in clinical use, high fidelity medical stimulation training, to improve the ability of medical staffs to identify patient’s consciousness, attitude and behaviors.

Results:

Early Warning System was designed by input and evaluate patient’s physiological parameters and systematically calculate the clinical risk, automatically suggest appropriate treatment to reduce manual operations. At the same time, implied innovative teaching and test before and after the course to understand the learning status by the results and using two-way feedback. The understanding and application of the Early Warning System accuracy was increased from 47.7% to 89.2%, and the ability of clinical assessment and care skill increased from 51.4% to 92.4%, the feedback indicated that medical staffs are more awareness to the crisis, with earlier detection of patient abnormalities and provide appropriate intervention immediately to decreased the chance of incidence of unexpected in hospital cardiac arrest. There is no the incidence of unexpected in hospital cardiac arrest.
happened since Q3 in 2019 in the cardiology wards of our hospital, the occurrence rate is 0%. The incidence will keep under monitoring in the future and cases will be discussed.

**Conclusion:**
Establish a sensitive early warning system can improve assessment ability therefore make an instant judgment about patient’s clinical risks. Combining the early warning system, electrocardiogram and high fidelity stimulation medical teaching strategies as an interactive and innovative teaching strategies can bring out more learning interest, Through the early detection of patient’s condition and provide appropriate immediate intervention to reduce the incidence of unexpected in hospital cardiac arrest and reducing pressure of new medical staffs. It is suggested that on the job training course should continue introduce the early warning system as a training course subject to improve medical staff’s vigilance and enhance the accuracy of their attitude and behavior.

**References:**

Using multimedia to improve the integrity of nursing guidance before cardiac catheterization in cardiology wards
YuNing Hsieh1; PEI CHI LIU1; Su-Kiat Chua1
1Shin Kong Memorial Wu Ho-Su Hospital, Taipei, Taiwan

Introduction:
According to statistical data from the Ministry of Health and Welfare of Taiwan, heart disease ranked no. 2 among the top ten leading cause of death in Taiwan in 2018. When a patient is suspected of having coronary artery disease, cardiac catheterization is often used as a diagnosis or a basis for interventional therapy. When a patient undergoing an invasive therapy of heart-related disease, they will probably have the emotion such as anxious, fear and uncertainty. If the medical staff provides patients health education of cardiac catheterization before the surgery, which can effectively reduce the anxiety of patients, increase patient’s health belief and self-efficacy, therefore improve their knowledge and skill of self-care. Currently, our cardiology wards holding a cardiac catheterization nursing interpretation group at 7:30pm to 8 pm daily which is using coronary heart disease self-care brochure as nursing guidance to educate the patients, but the willingness of patients to participate are quite low. According to the statistics, patient’s participation rate was only 23% in 2018, and has dropped to 2% from January to May in 2019. At the same time an evaluation of the effectiveness of current cardiac catheterization preoperative nursing guidance was performed with 64.6% accuracy, and 71.4% of patients expressed that the time and the way of the nursing guidance performed is inconvenient for them.

Methods:
1. Design a multimedia flipped teaching course to enhance the awareness.
2. Making precautions of cardiac catheterization/percutaneous transluminal coronary angioplasty for inpatients.
3. Design a QR code for coronary heart disease and coronary artery stent introduction.

Results:
Since June of 2019 provide the admission guidelines and precautions for the cardiac catheterization patients and also watching multimedia nursing guides through the QR code, the integrity rate of nursing guidance before cardiac catheterization increase to
86.3%, the results indicated that since the implementation of the project, the patient’s accuracy of the cardiac catheterization improved from 64.6% to 86%.

**Conclusion:**

Provide patients nursing guidance is a unique and professional skill performance of medical staffs. Develop a procedure for cardiac catheterization precaution for inpatients and design QR code to watch cardiac catheterization precautions films, not only improve the professional skill of the medical staffs and the care consistency, thereby improve the integrity of nursing guidance before cardiac catheterization, showing a significant increase in its applicability. It suggested the nursing guidance for cardiac catheterization patients can be promoted, and new employees can be arranged to attend flipped teaching course and participate the cardiac catheterization care related teaching therefore enhance the vigilance of medical staffs and improve their correct attitude and behavior.

**References:**


Using the diversification strategy to reduce the incidence of falls in hospitalized patients

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Introduction:
Fall is the second leading cause of unintentional injury deaths in the world and an important public health issue. Falling will not only affect the quality of care for hospitalized patients, delay the discharge time, but also increase huge medical expenses. Since 2004, the Taiwan Ministry of Health and Welfare has made patient fall prevention a patient safety goal. It is hoped that reducing falls will reduce the harm to patients and related medical resources after a fall. The fall rate of our unit in 2015 was 0.186%. After the use of the fall prevention manual, the fall rate fell year by year. In 2017, it was still 0.151%, and the incidence rate was among the top three in the hospital. We hoped that patient-centered, combined with empirical fall prevention measures, will reduce the incidence of falls in a multi-strategy in a general medical ward of a medical center in Taiwan.

Methods:
Analyzing the event factors of the fall in 2017, 52.17% were behavioral factors. 91% did not feel that they were a high-risk group of falls, and found that patients or caregivers had low awareness of the risk of falls. After discussing with experts, and according to the JBI's fall prevention recommendations, jointly develop a multi-strategy intervention plan. Participants include patients, primary caregivers, health care providers, and cross-team quality control experts. From March 1, 2018, to September 30, respectively, three strategies were used: (1) Drawdown risk factors and self-evaluate the risk of falls by patients or caregivers, improve the self-awareness of the risk of falls, and participate in the prevention of falls. (2) Design a webpage click-to-question game to increase the interactivity of nursing guidance and improve the patient's knowledge of preventing falls. (3) Card game for medical staff to prevent fall education and improve course fun. Audit mechanisms were also established to ensure the project maintenances.

Results:
After the intervention, the fall rate from July to September 2018 was 0.076%, and the average fall rate in 2018 was 0.098%. We continue to implement intervention measures, and the fall rate in 2019 has dropped to 0.039%.
Conclusion:

This project is improved with a diversified strategy. The creative idea is to use games to conduct various education, which not only increases the interest of learning but also improves the concentration and participation of participants. Increasing patient self-awareness of the risk of falls can enable patients to change their caregiving role and prevent falls with medical staff. This diversified strategy can indeed reduce the incidence of falls in hospitalized patients and promote patient safety and quality of care.

References:


Please declare any conflict of interest you may have:
Introduction:

As communication challenges are undermining medication safety in hospitals, an evidence-based communication assessment tool is needed. A new tool was developed based on scientific literature. In order to strengthen the tool, its validity needed to be evaluated by clinical professionals and patient representatives.

Objectives:

1. To evaluate the content validity index (CVI) of a new tool consisting of 146 indicator phrases.

2. To reduce the number of literature-based indicator phrases (describing communications related to medication incidents) in order to condense the questionnaire for practical use.

Methods:

An expert panel consisting of 14 clinical professionals and specialists (nurses; clinical nurse specialists; physicians; pharmacists; patient safety specialists; clinical educators; managers or leaders; and experienced patients) were recruited to evaluate 146 indicator phrases of a new communication assessment tool. The evaluators used structured three-point scales to evaluate the indicator phrases on importance (‘important’; ‘not necessary but useful’; ‘not important’) and clarity (‘clear’; ‘needs to be modified’; ‘unclear’). Other unstructured comments were allowed. The content validity ratio (CVR) for the importance of individual phrases was calculated based on the number of evaluators who rated the indicator phrase as ‘important’ (or ‘clear’, when calculating the CVR for clarity). The overall CVI for all included phrases was calculated as the mean score of the CVR values for importance and clarity (Table 1).
Table 1. Example of CVR and CVI calculation methods for importance of indicator phrases.

<table>
<thead>
<tr>
<th>Importance evaluation (Example of the used method)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>CVR of importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value 1 = evaluator rated as important</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>11/14 evaluators = 0.79 CVR</td>
</tr>
<tr>
<td>Value 0 = evaluator rated as not necessary or not important</td>
<td>1</td>
<td>1</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>13/14 evaluators = 0.93 CVR</td>
</tr>
</tbody>
</table>

CVI of all included phrases -> (0.79 + 0.93) / 2 phrases = 0.86 CVI

**Results:**

The CVIs for all original indicator phrases were 0.80 for importance and 0.75 for clarity. Phrases whose minimum CVR value was ≥ 0.78 for both importance and clarity (55 phrases) were included in the final questionnaire. Twenty-two phrases were also included based on having a CVR value of ≥ 0.78 only for importance. Thirteen phrases which had lower CVR values (0.57–0.71) for importance were included based solely on literature evidence. The CVI of the final 90 indicator phrases was 0.88 for importance and 0.79 for clarity before phrases were modified. After evaluation, the selected phrases were modified for clarity in accordance with evaluators’ suggestions.

**Conclusion:**

The CVI method facilitated a 38% controlled reduction of literature-based indicator phrases while maintaining an acceptable validity level (CVI ≥ 0.78) of the tool. The next step in the development of this tool will be testing it in clinical environments and further condensing it using exploratory factor analysis.

**References:**

- Please declare any conflict of interest you may have: None declared

**Abreviations:** CVR = content validity ratio; CVI= content validity index
A tool for assessing challenges in...

Medication

Communication

Picture of pills: https://www.pexels.com/free-photo/727/
Introduction:

Infections from peripherally inserted intravenous (IV) lines rank in the Top 10 Patient Safety concerns (ECRI, 2019) [i]. This session will showcase the collaboration between people with lived experience of IV Therapy, vascular access clinicians, suppliers, and measurement experts to map the patient journey of IV Therapy. This collaboration led to the development of an Experience of IV Therapy patient survey. The survey findings illustrate variation in patient experiences and outcomes, which can lead to vascular access complications.

Methods:

Vascular access devices have been linked to serious infections and other adverse and sentinel events [ii]. Complications from peripheral IV’s increase risk to patients and negatively impact both patient experiences and outcomes. Starting in 2017, the province of BC Ministry of Health Office of Patient-Centred Measurement (OPCM) collaborated with the provincial supplier of vascular access devices, BD-Canada, a provincial Working Group, and patients with lived experience of IV Therapy to map the patient journey of IV Therapy in order to develop and test an IV Therapy patient experience survey. The survey was fielded in 108 emergency departments (EDs) in BC and tests of change were undertaken based on patient feedback.

Results:

Findings from our patient survey show variation in clinician skills and practice negatively impacts both patient experiences and outcomes. An environmental scan of published evidence conducted in Canada validates our patient survey findings and supports the need for monitoring and sharing of evidence-informed practices to improve the quality and safety of vascular access. [iii] Up to 90% of patients in the acute setting receive a vascular access device and up to 60% of them fail before they complete their expected treatment. [iii] Approximately 35% of all IVs are inserted in EDs and those IVs stay with the patient when they transfer across the system. IV insertion attempts and management account for a
significant amount of clinician time; each vascular access device could see over 200 touches. Variations in clinician skill and practice were evident to patients and were associated with vascular access complications.

The Canadian Vascular Access Association (CVAA) published Canadian Vascular Access & Infusion Therapy Guidelines in April 2019. The results of our survey, representing over 4,000 patients, have been shared across BC and have informed regional quality improvement initiatives to address the gaps between best practice as outlined in the CVAA guidelines and the lived experience of people who received IV therapy in BC EDs.

**Conclusion:**

Building strategies to generate awareness of vascular access is underway in BC to improve communication with patients who have IVs, improve clinical competencies of nursing staff, and build awareness of the survey results with healthcare leaders. The perspective of people with lived experience of IV therapy point to the global need and relevance for international standards for vascular access to support enhancements, monitoring, and sharing of evidence-informed practices to improve the quality and safety of vascular access.

**References:**

[i] ECRI Institute. www.ecri.org/patientsafetytop10

[ii] Helm RE et al. Accepted but unacceptable: peripheral IV catheter failure. Infus Nurs Society. 2015;38(3):189-203


Introduction:

The relevance of hand hygiene is widely documented in the literature and there are many evidences about its impact on quality of care and patient safety. Joint Commission Italian Network, that consist of Italian healthcare organizations with the common idea that assessment and comparison produce improvement, develops a program, in 2017, to evaluate hand hygiene compliance and to study how to improve compliance through organizational actions.

Effective assessment implies a wise and skilled organization. Hand hygiene effects on patient safety and quality of care are well-known in literature since many decades, but how to modify healthcare worker behaviors through organizational actions is still an open question.

Aim of the study is to evaluate if and how a continuous assessment or self-assessment of hand hygiene compliance may generate improvement. Does the continuous observation of a process within an organization change healthcare worker behaviors?

Methods:

Data are collected using information of observation form of WHO with the five moments of hand hygiene. Each organization collects their own data monthly, the minimum sample each month is 210 opportunity observations for the mandatory period from September to December. Data are collected into a file with some compulsory information:
Data are analyzed according to different drivers to identify pattern and cluster useful to the research.
All organizations complete the WHO survey on climate: “Annex 6: WHO Facility-Level Situation Analysis”, furthermore we analyze organizational actions implemented, among the observation periods, classifying them for type (Routine observation and feedback; Awards; Institutional safety climate improvement; Informative campaign; Leadership involvement; Skin tolerability; Training based on data) and intensity (very intensive to low intensive).

**Results:**

This study involves 15 Italian healthcare organizations and in three years (4 months for each year) collects almost 90,000 hand hygiene opportunity observations. Data shows a substantial continuous improvement of organizations performance during the years in most of the categories analyzed (organization, professional category, …). The organizational actions implemented show how organizations with similar compliance level and structure may identify different kind of actions to improve and they may obtain positive results.

**Conclusion:**

Continuous monitoring and assessment process and targeted organizational strategies generate a positive impact on performance.
References:


https://www.hha.org.au/

https://www.who.int/gpsc/5may/en/


Please declare any conflict of interest you may have:

None
Unità di ostetricia per un percorso materno personalizzato (MUM)

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Introduzione.
La differenziazione dei percorsi clinico-assistenziali-organizzativi per le donne in gravidanza, il parto, e il puerperio sono un argomento ampiamente studiato in letteratura e soggetto alla crescente attenzione da parte dei responsabili politici e delle organizzazioni sanitarie. Le prove disponibili a livello internazionale suggeriscono l'importanza di analizzare il personale ostetrico e di monitorare il contatto dell'ostetrica con la donna durante le fasi di gravidanza, Travaglio e puerperio (Lancet 2016, Nizza 2007, fino al 2014).

Obbiettivi
L'obiettivo del progetto è valutare l'impatto - in termini di sicurezza, efficacia ed efficienza - di un percorso di assistenza clinica intraospedaliera gestito da ostetriche , definito in conformità con le Linee guida sviluppate dal National Birth Path Committee nel 2017 sul basso rischio ostetrico, con l'obiettivo di promuovere l'adeguatezza dell'assistenza e ridurre il trattamento eccessivo con un lavoro di prevenzione quaternaria.

Metodi.
Il progetto è strutturato in una prima fase di triangolazione dei dati osservativi quantitativi e qualitativi. I dati quantitativi includono esiti materno-neonatali relativi a un campione di 100 donne in gravidanza, con gravidanza a basso rischio, che hanno affidato esclusivamente le loro cure a ostetriche durante la gravidanza, nei percorsi attivi all'interno dell'Agenzia Sanitaria Toscana nord-ovest. I dati quantitativi saranno triangolati con i dati qualitativi raccolti attraverso interviste semi-strutturate indirizzate al nostro campione di donne. La seconda fase del progetto prevede la presentazione del modello organizzativo integrato MUM del territorio-ospedale- Territorio all'interno del quale la sicurezza e la qualità delle cure sono garantite anche dal supporto della simulazione.

Risultati
Tra le donne appartenenti al campione osservato, 88% ha partorito spontaneamente, nel 100% i bambini sono stati valutati alla nascita con un indice Apgar a 5 min> 7, l’89,6% ha avuto allattamento al seno esclusivo al momento della dimissione in ospedale. Le analisi quantitative preliminari indicano risultati significativamente più favorevoli e il campione analizzato lo conferma. L'analisi dei risultati dei dati quantitativi si integra con i dati qualitativi raccolti attraverso le interviste semi-strutturate effettuate sul campione, volte a valutare sia il grado di soddisfazione delle donne nel percorso di nascita sia la conformità con il nuovo modello proposto.

Conclusioni
Partendo dai risultati dello studio, supportato dalle evidenze in letteratura sui benefici di percorsi a basso rischio ostetrico, il gruppo di lavoro suggerisce l'opportunità di creare unità di ostetricia all'interno delle strutture ospedaliere dell'azienda Toscana Nord Ovest, rispondendo, con i propri modelli (MUM), non solo ai criteri di efficacia ed efficienza, ma anche di adeguatezza e sicurezza.

Gli autori dichiarano di non avere potenziale conflitto d’interesse
Introduction
Pressure ulcers are a still current welfare problem. Prevalence rates are variable between hospitals and territorial population observed.

Pressure ulcer produce suffering in patients, costs for health services, consumption of drugs, dressings, anti-decubitus aids. Prevalence surveys are a precise monitoring tool of problem, recommended by the main guidelines. Nursing Department of Asl TNO has structured a widespread path of monitoring PU and related actions that has produced improvement of care outcomes.

Objectives
Reduce risk in developing Pressure Ulcer (PU)

Methods
On a half-yearly basis, prevalence surveys were carried out on PU, aimed at patients in hospital structures or in charge of local services.
Survey conducted by nurses from hospital and local services, trained for this purpose by nurses experienced in wound care.
Survey results and systematic training courses were presented to the staff of the hospital and local structures and to improve the contents and improve skills. At the same time, the dressing manual was updated PU and revised the dressing request

Results
Since 2017, surveys have involved 4500 patient on average every semester. The measured values, in line with the literature, have made it possible to highlight the prevalence rates and analyze the parameters directly related to prevention and treatment PU. Training was addressed to 806 nurses. An injury reduction, particular PU arose during hospitalization, has been reported following this program. Application of the guidelines on the request for advanced dressing reduced cost. Territorial data remains to be investigated, with decreasing trend

Conclusion
PU represent a welfare phenomenon. Data monitoring and its reduction can be related to systematic training interventions, attention to risk assessment and best use of devices PU
Monitoring of the phenomenon produces greater appropriateness in the use of advanced dressings and a reduction in costs

References

Conflict of interest

Absence of conflict of interest

Abbreviations
PU Pressure Ulcer
AslTNO Asl Toscana Nord Ovest
Introduction:
Pressure ulcers (PU) are a type of acute ischemic damage that breaks down the skin as a consequence of the application of external force. Incidence of these events in a previous initiative in Latin-American Intensive care units in 2016, was 3.6/1000 patient days before and 2.4 after the intervention. Based on this former experience “Evitando UPP”, the current collaborative initiative was designed to improve prevention and reduce PU in general and intensive care units. The aim of this initiative was to improve the prevention bundle and reduce the incidence of PU suffered by hospitalized patients at a group of healthcare organizations in Argentina.

Methods:
Twenty-two healthcare organizations participated in a web-based, before-after collaborative initiative that started in January 2019. The organizations were invited by a collaboration association. Providers were encouraged to include their organization by presenting an intention letter. This letter had to be signed by the hospital director and the chief of the participating unit. The elements of the bundle included existing evidence-based measures: PU risk assessment, skin assessment, patient risk sign alert, patient and family education, reposition every two hours, PU site & grade classification, and nutrition assessment. The before-implementation stage included an on-site meeting to present the initiative and start instructions and a webinar to understand the measurement guide. The implementation stage was based on the Model for Improvement. All the participants accessed an implementation guide, a surveillance guide, patient and families’ brochure, auditing tools and learning sessions (every two weeks). Sessions covered: implementation method and plan, technical information about each action of the bundle, surveillance method and confidential monthly data feedback about benchmarking results. Learning sessions were recorded for those who were not able to participate.

The analysis was performed using binomial and Poisson distribution. Due to the high heterogeneity, the random-effects model was used. Z test for proportion and comparison of
person/time rates were performed. R software 5.1 and OpenEpi 3.01.

Results:

Twenty-two units from private healthcare organizations from Argentina participated in pre-intervention stage of the project and 16 finished the complete measurement period. A total of 15584 patient days of baseline data and 26253 patient days of exposure were reported. Initial acquired PU rate per 1000 days of hospitalization was 12.1 (IC 95% 7.38-19.95) and 7.1 (IC 95% 3.42-15.04) after implementation. This 40% reduction was statistically significant (p: <0.0001). Adherence to nutritional care was higher during the implementation stage, 49% vs 62% (p:<0.00001). Non-significant difference was found in skincare and repositioning between periods (77% vs 75% and 75% vs 74%).

Conclusion: This initiative shows a higher baseline incidence of PU at participating organizations compared to the former initiative “Evitando UPP”. This evaluation shows that a collaborative initiative was effective to improve processes and results among patients in participating units

References:


Please declare any conflict of interest you may have:

None
Introduction:
Road Traffic Injury (RTI) is a major but neglected global public health problem, requiring concerted efforts for its effective and sustainable prevention. As per WHO, Road Traffic Accidents (RTA) are responsible for 1.35 million deaths and 20–50 million injuries every year and are expected to be the fifth leading cause of death globally by 2030. India has been battling hard to reduce mortality and morbidity resulting from RTA but is still not able to achieve considerable change. Existing policies fail to address increasing RTA burden with the advancement in technologies in developing countries like India.

Objectives:
(1) To explore the roles of multi-stakeholders in road traffic safety policies in Jodhpur city. 
(2) To identify the key challenges and barriers in current road traffic policies and to compare them with global practices.

Methods:
Literature review and theoretical sampling were used to recruit all possible stakeholders related to policy. Pre-validated In-Depth Interviews (IDIs) Guides and Focused Group Discussions (FGDs) Guides were used to collect data from stakeholders and end road users respectively. Based on the sampling technique, a total of 16 IDIs and 2 FGDs were conducted. Each subsequent interview was based on an interim analysis of previous interviews. The theoretical content analysis technique was used to analyze the results.

Results:
The study showed that RTA/RTI isn’t a priority of concern and the majority of the stakeholders were unaware of their precise roles and responsibilities. Relevant themes extracted from IDIs & FGDs included poor data quality, missing data professionals in police departments, inadequate fines and negligible punishment, incompetent law implementing agencies, occasional ticketing, lack of willingness for behavioral change, corruption, noncompliance with personal protective equipments and inadequate, partial and restricted data sharing were identified as major challenges. Lack of leadership and governance, lack of stringent policies, poor inter/intra-departmental coordination, poor knowledge and
awareness amongst end road users were identified as main barriers.

**Conclusion:**
Policies require data-driven amendments. In contrast with best practices globally, priorities of vulnerable end road users haven’t been considered and the current system lacks a decentralized sustainable approach and trained professionals to collect and manage the database. There is a need for strengthening of stringent regulations, capacity building, safety engineering, research, and technology enhancements.

**References:**


**Please declare any conflict of interest you may have:**

No Conflict of Interest. No Funding Agency. Prior Institutional Ethical Clearance was taken.
A multidimensional innovative approach for sustainability in healthcare: reducing the environmental burden and carbon footprints while improving safety and cost effectiveness

Claudia Mika

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Introduction:

In its 2030 Agenda for Sustainable Development, the United Nations (UN) General Assembly announced 17 sustainability development goals and 169 targets. These include equitable and universal access to quality education, healthcare, equality and non-discrimination, as well as environmental protection and the application of climate-sensitive technology.

According to the Premier Safety Institute, United States hospitals are the country’s second most energy intensive industry as well as the sector’s largest energy consumer and producer of greenhouse gases.

The question to be answered is: How an accreditation body can contribute to the UN goals while involving partners and customers?

Objectives:

To include hospitals and clinics worldwide into sustainability initiatives, to take responsibility for the environment, to treat patients effectively while using fewer natural resources, and to avoid harm to both humans and the environment.

Methods:

Committed to the United Nations’ sustainability development goals, Temos International Healthcare Accreditation (TIHA) developed a chapter on “sustainability in healthcare settings” including 14 standards addressing environmental, social, cultural, economic, quality, health and safety issues in all TIHA accreditation programs.

As part of the accreditation process, evidence has to be provided by the customers on how the standards have been implemented, monitored and measured.

Different case studies and best practice examples will be presented to the audience.
Results:

At first, the TIHA “sustainability in healthcare standards” caused some “irritation” in hospitals and clinics worldwide. Their concerns were handled by explanation and training on an individual basis according to the needs of the customers. Clients have now embraced these standards as they realize various benefits in terms of business operations as well as satisfaction of customers. The implementation, realization and outcome of the sustainability standards has been a success worldwide for our clients.

Sustainability Committees have been implemented, projects were initiated within hospitals and clinics, involving all levels of staff members and encouraging teamwork as well as taking over responsibility. Outcome measurements confirm that the reduction of the environmental and carbon footprints by different initiatives result in higher staff safety and a reduction of risks, e.g. by transition to safer chemicals in materials and products. In addition, the organizations financially benefit from a reduction of the use of natural resources, the reduction of waste, e.g. by recycling and other measures.

Conclusion:

The UN Sustainability Goals can successfully be implemented by hospitals and clinics worldwide. Evidence has proven that projects and initiatives result in the reduction of the environmental and carbon footprints while improving staff safety and being more cost effective. Involving staff members by education and training as well as offering them to take responsibility increases staff motivation, teamwork and the spread of the “sustainability message” to the professional and private environment.

Accreditation bodies can be the link between the UN sustainability development goals and healthcare providers worldwide by guidance and translation of the UN goals into accreditation standards, education and training as well as by monitoring the implementation and outcome as part of the accreditation process.

References:

United Nations Sustainability Development Goals

Temos International Healthcare Accreditation standards on "Sustainability in Healthcare Settings"

Please declare any conflict of interest you may have:
Association between oral antibiotics and colorectal cancer in Korea, a matched case-control study
SOOKJI JEONG1

1Health Insurance Review & Assessment, Wonju, Korea (Republic of)

Introduction:

In Korea, antibiotic consumption is about 1.5 times higher than in OECD countries. Many studies are showing an association between antibiotic use and colorectal cancer. However, there is no study reflecting on Korea’s situation. Therefore, this study aims to assess the association between oral antibiotic use and colorectal cancer in Korea, where the consumption of antibiotics is high, using the health insurance claims data (real-world data, RWD).

Methods:

This study is a matched case-control study examining the association between antibiotic use and colorectal cancer (CRC) using health insurance claims data from 2008 to 2018. Cases were selected for patients who were admitted for colorectal cancer in general hospitals in 2018, except for cases of colorectal cancer risk diseases and immunosuppressive conditions. The controls were selected by 1: 5 random matching according to the case’s practice site, sex, and age. Age was restricted to 40-90 years. Antibiotic use was calculated using a cumulative number of days prescribed in 2008-2018 (defined as the time from initial antibiotic prescription date to 1 year before CRC incidence) Adjusted ORs and 95% CIs were estimated using conditional logistic regression analysis.

Results:

There were 11,756 colon cancer patients and 58,780 matched controls, 3,960 rectal cancer patients and 19,800 matched controls. Antibiotics were prescribed to 15,009 CRC cases and 76,549 controls. In the case of cumulative days prescribed more than 61 days, the controls (52.2%) were higher than the cases (33.1%). As a result of conditional logistic regression analysis, an association was detected between antibiotic use and colorectal cancers. The adjusted OR with the length of antibiotic exposure >60 days for colon cancer
was 0.603 (95% CI 0.538 to 0.675) and for rectal cancer was 0.45 (0.376 to 0.538) as compared with non-antibiotic exposure.

**Conclusion:**

Oral antibiotic use is associated with a reduced risk of colorectal cancer. However, it has a limitation of not considering the risk factors for colorectal cancer such as smoking status, alcohol use, and physical activity, using only the variables available in the claims, and it is reflected in the national specificity such as high antibiotic consumption in Korea. Therefore, attention should be paid to the interpretation of this study. Nevertheless, this study differs from other studies in that the cases and controls used the cumulative days prescribed of all oral antibiotics prescribed from 2008 to 1 year before colorectal cancer. Also, by analyzing data on the total number of patients with colorectal cancer in Korea in 2018, it is meaningful to confirm the results at the national level.

**Please declare any conflict of interest you may have:**

Nothing to declare.
Building a virtual ward model to improve the efficiency of the classified medicine and a referral system

yuan-hui lai1; Shih-An Liu1; Chieh-Liang Wu1; Wayne Huey-Herng Sheu1

1 TAICHUNG, Taiwan

Introduction:

In order to fulfill the classified medicine and a referral system, in 2005, Department of Health started to carry out a referral system. Based on the establishment of “Integrated Delivery System” embedded in the local community, the plan aims to promote the vertical and horizontal integration of primary medical care and hospital, advance the quality of medical service, and control the growth of medical expenditure in the whole society. In fact, the patients and their families who are transferred are also passively informed of the lack of participation. They are also afraid that in the case of emergency conditions and the care plan cannot be continued. They are less confident about the care of the transferred hospital and reduce their willingness to transfer. The plan is to establish a virtual referral ward (Virtual Transit Ward) in cooperation between Taichung veterans General Hospital and Taichung Hospital of the Ministry of Health. The Cooperation care model will be initiated to reduce the number of hospital stays, the rate of rehospitalization and the load of caregivers.

Methods:

According to the current difficulties encountered during the transfer in Taiwan, the main problems were found to be (1) lack of consensus and communication between the medical team, (2) the transfer process is unclear and complex: (3) patients and their families are concerned about the poor quality of care. Three major countermeasure groups for the cause planning (1) Improve the consensus of medical care in the two hospitals: include: establish a weekly ward round system, regular two-house project meetings, and video medical discussion meetings of medical team in the two hospitals. (2) The transfer process is unclear: Establish a transfer process, a single contact window, and a medical team contact list include: member of team, the summary of progress notes. (3) Improving the quality of care in transfer hospitals: Establishing VR videos in transfer hospitals, establishing a virtual ward round, and an emergency transfer back system.
Results:

Since 2018, this plan has been implemented in the Department of Neurology, Cardiac Surgery and Hematology and Oncology. Taking the three departments as an example, the average number of hospital stays decreased by one day; bed turnover rate increased by 5%, patient satisfaction was 90%, and staff satisfaction was 86%. A total of 73 patients were transferred to other hospitals through weekly rounds and screened. The turnover rate increased by 841 inpatients, and hospitalization income increased by NT 98 million.

Conclusion:

This is the first time in Taiwan’s medical community to promote integrated care with Virtual Transit Ward. This model can reduce the number of hospital stays, and the rate of rehospitalization and the load of caregivers, and improve the functional rebound of cases.

References:


Please declare any conflict of interest you may have: NIL
Diagnosing sepsis is not easy. Most of the cases originate in non-hospitalized people and must be intercepted at the patient’s home or in emergency departments. Less often, sepsis occurs in the hospital care settings. The “Call to Action” fight against sepsis” is a quality improvement initiative. It aims to define the strategies for early recognition and treatment in many contexts where sepsis can occur. It lays the groundwork for prevention of the sepsis syndrome and of the underlying infections; the program describes the impact that inappropriate care can have on the patient and the community.

Methods

The ‘Call to Action’ initiative is based on the Surviving Sepsis Campaign guidelines and on the evidences reported in the areas of microbiology, clinical-care, human factors, quality and safety of treatments. It establishes, for Tuscany Regional Healthcare System, a collaborative of clinicians addressing the unique challenges of sepsis for those practicing outside the ICU. It fosters guiding recommendations for these areas while critical care providers continue to lead recommendations. Sepsis needs to be addressed not exclusively from a single discipline but requires the expression of a plurality of perspectives of different healthcare specialists. Because of that, the team includes infectious disease, public health experts, anaesthesiologists, microbiologists, emergency doctors, epidemiologists, nurses, obstetricians, pharmacists, general practitioners and surgeons, as well as ergonomics and methodology experts.

Results

The document suggests approaches that find integration both on a strategic-organizational level and in clinical-care practice. Our goal is to spread the concepts of sepsis as a time-critical and, in many cases, preventable syndrome, which needs to be...
addressed from multiple points of view. In this regard we promote the training of healthcare workers, the redesign of the microbiology laboratory grid in the whole areas and the development of a coherent clinical response system at the regional level.

**Conclusions**

The current work program aims to extend early detection and prevention strategies to the neonatal and paediatric population; in addition, the team intends to encourage early involvement of surgeons in the treatment of infectious foci, with greater integration of minimally invasive techniques and interventional radiology.

**References**


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**Please declare any conflict of interest you may have:** NONE
CAREGIVERS’ SATISFACTION: MEASUREMENT OF EFFECTIVENESS OF CONSCIOUS SEDATION VERSUS LOCAL ANESTHESIA IN A SUBURBAN HOSPITAL IN LAGOS, NIGERIA

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Introduction:

Problem statement: A pulpectomy is an alternative dental procedure (to tooth extraction) performed on children to relieve pain associated with pulpal exposure. During pulpectomies, patients experience some degree of discomfort which makes them anxious and less cooperative, thus prolonging the duration of the procedure. Studies have shown that sedation may be required when children exhibit fear and pain during dental procedures.

Aim and objectives: This pilot study investigated whether the use of Conscious Sedation (CS) versus only Local Anesthesia (LA) technique would improve patient satisfaction in pulpectomy procedures in Orile Agege General Hospital (OAGH) from June 2018 to March 2019.

Methods:

Ethical clearance was obtained from the Research and Ethics Committee of the health facility for this quasi experimental study. Ninety-one (91) 2 – 7 year old children requiring pulpectomy were recruited at the dental department of OAGH in this prospective study. Sixty-nine (69) patients were treated with LA and the traditional behavior management technique of “tell-show-do”. Twenty-two children with extreme anxiety were treated with CS. A family dentist did the pulpectomy while an anesthesiologist conducted the vital sign monitoring and behavioral assessment. Loading sub-anesthetic dose (1% propofol @ 0.5-mg/kg and/or 5% ketamine @ 0.25-0.5mg/kg weight) was administered intravenously. Intravenous tranquilizer (midazolam/diazepam @ 0.01-0.05mg/kg) and analgesic (fentanyl @ 1-2µg/kg and/or pentazocine 0.5mg/kg) were then administered using syringe driver controls. After the procedure, patients were observed in a quiet recovery room for a minimum of 30 minutes.
Results:

The primary outcome which was caregiver satisfaction had a score of 30% in LA procedures and 86% in children treated under CS. Adequate sedation was achieved in all 22 patients receiving CS. Seventy per cent (70%) of children treated with LA had behavioral problems and were uncooperative while the procedure could not be completed and had to be rescheduled in a number (33%) of cases.

Secondary outcomes revealed a significant difference between CS and LA groups with respect to the time it took to complete the procedures: 23.28±2.45 mins versus 42.23±24.08 respectively (OR=27 minutes; 95% CI: –58 to –14; p = 0.000). No significant respiratory or circulatory adverse effects were observed in both groups, although one (4.5%) of the patients who received CS had an episode of vomiting and coughing due to aspiration.

Conclusion:

This study demonstrated that in comparison with only LA, CS was more effective in improving caregivers’ satisfaction. Studies have shown that patients with better care experiences often have better health outcomes. In addition, intra-operative duration revealed a significant difference between CS and LA. Findings have shown that prolonged operative time is associated with an increase in the risk of complications. It is recommended that patient satisfaction be used as a core component of physician ranking and reimbursement.

References:

Please declare any conflict of interest you may have:
Co-producing a vision and a strategy for improving the quality of health care in a Swiss canton

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Introduction:

A recent national report (1) described significant shortcomings of the quality of Swiss health care, namely high cost, problems of patient safety, fragmentation of services, lack of data on quality, of transparency as well as of capacity for quality improvement. Very little information on the quality of health care is available on the cantonal level.

Vaud is with a population of 800,000 the third largest Swiss canton. Cantons have far reaching regulatory autonomy. The cantonal health directorate is responsible for health policy and the coordination and monitoring of quality. There is currently no approach to system wide quality improvement.

The high cost and quality problems are increasingly debated in the public domain. However, this debate usually involves only professional bodies and authorities, is focused on professional interests and rarely leads to concertized action. The voice of patients and their relatives is rarely sought or heard.

To address these problems, the health directorate initiated the development of a strategy for quality improvement of the entire health care system of the canton (2). This process should involve all actors of health.

Objectives:

To describe the development of a strategy for the improvement of the quality and safety of health care in a Swiss canton.

Methods:

Early in the process, we conducted qualitative interviews with citizens to stimulate the unproductive discourse about the cantonal health care system. The researchers prepared a list of exemplary patient’s conditions and roles of providers, such as: patient with a chronic condition living in an urban area, GP in a rural area, survivor of cancer etc. Open questions about experiences with health care, values, and possible improvements structured the
interviews. They lasted 60-90 minutes, were recorded, transcribed verbatim and analysed for themes.

In parallel, we planned the development of the strategy based on Rumelt’s three elements of a "good strategy": diagnosis, choice of an overall approach and prioritisation of actions (3).

Results:

• Relationships basis for coproducing valuable healthcare
• Importance of listening and need for creating conditions therefore
• Difference between linear acute care and non-linear processes for chronic conditions
• Patients/relatives, and health professionals experience practical problems and loss of meaning because of insufficient collaboration, e.g., between health and social care institutions
• “Productification” leads to more, but not necessarily better healthcare and threatens vital professional values.

Conclusion:
Results from interview analysis provide valuable input to the “diagnostic workup” of a health care system and to the planning of a strategy. The finding of the importance of relationships translates into a coproduction approach to developing the strategy implying the participation of patients, relatives, and health professionals in all phases of the project.

References:


Please declare any conflict of interest you may have: No conflicts of interest
Creative tools and techniques used for Pre-Primary care to improve health literacy in rural population in India

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Introduction:

In the late 1990s, when India was nearing its endgame on bringing communicable diseases under control, Non-Communicable Diseases (NCD’s) such as Diabetes and Cancer were emerging as the new horrors on the nation’s healthcare horizon. Poor allocation of resources for the Pre-Primary care of these conditions and the potential complications it could lead to if left untreated - particularly amongst the under-served, rural populations - led to pathetic prognosis and outcomes. Meagre health literacy of the strategies to manage the conditions and, lack of adequate clinical expertise to handle the menace on the scale that it was rising motivated Sree Renga Hospital, Chengalpattu to pivot its institutional resources towards creatively and sustainably addressing this issue, for the past 20 years.

Objectives:

Raise the Pre-primary health literacy on Diabetes among physicians, paramedical workers, patients, public and students in villages, through unique, creative and sustainable ideas suitable for each category

Methods:

The central feature of the awareness campaign is creative ideas to improve health literacy, involving government authorities, District Collector and Educational Officers, NGO’s such as the Rotary and Lions Clubs, heads of villages, panchayats (policy makers), colleges, schools and local community.

- **(For the semi- and illiterate)** Life-size Puppet show programs on prevention of Diabetes and its complication, parodying popular movie songs and lyrics. Deployed for the first time in Indian villages as a tool for Pre-Primary care, the shows are sustainably conducted by the staff and students of the Diabetes department.
- **(For Diabetic patients)** Competitions – Cookery, Quiz, Walkathon, Best Couple
- **(For public)** Display of informative Charts and diet exhibitions at awareness programmes
- **(For school students)** Annual rally of a 1000 students around the town; Competitions - - Drawing / Speech / Essay writing
- **(For college students)** Competitions – Cookery, Essay
- **(For healthcare workers)** Diabetes sensitization programmes for doctors; One-day clinical training for Village Health Nurses and staff of the Integrated Child Development Services
- **(For all)** *Go Blue for Breakfast* events, publication and despatch of a FREE monthly newsletter in local language to improve health literacy, animated slide presentations

**Results:**

**Tangible data from the past 20 years**

No. of Puppet Shows conducted = 89

No. of In-house + Outreach health screening camps conducted = 194 + 214

No. of Diet exhibitions conducted = 214

No. of people tested for Random Blood sugar for free = 74026

**Conclusion:**

Working collaboratively with multiple key stakeholders, we have sustainably raised the health literacy of Diabetes amongst the rural population in the villages. Creative engagement activities targeting physicians, healthcare workers, patients, public and students via workshops, free awareness programmes, talks, exhibitions and competitions helped raise all around improvement in Pre-Primary awareness of Diabetes and its complications amongst the population.

**References:** www.sreerengahospital.com/videos

**Please declare any conflict of interest you may have:** None
The first use in India of life-size Puppets as a creative tool to generate Pre-Primary care awareness of Diabetes and its complications, amongst rural populations
Develop the Driving Force of Continuous Quality Improvement and Make It Sustainable

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Introduction:

Chi Mei Hospital is a 1278-bed private medical center in Tainan County of southern Taiwan founded in 1968. Crews of the Center for Quality Management (CQM) are organized into administrative, medical quality and patient safety groups and collaborate with medical specialties to measure the quality of healthcare workflows and act to the findings. We describe our way to develop the driving force of continuous improvement.

Methods:

CQM was founded on Jan. 1, 2008. We joined the Patient Safety Culture survey (PSCs) program of Joint Commission Taiwan (JCT). Through Team Resources Management (TRM), we built up the teams and make cultural changes. We introduce the 5888 hot line to provide the immediate institutional support of holistic integrated care for patients. To improve interpersonal skill and standardize professional patient encounter, we implanted CICARE (Connect, Introduce, Communication, Ask, Respond, and Exit) tool from University of California Los Angeles. For employee care, we introduce the campaign of GO SAFE (Glad, Overload, Stress, Anxiety, Fatigue, Eat) to improve the happiness in work. Shared Decision Making (SDM) was introduced and helped patients, families, and healthcare teams. Medical Dispute Care and Mediation Competency Training program, quality control circle (QCC), root cause analysis (RCA), failure mode and effective analysis (HFMEA), Lean healthcare are coached annually in different teams. Teams with outstanding performance are awarded and elected to attend nationwide quality competitions. Results of PSCs and trends of awards from nationwide quality competitions were calculated.

Results:

All the activities are ongoing and started from the noted year: 2008 PSCs, 2009 TRM, 2011 holistic integrated care hot line 5888 (Mandarin pronounced as “WOW BA! BA! BA!” mimics the horn of truck for alarm), 2013 CICARE, 2014 GO SAFE, 2015 SDM, 2016 Medical Dispute Care and Mediation Competency Training. All the employees are involved through the initiation of CQM and authorized by the committees and superintendant. Feedback from the staff and patient groups is easy to be involved through meetings, phones, emails, surveys and intranet. The driving forces of continuous quality improvement do not regress by years.
The mean of national quality awards from 2008 to 2010 is 5.67 and that for 2017 to 2019 23.67. A progressively increase in a rate of 317.5% is developed in recent 12 years. We also demonstrate better patient safety culture in all domains especially in resilience and work-life balance.

**Conclusion:**

An empowered CQM with compassion, energy, innovation, and teamwork, supported by the superintendent and leading team makes different healthcare specialties have mind setting of cooperative governance. Start from the intrinsic motivation, healthcare quality is the responsibility of everyone. Proactive dispute resolution creates a safe working place which makes medical care in Chi Mei healthcare system sustainably better and better. We developed structured quality management focus on “start from heart”. Through this mind setting on caring for each other and construction of an interdisciplinary team, we make our patients, families, staffs safe and happy.

**References:**


**Please declare any conflict of interest you may have:**
The authors declare no conflict of interest.
Development of Evidence-based Chinese Medicine Clinical Service Recommendations for Cancer Palliative Care using Delphi approach based on the Evidence to Decision Framework

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Introduction:

Existing evidence supports the use of certain Chinese medicine (CM) interventions for symptom management among palliative cancer patients. However, evidence-based service recommendations tailored to the local context are needed for CM planning and implementation in this area of health care. In response, we aimed to establish consensus on CM clinical service recommendations for cancer palliative care among Hong Kong experts.

Methods:

Seven CM interventions showing statistically significant favourable results in existing systematic reviews (SRs) and overviews of SRs were subjected to a GRADE-ADOLOPMENT based two-round Delphi survey. Twelve Hong Kong experts in cancer palliative care, including conventionally-trained physicians, Chinese medicine practitioners (CMPs) and nurses (n=4 from each category) were invited to participate. Use of the evidence to decision (EtD) framework within the GRADE-ADOLOPMENT approach enabled experts to consider aspects of problem priority, benefits, harms, equity, acceptability and feasibility when making CM recommendations in cancer palliative care.

Results:

Three evidence-based CM interventions reached positive consensus as service recommendations, namely: i) acupuncture for reducing fatigue among palliative cancer patients; ii) acupressure for reducing fatigue among palliative cancer patients; and iii) moxibustion for reducing nausea and vomiting among patients receiving chemotherapy. Median rating of recommendation ranged from 2.5 to 3.0 (interquartile range (IQR): 0.00 to 1.00) on a 4-point Likert scale and the percentage agreement ranged from 83.4% to 91.7%.
Conclusion:

The GRADE-ADOLOPMENT approach facilitates a consensus-based process of reaching evidence-based recommendations on CM in cancer palliative care. This approach could be applied in developing other interprofessional collaboration plans in integrative medicine.

Please declare any conflict of interest you may have: The authors have declared no conflicts of interest.
Effectiveness of nurse-led interventions for reducing 30-day hospital readmissions: overview of systematic review and network meta-analysis

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Introduction:

30-day hospital readmission is a highly common, expensive and challenging phenomenon, and is considered by WHO as a key adverse outcome among healthcare systems. Nurses are increasingly involved in designing and implementing various interventions to reduce hospital readmission. Randomized trials had evaluated the effectiveness of nurse-led interventions with different components, but with mixed results. This overview of systematic reviews (SRs) aims to summarize the current evidence of the effectiveness of nurse-led interventions for reducing 30-day hospital readmission.

Methods:

We searched MEDLINE, EMBASE, CENTRAL, Global Health, AMED and DARE from their inception to October 2019. SRs were eligible for inclusion if they satisfied all of the following (i) ≥2 electronic databases were searched; (ii) quality of the included studies was assessed; (iii) included at least one meta-analysis of randomized controlled trials (RCTs) evaluating nurse-led peri-discharge interventions. These interventions should have the aim of reducing hospital readmission among adults who were admitted from the community to a hospital inpatient ward ≥24 hours. A primary outcome of 30-day hospital readmission rate must be reported. An additional search for eligible RCTs was conducted in Dec 2019. SRs and RCTs focusing on psychiatric, behavioral health, substance use, pediatric or obstetric admissions were excluded.

We estimated pooled odds ratios (OR) using random-effect pairwise meta-analysis (MA) to assess the overall average intervention effect, and network meta-analysis (NMA) to evaluate the comparative effectiveness of different complex interventions across RCTs. We conducted a subgroup analysis based on interventions with <5 or ≥5 components. We assessed the quality of evidence with the GRADE approach.
Results:

From 1067 citations, 203 full-text articles were independently screened for inclusion by two reviewers, from which 2 SRs were included. One SR had high methodological quality while the other was moderate. Combining eligible RCTs from SRs and the additional update search, a total of 12 RCTs with 150,840 participants were included. Four RCTs were assessed as being at low risk of bias, 6 at unclear risk of bias, and 2 at high risk of bias. Moderate quality evidence suggests that nurse-led intervention was not significantly more effective than usual care (pooled OR = 0.82, 95% CI: 0.66-1.03, I² = 62%, p = 0.09, 12 RCTs). Results of subgroup analysis indicated there was no significant difference between usual care and i) interventions with <5 components (pooled OR = 0.96, 95% CI: 0.93 - 0.99, I² = 0%, p = 0.02, 5 RCTs, moderate quality of evidence); ii) interventions with ≥5 components (pooled OR = 0.75, 95% CI: 0.52 - 1.08 , I² = 75%, p = 0.12, 7 RCTs, low quality of evidence). No significant difference was found between the two subgroups (p = 0.18). NMA results showed that there was no significant difference among different complex interventions evaluated in the included RCTs.

Conclusion:

Nurse-led interventions were not more effective than usual care in reducing 30-day hospital readmission, regardless of number of components included in the interventions. Considering manpower and cost-saving potential, less complex nurse-led interventions could be a viable alternative to usual care, after considering health system context.

Please declare any conflict of interest you may have:

No conflict of interest.
Empower Primary Healthcare to Offer High Quality and Safe Services in Tunisia

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Introduction:

Primary care is paramount in Tunisia as it provides a first line service to the entire population in 24 regions. Primary care is delivered in basic care centres (CSB) and intermediate centres (CI) the latter offering radiology and laboratory services. According to the statement from the WHO Global Conference on Primary Health Care in Astana, Kazakhstan in October 2018, this care should be of ‘high quality, ensure patient safety and deliver by trained, competent and motivated staff’.

Methods:

The accreditation directorate of INEAS implemented an approach to quality and risk management at the level of CSB and/or CI in 13 regions considered disadvantaged. The aim was to educate them to reach the level required for application for accreditation. Phase 1: After selecting one centre by region, two training courses were delivered by international experts to professionals practising in the region: 1- Training workshop in the field of quality and safety of care (23-27 January 2017). 2- Training workshop in the field of prevention of care-related infections (13-17 March 2017). Each CSB and/or CI was enabled to put in place quality improvement plans. Phase 2: 2018, communication and awareness days were delivered across Tunisia on the importance of accreditation in improving health services for primary care. All the attendees received 3 different guides from INEAS: 1- The writing of quality documents (procedure, protocols, etc) in a health facility Why? How? 2- Good infectious risk management practices in primary care. 3- Manual of hygiene procedures for infection and prevention control. Phase 3: 2019, collective information meetings were held targeting professionals from the 24 regions that initiated a quality improvement process in order to be accredited. The CSB/CI accreditation manual was presented, the accreditation process explained and a call to be accredited free of charge was launched. Each interested CSB/CI received a copy of the manual to self-assess against the criteria. Following this stage, a formal application could be made for accreditation and organisations entered into a contract with INEAS to commence the accreditation process.
Results:

**Phase 1:** 45 people were trained during the first workshop and 32 during the second. An INEAS team undertook the training. In each regional direction two directors (physicians) transmitted the knowledge and initiated the implementation of quality to the chosen establishment of 13 CSB/CIs.

**Phase 2:** A total of 6 awareness days helped popularize the concept of accreditation and create a dynamic of improvement among front-line professionals, particularly in the 13 target CSB/CIs.

**Phase 3:** A total of 6 collective information days were organized, each bringing together the CSB/CI from the neighbouring regions. 253 health professionals have been introduced to accreditation. 5 CSB, one CI and one post-natal committed to accreditation surveys in 2020.

Conclusion:

In order to motivate professionals and implement quality culture in primary care services, a step-by-step approach was vital as it offered a time to assimilate new concepts and integrate good practices into the day-to-day activities of the establishments. It was imperative to give basic information and training with the use of the 3 guides, these guides are available to all via the INEAS website. The use of international experts also provided a wider viewpoint and education.

References:
WHO Declaration on Primary Health Care, Astana, 2018

Please declare any conflict of interest you may have:
None
[322] Enhancement of Winter Surge Geriatric Discharge Program through Collaboration with Multidisciplinary in the Emergency Department of PYNEH

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Introduction:
Patients age 65 and older are the most frequent attendances of Emergency Department (ED) in Hong Kong. According to CDARS of ED attendance in PYNEH, the rate of elderly was the highest among all age group from 2015 to 2019; half of them required admission and one-fourth of them were re-attendances. In view of aging attendances, Winter Surge Geriatric Discharge program was introduced in ED in 2018, where elderly with Geriatric Syndromes were screened by Emergency Physician and assessed by Community Nurse for discharge care plan and follow-up. The recruitment was low (20) in 2018.

Objective:
To report on the implementation of enhancement measures in Emergency Department in 2019

Methods:
Patients attend ED at the age 65 or above and with triage category of 3 and 4 are screened before admission to Emergency Medicine Ward (EMW) by Emergency Physicians or Nurses. The criteria are fulfilled if patient is presented with Geriatric Syndromes or Low Acuity, and Post-discharge monitoring of condition or social care social problem are required. The patient would be assessed by Emergency Nurse and referred to Integrated Care Management (ICM) Nurse for multidisciplinary discharge care plan. Geriatrician would be consulted if needed. Outcome of re-attendance within 28 days and re-admission are monitored.

To prepare for the above implementation, Multidisciplinary team of Emergency Medicine, Medicine and Geriatrics, Family Medicine and Primary Health Care were invited, meetings were held to review the program in 2018. The inclusion criteria, Geriatric screening and assessment and discharge care plan were revised; where location of the program was changed from ED to EMW, Emergency Nurses were invited to do the Geriatric screening and assessment, ICM Nurses were invited for the discharge care plan, Staff education on Geriatric screening and assessment was duly carried out. Barriers to implementation were overcome in the trial-run period and prospective evaluation were carried out in the formal
implementation period and thereafter.

**Results:**

133 patients were recruited to the program from January 1st to May 31st 2019, in which two-third were female patients. The mean and median of age were 81 and 83. The mean and median of Reported Edmonton Frailty Score in the Geriatric Assessment was 7. Almost half of the patients were presented with Geriatric Syndrome of Dizziness and Fall, another half for Blood Pressure Control. The mean, median and mode of length of stay in EMW were 1.

On Discharge Care plan: one-third of the patients were recruited to ICM follow-up, one-fifth to General Out-patient for early follow-up, few were recruited to Fast Track Clinic (5.3%) and Geriatrics Day Hospital Rehabilitation (3.8%), one-fifth were follow-up as scheduled. There were 24 (18%) ED re-attendance within 28 days and 20 (15%) re-admissions, in which 14 were presented with similar symptoms.

Month before the program, two-third of the ED Nurses had received training on Geriatric Screening and Assessment. Change of program location was accepted by patients and staffs, who found the time, place and progress of patients appropriate for the program. Implementation was smooth and Workload was regards as acceptable from staff survey.

**Conclusion:**

Through multidisciplinary collaboration, the enhancement measures were feasible and resulted in significant improvement in overall recruitment of patients for Geriatric Discharge program in ED and outcome of patients.

**References:**

**Please declare any conflict of interest you may have:**

No Conflict of Interest
Evaluation of a Secure Mobile and Clinical Communication Solution (SMaCCS) in Acute and Community Practice Settings on Vancouver Island

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Introduction:

The delivery of patient-centered care requires an ability to collaborate and securely communicate across care settings and organizational boundaries, including hospitals and community care settings. Current modes of communication, such as pagers, fax, and telephone, are inadequate to the contemporary needs of clinicians, because they require laborious manual processes and scheduling alignment that is difficult to achieve. Smartphones are ubiquitous and have the potential to solve many of these problems. However, without a secure system available, care providers (including family physicians, specialists, hospitalists, nurses and pharmacists) may resort to using non-secure applications to communicate about patient care. Implementing a supported cross-continuum communication tool was necessary and required thorough evaluation.

Objectives:

We aimed to 1) understand the volume and complexity of health care providers’ communication using SMaCCS, 2) assess the degree of adoption of SMaCCS by users, and 3) assess user experience with secure messaging on their personal mobile device.

Methods:

This was a prospective, cross-sectional, observational study. Island Health IMIT selected Vocera Collaborative Suite® (VCS) as the secure messaging platform to be implemented. We invited healthcare providers in various roles in the hospital and community setting to use SMaCCS for their daily communications and system and survey data were collected between Feb – July, and July – Aug 2018, respectively. From system data we collected N of users sending messages, N of messages, N of conversations and details on communication pathways. From survey data; perceived impact on patient care, perceived challenges to use, and overall satisfaction with the app were collected.
Results:

We produced a SanKey diagram showing the volume and complexity of communication (see image). A total of 1,592 messages were sent, 88% of which received a response. 81% of participants agreed that using a secure communication tool makes me feel more comfortable sharing patient information. Most users (65%) perceived that the application was a useful method for transmitting simple information.

Conclusion:

This evaluation of an approved, secure method of communication spanning acute and community practice settings provided insights about the nature and volume of care provider communication. It also revealed several challenges to overcome, including technical issues such as the effect of applications on individual devices, user installation difficulties, and the way in which applications interface with existing IMIT infrastructure such as firewalls. Other challenges include change management as providers learn to use new tools and discover the most appropriate ways to incorporate them into existing workflows, and, variable extent and pace of uptake, leading to confusion about how a particular individual can be reached when needed. More study is needed to fully appreciate the complexity of healthcare communications across settings in order to design systems that integrate care processes in a way that can maximize their potential benefits.

References:
- currently being submitted for peer reviewed publication

https://www.islandhealth.ca/sites/default/files/smaccs-clinical-communication-study-poster.pdf

Please declare any conflict of interest you may have:

- presenter has unrestricted research grant from Vocera Inc
Figure 1: Sankey diagrams illustrate flow with the width of the bars corresponding to overall volume. Sankey Diagram detailing communication paths between Originator (left side) and Receiver (right side).
Fracture liaison service to prevent second fractures in Kaohsiung Veterans General Hospital

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Introduction:
Fracture liaison service (FLS) is a worldwide program developed for patients with osteoporotic fractures to prevent second fracture episodes based on the 13 guidelines of the International Osteoporosis Foundation. We set up this international program for osteoporotic fracture patients in our hospital to observe the benefit for patients.

Methods:
The program starts with dual-energy X-ray absorptiometry (DXA) assessment on patients with osteoporotic fractures during hospitalization. We applied osteoporosis education and fall-prevention rehabilitation in our care models, then we start the outpatient treatment and we survey refracture risk in accordance with informed consent. Besides, We applied mobile DXA to the community in Kaohsiung city to diagnose osteoporotic vertebral fractures and include them in our program.

A case manager in our team will review the medical records of the patients. The patients will start lifestyle modification based on risk factor assessment of osteoporosis. Besides, we used The 12-Item Short-Form Health Survey (SF12) to evaluate the patient’s life quality before and after the program. The pretest results were compared to the post-test results. The patients' mortality and complications after osteoporotic fracture should be reduced after FLS care. The study population in our study was observed from the enrollment date until December 31, 2020. The incidence and the risk ratios of subsequent osteoporosis were listed.

Results:
We included 149 patients and all of them received DXA examination, post-fracture rehabilitation consult, secondary osteoporosis screening, and osteoporotic treatment. The DXA screening rate was 82% which was 58% higher than the one examined before the program; osteoporosis treatment rate is 75% which was 49% higher than the treatment rate before the program; Osteoporosis diagnosis rate by Mobile DXA in several communities in Kaohsiung is 52%; Osteoporotic fracture diagnosis rate Mobile DXA was 34%. The patients’ life quality also improved after our program interventions. We keep including patients from
the wards in all departments in our hospital. After 1 year follows up, only 1 mortality case was noted and there is no refracture episode noted.

**Conclusion:**

Our patients were followed up every 6 months to assess the consequences of osteoporosis education and medication adherence, the incidence of falls and fracture incidence. The program not only reduces the medical cost but also prevents secondary fracture and mortality. It also improves the quality of life of our patients. We should keep establishing the FLS program in more hospitals in the world.

**References:**

1. Yu M, Downey C, Torralba KD. The fracture liaison service to close the osteoporosis care gap: A leadership educational model for undergraduate and postgraduate trainees. Clinical rheumatology. 2019

**Please declare any conflict of interest you may have:**

Nothing to disclose
Governing care and welfare in the Amsterdam Noord district: a mixed method approach to identify performance intelligence for steering our integrated health and welfare provision towards the achievement of the Triple Aim goals

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Introduction:

The regulatory and financial frameworks for health and welfare provision in the Netherlands are siloed, however attempts to integrate care provision are made. The ‘Krijtmolen Alliantie’ in Amsterdam Noord is a network of health and welfare providers who are dedicated to integrate their service provision to improve patient experience and population health and, to reduce costs in line with the Triple Aim proposed by the Institute for Healthcare improvement. In a network of such diverse providers and heterogenous data availability, how do we use performance intelligence to govern an integrated system? The ultimate objective is an integrated performance intelligence structure to facilitate governing health and welfare in the Amsterdam Noord district. To reach the objective we answer the following question: Which (combination of) data or information sets are needed to govern integrated health and welfare provision to meet the Triple Aims?

Methods:

We conducted a mixed method study using a quantitative analysis of descriptive data, qualitative semi-structured interviews and a consensus meeting of the governing members of the existing alliance between health and welfare providers in the Amsterdam Noord district (the ‘Krijtmolen Alliantie’). We structured the data in a blueprint of the available data infrastructure in the district and the demands for information from stakeholder interviews using an inductive qualitative approach. With this input we have organized a consensus meeting with the ‘Krijtmolen Alliantie’ to reach a consensus on which (combination of) data or information is needed to govern the regional care model. The descriptive data used is a mix of declaration data and data from public health authorities. For the semi-structured interviews we used purposive sampling in cooperation with stakeholders in the Amsterdam Noord region to represent patients, health and welfare providers, data experts and public health authorities.
Results:

Our blueprint of available data shows a fragmented data collection with the biggest gap in exchange between social and health data. Various data systems and registries are in place but do at present provide little insight for the monitoring of population health and progress of patient care across various care delivers. A first set of indicators has been identified to populate the scorecard to be used by the “Krijtmolen Alliantie”.

Conclusion:

Our results show that in order to optimize performance on citizen level, neighbourhood level and district level integration of different data sources are needed that are not currently present and which raise ethical and legal questions in particular in the area of privacy and professional confidentiality. A first set of indicators has been identified that should be developed further to help the “Krijtmolen Alliantie” govern the integrated delivery system in Amsterdam Noord.

Please declare any conflict of interest you may have:

The authors declare that there is no conflict of interest regarding the submission or presentation of this short oral presentation.
Introduction:
Hand hygiene is the most important infection control intervention that has proved to decrease the risk of hospital-acquired infections in health settings. However, proper hand hygiene implementation in healthcare institutions still faces various challenges in many developing countries due to limited resources and non-availability of hand hygiene infrastructure.

This study is to investigate the effectiveness of environmental and behavioral changes via the implementation of a hand hygiene promotion program in a rural public hospital in Cambodia.

Methods:
This project was operated the cooperation by Kaohsiung Veterans General Hospital (KVGH), Taiwan, and carried out in a regional public hospital, namely, Bati Referral Hospital (BRH), in Bati District, Takeo Province, Cambodia during May 2017 to December 2018. A baseline survey was conducted before the implementation. A continuous quality improvement program was used to analyze and solve the problems.

Results:
A total of 42 health care workers participated in the project, among these ten were chosen as auditors. The pass rate of technical practice of hand hygiene was 0% at baseline and rose to 95.6% (p<0.001) in the follow up assessment. The pass rate of auditors was from 0% to 100%. Compliance rates of moment one (before touching patients) and moment four (after touching patient) of hand hygiene improved from 0% to 100%. The prevalence rates of diarrhea and pneumonia decreased from 4.15% to 3.78% and 4.8% to 4.4%, respectively. The length of admission decreased from 2.98 to 2.69 days.

Conclusion:
This program showed continuous quality improvement program could establish a pilot hand hygiene promotion program and system in a rural hospital in where hand hygiene program
was never implemented in a developing country. Availability of hand hygiene equipment, periodical training and evaluation, and managerial empowerment are the key factors to ensure long-term sustainability. In addition, commitment and support by government and hospital authorities are also crucial for successful implementation.

References:


Please declare any conflict of interest you may have: NO
Implementing complex interventions into complex systems - the importance of local health system governance structures for embedding a suicide prevention program

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Introduction:

Health system improvements often occur through the implementation of innovative programs or new models of care in local areas. Spreading, scaling-up and sustaining such programs to maximise their reach and effect poses challenges due to the variability and complexity of local contexts. Local factors such as geographical location, population characteristics, existing resources, and local governance structures influence implementation processes. Led by the Black Dog Institute (BDI), the LifeSpan program was implemented across four regions of New South Wales, Australia. LifeSpan takes a whole of community approach with nine different but inter-related strategies targeting communities, emergency departments, primary health, frontline workers, schools, and the media.\(^1\) LifeSpan coordinators, embedded in local health services and communities, were key to implementation. Taking a complexity lens, and using constructs from the Consolidated Framework for Implementation Research\(^2\) we analysed the influence of local governance structures and contexts on the implementation process of LifeSpan.

Methods:

A mixed methods approach was used to evaluate the implementation processes across four LifeSpan sites. We highlight the importance and impacts of local health system and community organisation governance structures, based on data from 6 focus groups and 20 individual stakeholder interviews.

Results:

Internal project governance of LifeSpan was led by the BDI. Two of the LifeSpan sites were embedded into Local Health Districts (LHDs) which provide hospital and community health services; one site was embedded into a Primary Health Network (PHN), and the fourth was governed under a joint LHD/PHN agreement. Community organisations also played a role in LifeSpan governance. The external LHD and PHN governance structures were overlayed onto
the internal BDI LifeSpan project governance. Barriers associated with LHD governance included: long time to gain approvals to progress project work, scepticism from local leaders, recruitment of program staff limited by rigid job descriptions that did not reflect the roles of project staff, misaligned priorities between LifeSpan and local mental health programs. In one PHN the focus on strictly defined key performance indicators did not reflect the implementation work performed by the LifeSpan coordinators. The departure of key LifeSpan champions in 2 LHDs and 1 PHN shortly after implementation started, resulted in lost momentum and back-tracking to engage others from the LHDs and PHN. This left a gap for opponents to detract from LifeSpan. One LHD withheld access to funding for some project related activities, demonstrating the misalignment of roles and responsibilities between LifeSpan and the LHD. Inclusion of people with lived experience and relevant community groups and NGOs in LifeSpan governance and decision-making was a significant strength highlighted by all sites.

Conclusion:

Gaining a deep understanding of local contexts, governance structures, needs and networks, before and during the implementation of complex interventions into the health system is emphasised. Over-reliance on single champions should be avoided and health consumers should always be included in governance structures.

References:


Please declare any conflict of interest you may have:

There are no conflicts of interest
Introduction:
Enhanced recovery after surgery (ERAS) protocols accelerate patient recovery and shorten hospital stay by optimization of perioperative care. However, data on the experience and outcomes of these protocols in liver transplantation are still limited. The present study was aimed to evaluate possible improvements in the patient outcome after the implementation of an ERAS protocol in patients undergoing liver transplantation.

Methods:
The implementation of an anesthesia protocol for ERAS was studied in recipients who underwent liver transplantation. Preoperative characteristics, intraoperative management, postoperative complications, and postoperative recovery outcomes, including extubation time, time to normal international normalized ratio (INR) of prothrombin time (PT), alanine aminotransferase (ALT) concentration at 24 hours after transplantation, acute kidney injury, intensive care unit (ICU) stay, days in hospital, the Sequential Organ Failure Assessment (SOFA) scores in ICU, and 3-year survival rate were retrieved from the hospital database and analyzed.

Results:
There were significant less in intraoperative fluid administration, blood loss, and blood transfusion volume in ERAS group. The ICU stay (66.1 ± 42.3 vs. 80.8 ± 48.2 hours, P = 0.045) and hospital stay (18.2 ± 8.4 vs. 22.8 ± 13.4 days, P = 0.012) were also significantly less in ERAS group. The PaO₂ divide FiO₂ was significantly higher and fewer patients developing acute lung injury (ALI, PaO₂/FiO₂ < 300, 41.6% vs. 60.8%; p = 0.020) in ERAS group. Furthermore, fewer patients developing acute kidney injury (AKI, 15.6% vs. 31.6%; p = 0.018) by using ERAS protocol. There were no differences in the total SOFA scores and 3-year survival rate between the two groups.

Conclusion:
ERAS implementation of anesthesia practice for liver transplantation at our hospital seems to be associated with fewer development of postoperative ALI and AKI, and less ICU and hospital stay.

References: None.
Please declare any conflict of interest you may have: None Declared.
Introduction:

Nursing plays a strategic role in health organizations: it is the largest contingent of ACSC hospitals (represented by approximately 6,000 employees); It's the main performer of ACSC's nursing activity for 24 hours (contributing to patient satisfaction and their experience). Representing the link between areas, health professionals, patients and families. It plays a very important role in planning and on utilization and control of material, technological, financial and human resources. In 2017, our nurses didn’t know each other and no have space to explore common issues about practice nursing. We had a very important concern: how could we create a better environment to improve care for patients and professionals also? The Nursing Practice Model (NPM) is a guide, a reference that communicates, integrates and aligns the organizational culture. The joint work of the fourteen nursing leaders and their teams around the construction of this model contributed to increase the feeling of belonging to a network, besides stimulating a safe care.

Objectives:

1-to value the nursing staff, the development of formal leadership and bedside, the development of professionals and the provision of care based on best practices.

2-to describe the ACSC's nursing practice model to rescue the identity of ACSC nursing and its “way of being”.

Methods:

The project started in 2017 and is expected to last five years (until 2021). In 2017 and 2018, the project focused on approaching and integrating with nursing leaders of health institutions through technical visits, workshops and videoconferences. During this period, 6 workshops and 2 meetings of nursing leaders were held. The workshops provided discussions on nursing theories, ACSC nursing identity, leadership, and management and leadership tools, with the aim of strengthening leaders' role and sense of belonging and enhancing their engagement to reach strategic objectives. These strategic objectives are based on the international certification of quality recognition in nursing care, the "Magnet
In 2019 we define the 'drive diagram', we established the partnership with the human resources area to make a feedback model and the development of nursing leadership teams. Planning and monitoring the implementation of the nursing practice model with all hospitals in the our network (14).

**Results:** In December 2018, the Nursing Practice Model (NPM) was launched with a big celebration when the graphic material (NPM graphic representation, below) was also finalized, it describes the purpose, the principles and expected behaviors.

**PURPOSE:** Care with Love. Science of person-centered-care.

**PRINCIPLES:** Humanization; Union and respect; Spirituality; Quality and Safety; Ethics.

**Expected behaviors:** Dialogue and empathy; Personalized care; Scientific knowledge; Leadership and management.

**Conclusion:**

The NPM helped in the organization of nursing services in each institution, in a more professional management and in the insertion of nursing leaders in strategic decisions, by strengthening the image of nursing. These are the three sentences that translate our view on nursing services after the work:

1. We take care of a person in all its dimensions (in the health-disease process);

2. Health professionals are human beings in all their dimensions;

3 Care occurs through the dialogue. rerelationship.
Improving Monitoring of Patients with Chronic Recurrent Multifocal Osteomyelitis at a Specialist Centre via Online Assessment

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Introduction:

Chronic recurrent multifocal osteomyelitis (CRMO) is an inflammatory bone condition occurring mainly in children. It causes recurrent episodes of pain and joint swelling. Treatment is with non-steroidal anti-inflammatory drugs and methotrexate, biologics, or bisphosphonates. Studies have shown 40% remission rate, but a 50% recurrence rate within 2 years. Therefore, patients must be closely monitored throughout their lives.

CRMO is often obscure to many doctors so patients from across the UK are commonly referred to the Royal National Orthopaedic Hospital, a specialist orthopaedic hospital in London, for diagnosis and treatment. However, patients must continue making regular trips to London for follow-up appointments. This means that families must wait months to be seen, then travel across the country for a 10 to 20-minute appointment. There was therefore a need to improve the follow-up service for these patients to allow more frequent and convenient monitoring. This study aimed to evaluate and pilot the use of an online assessment to monitor patients with CRMO.

Methods:

An online assessment form was created on Qualtrics, a secure web form service, after interviewing 2 consultant paediatricians and 1 specialist CRMO nurse (see fig). Three medical students then telephoned parents of 31 patients to retrieve email addresses and pilot the assessment form over the phone. The form collected some baseline information about the patient, then assessed for new or ongoing issues, response to treatment, side effects and general wellbeing. There were plenty of opportunities for free text where parents could provide more detail on any issues. Responses where parents indicated any issues were referred to the specialist nurse who was able to assist the patient as necessary. Finally, patients were asked how they felt about the online assessment form.
Results:

The online assessment identified 58% of patients to have problems other than pain, stiffness and skin changes. 29% of patients had pain levels greater than 6/10. 29% of patients also had side effects from treatment. 30% of patients did not find their current treatment effective as they needed stronger analgesia. 19% of patients did not feel generally well. Despite these, 6% of patients were only seen once every 2 years, 52% once a year, 16% every 6 months, and 26% seen every 3 months or less. 74% found the online assessment extremely or very useful and 13% found it moderately or slightly useful. 58% would prefer having online assessments instead of coming in for an appointment whilst 25% would consider it and 16% did not want online assessments as a replacement.

Conclusion:

The online assessment was able to identify that many patients had ongoing or new issues for which they required additional support. A significant number were also experiencing moderate/severe pain and treatment side effects. However, many were only being seen once every 1 or 2 years, and they needed to wait for appointments to raise concerns. Moreover, patients found travelling for appointments to be very difficult. The majority of patients therefore thought the online assessment was a great idea and many would prefer this over needing to attend the hospital.

Going forward, the online assessment will be sent to all patients every 3 months. All patients to complete the assessment will receive a phone call from a specialist nurse or consultant paediatrician to discuss their concerns and an earlier appoint will be arranged if the issue is urgent.

References:


Please declare any conflict of interest you may have:

None
Introduction:

Over the last few years, there has been a massive and constant increase in the number of claims in the area of medical liability, with significant implications in terms of insurance policies. In particular, the reaction of insurance companies to the exponential increase in the cost of compensation, in some cases led to the total abandonment of the sector and in other cases the adoption of measures aimed at delimiting insurance coverage. Such a scenario enhances the preventive aspect that the management of litigation and clinical risk must assume in the context of patient care with all the organizational and insurance implications.

Objectives:

The presentation analyzes the claims of the Umberto I General Hospital in Rome during the period of validity of a mixed risk retention regime with the aim of assessing the sustainability of insurance coverage with respect to self-retention.

Methods:

The study was conducted through the analysis of data to the litigation management carried out at the Policlinico Umberto I of Rome, from July 2015 to July 2017. The analysis of claims provided for the distinction between claims managed under insurance protection and claims managed under self-insurance regimen. A comparative analysis between the amounts requested and the theorized values for each claim was performed to generate a risk-taking profile. Finally, an analysis was carried out on the amounts paid to establish the hospital’s economic exposure and the effectiveness of the insurance coverage.

Results:

During the study period, 237 cases were analyzed, of which 163 (69%) pertaining to the Hospital and 74 (31%) to the Insurance Company. The analysis based on the amount requested and technical estimates made it possible to establish the prevalence of claims below the deductible provided by the policy terms. Similarly, the presence of claims was
noted which, despite the initial interest of the insurance company, fell within the hospital management competence in relation to the amount of Self Insured Retention (SIR). The determination of the technical estimates also made it possible to predict that the therapeutic errors (54%), the Healthcare Associated Infections (29%) and the diagnostic errors (6%) will predominantly affect the outlays for compensation. The analysis of the transactions carried out during the study period showed the high economic exposure of the Hospital compared to the insurance company.

Conclusion:

The results obtained demonstrate the effectiveness of the self-retention in managing risk arising from medical liability. In particular, data analysis demonstrated the poor short and long term sustainability of an insurance policy compared to a self-insurance regimen. The direct management of claims allows greater control of risk, particularly when it concerns the so-called frequency claims, with significant repercussions in terms of cost containment, reduction of disputes, control of settlements, reduction of management time, Loss Adjustment and implementation of healthcare quality.

Please declare any conflict of interest you may have: Authors have no conflicts of interest.
Integrated care network as a building stone for sustainable and comprehensive care for patients with arthralgia

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Introduction:

Western countries experience an increasing demand for care, particularly for inflammatory arthritis (IA), while the healthcare budget decreases1. The innovative value-based primary care strategy2 includes integrated care networks, where primary and secondary care bundle their expertise to improve patient value by providing the right care at the right place.

General practitioners (GPs) have difficulties recognising IA, leading up to only 20% IA diagnoses of all newly referred arthralgia patients. However, since IA needs to be treated as early as possible to overcome progression, it is worthwhile to analyse whether integrated care networks have an impact on patient outcomes and cost-effectiveness. Triage by a rheumatologist in a primary care setting is one of the most promising integrated care networks for efficient referrals3.

Aim: To assess the effect of triage by a rheumatologist in a primary care setting in patients suspect for inflammatory arthritis.

Methods:

The present study follows a cluster randomized controlled trial design. The intervention, triage by a rheumatologist in a local primary care centre, will be compared to usual care. Usual care means that patients are referred to a rheumatology outpatient clinic based on the opinion of the general practitioner.

The primary outcome is the frequency of IA diagnoses assessed by a rheumatologist. Patient reported outcome measures (PROMs (EQ-5D)) and costs (work productivity (iPCQ) and healthcare utilization (iMCQ)) were determined at baseline, after three, six and twelve months. The target was to include 267 patients for each study group (power level 0.8). Since this study is still ongoing we can only show first results on the efficiency of referrals.
Results:

In the period between February 2017 and December 2019 a total of 543 participants were included; 275 in the usual care group and 268 in the triage group. Mean age (51.3 ± 14.6 years) and percentage of men (23.6%) were comparable between groups ($p_{\text{age}}=0.139$; $p_{\text{sex}}=0.330$).

The preliminary data show that the number of referred patients in the triage group is $n=28$ (10.5%). 32 patients (11.9%) were not referred directly but advice was given for additional diagnostics. Since all patients in the usual care group were referred there is a decrease of at least 77.6% in referrals when rheumatologists are participating in the integrated practice units.

Preliminary data on diagnosis are available for all referred patients in the triage group and for $n=137$ (49.8%) in the usual care group at this point. In the triage group $n=18$ (64.2%) of referred patients were diagnosed with IA (6.7% of the total study population). In the usual care group this was $n=52$ (38.0%) of the patients yet diagnosed.

Conclusion:

These preliminary results of an integrated care network are promising. Approximately three-quarters of all patients can be withheld from expensive outpatient care. PROMs data and cost-effectiveness analysis will give clear answers in order to provide evidence whether this integrated care network can be implemented as a standard of care.

References:

2. Porter ME, Pabo EA, Lee TH. (2013). Redesigning Primary Care: a strategic vision to improve value by organizing around patients’ needs. Health affairs, 32(3);516-525

Please declare any conflict of interest you may have:

None.
Introduction:

End-stage renal disease (ESRD) can incur significant impacts not only on the patients' mortality and morbidities, but also on the national healthcare expenditures. Taiwan's hemodialysis rate is among the highest in the world, hence, improvement of ESRD care has becoming a high priority population healthcare issue.

Since 2017, the Joint Commission of Taiwan (JCT) has launched a Disease-specific Certification program for kidney diseases (DSC-K), aiming to encourage hospitals in developing integrated care model for ESRD. In this study, we investigate the effect of DSC-K on care quality improvement by analyzing the public disclosed data from Taiwan's National Healthcare Insurance Bureau (NHIB).

Methods:

We analyzed data retrieved from Taiwan's National Healthcare Insurance Bureau's public quality disclosure web site (2018). We compared quality of care data from 19 Kidney Disease Care Certified (DSC-K) and 219 non-Kidney Disease Care Certified (Non-DSC) hospitals.

We analyzed guideline compliance rates of ESRD care. There are 5 indicators used for comparisons, including: "check rate of hemodialysis serum albumin", "check rate of hemodialysis efficiency (Kt/V)", "rate of hemodialysis fistula reconstruction", "check rate of peritoneal dialysis serum albumin", and "check rate of peritoneal dialysis efficiency (Kt/V)".

Independent sample t-tests were applied to verify whether DSC-K group hospitals have higher procedure compliance rates. SAS version 9.3 was used for data analysis.

Results:

A total of 14 (73.7%) out of 19 DSC-K are medical centers and 5 (26.3%) are regional hospitals. Most of DSC-K hospitals are located in metropolitan Taipei (52.6%).
DSC-K hospitals out-performed in "check rate of peritoneal dialysis efficiency" (97.0% vs. 92.3%, t= 3.27, p=0.0015), and "hemodialysis fistula reconstruction" (0.5% vs. 0.1%, t= 4.1, p=0.0006).

However, there are only borderline differences in "check rate of peritoneal dialysis serum albumin" (98.5% vs. 97.3%, t= 2.03, p=0.0506), "check rate of hemodialysis efficiency" (97.9% vs. 96.9%, t= 1.78, p=0.0772), and "check rate of hemodialysis serum albumin" (98.1% vs. 97.4%, t= 1.12, p=0.2668) between DSC-K and None-DSC hospitals.

**Conclusion:**
The preliminary data shows that DSC-K has minor but significant impacts on the guideline adherence for ESRD care. Under the circumstances that most of the hospitals in Taiwan have attained certain level of process compliance, the DSC-K should focus more on the prevention, team work, and longitudinal outcomes dimension of quality.

**References:**


**Please declare any conflict of interest you may have:** No conflict of interest.
Interdisciplinary Collaboration to Improve Quality of Care in Patients with ST-Segment Elevation Myocardial Infarction

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Introduction:

Our previous fragmented care process between interdisciplinary units for the patients with ST-segment elevation myocardial infarction (STEMI) might lead to delay of door to balloon (D2B) time for percutaneous coronary intervention (PCI) and insufficient use of medications for STEMI, which may increase the in-hospital mortality. Therefore, we aimed to evaluate whether an integrated care process via interdisciplinary collaboration could improve the quality of care in STEMI patients.

Methods:

Since 2018, using the patient-focused method, we recruited several interdisciplinary units to establish the integrated work team, who designed an acute coronary syndrome (ACS) checklist and conducted the integrated care process to assure the shortening of D2B time (< 90 min) and the use of medications for STEMI, among which the most forgotten two before were angiotensin-converting enzyme inhibitors (ACEI) or angiotensin receptor blockers (ARB), and the beta-blockers (BB). The team members in the emergency department (ED) would implement the swift triage of suspected ACS patients, the shortening of door to electrocardiogram (ECG) time, the prompt consultation, and the effective handover process to the catheterization lab for primary PCI. In the cardiac care unit, the nurses would monitor the use of medications for STEMI in patients without contraindications. The case manager, in addition to the engagement in discharge planning, would recheck the completeness of ACS checklist before patient discharge. The work team hold monthly meetings to review the relevant quality indicators and discuss the strategy for quality improvement. The relevant quality indicators, including the percentages of door to ECG time < 10 min, D2B time < 90 min, the use of ACEI or ARB, and BB, and in-hospital mortality, would be compared 1 year...
(i.e. 2017) before and two consecutive years (i.e. 2018 and 2019) after the intervention of interdisciplinary collaboration.

**Results**

After interdisciplinary collaboration, the percentage of door to ECG time < 10 min was 95% in 2018 (vs. 93% in 2017, p > 0.05) and remained high (98%) in 2019. The D2B time < 90 min was improved in 2018 (95% vs. 77% in 2017, p < 0.05) and remained stable (93%) in 2019. The use of ACEI or ARB was increased in 2018 (98% vs. 59% in 2017, p < 0.05) and remained 98% in 2019. The use of BB was optimal in 2018 (100% vs. 86% in 2017, p < 0.05) and remained 100% in 2019. The in-hospital mortality was 4.6% in 2018 (vs. 10.5% in 2017, p < 0.05) and remained low (3.6%) in 2019.

**Conclusion**

In this study, interdisciplinary collaboration via the ACS checklist effectively shortens the D2B time, increases the use of ACEI or ARB and BB, and lowers the risk of in-hospital mortality in STEMI patients.

**References**


**Please declare any conflict of interest you may have:**

No conflict of interest.
Interventions targeting the prevention of potentially avoidable admissions: A mixed methods systematic review

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Introduction:
The number of people with chronic disease and comorbidity in developed countries is rising and expands the demand for healthcare. To manage this demand, political institutions call for action to reduce the amount of potentially preventable admissions, i.e. admissions that could have been prevented given timely and adequate care in the community-based healthcare setting. The definition of avoidable admissions relates to ambulatory care sensitive conditions, i.e. conditions for which a large proportion of hospitalisations could be prevented by effective primary care interventions. Preventive strategies include effective interventions in the primary healthcare sector, and coordinated actions between primary and secondary healthcare professionals. In order to contribute to the development and implementation of effective interventions, there is a need for providing and overview of evidence on effectiveness and/or meaningfulness of interventions aimed at preventing potentially avoidable admissions. Therefore, the objective was to identify and synthesise evidence on effective and/or meaningful interventions targeting the prevention of potentially avoidable admissions of adults 18 years and above with ambulatory care sensitive conditions.

Methods:
The mixed methods systematic review was conducted following the JBI methodology (1). A systematic search was undertaken in Scopus, PubMed, The Cochrane Library, SveMed+, CINAHL and Embase. Pre-defined criteria guided the study selection. All articles that matched eligibility criteria were critically appraised by two independent reviewers prior to inclusion in the final review. Data was synthesised through a convergent integrated approach.

Results:
A total of 4317 articles were identified through the systematic search. All citations were imported into Mendeley and Covidence, and 2248 duplicates were removed. A total of 2069 articles were screened by reading title and abstract; 153 articles were full-text read, and 98 of these were excluded. The main reason for exclusion was that articles did not provide evidence regarding the effectiveness and/or meaningfulness of interventions targeted the prevention of potentially avoidable admissions. A total of 49 articles (three mixed-methods...
studies; nine qualitative studies; and 37 quantitative studies) matched the eligibility criteria and were critically appraised.

The final results of the critical appraisal of all articles, and the evidence synthesis will be presented and discussed at the conference.

**Conclusion:**
This mixed methods systematic review contributes with an overview of interventions that are likely to prevent potentially avoidable admissions. It presents the best available evidence of interventions’ effectiveness, and a wider understanding of the practical applicability and adherence of interventions. The results of the review are a valuable resource in the development and implementation of effective interventions that target the potentially avoidable admissions and thereby may contribute to improve quality in healthcare.

**References:**

**Please declare any conflict of interest you may have:**
The authors declare that there is no conflict of interest.
Keeping Gout In The Community - Making Patient Education an Integral Part of Standard of Care for Patients with Gout Flares

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Introduction:

Gout is an intensely painful and disabling inflammatory arthritis caused by deposition of urate crystals within joints. It causes significant negative impact on patients’ quality of life, psychoemotional burden (such as feelings of self-blame and depression), reduced work productivity, and higher healthcare resource utilization. The prevalence in Singapore is 4%. Up to 69.3% of patients experience at least 3 episodes of acute gout flare per year.

In Singapore General Hospital (SGH), there were 481 admissions for acute gout from 01/06/2017 to 31/05/2018. 8.49% of these patients had ≥ 2 admissions for gout within the 1-year period.

Gout education is key in empowering patients to be more confident in self-managing gout flares. Yet, in SGH, there is lack of administration of education done by managing medical teams for patients admitted for gout flares, including those with recurrent admissions.

Therefore, our project aims to standardize the provision of gout education to patients and their caregivers. We aim to achieve 100% gout counselling to patients with acute gout flare admitted to Department of Internal Medicine (DIM) within 6 months. Our multidisciplinary team also hopes that this can translate to a reduction in re-admission rate for acute gout.

Methods:

We conducted brainstorming sessions to examine the reasons for lack of education administration for patients admitted for acute gout. Root cause analysis was done by drawing up Cause-and-Effect diagram, conducting multi-voting and utilizing Pareto chart. We identified the following vital root causes to address: (1) Gout education is low priority in the patient’s management plan, (2) Knowledge deficit of the medical team, (3) No standardized teaching materials on Gout.

We then used a prioritization matrix to select the solutions which were easy to implement, cost-effective, and have high clinical impact. The selected solutions were implemented through 4 Plan-Do-Study-Act (PDSA) cycles.
**PDSA-1:** Gout education provided to patients/caregivers with the use of posters (available in English and Mandarin versions) designed by our team.

**PDSA-2:** PDSA-2 involved engaging the doctors and nurses of selected wards in providing gout education to patients/caregivers. Education materials were distributed to the medical team. Secure healthcare communication chat-group was set up for effective communication.

**PDSA-3:** Gout poster content is simplified with important points highlighted. Visual aids (such as use of more colored pictures) were added. Bahasa Melayu version of the poster was also developed.

**PDSA-4:** Gout posters were placed in involved wards in specific areas. Regular updates and reminders during weekly department meetings was done.

**Summary of Results:**

- Achieved **100%** gout counselling for patients admitted with acute flare.
- Reduction of gout flares in **4%** of the patients.
- Reduction of re-admission rate in **6%** of the patients who received gout education.

**Conclusion and Sustainability Plans:**

Before our interventions, there was no standardized gout education/education material given by healthcare providers to patients hospitalized for acute gout attack. In our pilot project involving patients admitted to DIM for acute gout attack, we managed to achieve 100% gout education administration rate. The gout poster we created was subsequently made accessible to all medical personal on our institution’s Intranet, and to patients via ‘MyCare’ app which allows them to view their daily care schedules and medical information.
This educational material has also been shared with our community and primary care partners, and distributed to participants at public forums on gout conducted by SingHealth.
Labouring Together: Clinicians Experiences of "Working Together to Get the Best Outcomes" in Maternity Care

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Introduction:
Multiple investigations have determined that poor interprofessional collaboration (IPC) and decision-making (DM) have been detrimental to the quality, safety and experience of maternity care. The Labouring Together study explores women's and clinicians' perceptions and experiences of IPC and DM in maternity care, using a conceptual theory of collaboration. The perspectives and experiences of the clinicians will be presented.

Methods:
A sequential, mixed-methods, multi-site case study design was used to explore the perceptions and experiences of clinicians from four diverse case studies. A conceptual theory of collaboration (Wood and Gray, 1991) was used for exploration of IPC and the formation of collaborative alliances in maternity care. Cross-sectional surveys were conducted in each case to explore clinicians' assessment of organisational context for woman-centred care (McCormack, 2009) and attitudes toward collaboration (Hojat, 1999). Semi-structured interviews were conducted with midwives and doctors from each case to explore clinicians' perceptions of IPC and DM in maternity care.

Results:
Clinicians rated the context of each case study similarly for the provision of woman-centred care. Whilst the attitudes of most clinicians from each case were positive toward IPC, midwives were found to have a significantly more positive attitude toward IPC than obstetric doctors ($p<.001$ 95% CI 2.64-7.93) and GPs ($p<.001$ 95% CI 5.48-12.10). Overall, most clinicians indicated the belief that women should be equal partners for collaborative DM for the provision of maternity care. The conceptual framework Working Together To Get The Best Outcomes emerged from inducted analysis of the qualitative interview data from the clinicians. Under the theme Partnering In Care: Working Together With Women there was disparity in understanding of how true collaboration may be achieved under the current conditions of maternity care in Victoria, Australia.
Conclusion:
Results of the Labouring Together study provide compelling evidence to support the proposal of a merger of the concepts of interprofessional collaboration and shared decision-making to support women to be equal partners in collaborative decision-making for the provision of maternity care. However, fundamental barriers to IPC in maternity care were identified; and truly collaborative decision-making with women is not routine practice in Victoria, Australia.

References:


Please declare any conflict of interest you may have:
No conflicts of interest to declare.

Vanessa Watkins was the recipient of the 2015 Australian Nursing and Midwifery Federation (Vic Branch) Research Grant for the PhD study Labouring Together: Collaborative Alliances in Maternity Care in Victoria, Australia
Learning from complexity: Case study of a complex mental health intervention in a complex system

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Introduction:

Recent years have seen a rise in interest in complexity thinking in healthcare, partly as a result of the challenges faced in implementing and evaluating complex program interventions. Lifespan is a complex intervention developed by the Black Dog Institute that includes the simultaneous implementation of nine suicide prevention strategies and governance at a local level. LifeSpan is currently being delivered and comprehensively evaluated in four regions of New South Wales (NSW), Australia. We present a case study outlining the implementation of Lifespan into Australia’s complex mental health system. The case study points to some of the key challenges, potential solutions and implications for the implementation and evaluation of complex interventions embedded into complex systems.

Methods:

A total of 24 key informant individual interviews (n=19) and focus groups (n=5) were conducted with a total of 60 individuals, including Lifespan regional coordinators, working group members from each region, as well as the research team from the Black Dog Institute. Data was audio-recorded, transcribed and analysed thematically.

Results:

Each Lifespan site presented unique contexts and pre-existing structures that impacted on the way each of the strategies were implemented; and had different strengths from which to build (e.g., pre-existing mental health networks). The results suggested that the effectiveness of LifeSpan was contingent on the complex system of structures, activities, networks, and relationships within each region, with these factors mediating the extent to which the strategies were adopted and sustained in the community.
Conclusion:

The results highlight that the most significant aspect of complexity lies not in the intervention itself, but rather in the context into which the intervention is introduced and interacts\(^3\). There is increasing recognition that while traditional linear research designs, such as RCTs, are important, they are usually insufficient in addressing and understanding complex health systems research questions\(^4\). Rather than asking whether complex interventions work, we need to focus instead on identifying if and how such interventions “contribute to reshaping a system in favourable ways”\(^5\). To do so requires the complementary strength of qualitative approaches, such as interviews, observation and social network analysis.

References:


Please declare any conflict of interest you may have: None
Management of Human Resource for Health in the Health Districts in Uganda: A Decision Space Analysis

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Introduction:
Decentralisation is a governmental approach to strengthen the health system and its functions, which would improve the quality of care and service delivery. Decision space is used to identify how decentralisation can be institutionalised and explain the decision-making capacity at the local level. It is “the range of effective choice that is allowed by the central authorities to be utilized by local authorities”. In Uganda, district-level managers need some decision space in order to develop innovative ways of improving health services. Human Resource Management (HRM) is a politicised area that can influence the sustainability of decentralisation if not properly managed, so, it is important for the District Health Management Team (DHMT) to have control over its functions. Having control over the actions of hiring, firing and supervision can support governance and decision space among the DHMTs. Also, maintaining control over staff numbers, cadres and salaries can stimulate the transfer of authority down to the local level. The aim of this study is to examine the actual DHMTs’ decision space for these HRM functions in Uganda and to identify factors supporting and limiting their control. It also investigates how different stakeholders can support performance management at the district level by facilitating decision space.

Methods:
A single case study was employed in Uganda to examine the DHMTs' decision space for HRM functions in three districts: Kabarole, Bunyangabu, and Ntoroko. The study used document review and focus group discussions (FGDs). Relevant documents that looked at HR decision space were reviewed and analysed. Then, three FGDs were conducted with three or four DHMT members in each district. The FGDs explored the DHMTs’ decision space in six HR areas included 18 HR functions. Data analysis was guided by a theoretical framework that was developed by the research team. NVivo qualitative data analysis software was used to conduct a thematic analysis within each district and among districts.

Results:
DHMTs in the three districts showed various levels of control over most of the HR functions ranging from some to full authority. The differences among the districts were mostly insignificant. They demonstrated full control over three HR functions: forecasting staffing...
needs; deploying staff to health facilities and supervising staff. Whereas, they showed some control over some functions e.g. developing job descriptions; mobilising resources for HR and organising in-service training for staff. The three districts shared limited authority for four functions: setting HR policy; modifying staffing norms according to needs; setting salaries for certain staff categories and developing an HR information system (HRIS). However, they tried to overcome these limitations by adjusting some HR policies locally, better utilisation of the available resources and adapting the HRIS to the local context. These, in turn, facilitated service delivery and outcomes in health facilities

**Conclusion:**
Analysing decision space for HR functions helped identify areas where the DHMTs need to change or improve their actions. DHMTs’ decision space was influenced by various supporters and constraints. Despite the existence of policies and regulations, lack of resources; bureaucracy; local politics and gaps in knowledge and leadership remain major challenges in Uganda, limiting the DHMTs performance and their decision space in HRM. Meanwhile, implementing partners and donors played a vital role in supporting/limiting the DHMTs’ HR functions and indirectly influencing their decision space in Uganda

**References:**

**Please declare any conflict of interest you may have:**
None
Managing conflicting demands of standardization and customization

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Introduction

Two seemingly conflicting trends permeate healthcare, from entire systems to individual care units and professionals. On one hand, standardization is promoted to improve efficiency of healthcare systems struggling to limit escalating costs and ensure best practice; on the other hand, customization is asked for by both patients and authorities, propagating for shared decision making and co-production of care. Hence, healthcare managers and professionals are facing the dilemma of how to meet these conflicting demands in practice.

Addressing the issue of standardization and customization from an organizational perspective, Fjeldstad et al. [1] recently suggested a networked architecture within which three different value logics, with associated organizational configurations, can be used for creation of patient value; chains, shops, and networks. To be efficient, the value configuration needs to match the value creation logic. Principally, value chains are most suited for standardized care, shops for customized care, and networks for co-production of care. To utilize their full potentials, logics should not be mixed in one unit, as each configuration has its own properties. For example, the roles for patients and professionals differ, as do the preferred modes for measurement and planning. However, separation of value logics might not always be feasible. Patients with impaired cognitive abilities is an example where both individualized contacts and coordination of patients’ networks are needed in parallel.

Objectives

The purpose of this case study is to explore the use of different value logics in mental care, including the existence of parallel or entangled logics and to discuss how the conflicting demands for standardization and customization can be managed in practice.

Methods

Two focus groups were conducted in a department for psychotic disorders, Sahlgrenska University Hospital, Sweden. An insider-outsider approach was applied. Based on the results, preliminary findings were followed up by individual interviews. Written consent was obtained from all participants and no patient data were used.
Results

Overall, the department applies a shop logic. However, elements of both shop, chain, and network logics exist in parallel and entwined. For example, some mandatory interventions in the form of manual-based processes, follow chain logic, while shared decision-making involving patients and relatives follows both shop and network logics. Trust between patient and individual professional is seen as crucial, limiting the opportunity for separation of logics. Hence, professionals need to manage both customized problem-solving, standardized interventions, and co-production with multiple actors. This mix of activities is recognized as a complexity and a number of ideas for how to manage this situation are identified.

Conclusion

The study shows that customization and standardization affect mental care and the demands can be operationalized as different value logics, with shop as the overarching logic. The findings indicate that logics are not easily disentangled in practice, but recognition of them can inspire new managerial approaches, supporting efficiency and sustainability of mental care in meeting conflicting demands.

References


Conflicts of interest

The authors declare no conflicts of interest.
Introduction:

Data gathered for evaluating clinical performance may produce indicators for early warning systems. The aim of this study is to present if peroperative heartrate, partial oxygen saturation, bleeding and postanaesthesia body temperature, which are used as medical performance indicators, may become an early warning of unplanned ICU admission postoperatively.

Methods:

Data is acquired from already existing Operation Room Clinical Performance Measurement System, which has been in use in Acıbadem Healthcare Group for last three years. Although the system originally derived to measure peroperative clinical performance, the data that has aggregated in the database has made it possible to run the study. The data is registered to the system by the chief anaesthesiology technicians at each hospital. It is then stratified and consolidated into a data sheet using Microsoft Excel program. Clinical performance is measured quarterly by the Quality and Medical Affairs Departments. The study is realized by processing of the data using Medcalc program. Unplanned need of postoperative ICU stay was selected as the sentinel event and relation of peroperative bradycardia and tachycardia, drop of SpO\textsubscript{2} below 90% for more than 5 minutes, bleeding more than 500 mL and drop of postanaesthesia body temperature below 36 degrees C to the event were evaluated using Chi-square test.

There has not been any ethical issues since any identifiers or demographical data of the patients had already been eliminated at the time of registry.

Results:

Data belonging 2018 and 2019 are used for evaluation, which refers to 75746 patients in total. It is found that patients who experience tachycardia and bradycardia in single session (3.14% vs 0.22%, p<0.0001), SpO\textsubscript{2} below 90% for 5 minutes (10.42% vs 0.24%, p<0.0001), bleeding more than 500mL (18.59% vs 0.19%, p<0.0001) and body temperature <36 degrees
C (5.58% vs 0.22%) were significantly more likely to be admitted to ICU postoperatively without a prior plan.

**Conclusion:**

Patient safety has always been the first and most important driver in upholding quality in healthcare. Clinical performance management and early warning systems are two of the main components in process management for achieving quality, as also affirmed by major accreditation institutions; moreover they provide on the target opportunities for continuous education, therefore continuous development. In the future, when machine learning systems will be incorporated into early warning systems that share a common base with performance management systems, continuous development will make continuous updating of the early warning thresholds possible, which will enable manpower and bed planning in advance and according to the most contemporary data applications.

Through almost 75000 patients data, we have concluded that peroperative heartate, SpO₂, bleeding and postanaesthesia body temperature are clear indicators that warns for a postoperative unexpected ICU stay for AHG. Further studies, probably using features of automatic data transmission from bedside monitors, artificial intelligence and machine learning, will hopefully let us reveal if these indicators and ASA score has any synergistic effects on unplanned ICU admissions, and signal instantaneously when probability of such event raises above predetermined thresholds.

**Please declare any conflict of interest you may have:**

The authors declare that they have no competing financial interests or personal relationships that could have appeared to influence the work reported in this presentation abstract.

**Abbreviations:**

ICU: Intensive Care Unit, SpO₂: Parital oxygen pressure, mL: millilitres, C: Celcius, AHG: Acıbadem Healthcare Group, ASA: American Society of Anaesthesiology
Introduction:
The fragmentation of health care delivery and lack of patient-centered care decreases the quality of health care. In the treatment of cancer patients, care involves different health care professionals due to the complexity of the disease. Their role conceptions are crucial for the way in which the health care is delivered. This holds true for the concept of their own role as well as for the role they attribute to patients. Role concepts influence which information is shared, who is asked for further assistance and how decisions are made at crucial phases of the disease. This qualitative study aims to investigate role concepts of health care professionals and patients from the perspective of different health care professionals.

Methods:
Five focus groups with a total of 37 participants were performed in 2019, this included care professionals from various disciplines such as primary care, in-patient specialist care, psycho-oncology, social services, nursing, pharmacies and palliative care as well as patients. Main results have been discussed in a workshop. For data analysis structured content analysis was used.

Results:
Different, partly conflicting roles were attributed to patients. Opinions varied on the degree of involvement of patients in decision-making and organizing their health care.

Among health care professionals, a patient-centered perspective was lacking instead there was a strong focus on the own specialization. The latter goes together with a lack of knowledge about the responsibilities and competences of the other professionals involved. This in turn leads to a prioritization of the members of the care team which hampers the collaboration in terms of information flow, involvement of other team members and decision making. Nurses and staff of non-somatic fields had the impression that their opinion was less valued and to be less involved in deciding on a care plan. The cancer
patient is far from being seen in holistic but in a fragmented way.

**Conclusion:**

A major obstacle in achieving a patient-centered and holistic care are hierarchical role concepts which focus on the own specialization. Inter-professional collaboration as well as communication skills need to be addressed in training of all professionals. Also implementation of inter-professional work processes (case conferences, communication tools) might help to overcome role-related fragmentation of health care delivery.

**References:**

**Please declare any conflict of interest you may have:**

None.
Optimization of ICU Nursing Process Through Innovative Electronics and Quality Control Tools
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Objectives

Intensive care unit (ICU) registered nurses (RNs) work long hours to provide medical care to patients in critical condition. The long work hours affect the quality of patient care as well as patient safety. This project aimed to make the nursing process more efficient. It was expected that nursing process duration (in min) could be shortened by \( \geq 30\% \), from 365.6 min per 8 hrs to \( \leq 255.9 \) min per 8 hrs. The percentage of ICU nurses working overtime was also expected to decrease from 63.3\% to \( \leq 50\% \).

Methods

A Quality Control Circle of five registered nurses and an attending doctor was established in this Infection ICU on 15 August 2016. Using quality control tools, systematic diagrams, and flowcharts, the team identified common problems and their causes. These included: 1) the time-consuming nature of patient diarrhea procedures, 2) difficulties regarding patient report and the duplication of paper and electronic records, and 3) lack of dialysis beds that increased time consumption due to bed-to-bed transfers and disinfection procedures. Suggested solutions included introducing evidence-based medicines to prevent incontinence associated dermatitis (IAD), using disposable bath towels, innovative research and development of ICU-specific hospital gowns, introducing information technology hard and software, making DVDs to provide hospitalization-related nursing instructions, simplifying duplicated documentation, and reconstructing patient environments by installing reverse osmosis (RO) dialysis tubing at each bed.

Results

Six methods were proposed to optimize the nursing process. Average time consumption decreased by 39.8\%, from 365.6 min to 220 min (145.6 min total), thus reaching the target of a \( \geq 30\% \) reduction in time consumption. In October 2017, the percentage of ICU nurses working overtime decreased from 63.3\% to 46.8\%, attaining the 50\% target value. The incidence rate of IAD in the Unit decreased from 33.5\% for Q3 in 2016 to 25.7\% for Q2, 25\% for Q3, and 20.6\% for Q4 in 2017. The Unit’s employee turnover rate decreased from 42\% in 2016 to 5.26\% in 2017. Additionally, these changes have reduced...
labor costs by NT$840,000, with monthly expenditures in 2018 lowering by at least NT$110,000. After the approximate NT$100,000 cost of dialysis tubing installation, this project has helped this hospital save NT$2.54 million, (around US$85,000). The thoughtful design of an ICU-specific hospital gown has won first prize in this hospital’s innovative nursing competition.

**Conclusion**

Optimization of nursing process through Innovative electronics and quality control tools can reduce time waste and improve care quality. All methods have been simultaneously applied in this hospital and were recognized by the National QCC Award.
Introduction:

Healthcare-Associated Infections (HAIs) represent a crucial issue in health and patient safety management due to the persistent nature, economic impact and possible preventability of the phenomenon. HAIs are the most frequent adverse events related to hospitalization and constitute a major health problem due to prolonged hospital stays, increased disability and mortality, selection of antibiotic-resistant microorganisms and financial burden for health systems. The presentation analyzes all HAI complaints received at the Umberto I General Hospital in Rome for a five-year period with the aim of outlining a methodology for managing claims and characterizing the economic impact of infections on healthcare facilities. Indeed, compensation claims for damages resulting from HAI could provide insights that improve the understanding of suboptimal steps in the therapeutic process, enable an estimate of costs related to infectious complications, and guide the development of planning tools for implementation of the quality of care.

Methods:

All claims received during the study period have been classified according to the International Classification for Patient Safety (ICPS) system. Subsequently, claims related to Healthcare-Associated Infections were selected and a medico-legal assessment was carried out to identify the inadequacies of the care path. The risk of loss was determined using the Advanced Loss Eventuality Assessment (ALEA) score, a 14 items scoring system designed specifically for HAIs. A further analysis was performed in order to determine a technical estimate of the value of each case.

Results:

The study involved the analysis of 686 claims reported from January 2013 to December 2017. The application of the ALEA score allowed to establish the prevalence of claims at high risk (44; 62%) followed by claims at low (16; 22.5%) and medium (11; 15.5%) risk. The cross-analysis of the data obtained through the application of the ICPS system and the ALEA score has made it possible to highlight the prevalence of fatal claims (28; 63.6%) in the category with a high risk of loss. The determination of technical estimates demonstrated the high
potential economic impact of the claims analyzed allowing to quantify a forecast of expenditure of 31,062,500 euro. Specifically, the mean value of disputes was 437,500 euro (range 0,00 - 1,500,000) with 34 claims (47.9%) whose estimated value exceeded 500,000 euro.

**Conclusion:**

Appropriate clinical risk management policies in the field of Healthcare-Associated Infections allow the implementation of preventive measures and quality of care. The application of a standardized system would be desirable in any health facility despite the potential methodological, technical, behavioral and financial issues. The proposed approach allows a productive analysis of the internal processes, providing fundamental data for the refinement of preventive strategies and the rationalization of resources.

**Please declare any conflict of interest you may have:**

No conflict of interest to declare
Quality Certification in Physiotherapy Services in Brazil: induction for continuous improvement

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Introduction:

Service providers create value by providing benefits to their customers in a specific way and have intangibility and simultaneity as characteristics, with the need for fast and reliable actions (LOVELOCK and WRIGHT, 2005; SANTOS and VARVAKIS, 2014; DOS SANTOS, 2016). In this context, the more information and knowledge the organization obtains about the business in which it is operating, the more assertive its decisions can be and the greater the chance of organizational growth. Mandelli (2016) developed a Quality Assessment Model for companies providing Physiotherapy services, this model includes 43 quality descriptors distributed over three pillars: Infrastructure, Service Delivery and Satisfaction. Thus, considering that Authors such as Drucker (1993) and Servin (2005), believe that in the knowledge economy, the most effective organizations will be able to recognize and take advantage of the fundamental role that knowledge will provide internally and externally to the organization, this work aims to present the result of improvement obtained by companies that went through the Certification process.

Methods:

The reports of the FENAFISIO Certification Program present line graphs that show the progress of companies between one visit and another during the process. To perform a quantitative analysis, data from the comparative graphs of 9 of the 10 clinical companies evaluated were collected. After this collection, an analysis was made of the number of descriptors with evolution and of the descriptors that showed a drop, as well as the average values in each pillar that make up the model.

Results:

It appears that, on average, each clinic evolved in seventeen descriptors, a significant number of learning and evolution when considering that the adaptation period is six months. It is worth highlighting the average number of regressions in one descriptor, understood by the low attention to the detriment of the focus on other descriptors. Regarding the average score per pillar of the Model, it is certain that the average score for Pillar 1 - Infrastructure is 4.40 points, for Pillar 2 - Service Provision, the average is 3.18 points, while for Pillar 3 - Satisfaction the average is 3.36 points. The highest score is
observed in the aspects related to the physical and administrative infrastructure of the companies, with 19 descriptors evaluated. Regarding maximum and minimum values, it appears that the highest score in Pillar 1 is 4.94 with a minimum of 3.47. For Pillar 2, the maximum is 3.68 and the minimum is 2.68, for Pillar 3, the maximum is 4.37 and the minimum is 2.12.

<table>
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Conclusion:

The model is consistent with its proposal for assessing the quality of physiotherapy services and can be applied to services of different specialties, as it does not currently have indicators with specific metrics. The descriptors are relevant to the understanding of the organization, from its physical, administrative and financial structure, as part of the evaluation of the service provision, physical therapy assistance, properly speaking as satisfaction of the internal and external client.

References:

Please declare any conflict of interest you may have:
Reducing Incidence of Medical Device-Related Pressure Injury in Intensive Care Unit

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Introduction:
Most pressure injury often occur over bony prominences, which can be removed or resolved by positioning. The National Pressure Ulcer Advisory Panel (NPUAP) recognizes that persistent compression of medical equipment can cause local pressure injury. Medical device-related pressure injury (MDRPI) occurs in hospitalized patients, especially in adult intensive care units. In addition, medical devices must be securely fixed and non-removable. This increased the difficulty in preventive measures and care of clinical MDRPI. Therefore, how to prevent MDRPI is an important issue in intensive care.

Methods:
The purpose of this study was to provide preventive measures (include: lecture, Interactive response system and situated simulation) and using care bundles in order to decrease the incidence of MDRPI in intensive care units from 0.9% to 0.5% or less in a teaching hospital in central Taiwan. To reach these goals, we arranged multiple educational programs to educate the intensive care staffs with care bundles.

NPUAP announced in 2017 that "CCRAEBC" can be used to prevent MDRPI, including to choose the correct size of medical equipment; apply on high-risk areas such as the bridge of the nose to cushion pressure and use of the thin hydrocolloids to protect the skin; for removable devices or removable materials, at least daily assessment of skin condition; avoid placing medical equipment on a past or existing pressure injury location; educate intensive care staffs on proper use of equipment and prevention of skin breakdown; observe possible edema under devices and delay healing; confirm that the medical devices are not directly under the bed or the body of the patient who is immobile.

Results:
Results showed that, after educated the intensive care staffs and applied care bundles, the incidence of MDRPI reduced from 0.9% in January 2019 to 0.4% in November 2019.

Conclusion:
In recent years, the causes of the occurrence of MDPRI were discussed in many epidemiological investigations. Hydrocolloids interventions and the use of care bundles were applied in the prevention of MDRPI. It can be seen that this iatrogenic injury has gradually drawn attention, so it is recommended to provide staff with continuous specialist education to build their awareness and care knowledge, while incorporating pressure injury quality control indicators for continuous monitoring. Multiple educational training and the implementation of care bundles could reduce MDRPI. It is recommended to use these bundle care concepts effectively in every patients in the hope of providing better health care quality and more reducing the incidence of MDRPI in future.

References:

Please declare any conflict of interest you may have: None Declared
System-level variation in relapse rate and all-cause hospitalizations in MS: Year 1 results of the Multiple Sclerosis Continuous Quality Improvement (MS-CQI) research collaborative.

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Introduction:

MS-CQI is the first multi-center improvement science research collaborative for MS, and includes a systems-level study of variation in MS outcomes. MS-CQI is a three-year study that leverages benchmarking results to inform system-level improvement efforts targeting clinical outcomes using an informatics-enabled learning health system approach. Here we present relapse rate results for Year 1 (baseline/pre-intervention) compared to Year 2 (first year of intervention).

Methods:

We have studied system-level variation in relapse rate and all-cause hospitalizations for individual sites, between sites, and for MS-CQI collectively. We collect administrative data and eleven clinical electronic health record (EHR) clinical outcome measures longitudinally across four clinical MS care centers in the United States. We conduct statistical process control (SPC) analyses for benchmarking. Logistic regression and maximum likelihood estimation methods were used for inferential analyses. This study has been approved as a minimal risk protocol by Dartmouth Hitchcock Health Institutional Review Board.

Results:

Four MS centers in the U.S. are participating: an urban academic center (n=1,000); a rural academic center (n=1,000); a rural community hospital (n=1,500); and an urban private practice (1,500), following a total N=5,000 persons with MS (PwMS). We have collected approximately 7,200 clinical encounter measures from EHR data in Year 1 and 10,000 in Year 2. Demographic characteristics and longitudinal variation in measures did not vary significantly between sites. Center-specific proportions of PwMS with at least 1 relapse ranged 5-16.9%. The mean relapse rate varied significantly (p<0.01) across all centers and SPC analyses demonstrate an MS-CQI reduction of relapse rate from 11.5% (Year 1) to 4.3% (Year 2). Two sites were below the MS-CQI average of 7% (3.3%, 6.3%) and two were above the average (8.5%, 10.3%). Controlling for individual factors and covariates, logistic regression analyses identified significant center level effects on relapse rate in Year 1 (with high performing center specified as the referent group), with comparator sites...
demonstrating ORs as high as 2.61 (95% CI: 1.8, 3.8) and for all-cause hospitalizations, with comparator sites demonstrating odds ratios (ORs) ranging as high as 2.4 (95% CI: 1.34, 4.4).

**Conclusion:**

MS-CQI has observed a significant absolute reduction in population level relapse rate of 7.2% (nearly a three-fold relative reduction) during the first year of QI intervention. We have also identified significant geographic system-level variation in MS relapse rate and all-cause hospitalizations, suggesting that a focus on system-level variation and improvement may be needed to optimize priority population health outcomes for PwMS.

**References:** N/A

**Please declare any conflict of interest you may have:** None
Introduction:

Diabetes is among the top four causes of death among Chinese people. Good control keeps patients’ quality of life unaffected and prevents their lives from being threatened. The Kaohsiung Veterans General Hospital has participated in the project of National Health Insurance "Diabetes Quality Payment Service" since September 2012. All diabetic patients who meet the criteria and agree to participate in the service could be enrolled. The patients will receive medical care following the guidelines to provide patients with a complete cross-team including diagnosis, inspection, health education and tracking. By the professional care to reduce the incidence of complications and comorbidities in people with diabetes. In 2017, the enrolled rate in KSVGH was only 39.3%, which was lower than the average rate of 47.3% among medical centers in Taiwan. We decide to establish a disease case management platform to grasp the current situation of patients in real time through online information records. Through the platform we hope to enroll more patients into the project and provide a high-quality care.

Methods:

The paperwork was previously used to record the patient’s data and then upload to the national health insurance bureau via the virtual private network. We decide to develop a disease case management platform, which will allow physicians, diabetes educators, dietitians, medical technologists, pharmacists and other experts to grasp the current situation of patients in real time through online information records. The platform uses a clinical decision support system. The platform page is intuitively designed and presented using a "pulling bar" method, which is more lively, gracious, non-rigid, and less serious than the "tick-on" screen, which shortens the distance between patients and diabetic educators. In addition, the patient's data during the past years are presented in a table to optimize the window and improve convenience. The system also designs a customized and exclusive health education. Based on the results of the personal health education questionnaires, the system calculates the score of each question. For those with lower scores, the system can automatically bring out patient-related health education plans.
Results:

After 10 months of design and test, the disease case management platform is completed. Physicians, diabetic educators, and dietitians can discuss the data with patients and families through this platform. Educators can also provide health education contents more accurately. On the one hand, through the construction of the disease case management platform, it is possible to reduce the time required to check the patient list and find the records. The waste of paper was decreased, and the space was saved. In addition, the participation of diabetic patients in the program increased from 39.3% to 50.3%. The quality of diabetic cars was also much improved. Through the platform, the percentage of glycated hemoglobin (HbA1c) <7% increased from 24.76% in 2017 to 35.39% in 2019, the percentage of blood pressure <130/80 mmHg increased from 31.91% to 47.02%, and the percentage of low-density lipoprotein cholesterol (LDL-C) <100 mg/dl increased from 35.82% to 57.12%. The all three achieved rates increased from 7.9% in 2017 to 16.51% in 2019.

Conclusion:

The diabetic patients who enrolled in the project of National Health Insurance "Diabetes Quality Payment Service" could get comprehensively care. By the development of disease case management platform, we can enroll more patients into the project. We also can get much improvement in patient care. The goal is to provide continuity and access to perfect medical care, health care, and quality of life.

Please declare any conflict of interest you may have: no
The dream of Continuous Quality Improvement in General Practice is becoming a reality in the Gold Coast region

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Introduction:

Substantial gaps between the actual and desired levels of performance have been found in virtually all healthcare settings and services, including in General Practice. While clinicians and staff are uniquely able to help close the gaps, they rarely do so because of significant barriers, including: competing priorities and large clinical workloads, lack of protected time and resources, inadequate external support and lack of Quality Improvement (QI) knowledge and skills. In response, the Australian Department of Health developed a Quality Improvement Practice Incentive Payment to incentivize general practices, effective from 1st August 2019, to undertake QI projects with the support of their local Primary Health Network (PHN). This presentation describes the impact of PIP QI in the Gold Coast.

Methods:

The PHN raised awareness about the availability of QI PIP through its publications and distribution lists. Practices are eligible for QI PIP if they are accredited, register for QI PIP, routinely share anonymised data with their PHN and are able to demonstrate that they are involved in CQI in a structured manner. The PHN Practice Support Team (PST) co-designed a strategy with relevant stakeholders and conducted a needs analysis with general practice staff.

Results:

152 (87.9%) of accredited general practices in the Gold Coast are registered for QI PIP, share performance data every quarter with the PHN and are undertaking and recording CQI projects. Between 01/08/2019 and 31/12/2019 the Practice Support Team visited 72 practices, held seven educational events attended by >250 practice managers, nurses and GPs and provided advice and support through e-mail and by phone every working day. A suite of digital resources were developed that include CQI templates, ‘how-to’ guides, clinical examples and and suggestions for topics. The preliminary findings from the ongoing evaluation suggest that CQI is becoming integrated in general practice. The process is facilitated by the financial support of PIP QI; identifying two QI leads in each practice (a GP and non-GP team member); the flexibility of the process (teams can select their own topics,
targets and timelines); providing educational support and resources as required; and contextual integration of CQI with CPD, accreditation and existing workflows.

**Conclusion:**
The majority of general practices in the Gold Coast are now actively engaged in CQI. For many, it would have been the first time they attempted CQI as a team activity, applied a structured approach or documented their findings. A few practices rapidly developed their CQI capacity and capability and the roles of the PHN and the Practice Support team must therefore also evolve to meet their new needs. While recent developments are encouraging, much work remains to firmly embed CQI into business as usual, ensure it is undertaken with suitable rigour and clearly demonstrate measurable, clinically important improvements in patient outcomes.

**References:**
Available on request

**Please declare any conflict of interest you may have:**
None
THE KEY INFLUENCE FACTORS OF THE APPLICATION EFFECTIVENESS OF HOSPITAL QUALITY CONTROL CIRCLE IN MAINLAND CHINA.

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Introduction:

This research is aimed to evaluate the status and effectiveness of Quality Control Circle in the hospital, and explore the influence factors that affect the application effectiveness of Quality Control Circle activities in mainland China. This research also aimed to understand the mechanism of the application effectiveness in quality control circle with the organization, group, and individual level or other factors, in order to form a long-term mechanism of the application on the quality control circle in medical institutions.

Methods:

This research has synthetically applied literature review, expert consultation (22 experts), questionnaire survey (500 persons) and other methods. Domestic and international previous studies have been used as theoretical basis to build a research model. The relevant research scales have been introduced and modified, and was applied to conduct a sampling survey of some circle groups which participated in the fifth national hospital quality control circle competition. Excel 2017 was applied to set up a database, and the SPSS 22.0 was applied to carry out descriptive statistics and regression analysis.

Results:

First, organization, group and individual factors have strong explanatory ability to the application effectiveness of quality control circle. Second, activity orientation, counselor’s attitude and ability, utility perception have the strongest explanatory ability for positive organization effect. Third, the communication of mission and goal, the attitude and ability of the circle leader have the strongest explanatory ability to the negative organization effect. Fourth, the activity orientation and the utility perception have the strongest explanatory ability for the construction of management mechanism and culture. Fifth, the communication of mission and goal with the attitude and ability of the circle leader have the strongest explanatory ability to the improvement of work ability and morale. Sixth, The communication of mission and goal has the strongest explanatory ability for employee needs.
Conclusion:

Organization, group and individual factors are the important factors affecting the application of quality control circle. The utility perception, the activity orientation, the communication of mission and goal, and the attitude and ability of the circle leader are several aspects which have great influence on the application of the quality control circle. This research made some suggestions such as to establish a special management department for quality control circles, to pay attention to the planning of quality control circle activities, to focus on education training and results release, to establish the communication mechanism outside and inner circle, to establish appropriate incentives, to attach importance to the selection and training of instructors and circle leader, to cultivate the utility perception and establish a quality control circle ecosystem. This research provided reference for the medical institutions, in order to help them establish a long-term mechanism of quality management.
[2009] THE QUALITY OF MENTAL HEALTH SERVICES ACCORDING TO TYPES OF HOSPITALS IN TURKEY

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Introduction:

Mental disorders affect 1 in 4 people around the world. Treatment and care for mental health-related issues is provided in a variety of settings. The most and the important part of the psychiatric services are given in hospitals. Our aim is to determine the meeting status of quality standards in psychiatric services in Turkey according to hospital service types. These are: education hospital, branch hospital, general hospital, university hospitals and city hospitals.

Methods:

"Institutional Quality System" is a web-based system for managing healthcare quality assessments in Turkey. With this system quality assessors evaluate the hospitals and they use the terms such as "Meets the standards", "Doesn't meet the standards", "Partially meets the standards" and "Out of assessment". Healthcare quality evaluation results for Psychiatric Services standards in the year of 2018 were reached through "Institutional Quality System". The results were classified according to hospital service types and compared in between.

Results:

At “Healthcare Quality Standards of Hospital guideline version 5” the standards for “Psychiatric Services” are explained under 15 main standards and their subcategories. Five of them are core standards and their evaluation scores are higher.

SPS04 There should be physical regulations to provide patients’ safety.

SPS07 Rehabilitation events for patients should be arranged.

SPS11 There should be regulations for Electroconvulsive Treatment.

SPS13 There should be an action plan for unpredictable situations.
**SPS14** Studies should be conducted to ensure compliance of patients with social life after discharge.

Four standards (SPS01-SPS02-SPS06-SPS08) were evaluated in 1142 hospitals. The other standards were evaluated in 1115 hospitals.

The meeting status in hospitals involved in assessment are; 78.73% for education hospital, 92.3% for branch hospital, 74% for general hospital, 62.96% for university hospitals, 89.28% for city hospitals.

**Conclusion:**

As expected the branch hospitals have the highest meeting quality standards. In despite of being the newly developed City hospitals have higher standards than the other types of hospitals.

**References:**

- SKS-Hospital (Version-5, Revision-01), Republic of Turkey Ministry of Health General Directorate of Health Services, Department of Quality and Accreditation in Health, 2nd Edition: March 2016, Ankara.
- Improving health systems and services for mental health WHO Library Cataloguing-in-Publication Data, World Health Organization 2009.

**Please declare any conflict of interest you may have:**
The authors declare that there is no conflict of interest.
The Status of Readmission and Length of stay in the Elderly Over 80 years Old

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Introduction:
As population aging progresses, we need to various analysis focusing on the elderly to establish evidence-base policy.

Methods:
Readmission status at all general hospitals (347 providers) in 2017 were analyzed. (Using Korea HIRA’s claims data) Cancer, some psychiatric, rehabilitation, obstetric, transferred and death patients were excluded from the readmission analysis

Results:
The number of total admission patients in 2017 = 3,016,580 cases in 2017. Each Readmission rates are below.
1. The LOS(Length of Stay) of the first admission: within 7days
   Range of age(18~49 years): 22,890(Readmission cases)/ 690,396(Total cases) * 100 = 3.3%
   Range of age(50~79 years): 48,488(Readmission cases)/ 1,050,306(Total cases) *100=4.6%
   Range of age (Above 80): 14,229(Readmission cases)/ 163,519(Total cases) *100 = 8.7%
2. The LOS(Length of Stay) of the first admission: 8~14 days
   Range of age(18~49 years): 8,107(Readmission cases)/ 147,924(Total cases) * 100 = 5.5%
   Range of age(50~79 years): 27,884(Readmission cases)/ 374,667(Total cases) *100= 7.4%
   Range of age (Above 80): 11,228(Readmission cases)/ 107,115(Total cases) *100 = 10.5%
3. The LOS(Length of Stay) of the first admission: 15~60 days
   Range of age(18~49 years): 7,063(Readmission cases)/ 73,594(Total cases) * 100 = 9.6%
   Range of age(50~79 years): 29,715(Readmission cases)/ 295,417(Total cases) *100= 10.1%
   Range of age (Above 80): 11,096(Readmission cases)/ 93,294(Total cases) *100 = 11.9%
4. The LOS(Length of Stay) of the first admission: 61~120 days
   Range of age(18~49 years): 276(Readmission cases)/ 2,306(Total cases) * 100 = 12.0%
   Range of age(50~79 years): 1,194(Readmission cases)/ 11,256(Total cases) *100= 10.6%
   Range of age (Above 80): 457(Readmission cases)/ 3,786(Total cases) *100 = 12.1%
5. The LOS (Length of Stay) of the first admission: **over 121~ days**

Range of age (18~49 years): 54 (Readmission cases)/545 (Total cases) * 100 = 9.9%
Range of age (50~79 years): 178 (Readmission cases)/1,951 (Total cases) *100 = 9.1%
Range of age (Above 80): 52 (Readmission cases)/504 (Total cases) *100 = 10.3%

The main diagnosis of the **elderly over 80** who stayed in the hospital **within 60 days** are below (36,553 cases)

- **Rank 1)** Pneumonia 3,507 cases / 36,553 cases *100 = 9.6%
- **Rank 2)** Other fractures 1,747 cases / 36,553 cases *100 = 4.8%
- **Rank 3)** Urinary tract infections 1,675 cases / 36,553 cases *100 = 4.6%

The main diagnosis of the **elderly over 80** who stayed in the hospital **over 60 days** are below (509 cases)

- **Rank 1)** Pneumonia 60 cases / 509 cases *100 = 11.8%
- **Rank 2)** Fracture of neck of femur 49 cases / 509 cases *100 = 9.6%
- **Rank 3)** Chronic renal failure 38 cases / 509 cases *100 = 7.5%

The main diagnosis of the **elderly up to 79 years** old who stayed in the hospital **within 60 days** are below (144,447 cases)

- **Rank 1)** Spondylosis, intervertebral disc 8,396 cases / 144,447 cases *100 = 5.8%
- **Rank 2)** Intestinal infection 5,086 cases / 144,447 cases *100 = 3.5%
- **Rank 3)** Pneumonia 4,672 cases / 144,447 cases *100 = 3.2%

The main diagnosis of the **elderly up to 79 years** old who stayed in the hospital **over 60 days** are below (1,702 cases)

- **Rank 1)** Schizophrenia & related disorders 114 cases / 1,702 cases *100 = 6.7%
- **Rank 2)** Diabetes mellitus with complication 99 cases / 1,702 cases *100 = 5.8%
- **Rank 3)** Chronic renal Failure 99 cases / 1,702 cases = 5.8%

**Conclusion:** Among the patients **within 60 length of stay**, the elderly over 80 clearly **had higher readmission rates** than the other age groups. However, after 60 days the readmission rates by age group did not differ significantly. The main diagnosis of the elderly over 80 was the pneumonia regardless of the LOS (Length of stay).
References: HIRA

Please declare any conflict of interest you may have:
The use of NHI-PharmaCloud in monitoring the risk management of high risk psychiatric patients in a Psychiatric Day Care Ward and improve patient safety of combined medication

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Introduction:

It is important to understand that psychotherapy drugs do not have the desired effect immediately for high-risk psychiatric patients. The modern medical care is usually no longer provided by physicians alone for diagnosis and treatment, and different medical professionals form an interprofessional care team to take care of patients, the roles and professional capabilities of each profession in the team are important. In order to improve the coordination and communication between the professions and provides "patient-centered" team care.

Objectives:

Clinical pharmacy care combines NHI-PharmaCloud, and integrates the drug safety assessment process, achieves the integration of medical care manpower, and effectively implements clinical pharmacy care related to drug safety.

Methods:

This study targeted 159 patients in a psychiatric day ward in a regional teaching hospital in the north from February 2018 to June 2019. The pharmacists performed PDCA cycle management for psychiatric patients' medications. The team uses creative services to continuously improve the quality of care. The pharmacist will perform a descriptive statistical analysis of the evaluation records to understand and analyze the monitoring of the quality of medications for mental patients.

Results:

After research and analysis, the focus is on the following key patients, including ICD-10 is F20~F25 series, patients with schizophrenia or schizoaffective disorder, and comorbidities of metabolic diseases. It's according to the medication safety assessment, the medication care model of visualized red, yellow, and green light medication safety grade information is established. The sticker is affixed to the "Medicine Care Consultation Sheet for Inpatients in Psychiatry" to increase the recognition and reminder function.
Through the pharmaceutical care service and cross-team discussions, doctors' prescription behavior has changed, the safety assessment level has reduced the high alert of the red light is 75%, and increased the relative safety information of the green light is 34%. Drugs with a Naranjo score of 5 or above would be very likely to induce ADR, and would thus be annotated with a physician order for warning. Results showed that there were no repeated ADR cases.

**Conclusions:**

The hospital launched a clinical interprofessional cooperative care mode for the psychiatric day care unit. The physician appropriately adjusted the medicine and its dosage to reduce the incidence of comorbidities. The pharmacist provides appropriate drug information and clinical pharmacy services. The nurse provides a bridge between the patient and the medical team, encourages patients to participate in the entire treatment plan, and strives to cooperate to implement the best treatment.

In the clinical multi-disciplinary cooperative care, medication safety grade information is established. The ADR is actively and effectively notified and it would be annotated with a physician order for warning. The implementation of these strategies can improve medication safety and medical quality.
Use QCC to reduce the incidence of chemotherapy abnormal events

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Introduction:

Since 2016 our incidence of chemotherapy abnormal events as high as 4.870 ‰, which is significantly higher than our hospital threshold of 0.03 ‰. It will cause major harm to patients, their families and medical colleagues. Our purpose is exploring the factors that critically influence chemotherapy abnormal events. It can give cancer patients a safe and high-quality environment for chemotherapy.

Methods:

Following the steps of quality control circle (QCC) activities, we made a selective cause list and a real cause analysis of the possible factors that influence the incidence of chemotherapy abnormal events. In the end, our quality improvement team developed five problem groups and made twenty-two countermeasures: one was designing standardized order, the second was designing signs of Intravenous infusion pump, the third was creating a systemized monitoring for Chemotherapy drugs, the fourth was improving computer information, and the fifth was consistent health education.

Results:

The incidence of chemotherapy abnormal events decreased from 4.870 ‰ to 1.194 ‰.

Conclusion:

Cancer patients undergoing chemotherapy have a higher risk of complications. We are constantly reviewing the various process aspects, while applying AI to reduce human error and improve patient safety.

References:


Please declare any conflict of interest you may have: None
Introduction:

The surgical site infection (SSI) bundle was started in 2016 at MacKay Memorial Hospital. In tradition, we have to collect the data manually and transfer the data to the computer. That waste time and resource, easily cause various false occurrence again. If we can create an informatics system, that clinical staff just do the right thing as before. The information system can help us to collect data automatically, which based on the hospital informatics system in which data was from the Oracle database.

Methods:

The data collection system was designed to automatically form a data sheet for each patient once the operation was arranged. ICD-10 PCS code was used to identify the type of surgery suitable for the SSI bundle. The informatics system collects data from the order system, laboratory system, nursing records, and anesthesia data system according to the preset data fields, which minimizes the clinical workload. This study contains two stages. The first stage (January 2015-July 2016) was the data collection. We collected the hospital-associated infection data from January 2015 to July 2016. Surgeries such as coronary artery bypass grafting, appendectomy, laparoscopic right colectomy and anastomosis, and cesarean section are included in this study. The second stage (October 2016-) was to integrate medical informatics systems from HIS. We are able to collect the patient information and all of SSI care data automatically. In addition, the infection control staffs are able to monitor SSI to complete the postoperative SSI tracking form.

Results:

Whole data from our HIS database, including surgical scheduling system, medical system, birth notification system, anesthesiology system, operating room management system, and nursing operation system. And booking surgical scheduling was the key point to start the SSI system. We created three tables into HIS to improve the data collection integrity; we found that the manager support was the key point that provides this system useful. According to this study result, the cover ratio of SSI data was from 0% (July 2016) to 96.6% (October 2016), 100% (January 2017). And 3 surgical data can automatically. Supervisor support and practice of medical personnel are indeed the important antecedents of system quality,
information quality, and service quality. The service quality of the IT department has positive significant influences on system quality and information quality.

**Conclusion:**

Through this experience, we prove that the integration of the medical information system can automatically bring the information to avoid multiple inputs caused by inconsistencies and reduce the burden on clinical staff.

**References:**
Global Guidelines for the Prevention of Surgical Site Infection, WHO 2018

**Please declare any conflict of interest you may have:**
None
Introduction:
As with many tertiary academic center ophthalmic clinics, we encounter an expanding patient load and increasingly complicated patients as well as many referral cases for advanced medical investigation and treatment. It is more so regarding retina practice, where patient flow slows especially in the photography and high-fidelity image acquisition areas such as OCT (Optical coherence tomography) exam encounter point. This study aims to address problems in patient flow and identify the reasons behind extensive wait time at a busy ophthalmic outpatient clinic in a tertiary care medical center through the application of lean healthcare management tools.

Methods:
This study opted for the application of lean management. Data were collected through personal observations, patient questionnaire, and team brainstorming. A pre-intervention value stream map was developed, improvement possibilities were identified, and non-value-added activities were attempted to be eliminated.

Results:
5 major reasons for long waiting time were identified, which were long waiting line in basic examination area for intraocular pressure exam, insufficient equipment for taking intraocular pressure, unclear signs of examination area, long changeover process, unclear order of OCT (Optical coherence tomography). We addressed these problems by purchasing an auto tonometer, increasing technicians for auto tonometer exam, setting up signs for OCT exam, modifying check-in process and deputizing staff to troubleshoot problems with patient flow, and standardizing OCT order acronyms. After 2 months of implementation, the mean waiting time reduced from 123 minutes to 104.38 minutes (progress rate 19%). Patient satisfaction improved to above 4 in the 5-point Likert Scale in exam waiting time and OCT waiting time.

Conclusion:
The implementation of lean management concept at our ophthalmic outpatient clinic in a tertiary general hospital reduced mean waiting time (19%) and increased patient satisfaction in basic exam waiting time and OCT waiting time. Lean management provides
useful tools to identify bottlenecks hindering clinic flow and provides solutions to decrease waiting time at every step of the healthcare process.

References:


Please declare any conflict of interest you may have: None
Virtual discharge rounds to improve timely discharged from pediatric unit.

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Authors: Mohamed ElKalaf, Ahmed Elghawaby, Maissa Elzain, Aly Soliaman, Mahoud Alfiuturi, Reem Wassef, Emma Reid, Amira Mustafa

Introduction:

In a busy pediatric unit in a tertiary hospital, most discharges are clustered in the afternoon creating a mismatch between demand and availability of beds in the morning leading to significant overcrowding in the Emergency Department (ED) and delaying of transfers from Intensive Care Units (ICU) and elective admissions.

Problem statement: Monitoring our discharge data during a 12 weeks period from 28/7/2019-19/10/2019, have showed that only 12% of patients discharged from our general pediatric unit at Sidra medicine have left the general pediatric unit at or before noon. Every 4 weeks constituted a block for physician resident’s rotation.

Our aim was to improve patient flow by increasing the number of discharged patients who have left the unit at or before noon from 11% to 30% by January 2020.

Methods:

Using lean six sigma methodology (DMAIC), we defined our aim, measured our base line data, studies the reason for the delay, implemented interventions using PDSA cycles and sustained our achievements.

Analysis:

Multiple reasons contribute to the late discharge of patients. Using fishbone analysis multiple reasons were identified as possible causes for delaying patient discharges. Physician delay in discharge paperwork were the most common reason for delaying the discharge as well as delays in acquiring the patient medication.

Intervention;

First PDSA cycle (virtual discharge rounds) which is a WhatsApp private group was created in October 2019 involving all members of patient care i.e. physicians, nurse lead, case
managers and pharmacists. The goal is to discuss the expected discharges twice daily, 1st in the morning 8-9 am to notify the discharges for the day, and again in the afternoon 12-1 pm to prepare for next day discharges. For complex care patients please notify the group several days in advance

Second PDSA cycle (virtual discharge rounds with senior appreciation and sharing data) was started in November 2019, included sharing data with the team and senior appreciation certificates to encourage further engagement.

Results:

Our intervention has resulted in significant improvement of over 200%, reaching 35%, 50% and 36 % consecutively in the post intervention period thus exceeding our target of 30%. See image attached.

Conclusion:
Using technology to create the virtual discharge round was very innovative and effective in creating a culture of early discharge, eased communication among the team and resulted in improved outcome.

References:
Please declare any conflict of interest you may have:
What happens when we build new hospitals? A longitudinal, mixed-methods study of an Australian hospital redevelopment

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Introduction:

Building new hospitals is a frequent and necessary occurrence as populations and demand for healthcare services grow. Past research shows that changes to the physical hospital environment can have positive effects on patients’ mental and physical health. However, the same may not hold true for staff. The aim of this study was to examine the perceptions and experiences of staff and patients during a hospital redevelopment.

Methods:

A mixed-methods, longitudinal study was conducted at a publicly-funded hospital in Sydney, Australia. The facility was undergoing a multi-million-dollar development project that included the redevelopment of existing infrastructure and opening of a new hospital building. Participants were hospital staff (clinical and non-clinical) and patients. Data were collected using surveys, interviews, observation, and analysis of existing hospital data to explore the perceptions and experiences of staff and patients throughout the hospital redevelopment. Findings were assessed using thematic and statistical analyses. Ethical approval was granted for this study.

Results:

In general, staff and patients were appreciative of the new facilities and optimistic of their potential to adapt to the change. However, many issues were encountered throughout building and moving into the new facilities. One major issue was that the opening of the building was delayed because there was not enough funding to staff the new facility to deliver care safely. This took place despite assurances of meticulous planning by authorities overseeing the project. Other issues faced by staff included: inadequate staffing for expanded facilities, not being involved in design decisions, and uncertainty regarding when the building would open and what care models would change, and burnout due to change fatigue. Some issues such as low staffing levels and poor staff training for the new facilities were noted by patients to potentially compromise the care they received.
**Conclusion:**

With building a new hospital can come frustration, uncertainty, and burnout from staff, as well as patient concerns regarding the safety and quality of care delivered. It is important that future hospital building projects ensure staff are involved in design decisions and informed throughout the entire process. Building a new hospital is more than just a change to infrastructure; it potentially involves changes to the way staff work together, temporary destabilisation and more long-term differences to the delivery of care. It is essential that we are aware of the challenges that can arise in building and moving into new hospitals so that safe and high-quality care delivery is not compromised.

**Conflict of interest:** None.
“A Stage for Innovation”: Addressing Hospitals’ Strategic Challenges by Encouraging ‘Bottom-up’ Initiatives

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Introduction:

Expectations from hospitals, as healthcare providers, are constantly changing, due to trends such as extended life expectancy, increased patient demands and rapid development of medical technology. Traditionally, the key players (managements or main market stakeholders) address the challenges and tend to lead a top-down solution design. The potential embodied in bottom-up initiatives created by ‘fieldworkers’ is not properly realized in many cases, although their engagement is crucial to success.

Objectives:

1) Analyze a scheme to invite employees to introduce novel solutions for imminent major challenges. 2) Reveal various perspectives of this "bottom-up" mechanism and its impact on enhancing the innovative perception of the entire hospital environment.

Methods:

An 850-bed general hospital was appointed by the national civil service commission to manage “a Stage for Innovation” project; an in-house process aimed at locating and promoting valuable bottom-up original solutions for the hospital’s key challenges. Initially, 4 critical challenges were identified; 1) Doctor-patient communication, 2) The elderly patient, 3) The "second victim" and 4) The future Hospital. These challenges were distributed via an e-mail campaign to all employees alongside a call for innovative solutions. A multidisciplinary committee systematically assessed all submitted proposals using two scales; a) League ranking, expressing the degree of potential added-value, and b) Criteria rating using an evaluation matrix (level of innovation, scalability and return-on-investment ratio). In the third phase, the high-scored proposals were presented to an audience composed of hospital staff, outlining clinical added value, business plan and key performance indicators. Afterwards, the audience voted for the most "valuable" proposals, and rated their potential benefit, feasibility for implementation and value for money.

Results:

16 initiative proposals were submitted by 30 employees, individually or in teams. Classification by the steering committee revealed 8 proposals that met the challenge...
of future hospital design, 4 met the need to provide services for the elderly, two proposals focused on caring for the caregivers and two suggested improvement of patient-doctor communication. The top proposals that were scored by the multidisciplinary committee focused on patient safety and patient-doctor information transmission. Voting by the wider audience of hospital workers revealed they preferred technologies related to patient experience and engagement, embedding innovative techniques.

**Conclusion:**

The successful experience of a bottom-up call for innovative projects presented "on stage", illuminated the possibility to involve employees from all sectors in designing solutions for significant strategic hospital challenges. It has been shown that fieldworkers have the knowledge and perspective to derive innovative ideas that have considerable added value. This bottom-up mechanism increased their overall commitment and even inspired additional activity by managers and the hospital leadership. Moreover, employees who were engaged in entrepreneurial developments formed working teams with other colleagues dealing with similar problems, creating a ripple effect. This broad deliberation facilitated organizational creative thinking, further increasing synergy for hospital activities, even in an era of strict budgetary constraints.

Please declare any conflict of interest you may have: N/A
INDICATORI PER I SERVIZI DI NEUROPSICHIATRIA INFANTILE: APPLICAZIONE DELLA PROPOSTA SINPIA ALLA SALUTE MENTALE INFANZIA ADOLESCENZA ZONA LUNIGIANA

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Introduzione:

La definizione di un sistema di indicatori condivisi per la NeuroPsichiatria dell’Infanzia e dell’Adolescenza (NPIA) nasce dalla necessità di migliorare la qualità degli interventi sanitari in un ambito in cui è difficile definire parametri di appropriatezza ed efficacia e per il quale il sistema di indicatori esistenti per altre discipline risulta inadeguato. La Società Italiana di NeuroPsichiatria Infantile (SINPIA) ha proposto dal 2004 un Sistema di Indicatori per i Servizi Territoriali che tenga conto della disomogeneità dei servizi di NPIA sul territorio nazionale e della scarsità di dati epidemiologici e di attività confrontabili.

Obiettivi:

sperimentare sul campo il set di indicatori proposti dalla SINPIA al fine di confrontare il funzionamento di un Servizio rispetto all’atteso ed analizzare eventuali discrepanze.

Metodi:

Gli autori hanno strapolato i dati di attività relativi all’anno 2019 dal sistemi informatico gestionale in uso (Caribel) confrontandoli con le soglie proposte da SINPIA per i principali indicatori di processo.

Resultati:

I risultati sono sintetizzati nella tabella 1.

Tab 1 Confronto tra indicatori UFSMIA Zona Lunigiana dell’anno 2019 e valori attesi dalla Società Scientifica SINPIA.
<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>UFSMIA zona Lunigiana</th>
<th>soglie SINPIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congruità personale</td>
<td>829.3*</td>
<td>&gt; 800</td>
</tr>
<tr>
<td>Proporzione domanda inappropriata</td>
<td>3.36%</td>
<td>&lt;10%</td>
</tr>
<tr>
<td>Incidenza annuale</td>
<td>3.33</td>
<td>&gt;1</td>
</tr>
<tr>
<td>Prevalenza annuale utenti in carico</td>
<td>7.75</td>
<td>&gt;2.5%</td>
</tr>
<tr>
<td>Prevalenza annuale contatti</td>
<td>11.49</td>
<td>&gt;3%</td>
</tr>
<tr>
<td>Conclusioni concordate</td>
<td>48.3</td>
<td>Da determinare</td>
</tr>
<tr>
<td>Saturazione</td>
<td>1.15*</td>
<td>0.9&lt; &gt;1.1</td>
</tr>
<tr>
<td>Conclusioni non concordate</td>
<td>3.66</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Peso assistenziale:proporzione alti utilizzatori</td>
<td>34.8%*</td>
<td>40%</td>
</tr>
<tr>
<td>Peso assistenziale:proporzione lungo assistiti a 3 anni</td>
<td>27.9%*</td>
<td>50%</td>
</tr>
<tr>
<td>Peso assistenziale:proporzione lungo assistiti a 5 anni</td>
<td>14.9%*</td>
<td>30%</td>
</tr>
<tr>
<td>Ripresa in carico</td>
<td>10.8%*</td>
<td>&lt;10%</td>
</tr>
<tr>
<td>Carico di lavoro NPI</td>
<td>244.6*</td>
<td>100</td>
</tr>
<tr>
<td>Carico di lavoro psicologo</td>
<td>141*</td>
<td>100</td>
</tr>
<tr>
<td>Carico di lavoro riabilitatore</td>
<td>95.6*</td>
<td>20&gt; &lt;40</td>
</tr>
<tr>
<td>Numero medio prestazioni per paziente</td>
<td>13.7</td>
<td>&gt;12</td>
</tr>
<tr>
<td>Proporzione pazienti in situazione di handicap</td>
<td>32.9%*</td>
<td>&lt;30%</td>
</tr>
</tbody>
</table>

*valori fuori range atteso/auspicato

Conclusioni: Il confronto dei valori attesi rispetto a quelli riscontrati forniscono a nostro avviso
due spunti di riflessione importanti: da una parte l’offerta di servizi copre le necessità attese in base ai dati di letteratura per la popolazione di riferimento (incidenza e prevalenza annuale di contatti e prese in carico sopra soglia, domanda inappropriata e conclusioni non concordate ampiamente entro i limiti auspicati), dall’altra il carico di lavoro per gli operatori risulta notevolmente soprasoglia per tutte le professionalità presenti in questo tipo di servizi (medici, psicologi, riabilitatori).

La esiguità del campione analizzato e la disomogeneità dei Servizi NPI rendono questo lavoro un piccolo spunto di riflessione su un tema poco esplorato: in un settore in cui il rapporto operatore-paziente è il principale (o l’unico) strumento di assessment e leva terapeutica, il sistematico superamento dei limiti numerici di tale rapporto quali ripercussioni può avere in termini di qualità e sicurezza delle cure? Il quesito rende ancora più impellente la necessità di individuare in salute mentale indicatori di esito da correlare a quelli di processo.
Implementing multidisciplinary clinical services using cutting-edge science for routine care: a national study of genomic implementation across renal genetics clinics in different healthcare systems

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¹Australian Institute of Health Innovation, Macquarie University, Sydney, Australia

Introduction:

Current evidence of clinical utility indicates that sequencing individual genomes to diagnose and personalise care for patients and their families is transformative. There is evidence for many conditions, in both adults and children. The challenge now is to understand how health systems adopt, integrate, and sustain these interventions as part of routine quality care. To answer this question, we investigated and evaluated the adoption, implementation, and sustainability of a multi-disciplinary service delivery model of renal genomics across hospitals in different healthcare systems using implementation science frameworks and theories.

Methods:

Phase 1: In-depth, semi-structured interviews (n=9, a total of 450 minutes) were conducted with all national and state leads of renal genetics clinics to investigate how the clinics operated within different health systems.

Phase 2: A comparative case study was then conducted between the longest-running clinic, the newest clinic, and two clinics perceived to be most sustainable according to clinic leads. In-depth, semi-structured interviews with all members of the clinics (n=10, a total of 480 minutes).

Phase 3: Data from organisational documents such as strategies, communication briefs, and symposia observations were extracted and triangulated to add depth and another perspective to the data.

Data analysis: Qualitative data were analyzed using the RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) framework, which has been shown to be consistently effective in the evaluation of implementation outcomes to translate research into practice. This was followed by a systematic analysis of barriers and facilitators influencing the processes that led to implementation outcomes, according to the Consolidated Framework for Implementation Research (CFIR).
Results:

This study has indicated that clinicians are more likely to lead change and therefore adopt a new intervention when they have clear evidence or personal experience that a genomic intervention (or mechanism for delivering the intervention) is able to provide the right care at the right time. The rate and ease of implementation are greatly affected by support from departmental leadership and clinicians with administration duties embedded in their routine roles (such as genetic counsellors). Implementation in clinician-led change is maintained (1-6-years duration) in most cases because clinicians perform administrative duties outside of work hours – an unintended consequence of clinician-led change. Despite high rates of adoption and implementation, clinician-led change is perceived to be unsustainable in the long term, except for clinics that have received input on service delivery embedded in their design.

Conclusion:

‘Bottom-up’, clinician-led integration of new genomic interventions results in higher rates of adoption and implementation but requires implementation scientists to support new initiatives, while workload adjustment will encourage sustainability.

Please declare any conflict of interest you may have: None.
Reduce arteriovenous fistula occlusion rate in hemodialysis patients
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Introduction:
The number of patients suffering from end-stage kidney disease in Taiwan has increased year by year. If the vascular access function is not good, it will increase the repeated hospitalization rate of patients, and even affect the patient's dialysis and quality of life and even cause life threatening. From January to December 2018, the rate of arteriovenous fistula obstruction was 8.2\% in our hospital, compared with 3\% in same level Hospital. The purpose of this project is aiming to maintain stable and good vascular access for patients thereafter improving overall quality of hemodialysis

Methods:
In March 2019, the current situation analysis included the evaluation of patient characteristics before fistula puncture, analysis of the causes of arteriovenous fistula obstruction, Fistula puncture care and nursing process, Arteriovenous fistula care cognitive analysis. The possible factors of arteriovenous fistula puncture failure rate were summarized and analyzed by the group members. There are 4 important reasons: 1. lack of consistent health education process, 2. failure to evaluate arteriovenous fistula function, 3. inadequate cognition of arteriovenous fistulas by nurses and patients, and 4. the nurses cannot correctly judge whether arteriovenous fistulas are mature.

Method: 1. Establish arteriovenous fistula care process and perform evaluation before puncture. 2. Cooperating with rehabilitation department to record teaching videos of fistula exercise. 3. Discuss new vascular patient communication channels with cardiac surgeons. 4. Use ultrasound to evaluate blood vessels and establish an arteriovenous fistula ultrasound implementation list. Includes newly created fistula patients, difficult puncture patients and PTA patients. After scanning, the physician will note the recommended puncture site, and take pictures and print them on the medical record. Convenient for nurse when puncture

Results:
1. Improve the awareness rate of arteriovenous fistula of patients and nurses by 100\%. 2. Nursing staff with ultrasound tools assessing arteriovenous fistula maturity then doing puncture success rate in 100\%. 3. Reduce the fistula obstruction rate to 3.8\% at the end of January 2020, and achieve target value of occlusion rate to 4.8\%
Conclusion:
Cross-team cooperation for improvement measures, co-production with the rehabilitation department to produce the correct fistula ball-holding motion video, improve the arteriovenous fistula care process, increase the arteriovenous fistula puncture evaluation process, the nurse can show professionalism, and evaluate whether the arteriovenous blockage in some cases, doctors use ultrasound intervention to evaluate the maturity of arteriovenous fistulas. The results obtained can be used by the team members to know the first time in the cloud. It is suggested that new personnel training can strengthen the knowledge of fistula care, use empirical search data to enhance their professional knowledge, and use the convenience of technology in multiple parties to collect data, analyze data, disseminate information, and evaluate results to become a modern nurse.

References:


Please declare any conflict of interest you may have:

NONE
The Effect of Distracting Intervention on Reducing Intravenous Injection Distress among Preschool Children at Emergency Department

Jing-Yi Lee¹; Wan-Ying He¹; Meei-Liang Lin¹; Chia-Chi Hsu¹

¹TMUH, Taipei, Taiwan

Introduction:
Intravenous injection is the most common cause of distress in preschool children at emergency department, which causes patients’ physical and psychological suffering and disrupts the procedure. Because of children’s painful struggle, this procedure requires more manpower and time, and the family members often feel overwhelmed.

The purpose of this project was to determine the effect of distracting intervention on intravenous injection among preschool children.

Methods:
This project was conducted in an emergency department in a regional teaching hospital from July 1 to December 31 in 2019. We recruited 3 to 7-year-old preschool children who needed to receive intravenous injection. These children were fully conscious, without visual or hearing impairment or mental retardation.

From July 1 to September 30 in 2019, before conducting the intervention, we applied Children’s Hospital of Eastern Ontario Pain Scale (CHEOPS) to observe the distress level of 20 children receiving intravenous injections, and the average distress score was 10.6. CHEOPS is an observational pain scale consisting of six behavioral components (cry, facial, child verbal, torso, touch, legs) that provide a global score ranging from four to thirteen. The higher the score, the more distressful it is. In addition, ratings of overwhelmed feeling on a 5-point Likert Scale for the family members during the injection was 4 points on average. Time and manpower required during the injection were also counted, which were 14.5 minutes and 2.5 manpower per child.

Based on literature review, audio-visual distraction during intravenous injection could provide positive effects on reducing anxiety and pain in children. In order to improve the quality of nursing care, we referred to the literature and developed interventions. The elements of the distracting intervention included: 1. prepare a single room with cartoon paintings on the wall as an injection room. 2. an iPad was provided during the injections.
which could be utilized by the family members to play videos to distract the child. Up to 2 family members were allowed to accompany the child.

The intervention was implemented in the injections of another 15 children from October 15 to December 31 in 2019.

**Results:**
Following the distracting intervention, the scores of CHEOPS was reduced from 10.6 to 7.1, and consumption of time and manpower of the procedure were reduced from 14.5 to 8.4 minutes and 2.5 to 1.3 manpower per child respectively. The ratings of overwhelmed feeling for the family members were reduced from 4.0 to 1.3 points.

**Conclusion:**
In terms of caring and administration, the result of the project has demonstrated the positive effect of the distracting intervention on reducing intravenous injection distress among preschool children at emergency department. We suggest that distracting intervention can be conducted for another invasive procedure to reduce children’s physical and psychological distress.

**References:**

**Please declare any conflict of interest you may have:**
No
[1975] Advancing quality and safety for all: health technology assessment as a strategic driver of a quality improvement program for STEMI Networks in remote areas (Elba Island)
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¹Tuscany Northwest Trust, Italian Regional Healthcare Service, Pisa, Italy; ²ANSPI, Rome, Italy

Introduction:

Timely reperfusion in the STEMI patient is crucial to decrease mortality. This goal is a difficult challenge in remote areas and islands, due to long transfer distances from PCI facilities and limited availability of healthcare resources, resulting in considerable disparities in access to high quality care. The aim of the study (health technology assessment report) was to support a quality improvement program for a local STEMI Network in Elba island (Tuscany Northwest Trust, Italian Regional Healthcare Service) through the multidimensional EuNetHTA framework. In second instance, we tested the effectiveness of HTA in monitoring and redesigning a critical pathway (CP) for acute myocardial infarction.

Methods:

The PICO model was used to design the research question and a systematic literature review was performed. The HTA analysis covered all 9 domains of the EuNetHTA Core Model®3.0. The burden of disease and mortality rates were calculated on the basis of local data, if available, or derived from literature or national/regional registries. We also analyzed safety data regarding medical devices integrated in the CP and retrospectively searched the Regional Incident Reporting Database for reports of patient safety incidents occurring from January 2016 through December 2019. Cost-effectiveness assessment was performed in terms of cost per life saved.

Results:

In Elba island the STEMI network was initiated in 2016. Before 2016, suspected STEMI patients were systematically transferred to the local hospital for diagnostics and intra-hospital fibrinolysis or subsequent centralization in the Hub Center for PCI, with less than a quarter of the total number of patients being timely reperfused; onsite fibrinolysis was limited, the variability was remarkable. Our experience shows that telemedicine associated with the overall reorganization of the STEMI Network produced performance improvement nearly reaching, in 2017, the standard provided by the Balduzzi Decree (at least 60% of timely reperfusions), fig. 1. Nevertheless, the safety domain showed persistent critical issues.
resulting in treatment delay, requiring further interventions, addressed in a comprehensive improvement plan. According to the existing evidence, our experience supports four substantial measures to improve Stemi Networks: prehospital triage, onsite ECG registration and tele-transmission, remote consultation with a cardiologist in the Hub Center, direct transferral to the Hub Center bypassing the Spoke Center, multimodal organizational strategies (network redesigning, strengthening of connections by land and air, training, patient education, technologic support, community and EMS volunteers involvement, guidelines customization). The telemedicine intervention is cost-effective; the cost per life saved (estimated n: 14/year) on a 5-year technology cycle is € 4.909 and drops to € 3.136 taking into account savings from selecting a closer Hub Center (Grosseto vs Livorno) due to the shorter time of flight.

![STEMI Network performance (Elba island)](image)

Fig. 1. Proportion of STEMI-eligible patients receiving any reperfusion (PCI or fibrinolysis) therapy according to current standards (% Door-to-balloon<120'/Door-to-needle<30')

**Conclusion:**

The experience of Elba island shows that telemedicine associated with the overall reorganization of the STEMI Network produces an actual improvement in reperfusion time and number of lives saved. The HTA methodology has therefore proved to be a strategic driver for a quality improvement program at a local level.

**References:**

**Please declare any conflict of interest you may have:**

The Author declare that there is no conflict of interest
A mixed-methods study supporting the surgical safety checklist in a tertiary 900-bed maternity hospital in Viet Nam.

Hang Phan Thi1; Trang Dien Ngoc1; Phuoc Huynh Ngoc1; Thuy Tran Thi Thanh1

1Hung Vuong Hospital, Ho Chi Minh City, Viet Nam

Introduction:
The surgical safety checklist use was mandatory in hospitals in Vietnam due to the recommendation of World Health Organization and the quality management standards of Ministry of Health Vietnam. In Hung Vuong hospital, surgical safety checklist compliance was monitored by the audit team from quality management department, ranged from 44% to 54% from 2017 to 2018. Objectives: To determine the proportion of surgical teams who had the right knowledge of checklist and the mean scores attitude towards the checklist use and to explore barriers to checklist compliance.

Methods:
A mixed method combined a descriptive cross sectional and qualitative study was conducted in the operating theatre from April to August 2019. A self-assessment questionnaire was given to all members of surgical team to evaluate their knowledge and attitude on checklist. Data was entered by Epidata and analysed by Stata. In qualitative study, grounded theory with a purposeful sample of 15 semi-structured interviews and 4 focus groups was applied. A topic guide was formulated and audio recorders were used to collect data. The internal review board approved the proposal of this study. All participants sign agreement before joining to this study. The right knowledge definition was 7/7 items related to questions has a right choice. The attitude questionnaire consisted of 22 questions cover five subscales: attitudes towards hospital norms on the use of checklist (5 items), the impact of checklist on safety and teamwork (5 items), support of checklist from specific groups (5 items), intent to initiate the checklist (2 items), and barriers to the use of the checklist (5 items). All responses to the attitude section were based on a five-point scale from 1 (strongly disagree) to 5 (strongly agree).

Results:
Of the 233 participants in the study, 57.2%, 19.4%, 10.5% and 14% respondents identified as surgeons, anesthetists, midwives, and operating theatre nurses, respectively. Overall, the right knowledge on the checklist was 6.4% (15/233). Findings showed that 100% (233/233) was aware of the existence of checklist in operating theatre, 70.5% (164/233) believed the checklist’s benefits for patient safety; 64.8% (151/233) knew those who have responsibility to conduct the checklist; 64% (144/226) knew three phases of checklist; 51.5% (120/233) knew the stipulated circumstance to use checklist, 35.2% (71/201) could write down three phases of checklist. Overall, the mean score on surgical team members attitude toward checklist was 3.93/5, standard deviation = 0.38 with cronbach’s alpha was 0.875. Qualitative results also indicated that surgical team had a good perception, attitude and belief on the checklist values. Findings were similar to quantitative study when surgical teams coped with barriers from healthcare system such as human resource shortage (midwives and anesthetists especially on a night shift), time constraints to conduct checklist in some emergency situations, hierarchy exists from senior surgeons because of their dislikes to the checklist and poor cooperation, communication between team members.

**Conclusion:**
An intervention program including human resource supply, clinical communication improvement, education, standardized procedure guidelines on the checklist need to be conducted.
References:

Please declare any conflict of interest you may have: No conflict of interest.
Causes of non-compliance of the outpatients visit of a Palliative Care Service in a Monographic Cancer center.

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1Palliative Care Service, Catalan Institute of Oncology, Barcelona, Spain; 2Quality Management Department. Catalan Intitute of Oncology, Barcelona, Spain

Authors:

Sílvia Llorens; Rosa Artigas; Sara Ela, Gala Serrano; Jordi Trelis, Àngel Vidal

Introduction:

Focusing on improving patients’ perception of the healthcare organization is one of the key objectives in a monographic healthcare institution of cancer. As a sign of its commitment and orientation towards excellence in healthcare quality, a catalog of indicators available in the corporative dashboard has been developed. These indicators are periodically and systematically evaluated, with the aim of detecting critical points, proposing areas for improvement, as well as encouraging the culture of decision-making based on results in services.

Accessibility to outpatients consultation is one of the quality indicators of the institution. And reprogramming of visits is another sub-indicator to be monitored. The outpatients department of the Palliative Care Service visited 3097 patients during the year 2018, either for first visits (FIV) and or follow-up visits (FOV). 19% of the appointments are rescheduled for different reasons, and also some visits are counted as non-shows. The Palliative Care Service performs phone-call reminders for the first visits. Even so, several patients do not show-up for the first visit and even in greater numbers as for follow-up appointments. We believe it is pertinent to explore the reasons for non-show patients to the first visits and the follow-ups scheduled in the outpatients consultation of the Palliative Care Service.

Objective:

To explore the reasons for for non-show to visits scheduled at the outpatients of a Palliative Care Service in a monographic cancer hospital.

Methods:

Data were collected on visits, both from first and follow-up ones, not fulfilled in the outpatients from January 9 to June 9, 2019.
Results:

A total of 132 unfilled visits were recorded (25 FIV and 107 FOV). 48% of the FIVs did not attend due to hospital admission or emergency visits. 12% did not comply due to indisposition and only one patient forgot the visit. The first reason for the FOV was the patient's indisposition (24.2%) and the second (17.75%) was hospital admission or emergency. 13% forgot the appointment of FOV and 10% were exitus. The referral to the Home Care Program was the reason for 8.4% of the cases also in this type of visit.

Conclusion:

Knowing the reasons for non-compliance to the outpatients consultation helps us to implement actions for improvement. Results show that the so-called FIV reminder is effective and carrying out this reminder at follow-up visits suggests that more than 30% of non-attendance could be avoided by having information on both referrals made to other resources, from the successes occurred, and also serving to avoid cases of forgetting the appointment.

References:


Characteristics and outcomes of advanced cancer patients who miss outpatient supportive care consult appointments. Delgado Guay MO, Tanzi S, San Miguel Arregui MT, Chisholm G, De la Cruz M, Bruera E. Supportive Care in Cancer, Volume 22, Issue 10, 2869-2874

Please declare any conflict of interest you may have:

The authors declare there are no conflicts of interest.
Enhancing the quality of patient experience through the patient-nurse interaction program of admission-discharge in the ward of Internal Medicine Gastroenterology department

Eunha Bae

1Seoul National University Hospital, Seoul, Korea (Republic of)

Introduction:

The bed turnover rate of the is 27.7% higher than the average turnover rate of the internal medicine ward in South Korea. The number of admission-discharge patients is the highest among internal medicine wards. These result in a limitation for new patients to get enough information from health care provider (HCP) and a decreasing in the quality of patient experience during admission-discharge. In addition, HCP's job satisfaction decreased due to an increase in the workload of HCP during patients' admission-discharge. Therefore, in order to improve the quality of the patient experience and the satisfaction of HCP during admission and discharge, the process of admission-discharge of the ward of Internal Medicine Gastroenterology department needs to be improved.

In the Korea ward, one nurse is assigned 11-13 patients per working hour. So, if the patients are admitted in ward at the same time, the nurse can't care patient consistently and directly. It is difficult to pinpoint the needs of inpatients because the initial information survey aims to grasp as much information as possible in a short time. Since the nurse unilaterally educate inpatients, the patient's understanding about the content of the education is unknown. Add to this, the nurse must request the confirm about the drug to the department of pharmacy if the patients don’t bring a prescription. After pharmacy’s work hour, nurses should identify drugs directly. It not only threaten patient safety, but also overburden medical staff. As a result, all of the above result in a decrease in the quality of the patient's experience.

This study was done to develop the patient-nurse interaction education program to improve the quality of patient experience. The key indicators were the number of complaining, understanding with video education, patient's satisfaction for the process of admission-discharge, job satisfaction of nurses, waiting time and education time of admission-discharge patients. The objectives were 30% decrease, 30% increase, 30% decrease, 10% increase, and 30% increase, respectively.
Methods:

The patient-nurse interaction program in admission-discharge was organized as the questionnaire form of admission, video education, feedback to patient. And the process innovation of admission-discharge was self-medication prescription campaign, co-work with department of administration. A pre-experimental design was used. The subjects were about 20, Data was analyzed through average percentage. And the pre to post survey about the patients’ needs was done. Nurses produced video education about Inpatient Admission Information and educated to inpatients. And then nurses provided feedback as quizzes to patients. Department of Administration emphasized inpatients before admissions to bring self-medication-prescription. In addition, in consultation with other departments, we decided to distribute chemotherapy patients and short-term surgery patients not to admission in a same time at once. Through the above improvement activities, nurses can provide patients with higher quality education and assess the patient’s symptoms in detail. The nurse intensively make an ocular inspection and touch the part of the patient indicated as having problems.

Results:

![Graph showing changes in key indicators pre and post intervention]

Conclusion:

We achieved all five key indicators. Especially the waiting time was greatly reduced. In addition, the fact that increased job satisfaction of nurses was significant. The satisfaction of not only external customers but also internal customers was increased too.
Exploring the Utilization of Emergency Department by Psychiatric Patients

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1Quality Management Center Medical, Kaohsiung Veterans General Hospital, Taiwan; 2Department of Long Term Care, National Quemoy University, Taiwan; 3General Neurology Division, Taichung Veterans General Hospital, Taiwan; 4Shu-Te University, Department of International Business and Trade, Taiwan

Background and Purpose:

Recently, the numbers of psychiatric patients have grown increasingly. Many researches indicated that psychiatric patients might be frequent emergency department users; therefore, the purpose of this study was to analyze the utilization of emergency department by psychiatric patients.

Methodology:

This study adopted the retrospective study design and also used Aday and Andersen’s health behavior model as a main research structure. 95,435 samples were collected from psychiatric inpatient medical claim dataset of National Health Insurance Research Database from 2002 to 2007. Descriptive statistics, student t-test, one-way ANOVA, logistic regression, and multiple regression were used to analyze the utilization of emergency department by psychiatric patients.

Results:

In this study, 16.11% of all samples have utilized emergency department. The average number of emergency department visits was 0.43 and average expenditure of emergency department services was NTD 1,184.5 per person per year. The likelihood of using the emergency medical services would be higher when the samples were women under 20 years old, insurance status as employers, the premium-based monthly salary of NTD17,281-NTD36,300 and NTD72,801 - NTD131,700 per person, the number of emergency physicians per 10,000 population was under 0.30, the number of psychiatry physician per 10,000 population was 0.31-0.61 or more. In addition, there would be higher likelihood of intensive using the emergency medical services when the samples were 31-50 year-old women, the premium-based monthly salary of NTDS17,280 or less, the number of psychiatrists per million population was more than 0.31-0.61, non co-payment policy, with chronic diseases. In medical expenses, there would be higher emergency medical costs when the samples were men aged 31-61, the premium-based monthly salary of NTDS17,280 or less, the number...
of emergency physicians per 10,000 population was under 0.30, the number of psychiatrists per 10,000 population was over 0.61, non co-payment policy, with chronic diseases.

**Conclusion and Suggestions:**

Government should take effort to promote the timing of using emergency service and Family Physician System to psychiatric patients and their families by different ways. Medical care personnel should inform psychiatric patients and their families how to take care by themselves after emergency department visits. The medical institutions should transfer the patients to outpatient or inpatient departments as soon as possible and establish emergency clinics so that non-urgent patients could transfer to emergency clinics. In addition hospitals also should accompany with community medical services to develop integrated cares for psychiatric patients.

**Please declare any conflict of interest you may have:** no
Implementing a Hospital-wide Smart Bed Assignment & Management system to Decrease Length of Stay at Emergency Department

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1Quality Management Center, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan; 2Emergency Department, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan

Introduction:

Four important indicators, named as “2hrs ratio”, “2-6hrs ratio”, “6-24hrs ratio”, “24hrs ratio”, explicitly highlight the length of stay in hours after initial triage process at emergency department (ED). These four indicators directly reflect the quality of service at ED and impact directly on the severity of emergency crowding. In 2016, after statistic inference, the performance of in our hospital based on these four indicators generally lagged behind the peers in Taiwan.

Objectives:

In order to improve our performance and shorten the length of stay (LOS) at ED, development of a possible solution based on problem-solving design thinking was proposed.

Methods:

We successfully implemented a Hospital-wide Smart Bed Assignment & Management System (SBAMS) using JAVA in 2018. All these four performance indicators of all quartiles of the peers were collected for comparison with the ones of our hospital before (2016) and after (2018) SBAMS implementation. We also gathered all ED visit Data from 2016 and 2018 from hospital information system to calculate the LOS time. In this study, descriptive statistical analysis was used to describe the basic features of the data in our study.

Results:

The “2hrs ratio” located at the minimum to Q1 for all months before and after the intervention. The “2-6hrs” ratio located at Q2 to Q3 for 10 months before the intervention and at Q3 to maximum for 11 months after the intervention, respectively. The “6-24hrs ratio” and the “24hrs ratio”, whether before or after the intervention, located at Q3 to maximum for all months. However, “6-24hrs ratio” and the “24hrs ratio” performed better after the intervention than those before the intervention. In other words, whether before or
after the intervention, we found that the “2-6hrs”, the “6-24hrs ratio”, and the “24hrs ratio”, located at the minimum to Q1, Q2 to Q3, or Q3 to maximum, maintained at the same number of months, respectively. As for the “2-6hrs ratio”, it has been changed from 10 months for Q1 to Q2 to 11 months for Q3 to maximum.

Another analysis showed that after the intervention, ES time per emergency patient dropped from the original 8.5 (16.5) to 7.9 (15.0) [mean (standard deviation)]. After excluding the patients without admission, it even dropped from original 23.4 (26.4) to 19.3 (22.7) and reduced from the original median (Q1-Q3) of 13.2 (3.9-32.1) to 10.4 (3.6-25.7).

**Conclusion:**

This ideal data environment is not easily built until now due to the variables are not obtained easily from peer hospitals. In spite of that, our SBAMS help to decrease LOS time by 0.6 hours/per all ED visits and to decrease LOS time by 4.1 hours/per ED patient receiving admission, i.e. boarding time. In summary, the strategy we made and the system we built successfully improve the service quality at ED and also contributed to the remission of emergency crowding.

**Conflict of interest:**

We adhered to the avoidance rules and had no financial conflicts of interest with any company or organization.

**Abbreviations:**

1. The indicator “ratio for staying within the first two hours after triage” (the “2hrs ratio”)
2. The indicator “ratio for staying 2 to less than 6hrs after triage” (the “2-6hrs ratio”)
3. The indicator “ratio for staying 6 to less than 24hrs after triage” (the “6-24hrs ratio”)
4. The indicator “ratio for staying more than 24hrs after triage” (the “24hrs ratio”)

672
Introduction:

The psychological and physical health problems (e.g., back pain, sleep problems, burnout) among healthcare professionals are well established and extensive. These negative health outcomes have an impact on healthcare work efficiency, and absenteeism. In turn, these consequences have detrimental effects on the organization and quality of patient care, and represent a considerable economic burden, thereby jeopardizing the sustainability of the healthcare system. The objectives of the study were 1/ to investigate the interplay of sick leave with intensity and number of care-related negative emotional experiences, accounting for critical confounding factors such as prior psychological condition (i.e., personality) and perceived working environment (i.e., safety climate); 2/ to examine the mediating or moderating effect of coping strategies.

Methods:

Newly practicing healthcare professionals working in acute care French, English, German, or Danish hospitals and clinics were assessed through online surveys every week for 1 year (52 repeated measurements) in the ongoing ICARUS cohort study. This study was approved by all relevant local Ethics Committees, and all participants signed informed consent forms. Sick leave was measured by asking, for each of the seven weekdays if it was a “day work”, “night work”, “day off” or “sick leave”. Emotional burden, coping strategies, physical activity and safety climate were measured through validated questionnaires. Relative risks (RR) of having at least 1 day of sick leave in a given week was estimated using generalized estimating equations (GEE) with a Poisson log-link and an autoregressive ar1 correlation.

Results:

We followed a total of 276 healthcare professionals (87.4% females; age=30.4±7.6 years; 28.6% physicians, 52.9% nurses, 18.5% other healthcare professions, e.g., physiotherapists, social assistants) for 23 weeks on average. Nurses used all types of coping strategies less frequently, especially adaptive strategies (p<0.001). The average proportion of weeks with at least one day of sick leave, over the whole follow-up, was 3.2%, and stable across
professions. Figure 1 illustrates the association of emotional burden number (left panels) and intensity (right panels) with sick leave, according to coper types, for nurses (top panels) and physicians (bottom panels), with weeks observed indicated below each bar. To make the bars visible, bars at 0 on the Y axis are drawn at -1. The width of the bars represents the frequency of each coping type. Maladaptive coping types were more frequent when reporting more emotional burden or more intense emotional burden (p<0.001). The height of the bars represents the frequency of weeks with sick leave, illustrating that nurses’ sick leave increased especially with number of emotional burdens (adj RR=1.52; 95%CI=[1.18; 1.95], p=.001) and physicians’ sick leave increased especially with intensity of emotional burden (adj RR=1.21; 95%CI=[1.00; 1.47], p=.049). Coping was associated with lower risk of sick leave for nurses (adj RR: 0.53 [0.37; 0.74] for problem-focused strategies, and adj RR: 0.68 [0.55;0.85] for physical activity) but not for physicians. The association of emotional burden with sick leave remained significant even when adjusting for coping (RR shown above).

**Conclusion:**
Emotional burdens are associated with increased risks of sick leave, even in this young population of healthcare professionals. Use of coping only partially mediated these associations, and this mediation was present only for nurses. The results of this study should be used to inform intervention to reduce emotional burdens and enhance coping options among healthcare professionals.

**Please declare any conflict of interest you may have:** None.
Introduction:

The Grand Centre Medical Clinic (CMGC) is located in the municipality of Yopougon in Abidjan and serves more than 2 million people. It is the most populous community of Côte d'Ivoire in West Africa. Côte d'Ivoire population is 24 million. The CMGC opened in 1991 as a primary health center and evolved to become a polyclinic by 2006. The Polyclinic provided the following services: medicine, gynecology, surgery, imagery, dental care, community care, ORL, neurology, etc. In November 2015, the clinic opened an additional neonatology unit to meet the needs of the community.

Description of the problem: In Europe, according to the 2010 Euro-Peristat study, neonatal mortality is about 4.4 per 1,000. In Côte d'Ivoire, the national neonatal mortality rate was 36 per 1,000 in 2011. According to WHO, the neonatal mortality rate in Africa is 27.2 per 1,000; with a global target of 3.2. The clinic recorded a neonatal mortality rate of 18% and 14% in 2017 and 2018, compared to the country's national rate of 35%.

Overall goal: Improve the performance of the CMGC's neonatology department and reduce newborn mortality.

Methods: With strong management support, the CGMC staff put in place specific actions to improve neonatal health at Grand Centre Medical Clinic, such as:

• Staff training: The clinic has recruited two permanent pediatricians, competing in neonatology and nephrology, in addition to the part-time pediatricians. Several resuscitation trainings for newborns for doctors, women, and nursing assistants.

• Equipment and environment: Acquisition of a transport incubator for the transfer of newborns in life-threatening distress. Installation of two new neonatal resuscitation tables in the operating theatre and delivery room. Strengthening hospital hygiene measures to reduce hospital-acquired infections.

• Organization of work: A procedure is in place to alert in case of at-risk delivery for immediate and early management of the newborn in life-threatening distress. Help view
support guidelines. The ratio of one midwife to 4 babies has been adopted. An additional midwife is called on duty when a fifth baby is added. Review of admission and monitoring criteria

- Exchange of technical information between pediatricians and the resuscitation team to strengthen the care of babies

Results:

Over the four years of practice, we have seen a steady increase in the number of newborns hospitalized in clinic. The implementation of the new actions has significantly reduced mortality. From 18% (21 death) and 14% (23 death) respectively in 2017 and 2018, to 6% (8 death) in 2019. The clinic has a good care team, which is better equipped to manage cases of prematurity and life-saving distress. (See chart)

Conclusion:

The introduction of specific interventions to improve Neonatal care in this community has had a knock-on effect on all other services. The lessons from CMGC are important for neonatal health in CI and indeed for the care of the population in West Africa.

References:

Clinique Grand Centre Annual Report, WHO Health Statistics data visualizations dashboard

Please declare any conflict of interest you may have:

We have no conflict of interest with a vendor and commercial company for this work
Innovative information system could improve early goal directed mobility in intensive care units

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Introduction:
Early mobilization in intensive care unit (ICU) is a candidate intervention to reduce the incidence and severity of ICU acquired weakness and improve outcomes. Implementing early goal directed mobility (EGDM) was shown to improve duration of mechanical ventilation, ICU stay, long-term functional independence, and possibly mortality. However, it remained a challenging issue in daily practice.

The aim of this study is to investigate the impact of early goal directed mobility using innovative information system on patients’ outcome in intensive care unit.

Methods:
All consecutive patients from 2017-2018 in adult ICU were enrolled. The key interventions include novel early rehabilitation information system and virtual reality rehabilitation system for critical patients. The patients were divided into three periods: pre-EDGM system period from Jan to July 2017, EDGM system setting period from August to September 2017 and post-EDGM system period from October 2017 to December 2018.

Results:
The early rehabilitation rate improved from 17.1% in pre-EDGM system period, to 20% in EDGM system setting period and to 95.1% in post-EDGM system period (p<0.05). Average ICU stay decreased from 7.9 days to 6 days after intervention (p<0.05). Average ventilator days improved from 5.5 days to 4.9 days in post-EDGM system period (p<0.05). The incidence of ventilator-associated pneumonia decreased from 1.3‰ to 0.83‰ (p<0.05).

Conclusion:
The study showed that implementation of early goal directed mobility using novel information system could increase early rehabilitation rate, and reduce average ICU stay and ventilator days. Furthermore, the incidence of ventilator-associated pneumonia also improved.

Please declare any conflict of interest you may have:
NO
Medication Reconciliation Quality Improvement in patients treated with Novel Oral Anticoagulants

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Introduction:

The introduction of NOACs (Novel Oral Anticoagulants) has provided patients with atrial fibrillation a new choice on stroke prevention. However, potential interactions with prescribed drugs, over-the-counter medications, and herbal supplements must still be considered with the use of NOACs. Drug interactions of NOACs are associated with increased risk of hemorrhage or thrombotic events. We reconciled NOACs with multidisciplinary medications among inpatient and outpatient settings in an attempt to avoid possible drug interactions, reduce repeated or unnecessary drugs, enhance patients’ medication adherence and ultimately prevent occurrence of hemorrhagic or thrombotic events.

Methods:

The QCC (Quality control circle) was set up teams of doctors, pharmacists, nurses and an IT technician. The improvement program was carried out in two stages: Stage 1 from April to December in 2018, and Phase 2 from June to December in 2019. Medication reconciliation services were provided for inpatients and outpatients treated with NOACs plus at least two other long-term medications (usage over 28 days). The program included: establishing informative personalized management system; utilizing the system to record patients’ prescriptive and nonprescriptive medications; establish multidisciplinary medication evaluation system and doctor consultation platform; provide customized and intellectual education and post-hospital telephone care service from pharmacist. Morisky 8-Item Medication Adherence Questionnaire was utilized to evaluate medication adherence. Descriptive statistics was used to analyze the results from multidisciplinary medication evaluation. T-test was used to compare the medication adherence and average medication difference before and after the program.

Results:
From April to December in 2018, a total of 75 inpatients were included. During this period, 46 medication-related problems were found. This included 32 potential drug interactions between NOACs and other medications (69.9%): 14 were prescriptive medicine (37.0%), 10 were traditional Chinese medicine (21.7%), and 5 were herbal supplements (10.9%). By utilizing information system to improve pharmaceutical service efficiency, the number of pharmacist-led inpatient medication education has increased 192% from 4.3/month to 12.7/month. After the medication reconciliation program, repeated or unnecessary drugs were successfully prevented and thereby decreased health insurance drug costs. Comparing the inpatient daily drug cost, 9.4% decreased in the fourth quarter (NT$6,786 in 2017 and NT$6,147 in 2018) was observed. From June to December in 2019, a total of 97 outpatients were included. During this period, a total of 66 medication-related problems were found. This included 24 drug-drug interactions (36.4%), 21 without regular monitoring renal function (31.8%) and 18 potential inappropriate medications for elderly (27.3%). After medication reconciliation, the average number of drugs per person was decreased from 8.37 to 7.70 (p<0.05); 34 patients receiving ≥10 drugs before intervention (35.1%) was reduced from 11.15 to 7.70 (p<0.05). Medication adherence score has improved from 6.19 to 7.33 (p<0.05). The incidence of hemorrhage or thrombotic event remained 0% after 3 months following.

**Conclusion:**

By establishing medication reconciliation program, we did not only avoid the drug interactions with NOACs but also reduce the number of long-term medications. The efficiency of pharmaceutical services was improved by utilizing well-designed information system; and this in turn enhanced patient’s medication adherence, patient safety and economic benefits.
Introduction:

Paediatric HIV infection and treatment is a growing health challenge worldwide, with over 1000 children infected every day. Left untreated, progression to disease is usually rapid with mortality up to 50% by 2 years. In Nigeria, HIV positive children are largely underserved with only 35% of those infected estimated to be on treatment. Yet, even these children do not appear to be on the appropriate medication. With increasing evidence of pre-treatment drug resistance to Zidovudine/Lamivudine/Nevirapine combination in children, Nigeria adopted new first line regimen for children not more than 10 years of age in 2016. Two years after the new guideline, less than 20% of eligible children have been transited to the new medications. Continuous use of suboptimal formulations poses a threat to reaching the last 90 UNAIDS target for children and represents a significant quality gap. The study aimed at improving this by ensuring that at least 90% of children are placed on the appropriate regimen before the end of September 2019 across all the supported treatment sites in the state.

Methods:

There are 12 treatment sites in the project consisting of 9 secondary and 3 primary healthcare facilities. Ten of the facilities are in rural/semi-rural settlements while only two are in the city. These facilities had 81 children not more than 10 years of age on treatment who are on first line anti-retroviral regimen. Chart audit of the folders of these children showed that only 3 children (4%) were on the choice regimen appropriate for their age at the end of December 2018. A multi-disciplinary team consisting of representatives of partners and facility focal persons conducted Root-Cause Analysis to identify reasons for the slow transitioning. Identified challenges were knowledge gap of care givers on new guideline, fear of commodity stock-out and lack of facility commitment. Interventions including capacity building to address knowledge gap, ensuring commodity security through appropriate stock management and coordination with the logistics company and raising facility champions were planned for implementation in three PDSA cycles between starting in January 2019. Monthly records were collected from routine reports, and team meetings conducted after each PDSA cycle.
Results:

Of the 81 children, 47% (n = 38) of them were females while males accounted for 53% (n = 43%). Twenty-one percent were less than years old (n = 17), 36% between 4 and 6 years of age (n = 29) while the remaining were between 7 and 10 years (n = 35). The number of children on choice first line regimen steadily rose from 4% at baseline to 51% (n = 41) at the end of the first PDSA cycle, and to 93% (n = 75) at the end of the project. Six children who were already doing well. Six of the children were not ready for transition at the time of the project as they appeared to be doing well on their old regimen.

Conclusion:

Implementation of 3 PDSA cycles successfully led to paediatric ARV optimization target achievement. Follow up of these children is currently on going to compare the treatment outcome after the project.

References:


Please declare any conflict of interest you may have: None
Introduction:
The Strengthening Integrated Delivery of HIV/AIDS Services (SIDHAS) project works to sustain the integration of HIV/AIDS and Tuberculosis (TB) care in Nigeria by building the country’s capacity to deliver high-quality, comprehensive prevention, treatment and care services. Recognizing the limitations of providing quality HIV/AIDS care and treatment services in isolation of broader structures (governance and leadership, clinical, ancillary and support services), FHI 360 partnered with PharmAccess Foundation to introduce a hospital-wide quality improvement program in 51 private for profit healthcare facilities spread across Rivers (36) and Lagos (15) State from September 2017 and July 2019.

FHI 360 quality system is focused on HIV prevention, detection and treatment however, the overall quality of health service delivery is dependent on both clinical and non-clinical factors. These significantly affect the smooth functioning of a health establishment. The objective of this project was to institutionalize comprehensive quality improvement systems in 51 SIDHAS-supported health facilities.

Methods:
In line with PharmAccess’ transition and sustainability strategy, members of the FHI360 quality team were trained to become SafeCare Assessors and Facilitators. Nine FHI 360 staff were trained as SafeCare Quality Assessors in September 2017. Baseline assessments were conducted using the SafeCare Basic tool. Each health facility had customized Quality Improvement Plans (QIP) of 50 activities based on most critical gaps. Each facility was given an assessment report and certificate indicating the level achieved.

Nine FHI360 staff were also trained as Quality Facilitators. They conducted monthly facilitation visits to the health facilities to provide mentoring support to facility quality improvement teams on the implementation of their QIPs. These visits also entailed monitoring the progress of implementation of the QIPs as well as building the capacity of facility staff via trainings and coaching sessions. Through the facilitation visits, personnel were better equipped to perform their functions.
Results:
A comparison of follow-up and baseline results showed improvement in most facilities, with percentage improvement as high as 61% for some facilities. Health facilities in Rivers State were better performing in terms of assessment scores compared to those in Lagos State. However, the facilities in Lagos State had a slightly higher percentage improvement when comparing baseline and follow up results for both States (24% versus 22%).

The chart below highlights the improvement in quality score of TB/HIV and Malaria services using the SafeCare quality methodology and providers found it beneficial to improving their organizational structure and internal processes.
Conclusion:
The progress of facilities considering the short period of implementation provides a strong case for scalability of the SafeCare QI methodology by FHI360 to all SIDHAS-supported health facilities. Achieving and sustaining quality improvement is hinged on certain factors such as a strong governance structure, management and staff buy-in, presence of motivated quality champions and importantly, the creation of an enabling environment.

References:

Please declare any conflict of interest you may have:
Scaling up Isoniazid Preventive Therapy Optimization in HIV Clients - Lessons from Nigeria

Stephen Balogun1; Orogbemi Idowu1; Zainab Rufai1; Emmanuel Nwabueze2

1AIDS Healthcare Foundation, Lokoja, Nigeria; 2AIDS Healthcare Foundation, Abuja, Nigeria

Introduction:

Worldwide, Tuberculosis is the leading cause of death among People Living with HIV (PLHIV) causing a third of all AIDS-related deaths. In 2018, 862,000 PLHIV were estimated to have fallen ill with TB with 251,000 deaths. This is largely because HIV programmes are not testing, preventing and treating TB nearly enough. PLHIV who receive 6 months of IPT every two years can prevent TB by up to 90%. Despite this knowledge, studies have estimated IPT coverage to be between 3.6% and 39%.

A similar project reported an increase in the median IPT optimization from 40% to 87% among newly enrolled clients by implementing three PDSA cycles. The aim of this project is to replicate the study across six treatment sites and scale-up to include all eligible clients attending ART clinics.

Methods:

Six secondary health facilities offering HIV treatment were selected for the project. All sites were in rural/semi-urban settlements of the state. Baseline data was collected monthly over 6 months by auditing care cards of active clients for IPT eligibility, INH initiation and completion. The data showed a median IPT coverage of 39%. The team aimed to increase this from 39% to at least 90% by the end of June 2019.

A multi-disciplinary team consisting of partner organization staff and facility focal persons conducted a Root Cause Analysis. Identified issues were similar to those reported in the previous project: poor knowledge on IPT, low stock status and lack of facility commitment. These were addressed by organizing a one-day training followed by one-on-one mentoring to build the capacity of relevant staff, raising of champions in each facility responsible for creating demand and supporting other staff, and commodity security through appropriate logistics management and coordination with the third-party logistics company. The implementations were conducted in 3 PDSA cycles. After each PDSA cycle, the team met to review lessons learned from previous cycles and share progress.
Results:

A total of 2415 encounters were documented during the intervention phase with a monthly average of 345. Children accounted for 7% (n = 163) and adults 93% (n = 2252), women represented 61% (n = 1478) and men 39% (n = 937). Following the first PDSA cycle, there was an increase in IPT uptake from the baseline score of 39% to 48%. This rose to 74% after the second PDSA cycle and to 94% in the last month of the project. Overall, there was consistent rise in IPT optimization with a shift in median value from 39% to 74%.

Conclusion:

Implementation of three cycles of PDSA focusing on addressing knowledge gap, having a facility champion and commodity management has shown replicability and scalability in addressing the IPT optimization.

References:


Please declare any conflict of interest you may have:
None
Telehealth Driving Clinic: Using technology to improve consumer access to timely specialist assessment in a resource-challenged Australian setting

Zoe Adey-Wakeling1; Suzanne Dyer1; Maria Crotty1

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Introduction

Increased focus on medical driving assessment followed updated Austroad Medical Fitness for Driving Guidelines which require “appropriate specialist” assessment for license reinstatement post stroke. A novel telehealth model was developed to maximise equitable and timely specialist access for country clients. Driving medical assessment incorporates review of cognitive, visual, physical and medical standards for driving. The telehealth model includes local nursing assessment followed by medical telehealth review, mirroring the standard metropolitan clinic model. Specialist recommendations are made regarding fitness to drive or potential need for practical assessment or license.

Objectives

This study aims to implement a novel telehealth approach for driving assessment and retrospectively audit clinic outcomes and patient satisfaction.

Methods

The telehealth driving clinic was developed in 2014 to provide access for specialist driving assessment to Mount Gambier, 400km from nearest city. Clinic development included physician-led training of rural-site nurses to complete pre-assessments, and formulation of streamlined documentation inclusive of national telehealth consent standards. The retrospective audit was approved by the local Human Research & Ethics Committee. Audit of the first 2 years (2014-2016) of the clinic reviewed objective clinical outcomes, with focus on assessment decisions and actions, and consumer feedback. Consumer satisfaction data has continued to be collected and reviewed with periodic descriptive analyses. The introductory period (2014-2016) is compared to follow up period (2018-2019).

Results

As of January 2020, a total of 198 new clients have attended the Driving Telehealth Clinic. Clinic frequency has increased, with 8-fold rise in annual numbers from 2016 to 2019.
47 telehealth occasions of service for consecutive clients of the telehealth clinic over initial 2 year period, 1 Jan 2014 - 31 Dec 2016, underwent retrospective audit. 68% of assessments were conducted post stroke and 85% of assessed clients successfully returned to driving. Telehealth driving assessments provided referrals for practical assessment (39%). Occupational therapy assessment informed recommendations including 2 suspensions, 7 conditional and 2 unconditional licenses and 2 clients declined to proceed.

Initial patient survey results (2014-2016) were collected for 51% of clients. Results demonstrated high level satisfaction with information (4.3/5), comfort with telehealth (4.5/5), and equivalence of telehealth with standard clinical consult (4.7/5). The patient satisfaction survey was updated to a state-based standardised form in 2016. Repeat analysis (Sept 2018-Apr 2019) demonstrated maintenance of a high level satisfaction. Twenty-two responses (88% of clients during this period) revealed overall satisfaction with the service and a willingness to use it again. 96% of respondents Strongly Agreed or Agreed with the statement “I would use the video consultation service again.” Respondents estimated that the telehealth service saved a collective travel distance of 11 420 kilometres. The following video outlines the consumer experience: https://www.youtube.com/watch?v=tws9ijln4pu&feature=youtu.be

**Conclusion**

This study demonstrates that telehealth delivery for driving assessment has high usage, leads to strong and informative recommendations, has a high level of user satisfaction and has potential economic benefits by avoiding long commutes for both clients and physicians. Patient views indicate an experience equivalent to face to face assessment. This model has increased patient access to specialist assessment and is a focus growth area now expanding in South Australia into further regional areas.

Nil conflicts of interest
Introduction:

Nigeria is undergoing an obstetric transition in which the proportion of maternal deaths due to indirect causes is increasing. The attention paid to the unique vulnerabilities of women of reproductive age (WRA) with NCDs and their risk factors has been limited to date.

In collaboration with Nigeria’s Federal Ministry of Health, the MSD for Mothers Quality of Care project is supporting the Federal Capital Territory’s (FCT) and Lagos State Ministry of Health to improve quality of care for women of reproductive age (WRA) with NCDs or NCD risk factors (e.g. obesity) that increase women’s risk of pre-eclampsia/eclampsia.

To guide the design of a woman centered quality of care model to reduce maternal mortality due to pre-eclampsia and associated NCD risk factors, a mixed method assessment was implemented in FCT and Lagos State. We describe the findings and insights that have guided the design and development of a woman-centred quality of care model.

Methods:

A cross sectional mixed methods assessment using qualitative and quantitative approaches was used:

- To assess the prevalence of risk factors (Hypertension, Diabetes, Anemia, obesity) for indirect causes of maternal mortality and morbidity
- To assess the knowledge, experience and confidence of health care workers (HCWs) in providing services for prevention and management of PE/E risk factors in reproductive, maternal and NCD services.

The assessment included a community-based survey of 600 WRA to explore knowledge of PE/E risk factors and utilization and preference of using health facilities. Point of care testing was conducted in 400 WRA to measure prevalence of HTN, diabetes, anemia and obesity. A facility-based HCW survey and observation of antenatal care assessed HCW knowledge, confidence and quality of antenatal care with respect to prevention, diagnosis and management of NCDs in WRA. Data collection took place from April to May 2019.
Ethical approvals were obtained from the National Health Research Ethics Committee (NHREC), FCT Research Ethics Committee and School of Public Health, Johns Hopkins University Independent Review Board.

**Results:**
Thirty one percent (31.5%) and 40.5% of the 400 women tested in the FCT and Lagos State respectively had raised blood pressure, whilst only 4.3% and 10.3% of women respectively had ever been told they had raised BP.

9.5% and 10.5% of women in FCT and Lagos State respectively met criteria for pre-diabetes or diabetes (based on measured HBA1C level) whilst only 2% and 3.5% of women respectively had ever been told that they had diabetes or risk factors for diabetes (pre-diabetes). Fifty eight percent (58%) of women in both states were either overweight or obese. Fifty percent (50%) in the FCT and 53% in Lagos State who had their waist circumference measured were at an increased risk of cardiovascular risk.

Fifty seven percent (57%) of women in Lagos State and 40% in the FCT were found to have mild or severe anemia with a majority having mild anemia.

Majority of surveyed HCWs were Nurse/midwives 57(72.1%); 54(68.3%) had completed their professional training at least 11 years ago.

Most HCWs (86%) expressed confidence and had the knowledge to provide information on prevention. Most HCWs lacked knowledge (60%) and confidence (65%) to screen, diagnose and manage NCDs and risk factors in pregnant women. Calculation of BMI to assess overweight and obesity was non-existent at most health facilities.

**Conclusion:**

Assessment results demonstrate many quality gaps in screening and management of NCDs and linked PE/E risk factors in women of reproductive age. Findings have informed the design and early implementation of a woman centered quality of care model in Nigeria.

**References:**

Please declare any conflict of interest you may have: None
The Use of the Learning Incident Reporting System to Understand Safety Culture and Human Factors, in 10 Public Hospitals in Brazil

Maria Magalhaes1; Mansur Nacime1; Barreto Paloma1

1SPDM - Associação paulista para o desenvolvimento da medicina, São Paulo, Brazil

Introduction:

The Paulista Association for the Development of Medicine, a non-profit social organization, is currently 10 General Hospitals. We use the Incident Notification System so that, in conjunction with systematic audits, it can assist us in detecting latent conditions and active failures, which enable us to better allocate our resources in safety and model our training. The science of human factors is still being little used in a practical way in health, both for understanding failures and for redesigning capabilities and processes. Can our notification system assist us in understanding our challenges in understanding issues related to safety culture and human factors?

Methods:

We standardize the classification of the notification system according to the WHO Taxonomy. We set up stratification using Bird's pyramid to assess the evolution of the maturity of each system. We list sentinel and moderated incident notifications to review. The classification of Human Factors was based on the Dirty Dozen concept of commercial aviation. For each incident with a serious outcome we define all contributing factors and classify them according to the Dirty Dozen. After the classification, there was a feedback to the institutional board with the function of remodeling the training focuses.

Results:

We had 83,689 notifications in 10 Hospitals from 2013 to 2018. The Bird's Pyramid showed likely underreporting in circumstances of risk, near miss and harmless events. We had 117 Serious Events and 71 were analyzed. The culture still does not focus on the hazards, giving priority to notify only the serious events, being a culture that still reactive. Figure 1
Figure 1

From Human Factors the design of protocols, Communication Failures, Teamwork and Stress and pressure add up to more than 85% of the causes of the most serious events. As for the type of incident, the diagnostic error led the causes in serious incidents, with little work being done on actions to improve patient safety. Figure 2 and Figure 3

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<tr>
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<tr>
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Figure 2

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<td>Erro Diagnóstico</td>
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<td>Broncoaspiração</td>
<td>8%</td>
</tr>
</tbody>
</table>

Conclusion:

The Notification System can be used to improve understanding of the safety culture and issues related to human factors and serious events. More work related to the development
of training modeled on human factors may improve patient safety.

There is no conflict of interest
Introduction:

Lack of a simple tool to find the most frequently used numbers for doctors and nurses, this task was time consuming causing delays to patient care. Implementation of a simple handy tool like a card as badge would have been a relief for the whole people in finding the on call. In a survey done in UK, 57.8% of doctors at baseline reported a lack of knowledge of specific information required by each specialty as major hindrance in time management. We decided to introduce a handy tool to easily find the most frequently used numbers.

Our aim was to decrease the average time consumed which is about 30 minutes by nurses and physicians to find for hospital services and subspecialties from 95% to less than to 50% by 1 month, Feb 1 2017 to March 1 2017.

Methods:

An interventional study was conducted in the pediatric inpatients wards between end of January until end of March 2017 in Hamad general hospital the main tertiary hospital in Qatar.

Questionnaires were distributed pre and post Introduction of phone directory cards (S card) as small badge to residents and nurses in pediatric inpatient in the same time Introduction of trial version of phone directory card as a mobile application among pediatric residents.

Results:

Based on the 3 surveys done from February 2017 to March 2017, (Before S-card, 2 weeks after S-card, and 4 weeks after S-card). The percentage in the average time wasted in looking for the number of the services in the hospital has increased in the <5 min category. After 4 weeks of using S-card, there is an increase from 5% to 80% of total respondents who agreed that it is takes less than 5 minutes to find the number of the services in the hospital.
In terms of the number of times where wrong number is dialed, From 10%, there is an increase to 65% for the total respondents who agreed that less than 1 time is the average to dial the wrong number when looking for the on call schedule.

The satisfaction of the staff in the current method of S-card has increased From 5% to 45% of total respondents who agreed that they are satisfied with the use of S-card in finding on call person in the unit. It is also noted in the not satisfied category a significant decrease from 65% to 0% after 4 weeks of using S-card in finding the on call person.

**Conclusion:**

After implementation of this new S-card, there was a decrease in average number of time wasted by nurses and physicians to find for hospital services and subspecialties from 95% to less than to 20% by 1 month, Feb 1 2017 to March 1 2017, which was more than our expected target, making this project more successful.

The drop in satisfaction in the second survey, after the introduction of the card was attributed to less number of cards distributed among the health care workers, especially nurses. However the study showed that the number of time of dialing wrong numbers by the health care also showed a dramatic decrease less than 1 time in more than 65% of the responses.

The study need to be implemented on larger number and the for longer period to study the introduction of the mobile application as it might represent an excellent tool for quick and reliable source for phone numbers for most of the hospital services and on call Schedules.

**References:**

Having adequate information improved referrals and resulted in time saved. This would allow more time for patient care. The quality improvement project was praised among doctors as a useful, innovative and replicable project.

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**Please declare any conflict of interest you may have:**

we declare that we don't have any conflict of interest
Using Technology to Improve Tuberculosis (TB) Case Finding in Lagos State, Nigeria

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Introduction:

Nigeria is one of the 14 countries with the highest burden of tuberculosis (TB), TB/HIV co-infection and MDR-TB. In 2017, it contributed 8% of the total 4.3 million missed cases globally. Over 70% of TB cases are missed annually in Nigeria due to wrong diagnosis, poor notification, inadequate access to health (TB) services, and inefficient linkages between health facilities. With an estimated 25.6 million people, Lagos is the most densely populated state in Nigeria, contributing 8.4% to the national TB burden. Within health facilities, more than 50% of patients presenting with cough at the OPD (first time) would have been coughing for at least 2 weeks. These patients are not proactively screened for TB and sometimes wrongly diagnosed. There are no tools to document TB screening and this, indirectly, has contributed to TB patients being missed even when they present at health facilities. Patients are not found actively and therefore cannot be separated safely (FAST strategy) for diagnosis and treatment.

The first step to successful management of TB is accurate diagnosis, which cannot be optimally achieved without screening for presumptives. The ‘Building Models for the Future’ (BMF) project implemented by PharmAccess Foundation and KNCV, identified a quality gap whereby many cases are missed due to poor screening and subsequently developed the Mobile Application for Tuberculosis Screening (MATS) to:

- Improve case finding within health facilities through active symptom screening of patients presenting at different service points of the outpatient department (OPD).
- Create a recording and reporting structure for TB screening, thus providing a data collection platform.
- Improve the efficiency of identification and in-facility referral of TB presumptives by providing real-time information to TB Focal Persons / DOT Providers and other authorized personnel.
- Improve TB service delivery, by linking the app with the eTB Manager.

Methods:

MATS is an android based mobile application that assists health workers to screen persons for tuberculosis and refer them for confirmatory testing. It acts as the first step for TB
diagnosis and care by identifying TB presumptives. It comprises of a health worker interface (the mobile app), a backend web app, and a server to host data. It is user friendly, works offline, and has an in-built notification system for presumptives. The identification of presumptives by MATS is based on an algorithm which is in line with national guidelines for TB screening.

MATS (mobile app, web app, offline functionality, notification systems, and push emails) was piloted in 5 of the 60 BMF project supported health facilities. Data from the pilot was analysed and results were used to improve the screening process and app. Cough officers were identified and trained on how to use the mobile application. Backend users (project staff, facility staff) were identified and trained. MATS was eventually deployed to all 60 BMF supported sites and integrated at various service points within the health facility e.g. registration points, consulting rooms, ANC clinics, child welfare clinic, chronic disease clinics, etc.
Results:

With the introduction of MATS in all 60 health facilities, there was a 44% increase in the number of presumptive TB cases leading to a 52% increase in confirmed TB cases in Year 4 compared to Year 3.

Conclusion:

The use of technology for screening of clients within health facilities has improved identification of TB presumptive cases as well as TB case detection and reporting. This is an important quality indicator for improving TB case detection and service delivery.

References:

Please declare any conflict of interest you may have:
Utilization of short-message-service (SMS) texting and mobile app in the management of gestational diabetes mellitus (GDM) in Viet Nam.

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Introduction:

Self blood glucose monitoring (SBGM) is crucial in GDM management. In Vietnam, patients and care providers (CP) record blood glucose measurements (BGM) on paper and bring them to health checkups. Mobile phone utilization is common, but a 3G or wi-fi network is not always available, making SMS the main communication mode. Most of the current mobile apps for SBGM are English-based and unconnected with CP. This project aimed to develop software that is friendly to and acceptable by Vietnamese users, utilize mobile phones and empower patients for SBGM.

Methods:

The "internet of health" system (IOH) was developed as an open-source software based on microservice architecture, supporting Vietnamese language, and allowing SMS modem to manage messages. Modification of IOH had to fulfill the CP's desired functions of the patient's BGM monitoring and visualizing in real-time. The development and pilot of IOH were approved by Hung Vuong Hospital. Patients and CP at the Gestational DM Unit of the High-Risk Pregnancy Department (HRPD) were introduced and encouraged to use the software to monitor BGM. CP completed a survey after a week of use, while patients reported their preferences and acceptability to use at home. Data (BGM, patient ID, phone numbers) was stored and protected via a secured cloud-based server at the University of Industry. For the pilot phase, no data were linked to patients' records in the Hospital Information System.
Results:

The IOH-gestational DM (IOH-GDM) software was developed. To use in managing patients with GDM, the IOH-GDM software was customized to allow daily monitoring inpatients' BGM: reminding patients via SMS at preset time-slots, showing who were or were not measured, displaying individuals' measurements in table and time-series chart, comparing with pre-defined cutoff lines. Patients can report their BGM via replying to the reminding SMS or by using the mobile app. Response messages with recommendations were sent to confirm the BGM receipt. Patients with a mobile app can access education materials provided within the app.

The IOH-GDM was introduced to nurses and physicians of the whole HRPD. 20/70 CP had used the software and answered the survey. 90% of respondents (50% were midwives and 40% were physicians) used IOH-GDM for patient care at least 2 times during the trial week. 70% said that the software fulfilled their needs for daily use of monitoring and tracking inpatient measurements. 75% rated the software was user-friendly and intuitive. 80% agreed that the software had improved their clinical workflow, reduced the needs of using the public announcement system to remind patients to get BGM, which produced noise to the whole department once used. All of the CP were willing to use the software to replace the current pen and paper recording method. Noteworthy, the use of IOH-GDM was preferred as it allows electronic collecting and storing data that can be used for research and quality improvement in the future. All patients expressed positive experience due to the ability to visualize their BGM on time-series charts, which made them better understand their own condition and CP’s recommendations.

Conclusion:
In low-middle income settings, where electronic medical records were not available, data collection and storage are paper-based, having a native language supported software with multiple data collection modes, utilizing SMS, visualizing data facilitate the real-time patient monitoring, improve patient-provider communication, encourage meaningful data use and enhance patient safety via improving workflow and care quality.

Conflict of interest:
The development of the IOH system was approved and funded by the Ho Chi Minh City Science and Technology Department.
IMPLEMENTING LABORATORY QUALITY MANAGEMENT IN POST-EBOLA LIBERIA: A CASE REPORT FROM A REGIONAL REFERRAL LABORATORY

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Introduction:

After the 2014-2015 Ebola outbreak, the Liberia Ministry of Health (MOH) adopted an ISO15189 standards-based laboratory quality management system, using the Strengthening Laboratory Management Improvement Towards Accreditation (SLMTA) program as an implementation model. Tappita Regional Referral Laboratory (TRRL) in Nimba County, was selected by the MOH as a site for SLMTA implementation due to the role it played during the Ebola outbreak as a regional reference laboratory for the Southeast region of Liberia. Implementation was supported by the University of Massachusetts Medical School, through the Academic Consortium Combating Ebola in Liberia (ACCEL) Project, which focused on strengthening the public health laboratory capacity in Liberia as part of the Ebola response efforts, through technical support to the MOH. The objective is to examine the progress of SLMTA implementation at TRLL through serial Laboratory audits.

Methods:

The SLMTA implementation model included 5 components: 1) SLMTA training package for the county diagnostic officer and the laboratory supervisor: three one-week sessions at quarterly intervals, with follow-up quality improvement projects; 2) On-site mentorship during scheduled 2-week quarterly visits, by an embedded quality officer, with remote support in-between visits; 3) Training and certification of a SLIPTA auditor; 4) Baseline and serial follow-up audits using the Stepwise Laboratory Quality Improvement Process Towards Accreditation (SLIPTA) checklist. Each quarterly audit was followed by a gap analysis and work plan development and implementation, with participation of facility management; 4) Design and implementation of a SLIPTA checklist task-tracking tool to monitor progress in each of the 12 quality-system essentials. Trend analyses and ANOVA were used to evaluate progress in audit scores.

Results:
TRRL’s SLIPTA audit scores increased threefold over the intervention period (March 2017-August 2019), from 61/275 (22%) at baseline, to 191/275 points (66%), exhibiting a linear trend ($R^2=.85; p<.001$), with a statistically significant increase from baseline to exit audit (ANOVA $p<.001$). Areas of significant improvement at the end of the program included: Evaluation and audits (0% → 100%); Document and records (14% → 86%); Process improvement (0% → 58%); and, Corrective Action and Preventive Action (0% → 53%). Remaining challenges primarily relate to supply chain management and equipment calibration and servicing plan (Figure 1).

Figure 1. Progress in the Twelve Quality Essentials at TRRL in Liberia 2017-2019.

**Conclusion:**

Notwithstanding significant structural challenges in the healthcare system in Liberia, further exacerbated by the impact of the Ebola outbreak, a comprehensive SLMTA implementation model can be effective in improving the quality of the service offered by the laboratory and accelerating progress towards accreditation in a resource-limited setting. A continuous challenge is to maintain the quality milestones over time. The most significant limitation was staff attrition chiefly related to challenges in compensation and job security in the public sector. However, a combination of onsite and remote support allows for continuous mentoring and monitoring of progress. Active involvement of the hospital leadership (both clinical and administrative) is a key factor in implementation of laboratory quality management systems.
References:

Please declare any conflict of interest you may have: none

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