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[1032] Building social capital to effect change in a regional suicide prevention program

[985] Implementing a Holistic Inpatient Decision Support Service based on Machine Learning

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Session A1

[1781] Health Service and Social Care Use by Community-dwelling Heart Failure Patients in NW London

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Introduction: Heart failure (HF) management is complex and requires multidimensional care. Current clinical guidelines advocate for the use of integrated care, but few studies have described overall health service and social care utilisation by patients with HF. Ours is the largest to date.

Our objectives were:

To describe overall care usage by community-dwelling patients with HF in North West London using a dataset linked across multiple care settings

To identify groups (clusters) of patients based on service use patterns and their characteristics

Methods:

We used Whole Systems Integrated Care data, a linked database of individual clinical events from primary care, secondary care, and ‘other’ (community, mental health, and social care) services in North West London, to analyse a retrospective cohort of HF patients at 359 general practices. Data covered the period 1 January 2015 to 31 December 2018. Service usage was summarised for each calendar year. Usage patterns were identified using k-means cluster analysis and visualised by heatmap. Nine healthcare utilisation variables were used to identify clusters.

Results:

Our cohort was composed of 39,301 patients. In 2018, most patients were female (56%), aged 65 or over (58%), and were of White (31%), Asian (26%) or unknown (27%) ethnicity; 6,998 (18%) people died. Almost all patients (90%) had some health service contact during the whole four-year period. The most commonly used services in 2018 were outpatient (70%), GP consultations (60%), unplanned A&E visits (41%) and community services (40%), often for nursing; use of cardiology-specific services ranged from 3% (community) to 20% (outpatient).

Five clusters of patients were identified, each with significantly different care usage patterns and distinct patient characteristics. Patients who were younger, female, less comorbid and not living in care homes were generally low users of healthcare (clusters 1 and 2). Those with higher blood pressure and more comorbidities had relatively more GP consultations (cluster 2). Patients who were older, male, and had more comorbidities were generally
higher users of healthcare (clusters 3, 4 and 5). Those with fewest GP appointments were very high users of all other services (cluster 3). Those with the most cardiovascular comorbidity (cluster 4) had the highest usage of cardiology-related outpatient services and referrals to echocardiography (42%). The oldest patients with the highest mortality (cluster 5) were the highest users of emergency, A&E, and ‘other’ services.

Red means higher than average use of that service; blue means lower than average use of that service:

### Patterns of health service use

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\[\% \text{ diff pop. mean}\]

-100  -50   0  50   100  150  200

**Health service**

**Conclusion:**

Health and social care service use was widespread but varied among our North West London HF population. Patterns of care usage suggest underutilisation of some services by certain patients and high use by others. As well as the known heterogeneity of this group, these findings may relate to variation in patients’ access to care and insufficiently integrated care at earlier stages of HF.
Building social capital to effect change in a regional suicide prevention program.

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Introduction:
LifeSpan is a comprehensive, evidence-based suicide prevention program developed and supported by The Black Dog Institute (BDI) and trialled in four sites in New South Wales, Australia. It takes a whole of community approach with nine different but inter-related strategies targeting communities, emergency departments, primary health, frontline workers, schools, the media, and the development of strategies to reduce access to means of suicide. Recognising that social capital is a known facilitator of whole of community programs, BDI considered it important to develop a robust collaboration and referral network among the different strands of LifeSpan, to link up resources, expertise and ensure clear, cohesive communication throughout the region, thereby increasing social capital. For this study, we aimed to assess existing suicide prevention networks at two of the trial sites at baseline and 18-24 months after the implementation of LifeSpan to gauge the impact of LifeSpan on network development and reflect on how networks could be optimised in the future.

Methods:
Data was collected through an online social network survey, distributed to all members of the site working groups associated with LifeSpan. It asked respondents about their links to other working group members prior to, and following, the implementation of LifeSpan. All members of, and collaborators with, the LifeSpan team at two regional sites (Site W, Site X) and the supporting BDI team were identified and invited to participate. Potential participants were invited via an email containing survey information and a link. Where possible, the survey was completed at the end of focus groups and interviews conducted as part of the broader evaluation study, to smooth the data collection process and minimise disruption for staff and stakeholders. Ethics approval was granted by the Macquarie University Ethics Committee. Social network data was analysed and diagrams constructed using Gephi software.

Results:
At Site X, 43/50 (86%) respondents completed the survey and reported their suicide prevention collaborators, resulting in the construction of a network with 99 linked members. At Site W, 26/54 (48%) completed the survey and described a network of 103 members. Number of ties attributed to involvement in LifeSpan increased from 131 to 372 at Site X and from 156 to 536 at site W.
Conclusion:

Evaluation of suicide prevention programs are often difficult due to the length of time and volume of outcome data needed to show statistically significant changes in a small cohort. Our study included a different indicator - social capital - to demonstrate increasing community connection over time to deal with the challenge. Sociograms provided empirical evidence of greater collaboration among people working in the suicide prevention field.
Introduction: To provide holistic healthcare, an innovative clinical information system was developed to identify the patients who need interconnected care from multidisciplinary teams. This novel system is composed of a case management system, an analytic hierarchy process (including early warning system score, comorbidity score and multidisciplinary score) to yield a so-called holistic score (HS), and a multidisciplinary information system. Our prior non-ML calculation algorithm set the rule to trigger the onset of holistic care if HS ≥ 40, but the prediction rate was low, and it failed to identify the patients in need correctly. A better clinical decision support service (CDSS) should be expected under this circumstance. This study applies machine learning (ML) to improve the prediction performance.

Methods:

Under the approval of institutional review board, a multi-dimensional data set of in-patient records from 2017 to 2019 were collected and analyzed. Totally 900 thousand structured-form records from 130 thousand patients were collected, including vital signs such as respiration rate, heart rate, blood pressure, body temperature, etc. Out of which, totally 509 patients received holistic healthcare during admissions.

LSTM (Long Short-Term Memory) networks are good at dealing with time series data, especially for classifying, processing and making predictions. In our study, we applied this kind of improved Neural Networks (NNs) to resemble the thinking process of medical staff to recognize patterns that trigger multidisciplinary holistic care.

Results:
The prediction rate of the original decision support model is 22% (112/509). The results demonstrate that the proposed ML-based prediction model yields the prediction rate of 81.32% (415/509) and outperforms the previous system. The inference engine currently serves at our hospital 24/7 without stopping.

Conclusion:
A novel clinical decision support service for triggering multidisciplinary inpatient holistic care was proposed using improved LSTM network as the core algorithm. This new ML-based CDSS proved itself a better algorithm than its non-ML predecessor.
A feedback loop to collect constructive responses from clinical experts will be designed, developed and implemented in the future to glean more meaningful small data into the training model. The proposed ML-based solution provides better results but could not provide an explanation. Further improvement could be done by analyzing the patient medical conditions and the feedback mentioned above to provide better CDSS with explanation. To have more right recommendation at the right time for the right patient, further investigation should be done to increase the lead time to any possible disastrous events suffered by the patient by adaptively selecting critical medical information for early prediction to have early prevention.

**Abbreviation:**
ML: Machine Learning.

NN: Neural Network.

LSTM (Long Short-Term Memory)
Analyzing the facilitators for innovation in primary care provision. The case of primary care centers in Austria

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Introduction: Innovations in health care are an important contributor to better suit the health needs of a changing population. Re-designing health care systems are characterized by high complexity and dynamics involving many stakeholders with diverse interests and are tackling the institutional framework as well as individual factors for care givers and patients. For the last five years, Austria’s health care reforms have put the expansion of primary care on top of the agenda. As a result, the evolution of primary care centers, which offer expanded services and longer opening times compared to individual practices, has been initiated. Interestingly, with the establishment of primary care centers, innovative thinking in terms of care provision to patients and communities has been triggered as a kind of by-product. Many primary care centers are led by pioneers in the field of primary care who challenge the traditional assumptions of caregiving in the primary sector and are eager to develop innovative solutions for their community. The present study analyses the facilitators of innovative thinking in primary care by relying on the case of primary care centers in Austria. The aim of the study is to identify institutional, contextual and individual factors that foster innovative thinking in health care. The results of this study can be used for designing an environment for innovative and patient-centered thinking among care givers.

Methods: The study combines several qualitative methods for data gathering including individual interviews with leaders of primary care centers, focus groups with practicing physicians and document analyses of government papers, other documents and press releases of political decision makers. The materials have been analyzed and compared with existing research theory and empirical studies on innovation in health care by a group of researchers with the aim to reveal facilitators that are expected to have a positive impact on innovative thinking of primary care givers.

Results:

A number of institutional, contextual and individual factors have been identified. Among them are the following: (1) institutional framework: the legal framework offering a substantial amount of flexibility for the founders of primary care centers concerning contractual arrangements and the content and scope of health services offered; special funding for additional services that are negotiated individually with each primary care center. (2) Contextual factors include great public attention for these pilot projects, interdisciplinary collaboration allows for delegation of routine and administrative work and
concentration on refining core medical activities, interdisciplinary collaboration also fosters a holistic perspective in care provision. (3) Individual factors include the personality of the founder/the founders, dedication to (interdisciplinary) teamwork, ambition to be pioneering a new way of primary care provision.

Conclusion:

The results of this study emphasize the adoption of a system perspective when planning initiatives to stimulate innovative thinking in health care. The results also highlight the potential of individuals in bringing about a change by challenging traditional assumptions and introducing new ways of collaboration and cooperation in health care. Allowing for more flexibility and openness in a highly regulated health care sector, might sound unusual for political decision makers especially in public dominated health care systems. On the other hand it could release innovative forces at the front line which are needed in times of increasing complexity and dynamics.
Introduction:

The 2030 agenda for sustainable development is an opportunity for national governments, international community and healthcare industry to look at their commitment to Goal 13: Climate Action (Take urgent action to combat climate change and its impact). As a large consumer of energy, and products, paradoxically the health sector also contributes to these environmental health problems. Responding to these issues, there is a growing movement towards Climate-Smart, low-carbon healthcare. Green healthcare concept is gaining momentum with increase awareness about damages being caused by climate change. Keeping this in view, QAI's Centre for Accreditation of Health & Social Care developed an accreditation program for Green Health Care Facilities to support the MDG 13.

Methods:

To develop the accreditation program, QAI collaborated with Health and Environment Leadership Platform (HELP) established by Public Health Foundation of India (PHFI)/ Centre for Chronic Disease Control (CCDC) in collaboration with Health Care Without Harm (HCWH). Standards were based on Monograph on Green Healthcare Institutions, July 2017 developed by Centre for Environmental Health (PHFI) and HELP. Developing accreditation program for green healthcare facilities involved:

1. development of accreditation standards using principles of standard development by ISQua
2. development of various policies and procedures to operate accreditation program
3. development and conduct of assessor training program
4. development and conduct of practicum to develop internal auditors/implementers

All the above four activities require different resources and efforts at different levels. It required constitution of a technical committee of experts, defining qualifying requirements for assessors, training content and methodology etc.

Results:

QAI could develop accreditation standards based on the principles of ISQua and following RUMBA philosophy that standards should be Reasonable, Understandable, Measurable, Beneficial and Achievable. Standards were developed through consultative process in which standards were first developed by a group of select experts and then put for stakeholder
consultation by putting on websites and disseminating information directly through emails. Comments received were discussed by the expert group and standards finalised. It took about nine months to develop standards. The standards provide a framework consisting of 8 chapters, 33 standards and 127 criteria. Criteria are measurable elements. Chapters consist of Governance & Leadership, Site Selection, Indoor Air Quality, Energy & Ambience, Water Use, Bio-Medical Waste Management, Green Housekeeping and Procurement of Materials & Resources. Delegates will be informed about the detailed requirements in standard and accreditation process.

Assessor training course was designed, developed and delivered resulting into empanelment of 22 assessors. Documents including information brochure, application form, self-assessment tool, terms and conditions for maintaining accreditation, assessor guide containing guidance for assessment team and various forms to be used during assessment, assessor recruitment process, criteria for assessment team selection, and procedure and terms of reference for accreditation committee. Accreditation program was made available to users on www.qai.org.in.

Conclusion:

From the feedback received from the users and interaction with stakeholders, it can be concluded that this specific accreditation standard:

1. would support sustainable environment
2. it will help creating resilient healthcare
3. it will ensure adoption of practices leading to green facilities i.e Climate-Smart, Low-Carbon Healthcare through accreditation
Session A2


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Introduction
Risk analysis and management are top priorities when ensuring patient safety in healthcare systems. While we cannot predict the future of the patient with certainty, we can apply simple and streamlined risk management processes to predict the uncertainties for the patient and minimise the risk and impact of these uncertainties. Further evidence is required to assess the effect risk management systems in healthcare facilities in developing regions.

Objective
To assess the impact of a risk management programme on patient safety, in a tertiary hospital in Malawi, using a robust scoring system.

Methods
A mixed methods approach was used to compare two phases of a risk management programme on the following clinical processes; high alert medication, verbal order among caregivers, management of sentinel events and assuring correct site, correct procedure and correct patient surgery. Data was collected at Kamuzu Central hospital (KCH) in Malawi. Patient and staff interviews were conducted and the scores from the baseline and progress surveys for the pilot programme (November 2013 – November 2015) and current programme (August 2018 – December 2019) were analysed.

The scoring system was developed by the Council for Health Service Accreditation of Southern Africa (COHSASA) and assesses the compliance of healthcare facilities with internationally accredited standards and criteria covering an array of organisational and clinical elements.

Results
The findings showed the challenges of delivering reliable, safe, quality care across the hospital. The findings indicated that improvements can be secured, but also highlighted considerable inconsistencies. The establishment of a Quality Management Directorate (QMD) at the Ministry of Health provided local leadership to the programme. During the pilot survey, the baseline score for risk management was 16 which improved to a score of 24 at the progress survey. During the current programme, the baseline score was 17 and improved to a score of 24 at the progress survey.

Conclusion
Risk management is essential to improve and promote patient safety and improve quality of care. The data shows an improvement in risk management indicators during the second programme which may have been
Introduction:
Dorsogluteal (DG) region is still a common site for intramuscular injection by nurses. However, the Medical Council of Hong Kong recommended changing to ventrogluteal (VG) site in December 2016. An evidence-based project group was therefore established in our hospital’s Nursing Services Division to tackle this important patient safety issue.

Objectives:
The project group aimed at (i) scrutinizing the evidence for the use of VG site; (ii) formulating the evidence-based strategies for promoting the practice change among the nurses; and (iii) implementing the action plan and evaluating its effectiveness by engaging the Nursing Training Team and various Clinical Departments.

Methods:
The Johns Hopkins Nursing Evidence-based Practice Model was adopted for the project. Apart from reviewing the evidence for VG site, it also covered the: (a) optimal locating method of VG site; (b) occupational and health issues concerned; and (c) optimal method for facilitating the change. All the new practice and measures to facilitate the change were based on the evidence found.

Hospital-wide nurses training with simulated practice incorporated was conducted, especially for senior nurses who had never learned the VG skill in their basic training. A new poster of VG injection was designed for display in workplace as a quick reference. A video clip was also produced for on-going education. In the training sessions, participants were required to pass the skill assessment in simulation setting. Their knowledge gain, attitude
and behavioral change were measured. Incidence of patient injury and staff needle stick injury were also captured.

Results:

Thirty identical training sessions were conducted from December 2017 to October 2018 for about 860 nurses. No incidence of patient injury and staff needle stick injury was reported. After training, the nurses’ mean knowledge score increased from 2.98 to 5.58/6 (p<0.001, paired t-test). Proportion of nurses willing to use VG rose from 19.3% to 95.6% (p<0.001, McNemar’s test). Among the 691 nurses who used to choose DG site, 654 of them (94.6%) were willing to change to VG. The strongest motivator was the knowledge of the benefits of using VG site instead of DG. Conversely, difficulty of the VG skill perceived was the most common barrier for change. Analysis by the logistic model revealed that more experienced the nurses, less likely they would choose VG. But they tended to be more willing to change after training in our cohort. The proportion of nurses using the VG site increased from 41.1% in 2017 before the project to 79.4% in 2019 (p<0.001, Chi-square test) after that.

Conclusion:

An evidence-based project can successfully facilitate a positive nursing practice change of VG injection in a large acute hospital, which is an important quality and safety issue in patient care.
Improving pain Assessment in the Emergency Department and Its impact on Overall Patient Experience in their pain Management.

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1) Introduction: Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage (IASP). A medical record audit was carried out at KAMC to study the pain reassessment in all the patients who came with a pain score of greater than 0 (as per the Wong Baker’s Facial pain rating scale) and received some kind of analgesic treatment for the month of November and December 2017. The results revealed a low compliance of 35.7% for November and 51.42% for December. A clear indication that improvement needs to be made. Although a well-integrated electronic medical record which facilitated by all the tools for pain management as per policy and also had an option to document pain scores is available, the records showed inconsistency in reassessment of pain after giving medication and lack of proper evidence.

2 Objectives: To study how pain reassessment can be improved by educating staff in pain management policy and tools and its an overall impact on the patient experience in their pain management.

3) Research Methodology:
3.1) Data Collection Tools and Methods:
3.1.1) For Pain Reassessment: The Electronic medical record at KAMC has well integrated comprehensive pain management tools. A line graph automatically displays all the reassessments done and documented. Pain reassessment should be done and recorded as per the policy after each type of analgesic was given: For Oral (30 -60 minutes), IV (15 minutes), IM (20 minutes), Subcutaneous (30 Minutes), Rectal (60 Minutes).

Scoring was set as following:
• Any variation of more than 10 minutes was considered not met.
• Pain score not documented at the time of discharge was considered as not met even though re-assessment was done at timely basis.

3.1.2) For Patient Experience in the pain management:
A standard Patient experience in pain management questionnaire was framed as per the scope and service of the Emergency room.

3.2) Study Design: FOCUS PDCA methodology was used for improvement process.

3.2.1) Outcome Measurement: What needs to be measured is the most important part of the whole improvement activity. “Measuring the compliance with pain reassessment for all patients who were given any form of analgesics.”
Target: 90%

**Exclusion Criteria:** Patients who came to the ER with the pain score of zero and unconscious patients.

**3.2 Statistical Analysis:** All the data was entered in the excel sheet and analysed by excel tools.

**4) Results:**

**4.1) Pain Reassessment:** The patient reassessment quality indicator was monitored for the ER department on the monthly basis. Results are shown as below.

**Year 2018:**

![Pain reassessment compliance rate](image)

**4.2) Results for Patient experience in pain management:** A total of 553 patients responded to the questionnaire out of 580 patients who were given analgesia with response rate of 95.3%. Total ER patients for the two month was 675.

**The results of the questionnaire are as below:**

When you came to ER did you have pain: **Yes 100% No 0%**

How well did the ER staff respond to your pain: **Immediately 20% Timely 73% Delayed 5% No response at all 2%**

Was medication given effective: **Highly effective 17% Average 77% Not effective at all 4% Pain became worst 2%**

How often did the staff talk to you about your pain relief: **Very Often 52% regularly 48% Hardly 0% Not at all 0%**

Overall how would you rate your experience in how your pain was treated and managed in our ER: **Excellent 38% Good 46% Fair 12% Poor 4%**

**5) Conclusion:** The paper leads to the conclusion that a proper pain management leads to good patient experience and by reassessing his/her pain we are confirming the effectiveness of treatment and assuring quality and safety of care.
Introduction:

It is estimated that only half of medical care is delivered in line with evidence and guidelines, that around a third of our medical spending has no measurable effects or justification and that little improvement has been made to the rate of adverse events (one in 10 patients) across healthcare in the past 25 years. This increases the pressure on healthcare organisations to monitor, evaluate and communicate performance data as well as to make evidence based and informed managerial decisions. With this study, we explored the actual use of performance data in hospitals and other healthcare organisations in Europe in 2019, and opportunities to enhance its use, by understanding (i) why and, (ii) what data is collected, reported and used, and (iii) how is performance data used for managerial decision-making?

Methods:

We conducted a cross-sectional study based on a self-reported online questionnaire and a follow-up interactive workshop. Our study population were healthcare managers in a purposive sample of participants to the European Hospital and Healthcare Federation’s Exchange Programme and their hosts. Preliminary survey results were presented, validated and additionally discussed through real-time polling and a panel discussion during a workshop at the annual HOPE Agora Conference and Meeting in Ljubljana on June 4th 2019. Workshop was attended by the majority of survey respondents and additional Agora guests.

Results:

We reached a 72% response rate among our primary study population (n=125 from 20 countries) - mainly mid-level healthcare managers working in publicly-owned hospitals with an even distribution of managerial responsibilities between strategic, clinical and support-process management.

We found that a substantial amount of performance data is collected and reported, but could be utilised better for decision-making purposes. Motivation to collect and report performance data is equally internal and external, for improvement as well as for accountability purposes. Benchmarking between organisations is recognised as being important but is still underused. A plethora of different data sources are used, but more should be done on conceptualising, collecting, reporting and using patient-reported data.
Managers working for privately owned organisations reported greater use of performance data than those working for public ones. Strategic levels of management reported to use performance data more for justifying their decisions, while managers on operational and clinical levels use it more for day-to-day decision-making.

**Conclusion:**

Our study showed that, despite the substantial and increasing use of performance data for evidence-based management, there is room and need to further explore and expand its role in strategic decision-making and supporting a shift in healthcare from organisational accountability towards the model of learning organisations. Examples provided from health care organizations in a variety of European countries show how the strategic and regulatory context can support better use of performance data.

**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.
Providing quality melanoma care in primary practice: Australian general practitioners’ knowledge and attitudes towards sentinel lymph node biopsy (SLNB) for patients with invasive melanoma

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Introduction: In Australia, general practitioners (GPs) are the first point of contact for the majority of patients who develop melanoma. GPs therefore begin the process of providing quality care to patients with melanoma. GPs are responsible for identifying lesions, performing biopsies and, following pathological confirmation of melanoma, deciding on whether to refer the patient for specialist care. Current Australian melanoma management guidelines recommend patients with an invasive melanoma >1.00mm in thickness should be referred to a specialist for consideration of a sentinel lymph node biopsy (SLNB).1 SLNB is used for staging and prognostic assessment, to guide clinical management and to identify patients who might benefit from systemic adjuvant therapies or molecular targeted therapy.2 However, rates of SLNB in Australia are low, being about 50%.

Objectives: To explore GPs’ knowledge and attitudes towards SLNB in contemporary melanoma management, in particular their understanding of which patients should be considered for SLNB.

Methods: Mixed methods study comprising a cross-sectional questionnaire (n=231 GPs) and, for a subset of participants (n=23 GPs), an in-depth, semi-structured interview.

Results: One third (32%) of participants described themselves as quite or very familiar with the national guidelines. Familiarity with guidelines was associated with exposure to articles or talks about SLNB. Two-thirds (68%) of GPs thought that SLNB had an important role in the management of melanoma patients. Of GPs who would discuss or recommend SLNB with eligible patients, 92% reported that Breslow thickness was a factor influencing this decision; however, less than 40% correctly identified that SLNB is recommended for patients with an invasive melanoma >1.00mm thick. Interview participants had a generally favorable attitude towards SLNB, reporting that SLNB was important for prognostication, and most were aware that SLNB did not in itself provide a survival benefit. Many of the interview participants were aware of the role of adjuvant systemic therapies in contemporary melanoma management; however, few had made the explicit link between SLNB, identification of patients at risk of recurrence, and access to adjuvant systematic therapies. Many of the GPs indicated that they did not believe the guidelines around SLNB were directly relevant to their practice, the primary reason being that they believed decisions around SLNB were the responsibility of the specialist.
Conclusion: Although GPs were generally supportive of SLNB, familiarity with the melanoma guidelines was low, in particular regarding which patients should be considered for SLNB. The findings have implications for the levels of quality care patients receive and indicate a need for further education and discussion with GPs, who biopsy or excise melanoma, about the role of SLNB in melanoma management.

References


No conflicts of interest to declare.

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

In the Netherlands, the majority of medication is prescribed by General Practitioners (GPs). GPs are supported by formularies, integrated in their electronic health records systems when prescribing medication. Formularies provide recommendations on pharmaceutical care, that are in line with guideline recommendations. Health insurances companies and the Dutch association of GPs aimed to stimulate appropriate, high quality and cost-effective prescribing by GPs, by implementing a pay for performance initiative based on formulary-based prescribing. The premise of the pay for performance initiative is a national learning health system, which enables the use of routine prescribing data as a basis for quality improvement and the payment of incentives to GPs.

The objective was to promote the quality of prescribing by the GP by stimulating formulary-based prescribing. Following the principles of a learning health system, routinely recorded electronic health records data are used to assess the extent to which GPs adhere to the formulary they use.

Methods:

The indicator for formulary-based prescribing was determined based on the prescriptions that are newly initiated by the GP and are recorded by the GP in their electronic health records system (EHR). Formulary adherence was calculated as the percentage of these “first prescriptions” issued by the GP, of which the active substance was included in the formulary the GP said to be using. ATC-codes were used to describe the active substances of the prescribed medication. Two national formularies were used to calculate the scores: NHG and Health Base. After consent from the GP, the scores were collected and sent to the health insurance companies, where they were used for pay for performance payments to GPs.

Results:

The scores over 2018 and 2019 were collected for almost 3800 GPs from 10 different EHRs (approximately 75 percent of all GPs). In 2018, GPs scored on average 85.4% (NHG) and 96.8% (Health Base), depending on the formulary. The variation between GPs was small.
GPs using NHG scored 68.7-100% and GPs using Health Base scored 82.4-98.8%. The scores remain similar in 2019: 86.0% (NHG) and 95.7% (Health Base), with even less variation between practices. GPs that used the Health Base formulary scored higher compared to the NHG formulary, because the Health Base formulary included a more extensive list of ATC-codes, increasing the likelihood of prescribing a drug from the formulary. Therefore, GPs received their pay based on a comparison with other GPs who used the same formulary.

**Conclusion:**

The infrastructure to use prescription data from the GP’s own EHR as a basis for pay for performance schemes and research was successfully implemented. The infrastructure was developed within a complex context, including many stakeholders, such as EHR providers (n=10), formularies (n=2) and health insurance companies (n=4). All GPs scored high on the main outcomes, indicating that most GPs prescribe medications that are part of the used formulary. The infrastructure and indicator will be used to further stimulate formulary-based prescribing by implementing more specific indicators and increasing the relevance of the indicators for GPs.
Deepening our Understanding of Quality in Australia (DUQuA): findings from a nation-wide, multi-level analysis of relationships between quality management systems and patient factors in 32 hospitals

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Introduction:

Hospitals allocate considerable resources to quality management, but we do not know to what degree quality assurance and quality improvement activities are related to each other or to the maturity of hospital quality management structures. The Deepening our Understanding of Quality in Australia (DUQuA) study[1] examined the relationship between how quality is enacted and patient outcomes across 32 of the largest public hospitals in Australia. The study design was based on the recent Deepening our Understanding of Quality Improvement in Europe (DUQuE) study[2], which investigated quality management systems in 188 hospitals in seven European countries.

DUQuA aimed to determine associations between a) organisation and department level quality management systems, clinician safety culture and leadership, and b) clinical treatment processes, clinical outcomes, and patient reported perceptions of care for acute myocardial infarction (AMI), stroke and hip fracture (see Fig).

Methods:

Quantitative methods were used to examine hospital quality improvement structures, processes and outcomes, with data from organisation, department and patient levels for the clinical conditions. Ethics approvals were obtained. Data sources included surveys of quality managers, clinicians and patients, hospital visits, medical record reviews, and national databases containing patient outcomes data and admissions data. Relationships between measures were evaluated using multilevel models.

Results:

The 32 participating hospitals provided wide representation across metropolitan, inner and outer regional Australia. When associations between hospital, Emergency Department (ED) and department-level systems and strategies and the five patient-level outcomes were
assessed, we found 19 of 165 associations (11.5%) were statistically significant, with 12 of 79 positive associations (15.2%) and 7 of 85 negative associations (8.2%). Our findings were mixed, with no clear relationships identified between hospital-level quality management systems, ED or department quality strategies and patient-level outcomes. ED-level clinical reviews were related to adherence to clinical practice guidelines for acute myocardial infarction, hip fracture and stroke, but in different directions. The results suggest that frontline interventions may be more influential than organisational interventions when shaping quality of care; and that multi-pronged strategies are needed.

**Conclusion:**

This is the first study of its kind to be undertaken in Australia, and one of few comparable large multi-site studies worldwide. Lessons learned in undertaking this study provide insight into the effectiveness of hospital quality management and how it is enacted in large healthcare organisations.
Introduction:
Restraint use in health care leads to negative effects for patients’ health and to moral distress for health professionals. Therefore, a reduction in restraint usage is recommended for all care settings. In acute care hospitals, patient safety is frequently stated as a main reason for the use of restraints, especially in regard to patient-related factors, such as the presence of delirium. Nevertheless, there is increasing evidence that factors such as the organizational structure, routines, knowledge and personnel and/or organizational attitude regarding restraints, play an important role in restraint usage. These patient-independent influencing factors have hardly been investigated to date. In order to develop and implement effective measures for restraint reduction, it is crucial to know the influencing factors related to the use and non-use of restraints. Therefore, the aim of this study was to examine: a) which patient and structural characteristics are associated with the use of restraints, and b) if there is a hospital effect related to restraint usage.

Methods:
Utilizing a cross-sectional multicentre design, pseudonymized data was collected within the International Prevalence Measurement of Quality of Care (LPZ 2.0), in acute care hospitals in both Austria and Switzerland. Data was collected once per year from 2016 to 2018, by trained nurses from the participating hospitals. Participation was voluntary for the hospitals as well as for patients. All patients or their legal representatives, gave either their oral (Switzerland) or written (Austria) informed consent. In Switzerland, the Ethics Committee of the Canton of Berne declared that the study did not fall under the Swiss Human Research Act (Req-2019-00259). In Austria, the Ethics Committee of the Medical University of Graz approved the study protocol (20-192 ex08/09). In order to answer the research questions, descriptive and multilevel logistic regression analyses were performed.

Results:
The study consisted of 29,477 patients from a total of 140 hospitals. The prevalence rate of restraints was 8.7%. The most important patient characteristics associated with restraint usage were care dependency (odds ratio [OR] 39.65, confidence interval [CI] 32.66-48.13, p-value <0.001, for completely dependent patients), as well as mental and behavioural disorders (OR 2.31, CI 2.09-2.56, p-value <0.001). In regard to the organizational structure, the availability of a guideline (OR 0.60, CI 0.49-0.74, p-value <0.001) and refresher courses for all caregivers (OR 0.76, CI 0.65-0.90, p-value 0.001), were selected for the model. The
selected patient and structural characteristics explained 24% of the variance in restraint usage. This value rose to 55% upon addition of the hospital as a random effect.

**Conclusion:**
The results reveal that in certain hospitals, the use of restraints seems to be more common than in others, which suggests a hospital effect. Caring for people with high care-dependency and/or mental and behaviour disorders, is a complex challenge in the acute care hospital setting. It requires both specific knowledge and appropriate structures, to provide restraint-free care. Thus, great potential for restraint reduction appears to exist in improvements in the area of the internal structures and processes of hospitals, as well as in the attitudes and knowledge of staff regrading restraint usage.
***Introduction***: Hospital accreditation has long been criticized to increase the burden of healthcare workers' loading. The Joint Commission of Taiwan (JCT) sought to comply with the IEEA International Accreditation Programme (IAP) standards to optimize its hospital accreditation operations. The purpose of this study is to investigate the Taiwan hospitals' satisfaction tendency of hospital accreditation which performed by IEEA accredited body.

***Methods***: We report and compare (X² test) the annual client hospital satisfaction data from 2013 to 2019. We also report and compare (Pearson correlation) the 2014 and 2018 IAP External Evaluation Organizations Standards (EEOS) compliance data (accreditation preparation, application & data submission, on-site survey, surveyor arrangement, and effectiveness of accreditation). We investigate the association (Pearson correlation) between client satisfaction and IAP standard compliance.

***Results***: We obtained data from 33 medical centers, 133 regional hospitals, 517 district hospitals, and 52 small healthcare organizations. Over the span of 7 years, there have been significant improvement of client satisfaction from the “survey methods and time allocation”, “accreditation operation”, “survey team professionalism”, “positive effect of accreditation to hospitals”, and “recommendations usefulness” dimensions (p<0.05). Moreover, JCT’s overall compliance rates of EEOS in 2014 and 2018 improved from 91% to 97%. It is also shown that “positive effect of accreditation to hospitals” (create internal centrifugal forcey=0.081, p=0.0651; achieve the cooperation among departments in the hospitaly=0.072, p=0.0685; set the benchmarky=0.072, p=0.0685; make the improvements according to the surveyors’ recommendationsy=0.072, p=0.0685; be more engaged in patient safety and quality efforty=0.064, p=0.0721; improve the management efficiencyy=0.097, p=0.0587) and “appropriate form of self-assessment” (y=0.064, p=0.721) have positive correlation with client satisfaction.

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Yi Ping1; Han-Chi Chung1; Pa-Chun Wang1; Chung-Liang Shih2

1The Joint Commission of Taiwan, New Taipei City, Taiwan; 2Department of Medical Affairs, Ministry of Health and Welfare, Taipei, Taiwan
| Creat internal centrifugal force | 78.1 | 81.4 | 97.4 | 95.0 | 91.7 | 100.0 | 94.3 | <0.00 | 1 |
| Achieve the cooperation among departments in the hospital | 83.8 | 83.7 | 98.3 | 96.9 | 93.8 | 100.0 | 93.4 | <0.00 | 1 |
| Set the benchmark | 92.4 | 88.4 | 99.1 | 99.4 | 100.0 | 100.0 | 92.5 | <0.00 | 1 |
| Be more engaged in patient safety and quality effort | 81.0 | 88.4 | 99.1 | 98.8 | 97.9 | 100.0 | 96.2 | <0.00 | 1 |
| Improve the management efficiency | 52.4 | 74.4 | 92.2 | 93.2 | 91.7 | 100.0 | 88.7 | <0.00 | 1 |

**Conclusion:** This study has shown that the hospitals’ average satisfaction was above 90% these years, however, there was no significant change in overall satisfaction when JCT’s compliance rate of IEEA IAP Standards has reached to certain level (91% in 2014 and 97% in 2018). There has been some improvements of client satisfaction following JCT’s international harmonization efforts. It is demonstrated that IAP can help external accrediting body to improve their services delivered to the client hospitals. JCT will take the research results as references and keep maintaining as the IEEA accredited body for delivering a high-quality survey service to the participating hospitals.

**Acknowledgement:** This research was supported by Taiwan’s Ministry of Health and Welfare, under Tender Project "Plan of Hospital Accreditation, Teaching Hospital Accreditation, Follow-up Survey, and Survey Program".


**Please declare any conflict of interest you may have:** none
The role of the regulator in promoting a just culture in healthcare organizations

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Introduction: After two decades of system-level solutions, ‘Just Culture (JC)’ has been heralded as a crucial mechanism for tackling unsafety. JC points out a culture in which employees and patients feel safe to raise and discuss issues, and in which dialogue and working together on quality improvement take central stage. Healthcare organizations are primarily self-responsible for the quality and safety of care, yet the work of and the relationship with the regulator may contribute to or hinder a JC. Little empirical research has been done into experiences of working on a just culture in healthcare practice, and what this could mean for regulation.

Objective: To explore the role of the Dutch healthcare inspectorate in promoting and fostering a just culture in healthcare organizations.

Methods: This study builds on a formative evaluation study of enhancing a JC in healthcare organizations, examining how both healthcare organizations and the inspectorate (also in their mutual interactions) can promote and foster a JC. For 2.5 years, a group of researchers (7) from 2 universities closely interacted with 5 healthcare organizations (3 mental healthcare providers, 2 hospitals) as well as with a project group of the inspectorate, using a multitude of interactive research methods (interviews, observations, workshops, invitational conferences, focus groups) in both settings. The research encompasses over 200 hours of observation/participation and 61 interviews, as well as numerous moments of reflection and data discussion within the research group.

Results: There is no single definition for JC that is used in practice, but several characteristics are universally regarded as belonging to a JC. These include psychological safety to discuss quality issues, avoidance of assigning blame after incidents, and paying attention to emotions of employees and patients. Additionally, JC is considered relational and layered, meaning that relationships between different layers within or outside the organization might hinder or foster a JC. Professionals and managers in healthcare organizations perceive the inspectorate as a potential catalyst for learning processes, for example as an instigator of investigating incidents thoroughly. On the other hand, they perceive the inspectorate as a barrier as their presence limits how open employees feel they can be. This is influenced by a perceived focus of the inspectorate on potential misconduct. Promoting a just culture requires the inspector to have a coaching attitude; stimulating reflection and learning at healthcare organizations by asking questions and postponing any
judgement. Inspectors indicate they must find a balance between allowing organizations the time to take responsibility, and timely regulatory intervention when healthcare providers are unwilling or unable to act. Just like organizations, inspectors emphasize relationality as a condition for a just culture.

**Conclusion:** The regulator can have an important influence on promoting a just culture in healthcare organizations. Promoting a just culture in organizations requires regulatory procedures that support reflection and learning in organizations and specific competences from inspectors in their regulatory work.

**Conflict of interest:** None declared
Session A6

[1079] Vulnerability and patient safety: evidence from ISQua

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**Introduction:** While the link between the social determinants of health and the wellbeing of vulnerable individuals and communities are both well understood, and have a well-established evidence base. The patient safety movement, has, however for the large part ignored this dimension of health services delivery, focusing rather on clinical competence and a systems focus, including organisational culture and teamwork, approach to reducing errors. In this paper we present the findings of an international survey of ISQuA members on vulnerability and patient safety. The study objectives were to identify: People who are perceived to be at most risk of harm (vulnerable) in healthcare systems around the world; What information is being collected about people considered to be most risk of harm (vulnerable) in healthcare systems around the world and; How that information is being used to improve safety and quality of care for people most at risk of harm (vulnerable) in healthcare systems around the world.

**Methods:** ISQua circulated an email about the online survey to all members in December 2018, enclosing a link to the survey. ISQua also promoted the survey on its LinkedIn, Facebook and Twitter accounts, and sent reminders about the survey during February 2019. The anonymous survey used the SurveyGizmo platform.

**Results:** A total of 413 people responded to the survey. Populations identified as at increased risk of harm include: older people, including frail older people and those with dementia; children, babies, newborns, young people; patients in general, ‘anyone in health care’, vulnerable patients; people with specific, complex or co-morbid medical conditions; people with cognitive impairment, learning problems or intellectual disability; health professionals and others employed in health facilities; people from culturally or linguistically diverse backgrounds, ethnic minorities; people in specific areas e.g. ICU, emergency, surgery; people with mental health problems and or substance abuse; people with physical or sensory impairment; people with limited education and or literacy; poor people, low SES, underserved; people unable to communicate; people with multiple medications; Indigenous people; homeless people; pregnant women; people with no advocates in health system, ‘no friends or family’; people with rare conditions; and women. Numerous factors were identified as increasing the risk to vulnerable groups and individuals, and these will be discussed in the presentation.
A total of 49.8% of respondents indicated that either they or their service collected demographic data about people who experience errors or adverse events in their healthcare system, although 80.9% of respondents felt that the data collected by their service influenced organisational policies and or practices. At total of 57.5% of respondents indicated that they planned to implement any strategies to improve safety for people who are most at risk of harm in your healthcare service. A range of examples were provided ranging for general ‘special care for vulnerable populations’ including the provision of social assistance, through to co-design with patients and families, and specialised training of staff.

**Conclusion:**
There is an increased interest in the intersection between vulnerability and patient safety, with a number of population groups regularly and consistently identified as being at increased risk. Vulnerability should not be seen as only applying to specific populations or groups, however, as it is clear from the findings of this international survey that complex conditions, certain settings and a lack of advocates also place people at risk.
Second victims’ support resources: preferences from a cross-sectional study in a large Academic Hospital in Udine

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Introduction:

“Second victims” are defined as “healthcare workers (HCWs) involved in an unanticipated adverse patient event, who experienced significant professional and psychological distress”. Several studies suggested the development of a system-wide program to support second victims.

This study aims to explore the second victims’ phenomenon in an Italian hospital and to determine the support resources preferred by the HCWs, with the purpose of developing a support program for professionals involved in adverse events.

Methods:

A cross-sectional questionnaire-based survey was carried out from the 7th of June to the 30th of November 2019 at the Academic Hospital of Udine. All HCWs (doctors, residents, nurses) involved in direct patient care who could be a potential second victim were included. A validated version in Italian language of the Second Victim Experience and Support Tool (SVEST) was used to assess the experience of second victim and the preferred support resources. SVEST consists of 29 items, divided into 7 dimensions and 2 outcome variables; responses were measured using five-point Likert scale (1=“strongly disagree”, 5=“strongly agree”). SVEST included also 7 support options. Significance (p<0.01) was assessed by Wilcoxon signed rank sum test. Percentage of agreement of the support options were presented by the percentage of respondents with an overall mean subscale score of ≥ 4.0.

Results:

Final surveys collected were 349. Women were 79.4% (277/349). Mean age of all HCWs was 39.4±10.7. Nurses who answered were 140 (40.1%), doctors 66 (18.9%), residents 30 (8.6%). Mean length of working experience was 12.3±10.9 years. HCWs involved in a patients’ adverse event were 58.7% (205/349). Out of these 136 (66.3%) were near misses or events that did not cause damages to the patients. The overall mean score of the first two dimensions of SVEST (“Psychological distress” and “Physical distress”), that can be seen as representative of the trauma experience, was respectively 3.1±1.0 and 2.3±1.1. The
difference between them was significative ($p<0.001$). The two outcome measures ("Turnover intentions" and "Absenteeism") had a score respectively of $2.29\pm1.31$ and $1.83\pm1.17$. The difference between them was significative ($p<0.001$). The percentages of HCWs that scores $\geq 4.0$ were respectively 22.1% and 12.0%. Among the support options, the most preferred (scored $\geq 4.0$) were: “a respected peer to discuss the details of what happened” with the 73.1% (255/349), having “an employee assistance program that can provide free counseling” with 69.0% (241/349) and “a discussion with my manager or supervisor about the incident” with 65.6% (229/349).

**Conclusion:**

The study highlights that HCWs were frequently involved in adverse patient events, although without patients’ damages in most cases. Psychological distress was significative more impactful than physical distress and turnover intentions overcame absenteeism intensions. The majority of HCWs preferred a specific program that can support second victims. Therefore it is necessary to develop and implement a second victim support program designed to provide emotional, psychological and professional support for HCWs, involving especially respected peers and supervisors.
Introduction:

Evidence of the association between patient safety and unprofessional behaviours such as bullying, harassment and incivility has substantially grown. A recent study\textsuperscript{1} of US surgeons showed that those with more co-worker complaints had patients who experienced significantly higher rates of medical and surgical complications. In the UK, a National Guardian Freedom to Speak up Office has been established to support health staff raise concerns about patient safety. In 2019 over 19,000 cases were reported, 41\% of these included elements of bullying and harassment impacting safety.

An important question for health care organisations internationally is what individual and organisational factors enable or inhibit staff to speak up about behaviours which may jeopardise their own or patients’ well-being?

Objective:

To identify individual and organisational factors that may enable or inhibit staff to speak up about behaviours which may jeopardise their own or their patients’ well-being.

Methods:

All staff at 7 hospitals across 3 Australian states were invited to complete a survey about how often they experienced 26 ‘unprofessional behaviours’ (UB), ranging from mild ‘incivility behaviours’ (e.g. being spoken to rudely) to serious (e.g. physical or sexual assault). Respondents were asked about the impact of these behaviours on their personal wellbeing and patient safety, and whether they had the skills to speak up about UB. Staff were asked about potential organisational factors influencing speaking up including whether they were encouraged to speak up by colleagues; knew the proper channels to raise concerns; were confident that they would be believed and taken seriously if they reported UB; and felt comfortable to speak up about UB. They were also asked whether they thought UB was effectively managed in their hospital and whether they felt that speaking up or reporting UB was likely to have a negative impact on their career.

Logistic regression models were applied to identify factors associated with experiencing UB and with feeling comfortable speaking up about UB.
Results:

5,178 staff completed the survey (response rate 34.0%). Overall, 94.1% (n=4875) of respondents had experienced one or more of 26 unprofessional behaviours in the past 12 months, with 38.8% (n=2009) experiencing ≥1 incivility behaviours weekly or more frequently. Overall, 38.4% (n=1989) indicated that UB had a moderate/major impact on their own wellbeing; 49.8% (n=2580) that UB had a major/moderate impact on any of: patient care, errors or quality of service; and 54.7% (n=2832) reported that UB had a moderate/major negative impact on teamwork.

Modelling factors associated with feeling comfortable to speak up or report UB, we found that, independent of demographics and professional group, positive responses to all items (listed in Figure 1) were associated with a greater likelihood of feeling comfortable to speak up or report UB. The strongest association with the outcome “I feel comfortable to speak up about UB” were for the items “I have the skills to speak up about UB” (OR 4.25) and “I am confident I would be believed and taken seriously if I reported UB” (OR 3.05).

Staff over 54 years, non-clinical and management/administrative staff, and males were more likely to report comfort to speak up compared to the reference groups (Fig 1).
Co-designing and evaluating innovations with people with disability: what is best practice?

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Introduction:

Co-designed innovations, including cutting edge therapies, assistive technology and evidence-based practice, have the potential to improve the lives and health of people with disabilities their families and carers by enhancing their independence.

“Nothing About Us Without Us!”, a slogan emerging in disability activism during the 1990s, speaks strongly to the necessity for co-design. There is increasing rhetoric about its importance, and the need to include “co-design” is becoming more apparent in programs, funding requirements and ethics applications. Less well articulated is what constitutes good co-design and how it should be implemented and evaluated.

This paper synthesises current evidence on how co-design is defined, described and evaluated when developing innovations with people with disability.

Methods:

This scoping review conducted in 2019-2020 followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol. A systematic search of four electronic databases identified published studies reporting evaluation of innovations for people with disability developed using co-designed approach. A range of search terms were used for each of the following concepts included in this review: evaluation; innovation; disability; human-centred (e.g. co-production, co-design, patient-centred). Selection criteria were applied across three phases. An analytic frame guided data extraction on: how co-design was defined, described and evaluated.

Results:

There were 57 papers that met the selection criteria. The extent to which studies defined (n=23) or described (n=41) their co-design approach varied with some studies offering little or no description. Co-design processes most commonly reported included: participatory design; iterative participatory design; co-production; action research; general ‘co-design method’; inclusive design approach.

Co-design included end-users in 37 studies. Co-designed evaluation was reported in 13 studies. Few studies formally evaluate the co-design process. Some studies reported
informal reflections and/or interviews with staff involved about impact of end user involvement.

**Conclusion:**

This study found variations in what constituted “co-design”. Some interventions, for example, advertised as co-designed, involved asking an end-user (or someone else involved in their care) for feedback on an innovation once it had been designed. Failure to define and describe clearly how interventions are co-designed potentially undermines and erodes trust in the value of the co-design approach. Unless evaluation is also co-designed, outcome measures will not reflect the values and priorities of the end-user.

Therefore, when used to develop innovations co-design methods should be described to enable those with a disability their families and carers, service providers, funding bodies and policy makers to determine the extent to which development of an innovation truly reflects the values, priorities, needs and wants of those for whom it is designed. There is need for greater rigour in how co-design is defined, described and evaluated when developing innovations with people with disability, in order to make transparent whether co-designed innovations reliably represent those vulnerable groups whose voices are often not heard.
Stephanie Best4,6 Eloise Uebergang1,2; Michelle de Silva1,2,3,4; Finlay Keri4,5;

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Introduction: Clinical genomics, analysis of your entire genetic material for healthcare purposes, is a complex medical speciality and challenging to understand for people without genetic knowledge. Excellent resources are available though they are commonly produced in English. The lack of culturally and linguistically diverse (CALD) resources presents a barrier to equitable healthcare provision, adding an obstacle to accessing healthcare services for people from these communities.

Objectives: 1) to gather perceptions of healthcare interpreters when translating genomic information; 2) to identify influences on people from the CALD community in understanding clinical genomics; 3) to establish the next steps in facilitating delivery of equitable and patient centred clinical genomic services.

Methods: A sequential exploratory mixed methods study was designed. First, a survey of healthcare interpreters, to ascertain their experiences of translating in genetic and genomic healthcare settings, which informed semi structured interviews with people from CALD communities, to explore what impacts their understanding of clinical genomics. In March 2019, hard copies of the survey were distributed to the language service departments at two local hospitals in Melbourne. Analysis of these data (descriptive statistics and thematic analysis of free text comments) informed the development of the interview schedule. Interview participants were recruited via adverts on the Facebook pages of the Victoria Multicultural Commission of Victoria and the Centre for Multicultural Youth. Participants were eligible if they were over 18 years old, could speak English and were born overseas in a region where English is not the main language spoken. Interviews took place in June 2019. Data were analysed thematically. Ethical review was undertaken by Royal Childrens Hospital Melbourne Research Ethics Committee (HREC 38264). 1123

Results: The survey (n=18/34) revealed variable satisfaction with patient understanding with only 2/13 (15%) very satisfied patients understood genomic information. Concern was raised around the use of complex terminology in genetic and genomic consultations. Interpreters offered suggestions to improve translation of genomic information including training in basic genomic terminology and development of genomic resources for interpreters. Nine people responded to the online adverts for interviews from which four
people were available for interview. Three themes influencing understanding of clinical genomics were identified: cultural factors e.g. religious views; perception and previous experience of genomics e.g. media coverage; and language barriers and complex terminology e.g. translation of genomic terms into their language. Interview participants suggested future resources should be free of jargon, culturally sensitive, include graphics and preferred a booklet format.

**Conclusion:** This study demonstrates the need for further support for healthcare interpreters to ensure equitable, patient-centred clinical genomic services are delivered. Next steps include collaboration with other states (e.g., Queensland) to develop and deliver a training package for healthcare interpreters, develop genomic resources for both interpreters and for CALD community groups.
Session A11


Letaeilf, M. and Fortune, T.

Introduction

The World Health Organisation, building on the success of the Patient Safety Friendly Hospital Initiative (PSFHI) are developing a set of patient safety standards for primary care with a special emphasis on the management of pandemics.

The Patient Safety Friendly Hospital Initiative is a framework developed in 2011 by WHO, to assess patient safety in hospitals. It provides institutions, at a system level, with a means to determine their level of patient safety, whether for the purpose of initiating a patient safety programme or as part of a continuous quality improvement programme. The evaluation is voluntary and is conducted through self-assessment and an external, peer review survey.

There are vast quantities of research available on the effectiveness of interventions to promote solutions for patient safety. Vincent and Amalberti (2016) acknowledge not enough progress has been achieved in the last two decades, reflecting that most current safety initiatives are focused on improving the system in isolation of what happens in the real world. These authors sought to show how methods need to be developed aimed at managing safety and risks across the whole patient journey and not just at the hospital level.

The Covid 19 pandemic is the most devastating and destructive virus to hit the human population in the 21st century (Berwick & Shine, 2020). These authors go on to explain that discussions and learnings will go on for some time. Over 90% of resources are been targeted to acute care and an opportunity was lost by not concentrating on Primary Care from Day 1. Prevention for our most vulnerable population, the elderly, investment in PPE at the community level, surveillance and training for primary care healthcare staff may have reduced the clusters within the community we now witness. Covid 19 has demonstrated the strengths of standards in clinical practice as opposed to the usual clinical autonomy (Berwick 2020).

Objectives

1. To adopt WHO's PSFHI standards to suit primary care.
2. To enhance WHO's Patient Safety Friendly Primary Care (PSFPCS) standards to address the management of pandemics in the community.

Methods

The development of this patient safety framework commenced in 2019 and was extended in 2020 as the significance of Covid 19 became apparent. Phase 1
involved adopting the PSFHI 3rd edition to suit Primary Care. Phase 2 involves enhancing draft 1 of PSFPCI to cover the management of pandemics at the community level.

Phase 2 is still underway and includes a literature review of the management of Covid 19, development of draft 2 PSFPC standards and then pilot testing in one developed and one developing country of WHO’s Eastern Mediterranean Region.

The revised primary care framework will include reference to WHO’s 8 pillars of a public health response as follows: country level co-ordination, community engagement, surveillance, points of entry, National laboratoires, infection prevention and control, case management and logistics.

**Results to date**

**Phase 1.**

The first edition (2020) of PSFPCI is similar to PSFHI and arranged in the five domains of A. Leadership and management; B. Patient and public involvement; C. Safe evidence-based clinical practice; D. Safe environment; and E. Lifelong learning. There are 19 standards made up of 89 criteria.

Using the RUMBA principles, the PSFPCI standards were pilot tested in five primary care facilities belonging to both public and private. RUMBA principles were applied to ensure the criteria were relevant, understandable, measurable, beneficial and achievable. This resulted in some terminology being changed, i.e. strategy. Interestingly while some important criteria were not in place, all facilities were of the opinion that these criteria are important and must be in place. The rating methodology of each criterion was also assessed during phase 1 and found to be acceptable.

**Phase 2.**

Phase 2 remains ongoing with the final edition of PSFPC planned for July 2020. Pilot testing may be challenging until travel restrictions are lifted therefore publication may be delayed.

To date a literature review was undertaken to identify any new themes or changes in each of the 5 patient safety domains relevant to primary care. A literature review was also conducted on the management of Covid 19. While this literature i.e. extensive and can be ambiguous there remains little with specific reference to primary care. This included identifying the relevant WHO guidelines to support implementation of the standards.

**Conclusion**

A patient safety framework at the primary care level is important. The opportunity now exists to learn from the management of Covid 19 and include
these learnings in any future publications of PSFHI. This should apply to acute, primary and home care.

**References**


**Conflict of interest:**

There are no potential conflicts of interest associated with this abstract or any of its authors.
Introduction:
Prescribing rates for sedative medications (benzodiazepines and ‘z-drugs’) in Ireland are high compared to other OECD nations. The vast majority of ongoing prescriptions for these medications are generated in General Practice. These medications carry a high potential side effect and safety risk for patients, including an increase in the relative risk of developing dementia by 30-60% and an increased risk of falls and injury in older patients by up to 200%. In Ballyhale Health Centre, a rural general practice serving a population of approximately 3000 people, a recent Health Service Executive Primary Care Reimbursement Service (HSE PCRS) audit indicated that prescribing rates for these medications were amongst the highest 50% of general practices nationally.

Objective: This quality improvement project aims to reduce the total amount of sedative medications prescribed to all patients attending Ballyhale Health Centre by 66% through shared decision making and partnership with patients. The project is ongoing.

Methods:
All staff (doctors, nurses and administrative staff) at Ballyhale Health Centre, with the input and expertise of patient representatives, have been using quality improvement methodology to understand, coproduce and improve safety and effectiveness in this area of care. Systems understanding tools utilised include process mapping for prescribing in the practice, root cause analysis, in depth patient chart reviews and patient stories/feedback. Nominal group technique and brainstorming were then employed to come up with possible changes and solutions. Change ideas were and are being tested using the Model for Improvement. Change ideas tested to date include a medication safety notice (co-designed with patients), a standardised opportunistic verbal medication safety message, an agreed clinical practice guideline on sedative medication prescribing, and a standardised approach to sleep hygiene education including a co-designed rapid reference leaflet and a more detailed resource kit. In addition to testing these change ideas, clinical staff have been engaging with patients, community pharmacists and other members of the multidisciplinary community healthcare team in a bid to socialise this change across the community.

Results:
The total weekly amount of sedative medication prescribed in Ballyhale Health Centre has fallen by 46% since May 2019. This outcome measure represents a reduction in the total
number of milligrams of the 6 most commonly prescribed sedative medications (diazepam, alprazolam, temazepam, lormetazepam, zopiclone and zolpidem). From a practice development and safety culture perspective, the practice team has reflected very positively on working together to standardise care and improve quality in this medication safety area. This project also represents the start of a broader practice improvement journey in partnership with patients.

**Conclusion:**
This coproduced quality improvement project has resulted in a significant reduction in the total quantity of sedative medication prescribed, and consequent risk of related harm. This has been achieved with patients.

**Please declare any conflict of interest you may have:**
The authors are employed by Ballyhale Health Centre but have no other conflicts of interest to declare.
“Medical Accident Investigation System / Japan”. It’s fundamental structure, the difference from the “Reporting System”, and the preventive measures made from 1,200 cases.

Sosuke Kimura

Introduction: Medical institutions are supposed to have taken preventive measures against medical accidents, accumulating reports of incident cases so as not to allow serious accidents to occur. However, serious events do occur in fact. Such cases have been reported to Investigation and Support Center. I believe that the mission of the Medical Accident Investigation System is to accumulate these reports, to investigate and analyze each case and to provide information for preventing recurrence of serious events.

Methods: The Medical Accident Investigation System was enforced in Japan, under the Medical Care Act in October 2015. The target case of the investigation is limited within the unforeseen death, as a “medical accident”. The principle of the system is to analyze the cause of the accident and to make preventives, not to lay the blame on the individual. The judgment of “medical accident” is done in the institution where the accident occurred, by the administrator and staff themselves. Such cases are reported to “Investigation and Support Center (ISC)” of the “Japan Medical Safety Research Organization (Medsafe Japan)”. And the investigation followed after, is also left to the same institution relevant to the accident, as an “In-hospital investigation”. There is the “ISC-investigation” as a 2nd step, which is carried out by the request of bereaved family or the institution itself, basically after “In-hospital investigation”. In addition to the ISC-investigation, the main ISC mission is to accumulate these “In-hospital Investigation” reports, to compare and analyze the points in common and to draw up preventive measures.

Results: In four years of experiences, until the end of September 2019, the number of reports on occurrence was 1,500 cases. The “In-hospital investigation” reports submitted to ISC was about 1,200 cases. The report contains the medical progress, the analysis of the cause of death and the process of the treatment, etc. in 10 pages on average.

The requests for “ISC-investigation” is 105 cases in the same period. (9% of “In-hospital investigation” reports) The investigation is carried out by the subcommittee consisted of 7~10 specialists from the concerned medical society, set up for each case.

About the preventive measures, the reports from the in-hospital investigation database were sorted and the theme was decided, depended on the criteria, the number of accidents, the clinical importance and others. The themes selected were “Central Venous Catheterization”, “Acute pulmonary thromboembolism”, “Anaphylaxis”, “Post-tracheostomy
trouble” and others. Now 10 booklets on preventive measures were published. Though the actual number of cases were small in each theme, the expert analysis subcommittee compares the detailed information from the medical institutions multiple times and looks deep into the cause of each accident again, analyzes the points in common and draws up preventive measures.

**Conclusion:** Those preventive measures and proposals have a new content which focused on the importance of avoiding accidents that may lead to death.

The principle of this system is founded on the professional autonomy and self-regulation, which makes the premise to trust in medicine and there is no penal regulation nor restriction on the decision of "medical accident".

**References:**

**Please declare any conflict of interest you may have:** none
Elaboration of patient safety solutions to improve patient safety

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Introduction:
It is commonly agreed that care related adverse events (CRAEs) occur, and many of them are avoidable. Often, there is few scientific literature and no professional consensus on the topics associated with CRAEs. In order to improve patient safety, HAS (French national authority for health) developed a new method to elaborate pertinent patient safety solutions (PSS), which propose measures to prevent or mitigate patient harm associated with CRAEs. PSS developed by HAS are based on feedback database of the physician’s HAS accreditation process. This database contains CRAEs reported and analysed by volunteer physicians. The aim of PSS is to get effective and relevant insights from CRAEs.

Methods:
Three criteria lead the production of pertinent PSS:

- Reliability of the input data, based on the analyse on a range of CRAEs (rather than an individual CRAE) on the same topic (called “risk situation”), with a good quality in-depth, systemic analysis.
- External consistency with literature data if exists. Frequently, little literature is found on the topic and therefore, it is supplemented by expert opinions (a multiprofessional working group).
- Clinical relevance of the topic (frequency, severity, cost). Indeed, the topic selected for a PSS must have benefits that concern a large number of patients.

The deliverable is a practical tool to improve patient safety dedicated to healthcare professionals. So, PSS:

- consist of 3 parts to: (i) prevent the occurrence of the adverse event, (ii) recover (i.e. cancel the consequences) of an emerging adverse event, (iii) mitigate the consequences of an adverse event that has occurred.
- is approved by professional bodies (physician accreditation bodies, professional organization, etc.).
- is used to change professional practices and reduce number and severity of CRAEs.
- is monitored and evaluated in order to identify any new risks that may arise from their use (surveys, audits, etc.).

Results:
PSS have been developed by physician accreditation bodies in partnership with the HAS and validated by the HAS. Their monitoring allows new inputs, in order to improve or update PSS.

For example, the HAS check-list “patient safety in the operating room” implemented in France in 2011, was updated twice, in response to CRAEs related to its use: first in 2016, to take into account some paediatric specificities, then, in 2018, to promote in team’s check and concerted decision (Go or No Go).

PSS realised

- No Go in the operating room. How to reinforce the safety barriers,
- Managing the risks associated with electrosurgical devices,
- Securing the circuit of a sample collected in the operating theatre,
- How can we reduce the risks associated with the creation of a pneumoperitoneum in digestive surgery?
- Cooperation between anaesthetists-resuscitation specialists and surgeons. Working better as a team.

PSS in progress

- Patients safety risks associated with electronic health information technology
- Inattentional blindness and tunnel syndrome

These PSS have been implemented in the accreditation programs for volunteer physicians and can be used by all other health professionals. Each physician accreditation body also develop specific PSS for its specialty. In this case, they are validated by the professional body of the concerned specialty.

**Conclusion:**

PSS learned lessons from the analysis of CRAEs. They must be methodically developed in order to be relevant. They contribute to patient safety by working on risk management, improving complication management, team work and safety culture, and
Abstract submission for short orals, lightning talks and poster displays
Preferred theme: 6. Designing for People Safety (1st) or 2. Focus on the person (2nd)
Progress of study: ongoing; to be completed by May 2020

Introduction

Patient complaints provide a valuable source of insight into quality, effectiveness, and patient experience of care. They capture a range of problems not always identified by traditional systems of healthcare monitoring (e.g., incident reporting, case reviews), including continuity of care, systemic problems, and unfinished or omitted care. Most patients and families submit their complaint to prevent harm from happening to others, yet are currently often left dissatisfied.

Although healthcare complaints departments are increasingly required to report information held in complaints, there is little insight into how this information is used and how effective it is in identifying patterns of problematic or unsafe care. A recent systematic review of international complaints analysis studies indicated no standardised codes, little assessment of complaint severity and a tendency to fixate on numbers of complaints rather than the content within them. Public inquiries in the England’s National Health Service similarly suggest healthcare settings often fail to identify and learn from incidents and negligence reported in complaints.

The ‘Healthcare Complaints Analysis Tool’ (HCAT) was developed by our team to support healthcare institutions and regulators in reliably codifying problem type, problem severity, stage of care where each problem occurred, staff group involved, and overall harm caused. HCAT is theoretically informed, tested with and by patients, and has been used in academic research across a number of countries. However, the strength of HCAT has yet to be established within healthcare organisations, when used by complaints handlers, applied to non-redacted samples of complaints.

Objective

To evaluate the reliability, usability, and effectiveness of HCAT in supporting complaints teams to extract critical patient insights from complaints for quality monitoring and improvement.
Methods

This is a three-stage study conducted at four diverse healthcare organisations in England. In the first stage, two complaint handlers at each setting will independently codify an identical sample of complaints (n=100) using HCAT. Inter-rater reliability will be tested using Cohen’s kappa and Gwet’s AC1. In the second stage, they will then be asked to complete a feedback survey querying time-effectiveness, usability ratings, and a qualitative assessment of the tool. In the final stage, HCAT coding outputs will be analysed in an aggregated manner to explore quality and safety trends voiced in complaints across all healthcare settings (n=400). Statistically significant patterns of poor or unsafe care will be identified using chi square test of independence.

Results

Based on pilot testing, it is expected that HCAT data outputs will have satisfactory reliability, and generate key insights into quality, safety, and effectiveness of care. Identified patterns of poor or unsafe care will include: the extent and location of patient harm, the prevalence and nature of near-misses, and organisational blind spots (eg, transition of care, errors of omission, and miscommunication).

Conclusion

HCAT, a novel complaint analysis tool, is able to support healthcare settings to reliably derive valuable insights about the quality, effectiveness, and patient-centricity of care. Improved complaints analysis could unlock the collective voice of complainants, reveal common patient concerns, and provide patient-centric insight into difficult-to-monitor areas of healthcare delivery.
Session A12

[1974] Q at 5: Learning from the developmental and summative evaluation of a large network of improvers in UK health and social care

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Introduction

As a response to the Berwick Report, in 2015 the Health Foundation worked with a co-design group to understand what was needed to accelerate and spread improvement work across UK health and care. Q, a large and diverse network of those with improvement expertise (3,581 members as of December 2019) was established to provide a system wide infrastructure for connecting members, developing their knowledge and skills and mobilising collaborations to enact improvement activities.

RAND Europe were commissioned to evaluate Q (2015-2020) encompassing two core objectives. Firstly, to provide evidence and analysis to support strategic decision-making and inform the ongoing design and management of Q. Secondly, to assess the impact that Q has, primarily on members, but also on their organisations more widely and to understand how this contributes to improvement in health and care quality across the UK. In addition, the evaluation has drawn out considerable learning of relevance on successfully spreading improvement and establishing improvement networks.

Methods

The first phase of the evaluation was developmental with the evaluation team partially embedded in the Q team and with a focus on generating actionable learning. The latter stages have transitioned to a summative assessment of the impact of Q. The study adopted a large scale mixed-method design including 150 interviews and 20 focus group discussions with members, the Q team and leading QI experts; three cohorts of citizen ethnographers where members collected data through reflective diaries; impact case studies; documentary reviews; and annual member surveys (791 respondents in 2019).

Results

Engagement in Q varies across the membership with a quarter (25%) spending less than a day a year on Q (Member Survey, 2019). The qualitative evidence also suggests varied member orientation towards the community ranging from seeing Q as a social movement to seeing Q as more of a professional development programme. These multiple frames have implications for engagement but are generally seen as a strength of Q.

The evaluation provides strong evidence of positive impact on individual members with 81% agreeing that they personally benefit (Member Survey 2019) including through accessing
resources and activities they would not otherwise access and in making the connections they need to undertake improvement work. Qualitative evidence shows how Q offers both bonding and bridging capital (Putnam, 2000) in the system and supports healthcare improvement through increasing member self-efficacy and in ‘unfreezing’ habitual thinking and practice.

The evaluation has collected good practice case studies detailing the ultimate impact of Q on quality of care and patient outcomes but no quantitative assessment of this impact has been attempted at this stage.

Finally, the evaluation identifies some unresolved tensions that influence the impact of Q including the balance between innovation and routine implementation, whether Q should be a peripheral or mainstream initiative, and whether Q should create a non-instrumental space or be more closely aligned to system priorities.

**Conclusion**

The study contributes to the existing evidence base on the importance of effective networks (e.g. the Health Foundation, 2014) in spreading improvement across a complex system (e.g. Horton et al, 2018) and offers considerable learning on the specific design of initiatives that aim to connect improvers, support their learning and lead to collaborate activities. The paper also outlines evaluation plans for the next 10 years of Q (2020-30).

**References:** N/A

**Please declare any conflict of interest you may have:** No
Educational Support for Mandatory Reporting of Serious Adverse Drug Reactions and Medical Device Incidents

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1 Institute for Safe Medication Practices Canada, Toronto, Canada; 2 Canadian Patient Safety Institute, Edmonton, Canada; 3 Health Standards Organization, Ottawa, Canada

Introduction:
Under the Protecting Canadians from Unsafe Drugs Act (“Vanessa’s Law”), reporting of serious adverse drug reactions (serious ADRs) and medical device incidents (MDIs) became mandatory for hospitals on December 16th, 2019. ISMP Canada, Health Standards Organization (HSO) and the Canadian Patient Safety Institute (CPSI) worked together with Health Canada to develop educational materials to support the implementation of mandatory reporting.

Objectives
1. Assess the type of outreach, education and feedback needed to support serious ADR and MDI reporting.
2. Develop and pilot test an educational approach and content.
3. Undertake an early evaluation of the implementation of the educational approach.

Methods
A project logic model and Advisory Panel were created to provide guidance for the intended short- to medium-term outcomes of the educational approach.

A Needs Assessment, including a literature review and stakeholder interviews, provided consensus on the key considerations for development of outreach, education and feedback to facilitate serious ADR and MDI reporting in Canada. An Implementation Plan presented principles and specific recommendations for communications, pilot testing, and knowledge translation of the educational approach.

PowerPoint modules containing core content intended for use by hospitals, health care professionals, educators, and patients and their families, were designed to explain, describe, or promote the reporting of serious ADRs and MDIs.¹

A Pilot Test of the educational approach and content was conducted over 3 weeks in early 2019, and an Early Evaluation of the implementation was conducted in mid-2019.

Results
The Pilot Test garnered feedback from 255 participants, who represented individual and organizational stakeholders from across Canada. The largest numbers of respondents were “pharmacists” and “hospitals”. Most respondents (83.1%) had reviewed all modules. The following are key results from the pilot test:

- 89% of respondents reported that they had a good or strong understanding of the mandatory reporting requirements after reviewing the educational modules
- 94% indicated that using some or all of the slides would be a helpful approach to communicate information about Vanessa’s Law and reporting requirements
- 91% of respondents indicated that they planned to use the slides to communicate about the mandatory reporting requirements

The Early Evaluation results echoed the positive results from the pilot study. The majority of online questionnaire participants reported that the modules were easy to access and understand, that they intended to use them in future learning activities, and that they would recommend the modules to colleagues. Web analytic data showed high rates of module download across the country. A customized presentation was created to help patients and the public understand and promote the reporting of serious ADRs and MDIs.

Conclusion

The educational materials (as entire modules or as individual slides or selected content) can be used for individual learning or incorporated into presentations, orientation, continuing education, and other information-sharing activities. Longer term monitoring is needed to ascertain whether dissemination and uptake of the modules continue and that there is integration into organizational practices, and if so, whether these changes are contributing to improved quality and quantity of reporting.

References


Conflict of Interest

Health Canada funding was provided.
Enhancing Patient Safety in the Pediatric Emergency Department through Simulation

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Introduction: Patient safety adverse events are a significant concern in pediatric healthcare. Increasing situational awareness is an effective intervention to enhance patient safety. Learning how to report identified errors and near misses enables mitigation of current and future harm. Our objectives were to enhance medical students and trainees’ awareness of and confidence in identifying and reporting patient safety hazards through a brief interactive simulation activity.

Methods: This patient safety simulation activity was implemented at University of California Davis Health. A list of 20 high-priority patient safety hazards was created using a modified Delphi technique. Hazards fell into the broad themes of falls, allergies, protected health information, personal protective equipment, hand hygiene, choking, medication administration, privacy, electronic health records, and infections. Four learner cohorts were: 102 2nd year medical students starting clinical clerkships, 91 4th year medical students transitioning to residency, 15 emergency medicine interns, and 13 pediatric interns. Teams of 3-5 learners within each cohort were pre-briefed on learning objectives and the simulated case – a 5 y/o boy in the emergency department with an acute asthma exacerbation. Teams had 10 minutes in identical simulation suites to identify hazards, followed by a 15-minute debrief on hazards identified and missed, and the importance of situational awareness. Students then viewed a 5-minute instructional video on reporting near misses and errors using our hospital incident reporting system, followed by a 15-minute discussion with the facilitator on the significance of reporting errors and near misses. Each learner completed a 5-item post simulation evaluation.

Results: Key outcomes were frequency of safety issues identified and confidence in identifying and reporting hazards, errors and near misses. Mean scores of learner confidence in identifying and reporting patient safety hazards significantly increased (Figure). Learners rated their overall satisfaction on a 0-10 scale (0= Not at all Satisfied, 10= Very Satisfied). Learner satisfaction scores (mean ± standard deviation) were 8.5±1.5, 7.8±1.7, 8.1±0.9, and 8.9±0.9 for pre-clerkship, pre-residency, emergency medicine interns and pediatric interns, respectively. Learner-reported activity highlights included: demonstration on near miss and hazard reporting, active learning, interactivity and fun activity, team-based learning with peers, hands-on activity, ease of recollection of key points, and concise timeframe. Learner-recommended improves included: practice with the incident reporting system, create a competition, move the exercise earlier during medical training, and integrate real-life examples of incident reports that resulted in system-level
changes. The 4 most commonly identified safety hazards identified were: patient identification band off (98.1%), choking hazards (96.2%), another patient’s discharge papers at bedside (96.2%), and food present in room with NPO patient (96.2%). The 4 least commonly identified hazards were: multiple patient charts open in the electronic health record (9.4%), unsigned orders open (33.9%), unsecured medications at bedside (47.2%), and undated IV catheter site (49.1%).

**Conclusion:** This brief interactive simulation activity enhanced medical students and trainees’ awareness of and confidence in identifying and reporting patient safety hazards. Our next steps include analyzing data on changes to number of incident reports filed by learners and developing a facilitated exercise where each learner practices reporting an error or near miss on our hospital reporting system.

**Figure: Comparison of learners’ confidence in identifying and reporting safety hazards before and after safety simulation activity, N = 221**

0-10 score (0 = Not at all Confident, 10 = Very Confident)
Introduction: Massive open online courses (MOOCs) provide a flexible opportunity for online, distance learning. Online platforms enable the dissemination of information on a large scale to a potentially global audience. They use a variety of presentational and educational formats such as video, articles, recommended reading lists, discussion boards, self-assessment and quizzes to engage learners as well as enable them to share examples and experiences of putting the learning into practice. The current international research has explored the impact of such courses on knowledge, specific aspects of clinical care, as well as changes to learner confidence and change to their clinical practice. In 2016 the authors designed and launched a MOOC titled 'Quality Improvement in Healthcare: The Case for Change'. This is a mixed media course delivered over six weeks three times each year. 40% of the 21,300 enrolments to date are UK-based. The origins of the remaining joiners are 17% rest of Europe, 15% Asia, 14% Africa, 6% North America, 4% Australasia, 2% South America, 2% unknown. The course is in English with written scripts of video presentations and is designed to take up to three hours a week.

Methods: We have recently developed and are currently testing a pre-post study design using a mixed method approach that will employ surveys and semi-structured interviews and explore not just the learners changes in knowledge but also their perceived confidence in engaging with quality improvement activities in their work environment, or, if patients or interested citizens, within their community. Through the pre-course surveys we will identify sociodemographic information of the learner’s cohort as well as identify their motivations for completing the course including any prior QI training and experience. Knowledge of QI (self-reported and objective) and perceived confidence in designing and leading QI activities will be measured before and after the online experience.

Results: Since September 2016 the course has had eleven runs. 21,193 people have joined, 9228 have completed at least one step and 2032 have completed 50% of the course. About 10% of active learners have completed at least 90% of the course over the eleven runs. Using RE-AIM elements of reach, effectiveness and maintenance of the knowledge and learning at an individual level and the Kirkpatrick model components of reaction, learning and behaviour we aim to gain a better understanding of the impact of the MOOC. The global reach of the course will enable us to observe whether there are specific regional approaches that are necessary to impact positively on patient care.

Conclusion: MOOCs enable a flexible approach to individual learning. Participation is possible from any location with internet access and thus the potential audience can be...
varied in professional or personal background, educational experience and local culture and support. This research is providing timely and on-going understanding of impact on learner’s knowledge and their ability to put that knowledge into practice as an individual or within their team, work environment or healthcare system.

References:


Hood N, LittlejohnA, MOOC Quality, the need for new measures J Learn Dev 2016;3:28-42


Please declare any conflict of interest you may have: NON
eLearning in quality improvement: not as accessible as you think

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Introduction: The objective of this presentation is to critically address the popular belief that eLearning methods easily tackle the issues of accessibility for the participants, and those of time and resources when it comes to basic training in Quality improvement (QI) and Patient Safety concepts and methods. Academic institutions face additional challenges in their dependence on external IT competences, institutional policy regarding administration and accreditation. All of which are in the way of making quality material reach a large healthcare audience.

Methods: A case-study based on the eLearning portfolio offered by the Heidelberg Institute of Global Health was conducted. This portfolio was developed by a number of stakeholders: technical experts, including academics, researchers, medical professionals, educators and IT developers, with technical and didactic proficiency in online training. Mixed methods were used to evaluate the portfolio: on one hand, qualitative semi-structured interviews were conducted with the experts teaching the courses, with the participants, and with the developers; questionnaires (assessment and rating) were deployed, as well as focus groups. On the other hand, tracking data provided by the eLearning platform was analyzed to check how the material was accessed.

Results: Academic institutions face particularly harsh challenges when it comes to making high quality accredited material available for a large healthcare international audience through eLearning methods, that are believed to tackle the issues of accessibility for the participants, and those of time and resources. The material being accredited and endorsed by university faculty cannot be simply placed in open access free of charge, it is thus submitted to local price standards making it inaccessible to professionals from developing countries. Furthermore, it can’t be revised and updated by the content developers directly making its usability directly dependent on external IT competences.

Conclusion: Making basic training in QI and Patient Safety available in eLearning format required an extensive investment from a number of stakeholders, however this alone is not enough to make the material accessible to a large audience because of the issues identified in this case study. This in turns creates an unexpected “stuck in production” situation that we would very much like to discuss with the audience at the 2020 ISQua conference.
Introduction: The sero-prevalence of Hepatitis B Virus (HBV) infection in Nigeria is 12.2% while rates are about 4 times higher among health workers who represent a high-risk category. Though preventable through vaccination and post-exposure immunoglobulin therapy, multifaceted reasons are adduced for low uptake of the vaccine in Nigeria. Two reported incidents of needle prick with hepatitis B positive patients within 2 months led to renewed effort to vaccinate the staff of Orile-Agege General Hospital (OAGH).

AIM STATEMENT: To vaccinate against hepatitis B in OAGH staff from 10%-50% from March 5th, 2019-September 5th 2019.

OBJECTIVES: This study had a strong focus on primary prevention of hazards and ensuring safety in the workplace. This would prevent work-related illness and injury.

Methods:

We utilized the Model for Improvement (MFI) in this descriptive study. Ethical clearance was obtained from the Research Ethics Committee of the health facility. Survey carried out by The Quality Improvement Team, revealed only 10% of staff had been fully vaccinated. “The Five Whys” was the Quality Improvement (QI) tool used to explore the cause-and-effect relationships underlying why only 10% of staff had completed the 3 doses of immunization. Cost of the vaccine poorly communicated policy, low risk perception, insufficient information, and inadequate follow up processes were our findings.

Change ideas (interventions) were implemented using Plan, Do, Study, Act (PDSA) cycles. The interventions were occupational health talk on needle stick injuries, transmission & prevention of HBV during OAGH staff assembly. This was then followed by free screening for HBV amongst OAGH staff. Finally, all consenting staff received recombinant HBV (REVAC-B, SKB, 20 micrograms per dose) at 0,1 and 6 months.

Results:

The Outcome Measure (related to the aim) was the proportion of staff who completed 3 doses of HBV. A total of 316 staff (58.6%) received the first dose of the vaccine while 312 (57.9%) received the second dose. 48.2% of staff received the third dose. Long vaccination schedule of the vaccine and lack of time were reasons given by staff despite the fact that the
vaccination was completely free. In addition, HBV refusal was high among those who tested negative during the screening, with some erroneously opining that the vaccine could cause infection. Compliance was highest among nurses (83 out of 127; 65.4%). Significant improvements were observed post-intervention compared to baseline levels. (p=0.000).

The Process Measure (related to the change ideas) revealed that only 249 out of 539 (46.2%) staff attended the occupational health talk during the staff assembly. While the proportions of staff screened for HBV was 75%. Three (0.01%) staff tested positive to HBV during the screening exercise. Further investigations and treatment had since been carried out on them.

Conclusion: Occupational health talks improved the level of HBV immunization completion from 10% to almost 50% (48.2%) in OAGH. This study demonstrates that attitudes to uptake can be eliminated via continuous education and that vaccination coverage can significantly increase among health workers through the use of well-designed QI-interventions. At the end of the study, vaccination of all newly deployed and recruited staff was adopted and adapted into OAGH orientation program.
Evaluating the Impact of Integrating Technology in the Healthcare Environment on Nursing Practice: Results from Seven Qualitative and Quantitative Studies

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Introduction:

The increasing advancement of technology has changed the healthcare environment, yet there is a paucity of empirical data of its impact on the hospital's largest core users: nurses. Humber River Hospital has developed and integrated information and communication technology (ICT) across all hospital systems and workflows. These technological interventions included: embedding Best Practice Guidelines (BPGs) into the electronic medical record (EMR); integration of smartphones into the patient call bell system; and implementation of technology-based violence prevention interventions, integrated bedside terminals (IBT), and medication safety technologies. This abstract reports the results of a series of qualitative and quantitative studies aimed at exploring nurses’ perspectives of ICTs and evaluating their impact on nursing practice (Kent & DeLuca, 2019).

Methods:

Qualitative data were collected through semi-structured interviews to examine nurses’ perception of ICTs. A descriptive study was used to characterize the potential benefits of the integration of BPGs into the EMR. An interrupted time series was used to evaluate the impact of medication safety technologies on the monthly reported medication error rate. Finally, predictors were explored through regression analyses to determine characteristics that influenced the adoption of ICTs among nurses. Ethics approval was obtained for all studies where necessary.

Results:

The findings from the studies revealed benefits and challenges to the use of ICTs. The introduction of smartphone technology offered significant improvements over traditional patient call bell systems in terms of efficiency, time management, and establishment of a one-to-one relationship with patients; though nurses were sometimes frustrated by their poor battery life and call quality. IBTs were considered a good source of entertainment and distraction for patients and the environmental controls embedded within the IBT provided patients with greater independence; however, nurses stated that there were potential challenges for elderly patients as they were less inclined to use the IBT. The violence prevention technologies were effective for the detection of potentially violent patients and
for providing immediate security when a violent incident occurred or appeared imminent; however, nurses also acknowledged that patient-related violence was “unavoidable” as technology could not prevent violent incidents from occurring. Furthermore, integration of BPGs into the EMR instituted a uniform standard of care and provided the opportunity to analyze long-term trends.

Additional findings from the quantitative analyses provided support for implementing medication safety technologies (Barcode Medication Administration and Closed-Loop Medication System) to serve as a systematic safety net and reduce medication errors. Finally, predictors associated with a higher ICT competency skills were found to be previous and consistent exposure to technology rather than younger generational cohort, contrary to prior research.

**Conclusion:**

This research supports the implementation of ICTs within the hospital and provides a deeper understanding of nursing practice in a digital hospital. Other hospitals looking to implement ICTs into the healthcare environment must be mindful of its impact on the therapeutic relationship.

**References:**

Introduction: Management of chronic obstructive pulmonary disease (COPD) remains a challenge in primary healthcare (PHC) and multiple barriers can limit implementation of COPD guideline recommendations. Since 2016, a large-scale quality improvement (QI) program, called COMPAS+, has been implemented across the province of Quebec (Canada) to support improvement of chronic disease management in PHC. This program has used QI collaboratives – including population-based feedback, reflective practice workshops and long-term expert support – to identify challenges and solutions in COPD care in collaboration with practitioners, patients and managers. This presentation aims to describe what PHC teams found as the most important gaps in COPD care and the main causes of these quality problems.

Methods: Sixteen COPD COMPAS+ QI workshops were delivered in four regions of Quebec between 2016 and 2019. 331 persons in total participated in these workshops (physicians, professionals, managers and patients). Group reflection on administrative regional data and root cause analysis process were used to identify most important gaps and their underlying causes. Data was qualitatively analysed using content analysis.

Results: Gaps in COPD care were grouped into five themes: lack of coordination and continuity of primary care services, lack of interprofessional communication and collaboration, lack of COPD screening, lack of COPD patient action plans implementation, and lack of patients’ adherence to treatment. Each gap was influenced by multiple underlying causes such as access to respiratory therapists and spirometry, inconsistency in the process of referral to other professionals, misunderstanding of interprofessional roles, lack of awareness of available resources and services, complexity of pharmaceutical regimen, low patient level of education and literacy, and low PHC leadership to improve COPD services.

Conclusion: Gaps identified were almost identical across the four regions, which reflected the similar organization of COPD services within the province. Locally implemented solutions were successful to overcome some of these gaps. Recommendations can be formulated to implement these successful change strategies at the provincial level to increase implementation of COPD clinical guideline recommendations.

Please declare any conflict of interest you may have: The authors declare they have no potential conflicts of interest.
Introduction: Electronic health records (EHR) are implemented to improve healthcare quality and efficiency. Mixed outcomes have been published, however (Bauman, Baker & Elshaug, 2018; Perna, 2014, in Hoover, 2016). This study evaluated how the EHR has impacted quality of clinical practice in the hospital setting to identify ways to improve system design and implementation, to enable this technology to more effectively promote quality in healthcare.

Methods: Using a concurrent mixed methods design, surveys and interviews of nurses in 3 medical units, where the EHR had been implemented within the past 5 years, were conducted. These instruments explored views on the impact of the EHR on clinical activities. The latter represented the following elements of healthcare quality: safe, effective, timely, efficient, equitable, and people-centred (World Health Organization, 2018). Participation was voluntary and anonymous. Patients were not impacted. Research Ethics Board approval was obtained.

Results: Positive impact was found for completion of thorough assessments, critical result awareness, time spent finding information, and the degree to which information is clear, organized and up to date. Little impact was found on equitability, preparing a successful discharge, best practice adoption, and timeliness of checking vital signs. This tool was perceived to have a mainly detrimental impact on patient care time, person-centred care, and time spent documenting. Clinicians indicated it would facilitate quality further if: its functionality were better aligned with workflow, documentation were enabled at the point of care, hard copy access to essential information were possible in an emergency, duplicate entries were eliminated, text boxes were added to templates, 'other' options were added to menus, and if charting by exception were incorporated.

Conclusion: This innovation has facilitated quality and efficiency in some aspects of clinical practice. It may do so to a greater extent if it were streamlined and modified to become more congruent with clinical workflow. This instrument may play a useful role in enabling healthcare systems to meet expanding needs into the future.

References:


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

This author completed this study as part of a Master's Programme. There are no conflicts of interest to declare.
**Introduction:** The Associação Paulista para o Desenvolvimento da Medicina, a non-profit social organization, is responsible for ten General Hospitals. The diversity of services makes strategic management of quality and patient safety a challenge. At the end of 2013 we have defined 15 Operational Safety Practice (PSO). How to strategically manage in different realities to improve the reliability of the operational Safety? We model meetings with the philosophy we all teach and all learn, with a strong focus on recognizing and celebrating the achievements of each improvement.

**Methods:** The safety practices chosen for Hospitals were initially standardized. A Guide was built with the operational definition of each indicator and the formula, to standardize the measures. The reports were standardized and the percentage of compliance for each hospital was measured monthly. In 2013: 90% of the Institutions had PSO1 and PSO2; 50% PSO3; 100% PSO4; 70% PSO5; 40% PSO6; 30% PSO7; 30% PSO8; 70% PSO9; 30% PSO10; at the managed the PSO11 hospital; PSO12; PSO13; PSO14 and PSO15. The institutions presented the management of their practices in a summarized way, sharing their actions and the main challenges. At the end of each year, the institutions with the greatest achievements were recognized in a meeting with all boards. Figure 1

**Results:** All institutions were able to increase the number of PSO. PSO.6. Surgical Checklist: 88,558 surgeries were audited from 2013 to September 2019, we had 7 foreign bodies retained in the patients' bodies, with no exchange of laterality. Figure 2.
PSO.8. Timely use of prophylactic antibiotic: 51,660 surgeries were audited from 2013 to September 2019. Increase compliance over 90% and decrease variation. We decreased the infection rate from clean surgery. Figure 3 e 4

PSO.10. Fall Prevention: From 2013 to September of 2019, 184,787 patients at risk of falling were audited. In the first two years we had adjustments to audit method. From 2017 we started to increase reliability and decrease variation. Figure 5 e 6
PSO.11. Pressure Injury Prevention: From 2015 to September 2019, 63,566 patients were audited for pressure injury prevention. We had a method adjustment initially, after standardizing the institutions were able to achieve more than 95% compliance. There was a 50% improvement in the incidence of pressure injuries in hospitalized patients. Figure 7 e 8

PSO.7. Hand Hygiene: From 2013 to September 2019 we had 70,402 hand hygiene audits, initially there was a worsening due to adjustment of the audit method and in the last year we have improved reliability and variation. There was a significant improvement in the rates of institutional infection, but there were conflicting actions such as standardization of material and implantation of bundles to prevent invasive procedures. Therefore, the direct relationship between improved hand hygiene and improved rates of nosocomial infection are with a lot of bias. Figure 9
PSO.9. Bundles Infection Prevention: With the Penumonia prevention bundles and infection associated with central catheter bundles, from 2013 to September 2019, we avoided 1.473 infections, 595 lives were saved and 4.980 public ICU beds were released to serve new patients. Figure 10 e 11.

Conclusion: The learning model where everyone teaches and everyone learns, with recognition techniques and encourages creativity is a strong outlet for public hospitals, even in a situation of scarce resources. There is difficulty in standardizing audits and many of us can only understand needs from the moment we start to audit and compare audits. Keeping a corporate history helps in organizational learning, acting as an incentive for continuous improvement.
TEST RESULTS FROM AN ANTI FLU VACCINATION INDICATOR FOR HEALTHCARE PERSONNEL

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Introduction:

Highly contagious, the flu is responsible for nosocomial outbreaks among patients and healthcare workers. Immunization remains the most effective way to prevent care related flu. In France it is estimated that around 35% of healthcare workers were vaccinated throughout the last vaccination campaign in 2018-2019, and this is insufficient to ensure herd immunity. Yet, flu vaccination is still optional among health providing facilities in France. Since individual benefit of flu vaccination is still debated regarding healthcare workers, authorities are favoring encouragement policies rather than making it mandatory. In order to assist French hospitals in promoting this vaccination, an indicator evaluating quality and safety of care in relation to the amount of vaccinated hospital personnel is being developped. The aim of this work is to describe the experimentation of this new tool in order to test its feasibility and acceptability on a sample of hospitals.

Methods:

After studying flu vaccine related regulations and scientific literature, a working group composed of scientific experts and patient advocates was created. They defined the parameters of the tool: its definition, targeted population, inclusion and exclusion criteria. The population studied is the total number of hospital staff as recorded by the French annual hospital statistics survey. The indicator expresses the proportion of influenza vaccinated hospital personnel amongst all hospital staff working at a given hospital. A main data collection questionnaire, a questionnaire aiming to assess the vaccination policy in the hospital, filling instructions, and a feasibility questionnaire were produced. An advertising campaign was launched to recruit hospitals on a voluntary basis. The survey was conducted via Sphinx® software from March 15 to May 16, 2019.

Results:

133 hospitals volunteered to participate and completed the main questionnaire. Among them, 120 also completed the feasibility questionnaire. 75% of these hospitals found the indicator to be of interest. The median time necessary for data research and entry was estimated at 2h30 (1st quartile: 1h; 3rd quartile: 5h20). The access to vaccination data depended on the population: data was available for the staff vaccinated within the hospital, but difficult to find for a large part (53%) of the staff who were vaccinated outside the structure. These non-exhaustive findings allowed to estimate a median value of 22% (1st quartile: 13%; 3rd quartile: 30%) of vaccinated hospital staff. In regards to vaccination
policy, 98% of hospitals declared organising an annual flu vaccination campaign, 98.5% declared making free flu vaccinations available to their staff, 99% declared facilitating immunization within the facility and 92% declared monitoring immunization coverage.

Conclusion:

This first study conducted among 133 French hospitals showed that this indicator was accepted by healthcare professionals but that its feasibility required adjustments: a consolidation of this tool and accompanying documents is necessary in order to optimize data collection, especially regarding staff vaccinated outside of hospital facilities. A second survey taken from a larger sample of hospitals will also allow us to validate the tool’s metrological qualities. Implementing this indicator on a national level may help control the nosocomial transmission of influenza and reduce exposure to antibiotics.
Advancing Diagnostic Safety Research: Results of a Systematic Research Priority Setting Exercise

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Introduction

Diagnostic errors are a major source of preventable harm but the science of reducing them remains underdeveloped. Research has also lagged because current funding models largely adopt a disease-focused approach, whereas the diagnostic process cuts across thousands of diseases. We conducted a systematic research priority-setting exercise to identify and prioritize research questions to advance the field of diagnostic safety in 3-5 years.

Methods

We used systematic prioritization methods based on the established Child Health and Nutrition Research Initiative (CHNRI) methodology. A large international group of expert researchers in various disciplines submitted research questions while considering five prioritization criteria (1) usefulness (2) answerability (3) effectiveness (4) potential for translation and (5) maximal potential for effect on diagnostic safety. We then prioritized these questions at an expert meeting, after which the remaining questions were re-prioritized through scoring on the five prioritization criteria. We also invited non-research stakeholders to assign weights to each of the five criteria. We then used these weights to adjust the final prioritization score for each question.

Results

Of 207 invited researchers, 97 researchers responded and 78 submitted 333 research questions which were then consolidated. Expert meeting participants (n=21) discussed questions in different break-out sessions and prioritized 50, which were subsequently reduced to top 20 using the online questionnaire. The top 20 questions addressed mostly system factors (e.g. implementation and evaluation of information technologies), teamwork factors (e.g. role of nurses and patients in the diagnostic process), and strategies to engage patients in the diagnostic process.

Conclusions

Top research priorities for advancing diagnostic safety in the short-term include strengthening systems, teams and engaging patients to support diagnosis. High priority
areas identified using these systematic methods can inform an actionable research agenda for reducing preventable diagnostic harm.

**Conflict of Interest**

There are no conflicts of interest to disclose.

**Top 5 prioritized research questions**

<table>
<thead>
<tr>
<th>Proposed question</th>
<th>Weighted score</th>
</tr>
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<tbody>
<tr>
<td>How do we better develop the evidence base of diagnostic decision support tools (e.g. differential diagnosis generators, decision support for test selection and interpretation, etc.) in terms of effectiveness and implementation?</td>
<td>90.00</td>
</tr>
<tr>
<td>How can EHRs and patient portals be optimized (through local preferences or EHR vendor changes) to most effectively manage abnormal test results, such as incidental findings or test results that come back after transitions of care?</td>
<td>88.71</td>
</tr>
<tr>
<td>What are effective strategies to include nurses and other health professionals in optimizing the diagnostic process and identifying and preventing potential harmful diagnostic situations?</td>
<td>88.42</td>
</tr>
<tr>
<td>How can we best bring expert knowledge about diagnostic test selection and result interpretation to ordering providers at the point of care?</td>
<td>88.42</td>
</tr>
<tr>
<td>How do different forms of health IT and associated information content, information displays and health IT-human interactions impact clinical decision-making and the diagnostic process?</td>
<td>86.13</td>
</tr>
</tbody>
</table>
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.

**References:**
Multicentre study for the reduction of adverse events in Argentine Pediatric Intensive Care Units using a program to improve handoffs: a stepped wedge trial.

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Introduction: Communication errors represents the third cause of sentinel events during hospitalizations. An effective and standardized communication anticipates and limits possible adverse events. Our objective was to evaluate the effect of the implementation of a handoff program on the reduction in the frequency of adverse events (AE) in medical care in Pediatric Intensive Care Units (PICU).

Methods: Design: Stepped wedge trial. Population: Physicians involved in handoff in PICU of Argentina. Enrollment period: 07/01/2018 until 05/31/2019. Intervention: Bundle of handoff standardization measures (I-PASS), consisting of: a written tool, an oral mnemonics, a teamwork training, an introductory workshop, an advertising campaign, simulation exercises, observation and standardized feedback of handoffs. GAAPS was used to indentifying AE, Direct observation to evaluete the adoption of IPASS and the AHRQ survey was used to measure levels of patient safety culture.

Results: An multipcomponent intervention was implemented as randomized in all units based on IPASS strategy. We reviewed 1465 medical records looking for AE and we didn’t observed differences in the rates of preventable AE per 1000 days of hospitalization (control 60.4 [37.5; 97.4] vs. intervention 60.4 [33.2; 109.9], p = 0.3568, RR: 1.21 [CI95%:0.80;1.83]), and no changes in the categories or types of AE. We also evaluated 847 handoffs. The compliance of all items in verbal and written handoff was significantly higher in the intervention group. We observed a longer time per patient to complete the handoff in the intervention stage (7.29 minutes [5.77; 8.81] vs. 5.96 [4.69; 7.23]; p <0.0002, RR: 1.33 [CI95%:0.64; 2.02]), without changes in the total time used (control: 35.7 [29.6; 41.8] vs. intervention: 34.7 [26.5; 42.1]; p = 0.4900, RR: 1.43 [CI95%:-2.63; 5.49]). We obtained 82 responses in the control period and 87 in the intervention period, from the AHRQ communication dimension survey. There were no changes in the perception of quality of communication in both groups.

Conclusion: After the implementation of I-PASS Spanish version, an improvement in the quality of handoffs were observed. No differences were evaluated in the amounts of AE, nor in the perception of improvement in the communication evaluated by an estandarized survey.

References:
Implementation of e-Triggers for Measurement of Diagnostic Errors in a Large Health Care System

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Introduction: Health care organizations (HCOs) should use their ever-increasing stores of electronic data for learning, research, and quality improvement. Electronic trigger (e-trigger) tools, which mine vast amounts of clinical and administrative data to identify signals for likely adverse events, offer a promising method to do so. We used a knowledge discovery framework, the Safer Dx Trigger Tools Framework, to develop and implement e-trigger tools to measure diagnostic errors using comprehensive longitudinal electronic health record (EHR) data in a large integrated care-delivery system in the United States.

Methods: Building on prior work in primary care, we developed and refined two rules-based e-trigger algorithms to identify patterns of care suggestive of missed or delayed diagnoses: 1) a primary care (PC) visit followed by unexpected hospitalization within 14 days and 2) emergency department (ED) discharge followed by unexpected hospitalization within 14 days. To increase the algorithm’s positive predictive value (PPV), we excluded patients with terminal or metastatic cancers, hospice, palliative care or long-term care encounters in the last 12 months, >85 years, and admissions resulting from an accident or trauma or to psychiatric floor. The e-trigger algorithm was tested and then applied to all the clinical data in a large EHR datawarehouse. We recruited practicing physicians as reviewers and trained them to review trigger-positive records for diagnostic errors, defined as missed opportunities in diagnosis (MODs). Blinded-reviewers independently determined presence/absence of MODs in randomly selected ~100 PC and ~100 ED triggered visits using the Revised Safer Dx instrument, a previously validated and structured tool to evaluate the diagnostic process and determine presence/absence of MODs. We analyzed MODs to identify diagnostic process breakdowns and contributory factors.

Results: The e-trigger queried > 690,000 PC and 47,000 ED visits during 2017 and yielded 130 and 354 trigger-positive visits respectively. Upon review, we found MODs in 16 of 102 PC visits (PPV=15.7%) and 25 of 105 ED visits (PPV=23.8%). While heart failure exacerbation emerged as the most common missed diagnosis in PC, ED cases were more heterogenous and no common target emerged. Most common symptoms associated with missed diagnoses were abdominal pain and shortness of breath in PC and abdominal pain and fever in ED. The most common breakdown involved patient-provider encounter in both settings, including problems with adequate history elicitation, physical examination, ordering appropriate diagnostic tests for further work-up and with data integration and interpretation.
Conclusion: Measurement using e-triggers substantially reduces the number of records HCOs need to review to those at highest risk of preventable diagnostic harm. Routine implementation could generate organizational learning and lead to personalized feedback for diagnostic safety improvement.

Please declare any conflict of interest you may have: There are no conflicts of interest to disclose.
Session A21


Temitope Oke1; Ibironke Dada1; Njide Ndili1; Attahiru Bello2
1PharmAccess Foundation, Lagos, Nigeria; 2Adamawa State Ministry of Health, Adamawa, Nigeria

Introduction:
Universal Health Coverage (UHC) is central to the attainment of the Sustainable Development Goal 3, “Ensure healthy lives and promote wellbeing of all at all ages”. Adamawa State Government enacted the Adamawa State Health Insurance Scheme (ASHIS) Law (2018) to enforce mandatory health insurance coverage for all residents of Adamawa State. The Law established the Adamawa State Health Insurance Agency (ASHIA) to promote, regulate, supervise and ensure effective administration of the Scheme. The Adamawa State Ministry of Health through its State Quality Team will accredit all healthcare facilities, and recommend to ASHIA those that meet the accreditation criteria for empanelment on the scheme. Major supply-side challenges across health facilities in the state include inadequate funding, infrastructural challenges, lack of human resources, poor quality of healthcare and poor health outcomes.

PharmAccess (SafeCare) designed supply-side strengthening interventions with the Adamawa State Ministry of Health (ASMOH) aimed at improving healthcare quality. Interventions focused on: 1) improving healthcare regulation and quality; 2) facilitating transparent accreditation and empanelment of health providers; 3) developing a needs assessment report with recommendations to serve as an advocacy tool to Government.

Methods:
The project entailed supporting the State to set-up the State Quality Team as the regulatory and coordinating body to harmonize quality initiatives in the state. The State Quality Team was trained on quality concepts and tools. Subsequently, we jointly developed the State Quality Inspection Tool for objective measurement of compliance during inspections of health facilities. The Quality Inspection Tool (QIT) is an android based application for assessing the minimum requirements to provide healthcare in primary and secondary healthcare centres. The application also supports geolocation mapping of health facilities and scores criteria across specific service areas.
Results:
Prior to this project, there was a dearth of information on measuring quality in Adamawa State. A total of 395 health facilities (381 primary health centres and 14 secondary health centres) were assessed by the State Quality Team in 2019.

We found that there is a severe shortage of doctors and nurses with most service delivery points across the state manned by Community Health Extension Workers (CHEWS). Of the 395 health facilities assessed, only 16 (4%) have at least one full-time doctor of which 14 are secondary hospitals. Only 28 (7%) health facilities have at least one full-time registered nurse and 26 (6%) have one or more full-time registered midwives. CHEWs form the bulk of service providers across the health facilities.

Conclusion:
We recommend urgent recruitment of skilled health workers to deliver quality healthcare services in the state. In the short-term, the State Ministry of health should 1) train frontline health workers, who are mostly community health workers, on managing common disease conditions/emergencies; 2) introduce clinical decision support tools; and 3) possibly link community health workers to doctors for medical advice.
[103] Reaching the first 90: Improving HIV Testing Yield from Community-Led Outreach Services in Kogi State, Nigeria

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Introduction:

The world has witnessed remarkable achievement in the fight against HIV over the last few years with about 80% of the world’s 37.9 million people living with the virus aware of their status and a target to achieve 95% by the year 2030. In Nigeria, less than 70% of the 1.8 million people estimated to be living with the virus know their status. Yet, acute shortage of test kits in the country due to reduced funding for testing in the last few years have led to scaling down of testing services necessitating innovative ideas for case-finding. Current local data shows that yield from facility-based testing is at least twice that of community-based testing. This had led to stoppage of community testing services by various organizations. With the role of communities in reaching the UNAIDS target becoming more obvious, there is the need to improve efficiency of community testing. This project aimed at increasing the average yield from community testing outreaches from 0.8% to at least 4.0% within a period of 6 months.

Methods:

Using a hybrid of Six Sigma and the Model for Improvement, a multi-disciplinary team including representatives from the State Government, frontline community workers and implementing partners conducted a root cause analysis to identify causes of inefficiency with the current community testing services. Prioritized challenges identified included previous outreaches focus on the total number of people tested, saturation of testing locations, payments driven by number tested and frequent retesting by those who are already aware of their negative status. Intervention plans to address the identified problems were identification of sub-population with substantive risk within the community, the use of a checklist to screen out people who are less at risk or have had a recent negative test result, and performance payment for yield. These were implemented in three Plan, Do, Study and Act cycles. Each PDSA cycle was followed by team meetings to discuss the achievement and challenges of previous cycle while modifying the next accordingly. The outreaches were conducted in various communities in 5 Local Governments between June and November 2019. Data was collected using routine reporting tools and analysed with the outcome plotted on a run-chart.
Results:

Following the interventions, a total number of 1513 persons were tested with a monthly average of 252 persons tested. Women accounted for 78% (n = 1184) of these people and men 22% (n = 329). Thirty-four percent of the people were adolescents and young adults (n = 520). Eighty new clients infected with HIV were identified (yield of 5.3%), 71 were females (yield of 5.9%) and 9 were males (yield of 2.7%). First month of implementation recorded a yield of 3.4%. This steadily rose to the peak of 12.4% in the fourth month of the project and 8.8% at the end of the project demonstrating a “shift” in the yield and an astronomical data point. Of the 80 new clients, 64 were already linked to care and commenced on treatment by the end of the project (80% linkage rate). Though this is much lower than linkages from facility-based testing of over 90%, it is better than linkages from previous routine community testing of between 50 to 65%.

![Improving Yield from Community Testing Outreaches in Kogi State, Nigeria](image)

Conclusion:

The project achieved beyond the set target suggesting that routine community-led testing can be optimized to increase the yield. This is a desired outcome in settings, such as Nigeria, requiring optimization of resources such as test kits (due to limited availability). Further evaluation of the impact of the project on indicators such as retention rate is needed to support wider implementation.
Using off the shelf software for cost-effective quality improvement

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Introduction:

Many organisations struggle with implementing quality improvement activities due to low numbers of staff, high workload and limited funding for quality management. With a background in ISO9001 the quality manager at INEAS (Instance Nationale de l’Evaluation l’Accréditation en Santé, Tunisia) and saw the benefit of using off the shelf software technology to support both internal quality improvement activities and the INEAS accreditation of healthcare establishments.

Methods:

The importance of close working relationships with the software vendor enabled customisation of the product to meet the needs of INEAS in managing quality improvement activities such as monitoring performance indicators, document management and the management of action plans related to the ISQua accredited standards and surveyor training programme. The action planning also facilitated the implementation of the ISQua Standards for External Evaluation Organisations. Further development enabled questionnaires to be automated for feedback from accreditation surveys on performance and commentary on standards.

Results:

The use of the software enabled the quality manager to have an overview of closure of action plans, report and update staff and management on progress and to cut down on the time spent sending questionnaires, analysing results and reporting. The use of reporting tools such as reporting directly actions from meetings into the tool allowed instant action plans to be developed and follow-up. By adding KPIs into the software progress and dashboard reports allow accurate and rigorous decisions based on accurate data that did not take extensive preparation. The document control section of the software enables the quality manager to ensure that the correct version of approved documents is available to the right staff through controlled access.

Conclusion:

The requirements of ISO9001 and accreditation are similar to enable customisation of existing software developed for ISO9001 and is therefore cost effective in the long-term for
the management of quality improvement and performance monitoring. The use of a
customisable tool enables it to be used for the management of the accreditation process as
a project with key dates and milestones added
Introduction: Technical quality of care is reportedly below standard in low-middle income countries (LMICs). The Lancet Global Health Commission called for increasing capacity of health facilities in LMICs to measure and use data to learn about their quality of care. Few studies have been carried in a general hospital outpatient setting in LMICs.

Outpatient clinics in LMICs struggle with adequate clinical records and proper audit. Direct observation of clinical consultations and use of standardised patients who are trained to simulate medical cases are complex to administer and resource intensive. Video-observation seems appealing and offers a comprehensive capture of clinical encounters with minimal impact on healthcare delivery and the ability to carry out assignment of raters to encounters in a flexible and efficient way relative to in-person methods.

Objectives: To pilot feasibility and acceptability of video-observation to assess consultation quality in an LMIC hospital outpatients’ department and provide data on quality for prospective study design and use of this approach.

Methods: This was a cross-sectional study at a tertiary hospital in south-western Nigeria. Consecutive physician-patient consultations with adults and children under 5 seeking ambulatory care were video-recorded. Video-recordings were independently double-coded by two medically-trained researchers using a checklist of processes of care, from which we derived a process quality-score. We also asked a judgement-based question to obtain a global quality rating. Brief feedback interviews were carried out with participating physicians. Ethical approval was obtained from the IRB of the University of Warwick (REGO-2018-2306) and University of Ibadan/University College Hospital (UI/EC/18/0646).

Results: 140 physician-patient consultations were analysed. The median process quality-score given by both coders was 100%. The modal overall quality-rating category was ‘above standard’ (4 on a scale of 1-5). Coders agreed on process scores in 35% of consultations and on which rating to assign 44% of the time (weighted Cohen’s kappa=0.26). Physical examinations occurred in less than two-thirds of consultations and averaged 1 minute according to both coders (IQR: 1, 2). We estimated reliability using a three-level hierarchical model to partition the variance in process quality scores into within-patient, between-patient-within-physician, and between-physician levels. We found that the reliability of video to measure quality was low for a single video (0.25) but may be adequate for
reasonably sized aggregates at the provider or clinical level in settings where we are worried about varying quality.

Participating physicians reported that despite initially feeling self-conscious, they quickly habituated to being observed. They also suggested that provision of feedback on performance was necessary.

**Conclusion:** We show that video-observation is a feasible and acceptable method for assessing ambulatory care provision by physicians in an LMIC hospital outpatient setting. In order to ensure accurate estimates of quality, improvements in reliability of the measurement checklist is necessary and may be possible by additional standardisation of the video coding approach used by raters.

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

**Acknowledgement:** We also wish to acknowledge the valuable contributions of our other co-authors in this work: A Irabor, E Owoaje, F Fayehun, M Ajisola, S Bolaji, S Watson, T Hofer and R Lilford.
Effectiveness of Instructional Training Videos in Enhancing the Quality of Adult Patient Screening and Management for Hypertension in Tanzania

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Introduction:
Similar to other sub-Saharan countries, hypertension is the most common Non Communicable Disease in Tanzania, impacting approximately 25% of the population. Geographic prevalence estimates vary within the country, ranging from 19% in rural areas to 35% in urban areas. Provider capacity and preparedness of facilities remains a key constraint in the outpatient management of hypertension. Blood pressure measurement errors of 5-20 mmHg due to lack of compliance to standard guidelines can lead to suboptimal quality in appropriate screening and treatment of patients. The study is being conducted in primary healthcare clinics in Dar es salaam in Tanzania. Instructional training videos, developed by the RTSL team at Hopkins, to improve hypertension screening and management for Low- and Middle Income Country Settings will be used in the intervention (RTSL is funded by Bloomberg Philanthropies).

Objectives

• To study the effectiveness of the instructional videos in improving health provider knowledge and skills competency on hypertension and blood pressure screening protocols
• Conduct patient observations and patient exit interviews to measure provider adherence to standard protocols for screening, diagnosis and counseling of patients with hypertension before and after the instructional video training

Methods:
Using systematic stratified random sampling, 20 primary healthcare facilities managed by the government in urban Dar es salaam, were selected for the study. In each facility, 8-10 adult patients, age 30+ years, accessing care in the outpatient clinics will be selected for screening, observations and exit interviews. Up to 200 adult patients will be included for patient observations and exit interviews to determine the quality of screening and counseling based on the Tanzania National guidelines and the recent American Heart Association guidelines. Health providers who screen and manage patients will be observed. A total of 60-100 providers will be included for patient observations and knowledge and skill competency assessments. All health providers who were observed will be invited to view
the RTSL training videos. A facility audit will be conducted to determine capacity and availability of essential medicines, equipment etc. Following a 3m intervention period, post assessments will be conducted to determine the effectiveness of the videos. The study will adhere to the ethical procedures obtained from the Institutional Review Boards at Johns Hopkins University and the National Institute of Medical Research in Tanzania.

Results:

The study is ongoing, and therefore results are not available for reporting in the abstract. The final results will include adherence levels to standard protocols for quality of patient screening and management for Hypertension, provider cadre and gender variations in quality of patient screening and counseling, patient perception of care, and effectiveness of instructional videos in improving the knowledge and skill competency of providers for screening and managing hypertension in primary care settings.

Conclusion:

The study will provide evidence on the current practices and compliance to standard protocols for quality of patient screening and counseling for hypertension and identify critical gaps in provider performance. The effectiveness of creative low-cost technologies to enhance provider skills and competencies will provide critical insight to improve the quality of hypertension management in ambulatory settings in resource constrained contexts.

References:
[2425] Progetto Handover – progetto di miglioramento del Dipartimento Emergenza Accettazione della AOU Careggi – Firenze volto a migliorare la continuità assistenziale del paziente in trasferimento dal Pronto Soccorso verso un reparto di degenza dell’area medica

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INTRODUZIONE Le Pratiche per la Sicurezza del Paziente (PSP) sono strumenti che la Regione Toscana utilizza per promuovere Qualità e Sicurezza in ambito sanitario. E’ ampiamente noto che il passaggio di un paziente da un’equipe assistenziale ad un’altra è un momento critico per la sicurezza del paziente, in cui vi è un rischio elevato di eventi avversi. La PSP Handover indica le modalità per un handover sicuro ed efficace.

OBIETTIVI L’analisi degli eventi avversi occorsi nel Dipartimento Emergenza Accettazione (DEA) legati ad un handover inadeguato e l’assenza di strumenti dipartimentali per l’applicazione della PSP Handover, sono il punto di partenza del Progetto Handover (PH). Il PH è finalizzato alla definizione di uno strumento e di specifiche modalità operative che garantiscono un passaggio di consegne sicuro ed efficace nel momento del trasferimento di un paziente dal Pronto Soccorso verso un reparto di degenza dell’area medica. In particolare lo strumento di Handover, i recall nelle postazioni telefoniche e le istruzioni operative individuate permettono alle strutture accettanti di acquisire informazioni relative ai pazienti in arrivo in modo da rendere più sicura e tempestiva la presa in carico del paziente da parte di medici e infermieri.

METODI Il PH ha coinvolto 8 reparti del DEA. Il gruppo di lavoro (35 operatori, tra medici ed infermieri) ha definito gli strumenti per il passaggio di consegne - Scheda ISBAR opportunamente modificata, recall per le postazioni degli operatori, istruzioni operative - finalizzati al raggiungimento degli obiettivi del progetto. Ha inoltre individuato gli indicatori utili per il monitoraggio della corretta applicazione e dell’efficacia. Seguendo le tappe del ciclo di Deming, è seguita un fase pilota della durata di 5 mesi con 4 monitoraggi intermedi ed un monitoraggio finale per il calcolo degli indicatori, la verifica delle eventuali criticità e le conseguenti azioni correttive. Al termine della fase pilota la metodologia individuata è entrata a pieno regime.
# RISULTATI

<table>
<thead>
<tr>
<th>INDICATORE DI PROCESSO</th>
<th>Monitoraggio 1</th>
<th>Monitoraggio 2</th>
<th>Monitoraggio 3</th>
<th>Monitoraggio 4</th>
<th>Monitoraggio 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUANTITÀ’ (% di trasm. in cui sono state compilate le schede ISBAR)</td>
<td>Inviante 65%</td>
<td>Inviante 54%</td>
<td>Inviante 63%</td>
<td>Inviante 74%</td>
<td>Inviante 68%</td>
</tr>
<tr>
<td>Accettante 74%</td>
<td>Accettante 62%</td>
<td>Accettante 83%</td>
<td>Accettante 88%</td>
<td>Accettante 89%</td>
<td></td>
</tr>
<tr>
<td>QUALITÀ’ (% di schede con completa corrispondenza tra scheda accettante e scheda reparto inviante)</td>
<td>70%</td>
<td>71%</td>
<td>92%</td>
<td>87%</td>
<td>94%</td>
</tr>
<tr>
<td>INDICATORE DI ESITO</td>
<td>EFFICACIA N. di segnalazioni di eventi avversi legati ad handover inadeguato</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
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</table>

**CONCLUSIONI.** I risultati riportati mostrano un trend in incremento dell’aderenza alla procedura (% di schede ISBAR compilate rispetto al totale dei trasferimenti) ed una consensuale migliore qualità delle schede (% di schede, rispetto al totale, con completa concordanza dei dati tra scheda del reparto inviante e scheda del reparto accettante). L’assenza di segnalazioni di eventi avversi imputabili ad inadeguato handover durante il trasferimento di un paziente da Pronto Soccorso ad area medica, è indicativo dell’efficacia
della procedura. Sono evidentemente necessari periodi di osservazione più lunghi per monitorare il livello di adesione alla PSP nel tempo ed i relativi esiti.

[2434] EVENTI SENTINELLA: STANDARD TOOL VS INNOVATION TOOL
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INTRODUZIONE
Gli eventi sentinella vengono intesi come eventi avversi di particolare gravità, che causano morte o gravi danni al paziente e che determinano una perdita di fiducia dei cittadini nei confronti del Servizio Sanitario. Il Ministero della Salute ha categorizzato gli eventi sentinella e attivato un protocollo di monitoraggio avente lo scopo di promuovere la cultura dell'apprendere dall'errore. L'attuale sistema di valutazione degli eventi sentinella prevede l'analisi delle cause e dei fattori contribuenti che possono aver favorito il verificarsi di un evento. La ricerca dei trigger è ampiamente utilizzata in alcuni programmi gestiti dall'Institute of Healthcare Improvement, come la Safer Patient's Iniziative, tuttavia esistono altri strumenti che possono essere utilizzati.

OBIETTIVI
Il principale obiettivo dello studio è quello di sperimentare l'utilizzo di ulteriori sistemi trigger per la valutazione e analisi degli eventi sentinella.

METODI
Agli eventi segnalati nell'anno 2018-2019 dell'area materno infantile dell'Asl 2 Savonese, in totale 4, è stato applicato uno strumento trigger chiamato coppa della sicurezza (Bracco F., 2005), al fine di evidenziare quali aree sono preoccupanti e meritevoli di azioni di monitoraggio e miglioramento. Lo strumento tiene conto di quattro elementi (uomo, gruppo, ambiente e strumenti), divise in otto sottosistemi (sociale, procedura, tecnologia, corpo, mente, organizzazione, team, fisico) che interagiscono e comunicano tra loro in modo da evitare che venga dispersa la sicurezza, da intendersi come un liquido in una coppa nei cui interstizi possano aprirsì delle fenditure. Questo modello mette in evidenza la natura sistemica degli elementi in gioco.

RISULTATI
I dati derivanti dall'analisi hanno permesso di identificare ulteriori dimensioni di analisi, rispetto all'RCA (Root Cause Analysis) legate ai processi e all'ambiente che hanno comportato ad una revisione del modello organizzativo clinico assistenziale nel Dipartimento materno infantile dell'ASL2 Savonese. Sono state introdotte scale di valutazione predittive di rischio, come la Modified Early Obstetrics Warning System (MEOWS) e pianificato un monitoraggio sistematico in sala parto, volto a prevenire eventi
rari come la SUPC (Sudden Unexpected Postnatal Collapse). La raccolta dati delle schede sopracitate è tuttora in corso.

CONCLUSIONI
L'utilizzo di sistemi di valutazione multidimensionali, consentono di contestualizzare i fattori contribuenti l'evento e le dinamiche relazionali e tecnico strumentali, che caratterizzano ambienti ad alta complessità assistenziale.
L'applicazione di questi strumenti forniscono elementi importanti di riprogettazione dei setting assistenziali e introduzione di scale di valutazione predittive di rischio.

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Fast track pronto soccorso: un percorso per la gestione della polipatologia e delle cronicità

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Introduzione:
La coesistenza di più patologie per di più croniche nello stesso individuo comporta la frequente compresenza di un insieme di sintomi somatici, psichici e comportamentali che complica sensibilmente sia l’inquadramento nosologico che il trattamento terapeutico esponendo il paziente ad un rischio di complicanze e riacutizzazioni non indifferente se non adeguatamente seguito. Oramai è sempre più evidente infatti come una buona fetta dei soggetti che affollano i PS è costituita da soggetti con una o più patologie croniche riacutizzate. Tutto ciò ovviamente si riversa negativamente sulla gestione delle risorse sanitarie. Le principali linee guida e il Piano Nazionale delle Cronicità sottolineano come nella gestione di tali quadri sia fondamentale una valutazione e gestione multidisciplinare della patologia, considerando il paziente in maniera globale e fornendo assistenza in maniera integrata tra le varie figure professionali specialistiche. Il paziente con patologia cronica richiede così un intervento sanitario coordinato e costante, costituito da figure professionali presenti in ospedale che operano in maniera coordinata con il territorio che a sua volta segue un modello di gestione dei pazienti cronici presso gli studi dei medici di famiglia e al proprio domicilio restando “in contatto” con il centro Ospedaliero per eventuali riacutizzazioni. Ciò è peculiare all’impostazione gestionale della medicina predittiva che è in grado di realizzare un piano di assistenza personalizzato in rapporto al rischio di salute in maniera globale e non per singola malattia focalizzato sul concetto di multimorbilità. Pertanto, la ridefinizione del ruolo dell’ospedale nella funzione di principale protagonista nella cura del paziente e nell’aspetto educativo al mantenimento dello stato di salute tramite l’approccio personalizzato ed attivo (counseling) si dimostra essere il volano del necessario cambiamento in sanità.

Obiettivi.
Il percorso nasce dalla necessità di ridurre l’elevato tasso di accessi in Pronto Soccorso e ospedalizzazioni per il riacutizzarsi di patologie croniche, ridurre il consistente numero di pazienti con patologia di base non controllata, fornire un'assistenza di qualità elevata mediante percorsi personalizzati, favorire la conoscenza del paziente sulla propria patologia e la capacità di autogestione al trattamento proposto attraverso l’educazione terapeutica strutturata.

Metodo.
Rientrano nel percorso soggetti di età adulta con patologia cronica sospetta o documentata che accedono all’ospedale tramite il pronto soccorso e che, dopo una valutazione attenta da parte del personale del PS, non vengono ricoverati. Dopo la presa in
carico presso il centro di “Medicina Predittiva e Fisiopatologia respiratoria-Centro di studio per la predizione, prevenzione e cura delle multimorbidità e controllo dei fattori di rischio”, al paziente viene effettuata una valutazione clinica globale con conseguente inquadramento riguardo la malattia cronica e una valutazione, attraverso questionari validati, sullo stile di vita. Quindi si pianifica un percorso diagnostico-terapeutico ottimale e personalizzato. In fine, è rilasciata al paziente una relazione scritta da poter mostrare al MMG.

**Risultati:** I partecipanti sono stati 129 con un’età media di 58.3 anni (DS= 14.1), di cui il 56.6% di sesso femminile. Di 129 ben 110 erano costituiti da codici gialli e solo 19 erano codici verdi. Crisi ipertensive, cefalea, vertigini, dolore toracico e dispnea sono state le più comuni cause di accesso al PS dei pazienti inseriti nel percorso fast track, con le prime presenti nel 66.6% dei casi. È stato quindi osservato nell’arco di un anno quanti di questi soggetti seguiti avesse avuto almeno un riaccesso al pronto soccorso. I dati valutati attraverso re-call o sistema informativo di pronto soccorso hanno così mostrato una percentuale di ri-accessi pari al 18% di cui molti non pertinenti alla causa del primo accesso.

**Conclusioni.** La peculiarità di questo percorso è nella valutazione complessiva del paziente in considerazione delle comorbidità e criticità presenti per ottenere e mantenere nel tempo un buon controllo della malattia, garantendo la qualità di vita, prevenendo e curando le complicanze, ottimizzando l’uso delle risorse disponibili ed evitando non da ultimo le ri-ospedalizzazioni dei malati cronici, che ovviamente correla anche con una migliore gestione delle risorse sanitarie. Tale percorso può, pertanto, considerarsi virtuoso inserendosi nell’ambito di una continuità assistenziale, tra il pronto soccorso e una gestione ambulatoriale che ha come cardine principale l’educazione del paziente alla sua patologia e il counseling. In questo senso ridefinisce il ruolo dell’ospedale come principale protagonista nella cura del paziente e nell’aspetto educativo, tale da renderlo il miglior intermediario tra PS e gestione sul territorio del malato cronico.

L’handover infermieristico e la sicurezza del paziente: uno studio osservazionale presso le Degenze di un Dipartimento Cardiotoracico

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Introduzione

L’handover ha rilevanti implicazioni in termini di sicurezza del paziente e continuità delle cure. È un processo comunicativo influenzato da fattori individuali ed elementi di contesto. L’errore di comunicazione è riconducibile al 70% degli errori sanitari prevenibili. L’Organizzazione Mondiale della Sanità, la Joint Commission e la Comunità Europea raccomandano l’utilizzo di un approccio standardizzato attraverso l’adozione di uno schema comunicativo strutturato e condiviso. Presso le Degenze del Dipartimento Cardiotoracico del Presidio di Pisa della Fondazione Toscana Gabriele Monasterio, l’handover infermieristico al cambio turno, ad oggi, non è supportato da un approccio strutturato.

Obiettivi

Sono stati esplorati i processi di handover infermieristico nei punti di transizione mattina/pomeriggio, pomeriggio/notte, notte/mattina al fine di rilevare eventuali omissioni (obiettivo primario). Inoltre, è stata indagata la qualità percepita degli infermieri coinvolti (obiettivo secondario).

Metodi

Lo studio è di tipo osservazionale, cross-sectional, descrittivo e monocentrico. Attraverso osservazioni sul campo mediate dall’utilizzo di una griglia di osservazione diretta (ISBAR modificato), che include le informazioni minime da trasferire nel processo di interazione (NHMDS - Nursing Handover Minimum Data Set), frutto dell’esperienza clinica e di un’accurata revisione della letteratura, sono state registrate le informazioni riferite e omesse. La consultazione delle cartelle infermieristiche ha consentito di rilevare le informazioni
omesse non previste nel percorso di cura del paziente e, in quanto tali, non configurabili come omissioni. La qualità percepita degli infermieri coinvolti è stata indagata mediante le schede eterovalutative CEX Handoff. I dati sono stati processati attraverso un’analisi statistica descrittiva e inferenziale. L’indagine è stata condotta in piena conformità con i principi etici, nel rispetto delle leggi e dei documenti di orientamento pertinenti.

**Risultati**

Sono stati osservati 256 passaggi di consegna. La percentuale di omissioni è stata calcolata al netto delle informazioni non previste, rilevate in seguito alla consultazione della documentazione scritta (256 cartelle infermieristiche). Le lacune informative si sono verificate nel 43,17% dei casi. I risultati evidenziano una propensione all’approccio prospettico. La percentuale di omissioni è stata correlata ad una serie di variabili indipendenti ed è emersa un’alta significatività statistica nella correlazione con la modalità di handover, la tipologia di paziente, il rapporto infermiere/pazienti e il numero di interruzioni. Per quanto riguarda la qualità percepita, sono state compilate 40 schede di valutazione CEX Handoff. I risultati rivelano una percezione più che soddisfacente. Tuttavia, l’analisi tematica evidenzia consegne dispersive, scarsamente dettagliate e la difficoltà nel focalizzare le informazioni da trasferire.

**Conclusioni**

Alla luce dei dati rilevati si rende necessaria l’implementazione di uno strumento standardizzato, strutturato in funzione del NHMDS di contesto, che supporti il processo di handover.

**Conflitto di interessi**

Non si configura alcun conflitto di interessi. Lo studio non ha ricevuto alcuna sovvenzione da agenzie di finanziamento esterne pubbliche o private.
La informatizzazione della cartella clinica come strumento per il miglioramento della qualità e della sicurezza del paziente.

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INTRODUZIONE: L’utilizzo di specifici indicatori e l’analisi dei dati rappresentano un valido supporto alla gestione del rischio clinico. La sostituzione della tradizionale cartella clinica cartacea con la cartella informatizzata facilita tra l’altro il monitoraggio continuo degli eventi, dei percorsi e dei processi, con la possibilità di interventi di miglioramento più rapidi e mirati. L’architettura stessa di questo sistema è strutturata in modo tale da avere, tra i diversi obiettivi, anche quello di ridurre il rischio clinico nelle sue diverse articolazioni.

OBIETTIVI: Strutturare una cartella clinica informatizzata, capace non solo di sostituire la cartella cartacea tradizionale nel descrivere il diario dettagliato del ricovero, ma anche di fornire dati che una volta aggregati siano in grado di misurare la qualità e quindi anche la sicurezza rispetto all’atteso dall’analisi della letteratura, linee guida e protocolli, o da specifiche esigenze che possono emergere dalla revisione delle cartelle cliniche stesse. Strutturare un percorso per la restituzione dei dati, elaborati in forma facilmente fruibile, ai vari settori e operatori della Struttura Sanitaria per un coinvolgimento attivo nel raggiungimento degli obiettivi.

METODI: Dal 2017 ad oggi abbiamo effettuato revisioni delle cartelle cliniche informatizzate in relazione a diversi indicatori correlabili alla qualità dell’assistenza e alla gestione del rischio clinico e abbiamo potuto monitorare l’andamento nel tempo dei numerosi indicatori prestabiliti.

RISULTATI: Le maxiarea riguardanti gli indicatori utilizzati sono così riassumibili: educazione del paziente, valutazione del paziente, prevenzione delle infezioni, gestione del dolore, riconciliazione terapeutica e slatentizzazione errori di terapia, handover, check list sala operatoria, adesione ai vari PDTA, monitoraggio parametri vitali, utilizzo acronimi e valutazione dei sanitari (in relazione alla necessità di attribuire i privileges).

Di seguito riportiamo grafici ottenuti dall’analisi di alcuni indicatori utilizzati:
CONCLUSIONI: La cartella clinica informatizzata ci ha permesso il monitoraggio “in tempo reale” di quei parametri che abbiamo ritenuto fondamentali ai fini della misurazione della qualità e della sicurezza erogata. La restituzione del dato ha rappresentato di per sé stessa elemento di miglioramento, in altri casi questo ci ha permesso di individuare nuovi strumenti da attuare.

CONFLITTI DI INTERESSE: Dichiaro che per gli autori del presente abstract non sussiste alcun conflitto di interesse.

REFERENZE:

1. Joint Commission International Accreditation Standard for Hospitals 6Th edition
4. International Library of Measures Joint Commission International
Effect of Protocol Based Nursing Interventions in the Prevention and Healing of Incontinence-Associated Dermatitis among patients in Critical Care Units

Core Team:
Ms. Jessica D Sousa, Ms. Vinita Mascarenhas, Ms. Vevila Braganza, Ms. Jacintha D’Cruz.

Facilitator:
Dr Jothi Clara J. Michael - Director of Nursing (Strategic and Planning) IOD

Sponsor:
Dr Vivek Talaulikar - Chief Executive Officer, CDKD, Mumbai
Global hospital, Mumbai, India

Objectives:
To reduce the rate of IAD incidence to 2.
To increase the compliance to IAD protocol.
To monitor the sustainability of the interventions used.

Methods:
An experimental design was selected using consecutive sampling technique. The data were obtained by using an audit checklist prior and post interventions, and followed by a monthly Audit to monitor the rate and compliance to IAD protocol.

Tissue Viability Nurse (TVN) Initiative
The TVN provides consultation to all branches for complex wounds, ostomies and patients with incontinence according to hospital referral criteria. While on daily rounds, the TVN observed all the bedridden patients especially in the critical care units for pressure ulcers including patients who complained of fecal and/or urine incontinence. Assessment of the skin was done using Observational audit tool. Demographic data of these were collected using Interview technique. This process continued for 3 months (Jan to March 2017). The protocol of IAD prevention was not standardized. It was observed that the incidences of IAD were on a rise in ICUs. In the month of March 2017, the incidence rate peaked to a value of 5.94. Refer fig 1.

Root Cause Analysis (RCA)
Moisture retention due to use of diapers, for the convenience of nurses and relative, membrane disruption due to use of 2% Chlorhexidine containing wipes, Non-standardization of the IAD protocol, lack of supervision, lack of awareness, under-reporting is few to mention. Refer to fig 2

Root Cause Analysis

Fig 2. Root Cause Analysis of IAD using Ishikawa Fishbone Model
A solution approach was planned and designed which were ownership, time line and outcome specified. Refer to Tab 1.

<table>
<thead>
<tr>
<th>Problem [Root Cause]</th>
<th>Plan</th>
<th>Owner</th>
<th>Date line</th>
<th>Outcome</th>
</tr>
</thead>
</table>
| Use of Diapers       | • Discontinued diapers  
|                      | • Instead began the use of under pads for patients. | • Tissue viability Nurse and Nursing Admin team-originator  
|                      |                      | • Clinical coordinator-Quality-validator | Apr 17 | Reduced patients at risk for IAD |
| Membrane Disruption due to 2% Chlorhexidine wipes | • Discussion with Infectious Disease doctor, and infection control team  
|                      | • Presenting Evidence based studies  
|                      | • Application on of Chlorhexidine-free wipes on the body | • Infection control Team  
|                      |                      | • Tissue viability Nurse  
|                      |                      | • Clinical coordinator-Quality  
|                      |                      | • Doctors | April 17 | Reduced membrane cell disruption, at local areas. |
| Nursing Process      | • Non-standardization of a Protocol lead to formulation of an IAD Protocol  
|                      | • Deliver training  
|                      | • Encouraged self – reporting of incidents among Nurses  
|                      | • Conducted training for Nurses on the IAD Protocol  
|                      | • Incorporated an auditing process | • Nurse Manager  
|                      |                      | • Nurse Educator  
|                      |                      | • Tissue viability Nurse  
|                      |                      | • Clinical coordinator-Quality | May 17 | Nursing process set-in place |
| Nursing Responsibility | • Incorporated an auditing process t check for change in posit on and 2 hourly skin assessment. | • Nurse Educator  
|                      |                      | • Nurse Manager  
|                      |                      | • Tissue viability Nurse  
|                      |                      | • Clinical coordinator-Quality | May 17 | Nursing Process made stronger |

Tab 1. RCA Based Solution Approach Plan towards Prevention of IAD

Corrective and Preventive Actions (CAPA): Refer Fig 3
The TVN along with the stakeholders ensured that the following CAPA was implemented:

1. Tracking of IAD on a daily basis and self-reporting culture was encouraged
2. **Use of devices** - 12 hourly use of Skin barriers twice a day in the form of local applicators or sprays, 2% Chlorhexidine-wipes were replaced with Chlorhexidine free wipes and Flexi seal catheters inserted to patients with type 7 stools unless contraindicated. Refer image 2
3. **Positional clock** - A clock with 2 hourly position change images was created to increase the compliance to 2 hourly position changes and aid supervision of the same. Refer Image 3
4. Use of Non-frictional method of cleaning affected areas was implemented
5. **Skin assessment** every 2 hourly was enforced. In charge rounds was supported with a checklist which incorporated with the **5 P’s** - Pain, Potty, position, possession, plug in being one of them
6. Continuous Nursing Education was emphasized on care and prevention of IAD

Fig 3. Nursing Intervention towards Prevention of IAD

**Results:**

**Section 1: To reduce the incidence of IAD to 2** - The patients who developed IAD were 4 out of 682 admitted patients in the month of May, 3 patients out of 870 in the month of June and 2 in the month of July out of 992. The incidences reduced from 5.94 to 2.2. And was steady to 0 for the next two consecutive months. Although, there were certain factors that were not in the control of healthcare personnel- For example: patients with VRE positive status and Patients on chemotherapy. Refer fig 4

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**Fig 4. Rate of Incidence of IAD among Critical Care Patients from Jan 2017 - Jun 2019**
Section 2: To increase the compliance to IAD protocol- The compliance to IAD protocol in the month of Jan 2017 was 38% and in the month of July was 80%. And has consistently been more that 60% Refer fig 5.

![Outcome graph]

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<th>Month</th>
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Section 3: To monitor the sustainability of the interventions used.

Thus fig 6 clearly depicts the continuity of the project in maintaining the rate of incidence of IAD below 2 until 2019.

![Sustainability graph]

**Measures taken:**
1. Use of skin barrier devices
2. Chlorhexidine-free wipes
3. 2 hourly skin assessment
4. Checklist including 5 Ps (Position)

**Sustainability:**

The below mentioned interventions were implemented to maintain the sustainability of the project, and compliance to the IAD protocol.

- Nursing Leadership Involvement: Shift handoff among Team leaders and Nurse managers- to identify patients vulnerable to IAD at the beginning of the shift.
- Point prevalence audits: Non- Participatory and Neutral team assigned to check on compliance to IAD protocol.
➤ Introduction of Technology: A. Use of portable fan to air the area in privacy  
B. Special Mattress covers which send cool air from inside.

➤ Daily Dietary Monitoring including Dieticians.
➤ Reinforcement and recognition.

Conclusion:

Incontinence associated dermatitis is a prevalent but under-recognized form of skin damage in the critically ill patients with urinary or fecal incontinence. Prevention and treatment focus on treatment of underlying incontinence and protection of skin exposed to urine or stool based on a structure skin care regimen.


2) Hall KD, Clark RC. A Prospective, Descriptive, Quality Improvement Study to Decrease Incontinence-Associated Dermatitis and Hospital-Acquired Pressure Ulcers. Ostomy Wound Manage. 2015 Jul;61(7):26-30.

Disclosure of Interest: None Declared

Keywords: Incontinence Associated Dermatitis, Nurse Initiative, Tissue Viability Nurse, sustainability.
Introduction. Rising levels of antimicrobial resistance and misuse of opioids and benzodiazepines have called attention to prescribing practices in primary care globally. In the Netherlands, data from clinical records, prescriptions and insurance claims are potentially rich sources of information to inform quality improvement decisions across the micro (clinical), meso (organizational) and macro (policy) level of the health system. This study investigates users, uses and sources of primary care prescribing data in the Dutch context, and explores methodological and practical considerations for improving the actionability of primary care prescribing data by decision-makers across the health system.

Methods. We used qualitative methods to conduct a stakeholder review of primary care prescribing databases and data users. Semi-structured interviews with informants of 24 Dutch organizations representing clinicians and pharmacists, academia and research institutes, insurers, professional associations, Electronic Health Record systems in primary care and registries, and national authorities were conducted between October 2019 and January 2020. Interviews (30-60 minutes) were summarized and reviewed by informants. The mapping of stakeholders was validated through in-person meetings with an existing Dutch data expert working group and subject matter experts. A set of 3 tracer prescriptions (antibiotics, opioids, benzodiazepines) were applied to map indicators and data sources in use and to explore the information needs of users specific to each. A review of scientific, grey literature and stakeholder-specific databases supplemented interview data.

Results. Users and uses of primary care prescribing data are identified at all levels of the health system and include: (i) micro-level–individual performance improvement of GPs/community pharmacists; team improvement of GP practices/community pharmacies; multidisciplinary practice improvement of pharmacotherapy audit groups; (ii) meso-level–network performance improvement of care groups/GP academic networks; quality-based financing; medicines/side-effect monitoring; research; professional development; and (iii) macro-level–system performance monitoring; strategy development; system quality assurance. Cycles of feedback are predominately siloed around GPs/practices, pharmacists/pharmacies and regional/research-networks. Across tracer prescriptions, the ability to gain access to linked clinical and claims data is a key barrier to optimizing the use of
existing data for quality improvement purposes, in particular by GPs and pharmacists at the micro-level. The relevance of existing indicators, challenges to analyze data by patient-groups, and delays in feedback and reporting cycles as well as system privacy regulations are also identified as barriers to the optimal use of available data.

**Conclusion.** To fully leverage the use of existing primary care prescribing data sources for quality improvement, the selection of indicators, linkages between clinical and administrative data sources, relevance of feedback and frequency of reporting need further tailoring by their intended purpose of use across the health system as well as a supportive regulatory and financing environment.
Introduction:
Mobile nursing stations are quintessential in modern inpatient wards. With the introduction of new information and communication technology (ICT), pros and cons raise debates. After literature review, only a few mentioned about the complex relationships of degrees of design participation, change of perceived values as well as user experience regarding the development and utilization of mobile nursing stations. Nursing-station thick data were collected for analysis and hopefully the results could be helpful for future re-inventing both for hardware and software designs.

Methods:
This research starts with purposive sampling, sample subjects being the nurses from a medical center in the south of Taiwan. There were 500 nurses taking the survey, 500 surveys being sent out and the time interval of the survey issued was from April to June in 2019. Finally we got 257 pieces of valid surveys (51.4%). As refer to McQuarrie’s (1992) RPII table, this research generates 8 questions to measure the nurses’ level of involvement in nursing stations, which includes the factors of inner needs, interests and perceived value. In perceived value, there are 5 questions to measure as refer to AL-Sabbanly et al (2004)’s perspective of perceived value. In satisfactory, there are 12 questions to measure as refer to Parasuraman et al (1998)’s perspective of tangibility, reliability, reactivity, assurance and concern. The Cronbach’s alpha is 0.948, 0.968 and 0.965. In the measurement model, factor loadings are bigger than 0.7. In the component reliability are 0.948, 0.968 and 0.965. The AVE are 0.834,0.838 and 0.926, which can help to differentiate the standard. In structural model, the overall explanatory ability of perceived value is 58.9% ($R^2=0.589$) and the overall explanatory ability of satisfaction is 83% ($R^2=0.83$).

Results:
The results showed that the degree of design participation and perceived value has a positive correlation ($\beta=0.768^{***}$). The involvement and perceived value have a great and positive effect ($\beta=0.189^{***}$). The perceived value to satisfactory, it has a obvious and positive effect ($\beta=0.758^{***}$). The indirect effect of degree of involvement on satisfaction through perceived value is $\beta=0.582^{***}$. The involvement has overall the greatest impact towards perceived value is $\beta=0.771^{***}$, the overall effect of involvement on satisfactory is
Conclusion:
The study disclosed that the positive influence of design involvement through nurses’ perceived value on satisfaction was greater than the direct effect of design involvement on satisfaction. In addition, our surveyees also suggested initiatives to increase perceived value by starting from encouraging nurses to learn design thinking, such as investigating the functions and procedures of the mobile nursing station, leading and re-inventing the nurse-station interface, understanding the importance of communication, and right ways to propose solutions and collectively to build a sustainable culture to improve software and hardware of the mobile nursing stations.
Developing education, knowledge and learning tools to support staff to improve the quality of health and social care by adopting a human rights-based approach.

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Introduction:

Human rights are the basic rights and freedoms that everyone should enjoy. In the context of health and social care this means treating people fairly, with dignity and respect and ensuring they can participate fully in decisions about their care. Although human rights are enshrined in legislation, it is recognised in Ireland that there is a lack of knowledge and understanding of the application of human rights principles in practice. There is a difficulty in applying the legislation at a practical level as part of everyday care and support. In an effort to address this the Health Information and Quality Authority (HIQA) developed guidance which aims to ensure the human rights of service users are protected and upheld. This was developed in conjunction with Safeguarding Ireland and was part-funded by the Irish Human Rights and Equality Commission. The objective of this work was to translate the legalistic nature of human rights into a practical way of working. Additional tools were developed to aid the implementation of the guidance.

Methods:

A detailed review of literature was undertaken in line with HIQA’s Evidence Synthesis Process. Published evidence and literature was appraised to identify characteristics of human rights-based care and support. Extensive stakeholder engagement was undertaken to identify what resources would be most useful to staff and how best to communicate the key messages to maximise uptake and implementation. This involved two public consultations, convening an Advisory Group and undertaking focus groups. A thematic framework analysis was used to analyse the focus group data. HIQA has a legislative remit to undertake this work under the Health Act 2007. All work was undertaken in line with approved methodologies, which include ethical considerations.

Results:

It was clear from the literature and engagement that there is a gap in knowledge among staff. Specific barriers to implementation of a rights-based approach to care were identified, most notably in terms of gaps in knowledge of frontline staff. While some staff have a high level awareness of human rights legislation they find it difficult to relate this to their practice; there is a lack of understanding that situations encountered in everyday work relate to, and may be violations of human rights. Staff wanted to know more about specific human rights that relate to health and social care and also highlighted a need for practical
resources to show how they can respect, promote and uphold people’s rights.

Conclusion:

HIQA developed education and learning tools to address the knowledge gap in understanding what a rights-based approach is. The guidance provides practical examples and case studies that staff can apply directly to their setting. Additional tools developed include decision making aids and a clear summary of the legal framework and how this links to the human rights principles in health and social care. The outputs were widely publicised on social media and approximately 8,000 copies of the guidance were disseminated to ensure that learning could be shared and that staff are aware of and have access to the materials. The tools developed form part of the continued drive to improve the quality of health and social care by enabling staff to adopt a rights-based approach. HIQA is now developing an online learning module to further enhance knowledge in this area. A seminar will also be held in May 2020; this will provide an opportunity for staff and services to share learning.
STANDING Collaboration: a wiki-based process for developing clinical standards and indicators.

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Introduction:

Despite widespread availability of clinical practice guidelines (CPGs), considerable gaps continue between the care that is recommended ('appropriate care') and provided. Problems with current CPG development and dissemination are commonly cited as a barrier to delivering 'appropriate care'. These include: large numbers of guidelines with duplication and overlap; conflicting care recommendations; obsolescence; inconsistent structure; lengthy documents that are not easy to use; and recommendations that are often vague and difficult to quantify. Many CPGs also lack detail on how evidence was used to formulate recommendations and may not engage with stakeholders to seek formal feedback. This project aimed to develop and test an alternative online method to create clinical standards (representing CPG recommendations and embodied in clinical indicators) collaboratively with stakeholders, and chart their evolution. This abstract describes a process evaluation of developing clinical indicators for the test condition 'low back pain'.

Methods:

This study was approved by the University of South Australia’s Human Research Ethics Committee (0000035183). Draft ‘appropriate care’ indicators, derived from CPGs identified through systematic searches of peer-reviewed literature, were posted to a purpose-designed wiki. Led by a Clinical Champion, an expert panel provided feedback on the indicators over three rounds of review, and was comprised of 8 clinicians; 6 researchers; 4 policymakers, public health or healthcare quality improvement specialists, and 2 consumers. Quantitative (descriptive statistics) and qualitative (thematic analysis) approaches were used to analyse user meta-data (wiki logs) and experts’ perspectives on the process (online survey).

Results:

Seventeen experts posted 498 wiki comments, which served to refine 42 draft indicators from 195 recommendations in 7 CPGs to a final set of 27. Online surveys were completed by 12 experts after the first review, and 9 after the third/final round. While all experts reported...
the wiki was beneficial for tracking decisions, 25% would have liked a supplementary face-to-face meeting. Advantages of the wiki method included: transparency of comments, flexibility to contribute in one’s own time, accessibility, ease of use, and ethical stakeholder engagement and collaboration. Disadvantages cited were: difficulty navigating through layers of comments, and a lack of standardised response fields to indicate degree of agreement with comments.

**Conclusion:**

Users reported that a wiki-based method is suitable for developing clinical indicators and conveys several advantages over traditional approaches. Findings suggest future wiki-based processes should be trialled as an adjunct to real time discussion forums, with technical refinements to enhance the user experience.
Evaluating and exploring of the learning of the person-centred therapeutic relationship skills: Innovating an intensive training with the use of a new learning technology

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Introduction: To enhance the quality of person-centred health care and prepare future generations for quality, this study aimed to improve the therapeutic relationship between health professionals and patients through the communicational skills training. We designed a 3-day training on the person-centred therapeutic relationship competence for the health professionals in Taiwan and innovated a learning approach which is using an interactive-learning technology, mPath. This study aimed to evaluate the effectiveness of the training programme and explore their learning.

Methods: A mixed-method study consisted of a quasi-experiment and interview. A sample of 59 health professional undergraduates (mean age=24.22) from 7 medical schools in Taiwan studying in nursing, occupational therapy, medicine and clinical psychology scored the Mandarin-Chinese version of the Barrett-Lennard Relationship Inventory (B-L RI:MC) before (T1), at the end of (T2) and two weeks after (T3) the intervention. Group 1 (G1; N=26) received didactic lectures, skills practice and had access to the new software, Group 2 (G2; N=33) did not receive didactic lectures, skills practice, nor had to access to mPath. One-way repeated measure ANOVA and simple t-test techniques were performed to compare the results. Interviews with G1 were given two weeks after the intervention, and the de-identified interview transcripts were independently coded into themes, and the categories of the emergent data were refined through thematic analysis. The research ethics was approved by the University of Nottingham.

Results: The result of the one-way repeated measures ANOVA between groups over time indicated a significant difference with the mean scores \[ F(1.709, 97.386) = 16.38, p=.000 \]. It also indicated G1 having a significant change of the competence \[ \text{Wilk's Lambda}= .731, F(2, 56) = 10, p=.000 \] between T1 and T3 (see image 1). G1 showed a statistically significant level of competence change (N=26, MD= 9.5, p= .002) at T2 whereas G2 received an insignificant change (N=33, MD= .18, p= .683). Surprisingly, an effecting growth curve of the competence in G1 continually inclined \[ t(25) = -.348, p=.002 \] between T2 and T3 while G2 reflected a decline in the competence \[ t(32) = .412, p=.683]\. Twenty-six interviewees from G1 were interviewed to investigate the learning experience in TREP and competence growth. The central theme “beyond medical knowledge and clinical skills” highlighted the latent factors of acquiring the person-centred therapeutic relationship competence in the health professionals in Taiwan: 1. Redefining therapeutic relationship, 2. Transferring theory into practice, 3. Awareness arising through mPath and 4. Self-growth. However, this study
could be developed as a long-term evaluation with an equal distribution of the characteristics of the target population and the variety of health professionals.

**Conclusion:** The innovated training programme with the use of mPath technology supported the initial growth of the person-centred therapeutic relationship competence in the participants. This study provides an evidence-based report on the application of person-centred counselling skills in medical practice and the integration of learning technology in would enhance the therapeutic relationship skills which increase the quality of health care in Taiwan. This study could be developed as a long-term evaluation and conducted as the cross-disciplinary studies between the implementation of the person-centred approach, the use of new learning technology and clinical education in future.

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

The relevance of assuring a good and quick restoration of functionalities and quality of life to patients undergoing elective Total Hip Replacement (THR) is self-evident. Several aspects can impact on outcomes after surgery, such as physiotherapy services. However, there is mixed evidence on the value of additional rehabilitative interventions. Moreover, there is a high variability among the healthcare organizations or professionals approach to post-discharge rehabilitation. The lack of an evidence-based and shared pathway after orthopaedic surgery can produce variability and a higher private expenditure by patients. As focus of public healthcare systems shifts from volumes to value, it is crucial to investigate what is the impact of different rehabilitation practices on patients’ outcomes, as reported by the same patients.

Methods and Objectives

Data collected in 2018 and 2019 from the Patient Reported Outcome Measures (PROMs) Observatory in Tuscany (Italy) were used. The Observatory collect information reported by patients on their healthcare experience (including OOP services), outcomes and medical conditions directly reported by patients, as well as sociodemographic characteristics. At February 2020, the number of patients undergoing a THR and enrolled was 1,039; the number of respondents to the baseline questionnaire (T0) was 552 (34.7% of the enrolled); 254 patients completed the first post-operative questionnaire after 1 month (T1) (16% of the enrolled); 151 patients answered to the T2 questionnaire six months after the surgery (T2) (9.5% of the enrolled). The authors verified if: (i) there are different rehabilitation models in Tuscany; (ii) declared private health expenditures by patients differ according with different rehabilitation models; (iii) if different OPP expenditures are associated with patients characteristics or better outcomes. The outcome variables used are built on the Oxford Hip Score (OHS).

Results

The second opinion was asked by the 43.4% of patients (n=234) before surgery. The most of patients declared to have started rehabilitative activities on the day after the surgery (73.5%; n=172). The analyses at the hospital level showed three rehabilitation models: rehabilitation provided within the same day of the surgery; the day after and only one week after the THR. A positive significant association was found between the early rehabilitation and the improvement of the outcome (p=0.003). A month after surgery, near 17% of patients had OOP
rehabilitation (n=42); while more than 10% of patients did not have rehabilitation at all (n=26). Six months after surgery, 55.3% of patients (n=84) declared to have utilised OOP services. No statistically significant differences have been found in patients’ OPP services after discharge, when controlling for education level, occupational status, perceived health status and PROMs score. There are geographical difference in the OOP services’ usage by patients. Patient discharged by hospitals following the early rehabilitation model use more public rehabilitation services, rather than private ones (p<0.001). Patients with a better OHS at the baseline are those recurring more to OOP rehabilitation services, at the hospital level.

**Conclusions and discussions**

Given that no association was found between outcomes and none of the selected variables representing private health expenditures, this work gives support to two arguments: higher OOP expenditures are not directly correlated neither with better outcomes nor with appropriateness of care; both alone or additional private services usage does not ensure better quality of care compared to public healthcare services. The difference between health status at baseline and private services usage emerges only at the hospital level, thus suggesting a different pattern of rehabilitation services’ provision and providers among territories which currently adopt different rehabilitation models (three were found by this research work).
A patient-centred approach to identifying patients with familial hypercholesterolemia and improving quality of care to in a lipid clinic setting

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Introduction:
Patients are referred to a lipid clinic for numerous reasons including significant hypercholesterolemia, statin intolerance, diabetic dyslipidemia and hypertriglyceridemia. However, the referral is rarely queries a diagnosis of familial hypercholesterolemia (FH). FH is under-diagnosed (estimated at 2% to 10% of cases) and those with the diagnosis have a considerably higher risk of early cardiovascular events.1 Once identified by clinical criteria or genetic testing, the treatment thresholds and targets are FH patients. Also cascade screening is warranted. Our hospital is the only in Ireland to offer a genetic test for FH and is now using next generation sequencing to do so. This will allow the identification of more patients with FH and in a timely manner. The advent of highly effective biological treatments, PCSK9 inhibitors, also offers another option for treatment of FH. The objective of this project is ensure all appropriate patients are offered genetic testing for FH using a patient centred approach.

Methods:
Quality improvement tools and techniques are being employed to meet the objective. A process map was drawn to identify key points in the current system of patient review at which those with FH can be identified. Root cause analysis using a Fishbone diagram (5 Why’s) was performed. Stakeholders were identified and involved in the change process. Required information was collected from the electronic patient record and patient correspondence. This involved using guideline defined criteria (pre-treatment lipid profile, personal or family history) to identify appropriate patients for screening and followed by an offer of a genetic test. The number of new attendees who were actually screened for FH and offered genetic testing was then compared to the number who should have been offered testing. These figures were added to a run chart for each 2 week period.

Results:
Pre-intervention figures demonstrated that between 15% and 80% (per 2 week period) of patients whom should have been screened for FH were not and thus they were not offered genetic testing. The significant variation demonstrated the requirement for a consistent practice at the clinic. An educational intervention will be performed for the clinic staff and a patient information pack is being created. Patients to be considered for a FH review will identified from their referral information by the clinic consultant. On arrival the clinic nurse will provide the appropriate patients with a pack which includes information on FH, the
screening tool and the consent form for genetic testing. The proportion of appropriate patients screened and offered testing will then be recorded and compared to the pre-intervention figures.

**Conclusion:**
The first iteration of the intervention will occur in February 2020. Further development of the project will be required based on staff and patient feedback. Completed results will be ready for presentation in August 2020. The project will be then aim to ensure other appropriate investigations for these patients are requested and that cascade screening of family members is offered.

**References:**

**Please declare any conflict of interest you may have:**
The authors have no conflicts of interest to declare
Labouring Together: Women's Experiences of "Getting the Care that I Want and Need" in Maternity Care

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Introduction:

Poor collaboration and decision-making (DM) with women have been identified as detrimental to the quality, safety and experience of maternity care. The Labouring Together study explores women's and clinician's perceptions and experiences of collaboration and DM in maternity care, using a conceptual theory of collaboration. The perspectives and experiences of the women will be presented.

Methods:

A sequential, mixed-method, multi-site case study approach was used to explore the perceptions and experiences of women from four diverse case studies. The women's preferred role for DM was quantified using the Control Preferences Scale (CPS) (Degner, 1997), and compared to the actual experiences reported. Chi-square analyses were conducted on the CPS preferences and experiences reported by women by case and socio-demographic characteristics. Qualitative semi-structured interviews were conducted to explore influences upon the preferences and experiences reported by women. An inductive approach was used for qualitative analysis, and cross-case analyses were conducted upon the convergent lines of enquiry from the multiple sources of evidence, to triangulate data and draw conclusions.

Results:

Overall, 84% of women indicated that they preferred either an autonomous or collaborative role for DM in maternity care. Only 16% of women indicated a passive preferred role. However, the role actually experienced by most women was collaborative or passive $\chi^2 (4 N=176)= 32.239, p<.001$. The conceptual framework of Getting the Care that I Want and Need emerged from inductive analysis of qualitative data. Under the theme Woman-Centred Care: Meeting My Unique Needs, four subthemes emerged that influenced the experiences reported by the women.

Conclusion:

The Labouring Together study findings provide compelling evidence to support the
proposal for women to be equal partners in collaborative decision-making the provision of maternity care. However, fundamental barriers were identified to hinder collaboration; 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*
Identifying vulnerable patients to improve patient care: Testing four vulnerability question

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Introduction: For the past three years, Alfred Health, an Australian metropolitan health service, has been undertaking a body of work to improve health care clinician’s capacity to identify and support patients who may be vulnerable. It is widely acknowledged that individuals from vulnerable groups may be more susceptible to undergoing adverse events, facing reduced quality of care and, subsequently, experiencing worse health outcomes and this requires specific attention from the health care system. The introduction of an electronic medical record (EMR) in 2018 provided opportunity for Alfred Health to incorporate four questions designed to highlight potential vulnerabilities during the patient admission process and to test their efficacy in identifying people who may be potentially vulnerable and would therefore benefit from additional support. The four vulnerability questions were developed through an iterative consultative process with refinement following input from expert clinicians.

Objectives: The objectives of this study were to (a) determine whether the four vulnerability questions administered by nurses could identify patients with potential vulnerability on admission to the acute and rehabilitation units of Alfred Health, and (b) explore the experience of nurses asking their patients the four questions.

Methods: This was a mixed methods study conducted in two parts: Part 1 involved validation of the nurse-administered four questions against a reference ‘best practice’ standard (social work screening assessment) in a sample of patients over two wards (one acute and one rehabilitation ward). Data was evaluated through commonly used diagnostic accuracy statistics, including sensitivity and specificity.

Part 2 involved the conduct of focus groups with nursing staff who had utilised the questions during patient admission. Focus groups were audio recorded and the resulting transcripts were thematically analysed to explore the experiences of nursing staff and identify opportunities for improvement in content and process.

The study protocol was approved by the organisational ethics committee.

Results: During the study period 120 screening assessments were completed by social work researchers and used as a basis for comparison with the four vulnerability questions administered by nursing staff. This paper will present findings related to this comparison along with process-based learnings associated with introducing these questions into the EMR.
Four focus groups and two individual interviews were conducted with a total of 24 nurses. Qualitative findings included the perceived impact of grouping questions together as a risk assessment, the ‘personal’ nature of the questions relative to staff confidence, and the impact on the clinician–patient relationship based on when the questions were asked will also be presented.

**Conclusion:** There are a range of factors that may impact upon patient vulnerability. At Alfred Health we are working to improve our identification of potential vulnerability through inclusion of specific questions in the EMR. Understanding the nursing experience and workflow is central to the effectiveness of this strategy.

**References:**

Introduction:

Part of its strategic plan, French national Authority for Health (HAS) has planned to elaborate a guideline to facilitate Patient and Citizens Involvement in Social and Health Care facilities. In order to illustrate this guideline with real French experiences, a survey was conducted, in complement of the literature analysis and working group deliberation. To identify outstanding French Experiences of Patient Involvement in collaborative projects lead with sick/disabled/vulnerable people and professionals in Social and Health care.

Methods:

A specific questionnaire (18 open and 8 closed questions) was elaborated to collect feedback on collaborative experiences and tested by 4 professionals and 7 patients. It was posted on Internet for 6 weeks and disseminated through professional federations, patient associations, medias and social networks. Closed questions were analyzed by descriptive statistics. For open questions, the working group (WG), composed by half professionals and half patients/citizens, have provided the keys for analysis qualitative comments and selected inspiring projects, for 4 types of activities: social care, health care, research and teaching. Selection criteria were: involvement level[1], duration, impact. Semi-structured interviews, by the WG copresidents (a patient representative and a medical doctor) were then conducted to deepen the comprehension of the selected collaborative experiences.

Results:

149 experiences have been received, from 138 different projects coordinators (26% are patients/citizens). These participative experiences were coordinated mostly by hospitals (n=50), patients associations (n=35) and social care facilities (n=19). They were implemented in community, social facilities, hospitals or research and teaching institutions. Methods for involving patients were extremely diverse. Declared involvement level for patients was high: 79% respondents have declared co-elaboration between patients and professionals. 50 experiences were judged « inspiring » by the WG at 1st round, 16 were selected by three or more participants at 2nd round and 6 have been finally selected for interviews : (1) a Participatory Action Research to develop a respite venue as an alternative to psychiatry hospitalisation, (2) the structuration of a program to integrate « patient-teacher » in a medical school, (3) the implementation of a first aid formation for people living in the street, (4) an action plan to reduce alcohol use in social care facilities, (5) a co-elaboration and co-
animation of a patient therapeutic education program for chronic diseases, (6) a community approach with peer health ambassadors.

**Conclusion:**
If few French projects with participatory approach are published, this survey and the the Ministry of Health label for patients' rights may help professional teams to involve more often patients and their associations for different projects aimed to improve quality of care.

**References:**

**Please declare any conflict of interest you may have:**
no commercial conflict of interest related to the theme for any author.
**Session B3**

[731] Could community-based health insurance schemes be a creative approach to achieving equitable care in Nigeria? – Findings from a baseline survey of existing schemes in Benue State

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**Introduction:**

Attempts to achieve global health equity evidently require a prime focus on Nigeria because of its large population, high levels of out of pocket expenditure on health and its poor performance on several health indices. The World Health Organization estimates that 100 million people globally are pushed into poverty because of out-of-pocket expenditure on health[1]. In Nigeria, the National Health Accounts showed that 75.2% of current health expenditure in 2016 was from out of pocket expenditure with total household health expenditure at N2.8 trillion, suggesting the burden of health financing on Nigerian households are much higher than the global benchmark of 30-40% according to the WHO. Mitigating this obvious obstacle to quality universal health care could be achieved following WHO advice to encourage risk-pooling prepayment to reduce direct out of pocket payments. Benue State, in North Central Nigeria is an early adopter of community-based health insurance schemes (CBHIS) supported by the State Health Insurance Agency.

**Objective:** The baseline survey sought to identify and analyse how existing CBHISs in Benue State are operating, and assessing the experiences of communities served.

**Methods:**

A desk review evaluated existing literature for background. A quantitative assessment assessed the current state of CBHIS in 7 locations of the state. Qualitative assessment used Key Informant Interviews (KII) with community representatives, health workers, donors, third party management organisations and state government officials. Audio files from KII were transcribed and coded, and common themes identified and analysed.

Interview methods guaranteed privacy and respondent anonymity. Coding was employed to anonymize respondents’ identity and informed consent was obtained from all participants. Consent documents described survey objectives, participants’ rights to confidentiality and to withdrawing at any point.

**Results:**

Only 10% of CBHISs identified were fully registered with 75% only registered at state government level. 94% of interviewed CBHIS reported that they had not received any form of training. Only one CBHIS, the largest, had over 1000 enrollees.

Key themes of concern from the qualitative research included free healthcare for pregnant women and children under five, funding sources for CBHIS, board of trustees’ responsibilities, supervision of
CBHIS, provision of drugs, awareness, quality of care, success stories, infrastructure, payment consistency, and insecurity. Overall, respondents acknowledged numerous benefits of enrolling in community-based health insurance despite administration challenges.

**Conclusion:** While adopting and strengthening CBHISs appears worth pursuing to promote integrated and universal access to quality healthcare at all levels, several issues need to be addressed to achieve the potential. Empowering informal sector households, including the poor, to better manage their health risks, in a financially efficient and effective manner, can be an important part of solving the complex, double challenge of poverty and health conditions. Public support to transform CBHIs into an evolving social protection system could significantly contribute to poverty reduction in Nigeria, by providing communities with the knowledge, financial, technical and management capacities needed to engage with the schemes.

**References:**

Please declare any conflict of interest you may have:
Implementation of bundle care helps to effectively reduce surgical site infection

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Introduction:
Surgical site infection (SSI) is one of the most common and preventable hospital-acquired infections. Factors contributing to SSI include patient-related and process/procedural-related variables. Bundle care has been proposed by the World Health Organization to help reduce SSIs. We started our SSI bundle care program at MacKay Memorial Hospital since 2017. In this study, we evaluated the process of implementation and quality improvement cycles as well as the change of surgical site infection rate in our hospital.

Methods:
Since 2017, we joined the SSI bundle care program conducted by the Taiwan Center for Disease Control. The acts in SSI bundle care were categorized into 5 domains: skin preparation, perioperative blood glucose control, appropriate prophylactic antibiotics, intraoperative body temperature maintenance and wound care. Since then, we established an SSI bundle information system to collect clinical data automatically. The preoperative, intraoperative and postoperative data were collected automatically from the hospital information system. The process outcome and clinical outcome were analyzed regularly. Baseline data was collected in the first 2 years without clinical behavioral change. Then we carried on several quality improvement cycles focusing on the items with a low compliance rate, including hair removal by clippers and preoperative blood glucose control. Plan-Do-Study-Act cycles were used to increase the compliance rate. Regular analysis of the data from the SSI bundle information system helped to assess the effectiveness of the quality improvement conducts and the change in infection rate. We used the standardized infection ratio (SIR), compared to the National Healthcare Safety Network (NHSN) database, for normalization and comparison.

Results:
The baseline surgical site infection rate was 1.4% and the standardized infection ratio was 1.49. We found that the clippers were never used in the operation room. The preoperative blood glucose check-up rate was around 30%. Only 25% of the patients had their blood glucose controlled below 180 mg/dL before an operation. We found that the causes of not using clippers were insufficient knowledge, unfamiliar workflow, and insufficient clippers. The cause of poor glucose control rate was insufficient knowledge and insufficient time. Three PDSA cycles were conducted for each item. The compliance rate for hair removal using clippers increased from 0% to 34.8% after cycle 1, 60.9% after cycle 2 and 86.0% after cycle 3. The compliance rate for preoperative blood glucose check-up increased from 43.9% to 64.5% after cycle 1, 90.9% after cycle 2 and 95.4% after cycle 3. The rate for blood
glucose controlled below 180 mg/dL increased from 42.4% to 60.4% after cycle 1, 86.4% after cycle 2 and 90.8% after cycle 3. The SIR was decreased from 1.49 to 0.92.

**Conclusion:**
Surgical site infection is a multifactorial condition and multiple preventive acts should be done in combination. SSI bundle care combines the preoperative, intraoperative and postoperative conducts to reduce the infection more effectively. The SIR is useful for comparison of infection rates between time periods or departments, even hospitals. We conclude that the implementation of the SSI bundle helps reduce surgical site infections effectively.

**References:**
1. Global Guidelines for the Prevention of Surgical Site Infection, WHO 2018

**Please declare any conflict of interest you may have:**
None
Interruptions and Multitasking in Clinical Work: - A Summary of the Evidence

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Introduction
Clinical workflow at its most simple is the sequence of steps associated with delivering health care - the “who, what, when, where, for how long, and in what order” of each task. However, health care is complex and dynamic with many interdependencies. In such an environment, tasks are rarely completed in a linear, step-wise fashion. Each step in a process is a point at which clinical work (health care) can go right or wrong. Thus each step in clinical workflows is a potential target for improving the safety and quality of care delivered. Thus understanding how clinicians use strategies to manage and adapt their work in response to contextual factors is central to understanding how to support resilient and safe health systems.

Methods
The workshop aims to illustrate the methodologies of time and motion research, the observation of clinical care activities in the field and its limits, strengths and opportunities. We would like to discuss how such studies can be used to address questions related to the quality of care and to examine the relationships between clinical workflow and safety. Further, it provides specific examples of the application of time and motion studies, the practical challenges and results obtained.

Four main oral presentations illustrate main aspects and results related to some researchs and interruptions studies:

- Approaches for studying clinical workflows
- What types of questions can clinical workflow studies answer?
- Cultural and organizational considerations in conducting clinical workflow studies
- Data quality, analysis and interpretation in clinical workflow studies
- Disseminating findings to influence practice and policy

Results
The workshop want to promote discussion and comparison with the audience to find out some new ideas or deepen some analyzed issues during the oral presentations

Conclusions
There is much to be learnt from the specific analysis of clinical workflow and how it relates to patient safety. Time and motion studies provide a robust method by which to measure clinical workflows, particularly taking advantage of new electronic tools for data collection. Close collaborations
between clinical staff and researchers conducting such studies is central for success, from the design stage to the final interpretation of results.

References

Established the sustainability model of quality improvement initiatives

Hsun-Hsiang Liao1,4; Tsung-Hsien Yu2; Weyu Hu3; Kuo-Piao Chung4

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Introduction:

Quality improvement (QI) projects in the hospital often show initial gain at the beginning; however, sustainability is one of the major challenges afterwards. It had been mentioned in previous studies that there was a limited concept exploration to investigate sustainability of QI activities. The whole spectrum after QI initiative implementation effect is not well defined. Joint Commission of Taiwan (JCT) has been organizing the Healthcare Quality Improvement Campaign (HQIC) to promote hospital quality improvement since year 2000. In Taiwan, quality improvement activities have been adopted by hospitals for years. Thus, it provides a great opportunity to derive a mechanism or a model of sustainability after the QI initiatives. This study aimed to develop a conceptual model for the sustainability after quality improvement activities.

Methods:

A qualitative interview was employed. The purposive sampling was used to select participating hospitals; and their previous HQIC performance, accreditation level, and geographic location characteristics were used as the selection criterions. Both individual in-depth and focus group interviews were conducted using a semi-structured interview guides that focused on the sustainability phenomenon, its mechanism, barriers and facilitators. 16 individual in-depth interviews from 11 hospitals were performed with superintendents, vice-superintendents and directors of quality management center. Six focus groups were conducted with 27 individuals (three for QI team members and others for QI team leaders). Interviewees were asked to review their journey of the QI activities. The qualitative data was audio-recorded and transcribed into codes and themes or categories and then input in qualitative software of NVivo for analysis. Two expert meetings were held for thorough discussion of the prototype model, and regarding the definitions and potential relationships among explored themes.

Results:

The conceptual framework for quality improvement sustainability model was developed with initiation, action and impact stages. 30 concepts categorized into 7 domains have been identified (see figure 1). Two domains as the characteristics of QI activities and colleagues in working setting are considered to be the pre-conditions for sustainability. Regarding the action stage, to sustain the changes from the QI activity, both unit and organization levels of
actions were acknowledged. Furthermore, the situational factors that changes over time were also recognized to assure the effects of sustainability. The final stage of the model is described by 7 concepts of sustainability that includes: benefits for patients, healthcare workers, units and organizational wide; improvement in teamwork among units; strength in the quality management system and quality improvement culture; and external recognition and achievement of a good reputation.

**Conclusion:**
The comprehensive framework of quality improvement sustainability model can fulfill the quality improvement process and assure the achievement from the quality interventions. Measures of the concept are needed in the future study.
Development of hospital standardized readmission ratios (HSSRs) for pneumonia model in Japan using DPC/PDPS claim data

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Introduction:

Pneumonia is one of the leading causes of death. Estimated annual number of pneumonia patients is about 400,000 including 350,000 inpatients in Japan, of which approximately 70% are older than 75 years of age. Previous studies suggested that optimal care for pneumonia during the hospitalization may reduce the risk of subsequent readmission.

Readmission rate is influenced by the quality of inpatient care, the availability of effective disease management programs, and cooperation among healthcare facilities. In Japan, readmission for the same MDC-10 disease within 7 days is counted as part of previous hospitalization, and the same money is paid to hospitals under the Diagnosis Procedure Combination / Per-Diem Payment System (DPC/PDPS) reimburse system.

Purpose of this study was to develop the calculation method of hospital standardized readmission ratio (HSRR) for pneumonia as an indicator of hospital care including discharge supports in Japan. HSRR was defined as the ratio of actual number of unplanned readmissions within 30 days to the expected number of unplanned readmissions within 30 days multiplied by 100.

Methods:

We used DPC/PDPS data of the Medi-Target benchmarking project managed by the All Japan Hospital Association, and developed the measure to calculate HSRR from DPC/PDPS data in 2018, aligned with the published Centers for Medicare & Medicaid Services standards and previous studies.

We constructed two models; one is readmission by all-cause, the other is readmission by pneumonia.

Patient and hospital-level data were collected as variables for risk adjustment. Patient-level data included sex, age, urgency of admission, ambulance use, Charlson comorbidity Index as an indicator of comorbidities, A-DROP score on admission, length of stay, operative status (surgery done or not), and in-hospital death. A-DROP scoring system, developed by the Japanese Respiratory Society is a modified version of CURB-65 (confusion, BUN > 7mmol/L, respiratory rate ≥ 30/min, low blood pressure, and age ≥ 65 years). Predictive accuracy of
the logistic regression models was assessed using Hosmer-Lemeshow test.

**Results:**

Total 10,499 patients with pneumonia and 68 hospitals were included for the analysis. Hosmer-Lemeshow test showed a predictive accuracy ability for both models (all-cause model: \( p=0.442 \), pneumonia model: \( p=0.202 \)), and calculated HSRRs showed wide variation among hospitals (Figure 1). The mean of HSRR was 93.17 (SD 58.14, all-cause model) and was 89.55 (SD 68.39, pneumonia model). The mean of HSRR was below 100 for both models. This result suggest that many hospitals have lower readmission rates than expected while small number of hospitals with high HSRRs may influence the overall results.

![Fig. 1 Variance plot of the HSRRs for pneumonia. (Left figure: all-cause model. Right figure: pneumonia model)](image)

**Conclusion:**

This study demonstrates that HSRRs of pneumonia can be calculated using DPC/PDPS claim data in Japan and revealed considerable variations among hospitals with comparable case-mixes. The results of this study suggest that HSRR model can be used as the index to evaluate the quality of hospital care including discharge supports.

**References:**

Please declare any conflict of interest you may have:

None declared.
Session B6

[2293] Reduction of medication errors on a surgical ward: a baseline measurement of the medication error rate during preparation and administration

Zonderhuis Barbara¹; Beers Esmee¹

¹Amsterdam UMC, Amsterdam, Netherlands (The)

Introduction:
Medication errors are not rare. They cause harm and burden the healthcare system with unnecessary costs. Errors often go unnoticed as most errors do not result in adverse outcomes. Providing a patient a single dose of medication may involve more than 80 steps. The primary objective of the study is to provide the medication error rate on the clinical ward of surgical oncology and gastro-intestinal surgery in a University Hospital. This study aims to provide the incidence, causes and possible solutions to medication errors on a clinical ward.

Methods:
The study model is a pre-intervention observational study which takes place in a university hospital in the Netherlands. One independent observer follows nurses on the ward in a randomized order and measure the medication errors for four weeks. These measurements take place during two medication rounds per day on a four days per week basis. Medication errors are marked and described according to their causes. The level of harm caused by errors will be measured retrospectively. Errors are classified according to the NCCMERP index to determine the level of harm. The observer interfered during medication administration if this could cause permanent harm or preventable harm according to NCCMERP.[1]

Results:
This study included 155 patients with 574 medication administrations. The total amount of medication errors is 100 (17,39%). Most of these errors were attributed to errors of timing (32: 32%) and errors during the distribution phase (26: 26%). The amount of medication errors excluding the distribution phase is 74 (12,89%). No severe errors or adverse events have been detected.
Table 1. Overview of descriptive statistics, features of the study population and distribution of medication administrations.

<table>
<thead>
<tr>
<th>Descriptive #</th>
<th>N (patients)</th>
<th>Medications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3,70</td>
<td>155</td>
</tr>
<tr>
<td>round 08:00</td>
<td>27 (17,42%)</td>
<td>165 (28,75%)</td>
</tr>
<tr>
<td>round 12:00</td>
<td>30 (19,35%)</td>
<td>52 (9,06%)</td>
</tr>
<tr>
<td>round 14:00</td>
<td>4 (2.58%)</td>
<td>14 (2,44%)</td>
</tr>
<tr>
<td>round 18:00</td>
<td>48 (30.96%)</td>
<td>157 (27,35%)</td>
</tr>
<tr>
<td>round 22:00</td>
<td>46 (29,68%)</td>
<td>186 (32,4%)</td>
</tr>
</tbody>
</table>

Age (mean) 63,85
minimum 31
maximum 84

Level of harm (according to NCCMERP)

The highest category of harm measured was D, this occurred three times. Category A, B and C errors happened respectively 24, 17 and 56 times. During the study there was no harm due to medication errors detected. Therefore, intervention of the observer was not necessary.

Conclusion:
During this baseline measurement, 17,39% of all medication administrations contained errors. When only the administration phase is considered, the error rate drops to 12,89%. No errors with harm to the patient or worse were observed. This study provides usefull prospective data on real time medication preparation and administration. A further analyses on how to prevent these errors will be made.

References:

Please declare any conflict of interest you may have:
Author BM Zonderhuis received an independent grant of the Citrien foundation, an grant to improve oncological care provided by the Ministry of Health of the Netherlands.
Infection Control Nurse Manager Initiative- REDUCTION OF OCCUPATIONAL INJURIES AT AGGH

**Members:** Dr. Mervin Leo (COO), Dr. Bheem (ICCP), Dr. Sukesh Kumar (Head Medical Services), and Mrs. Prameela (CNO) Ms. Mercy Isabella. (Quality lead), & Ms. Kavitha Reddy (ICN)

Nursing, AWARE GLENEAGLES GLOBAL HOSPITAL, L.B.NAGAR, HYDERABAD, India

**Objectives:**

- **OBJECTIVE 1:** To ensure that all the staffs who are going for nursing procedures they need to follow the safe handling of the sharps and needles to prevent the needle stick injury.
- **OBJECTIVE 2:** To ensure 100% “NO RECAPPING OF THE NEEDLE” or single hand “SCOOP METHOD”.
- **OBJECTIVE 3:** To reduce the Needle stick injuries with 100% adherence to the tampered containers in clinical area.
- **OBJECTIVE 4:** To conduct NSI week to improve awareness among all the employees of the organization.

**Methods:** An experimental design was selected using Randomized sampling technique. The data was obtained by using an audit checklist prior and post interventions

- Setting: All staff working at AGGH
- Source of Data: Regular Rounds and Information from other units by the staff.
- Sample: All staff working ward & ICU and other peripheral staff working at AGGH.
- Tool Used: Self structured tool (Audit Tool: Standard precaution, Safe handling of sharps)
- Duration: Jan-Dec-2019
- Sample size: All staff working at AGGH
- Sampling technique: Randomized sampling technique

**Infection Control Nurse Manager (ICN) Initiative:**

- ICN performs Every three months once cross sectional audit carried out by infection control nurse and all initiative nurse managers, Observing during daily regular rounds, Demographic data of these were collected using Interview technique
- Trained all the nurses on safe handling of sharps & on standard precautions every month once during CNE.
- Conducted **NSI Week Celebrations & HIC week Celebrations** & and trained the
staff on all HIC aspects

- Conducted **NSI Week Celebrations** to create awareness on Sharp Injuries and its Complications to all the Hospital Staff.
- Continuous trainings are conducted to the link nurses on Sharp Injuries prevention and its Complications.

**Root Cause Analysis:** Lack of awareness to staff about the safe handling of sharps as per protocol, improper techniques (Recapping), improper segregation of BMW, Lack of awareness on standard SOP & Non adherences to Best Practices.

**Corrective And Preventive Actions by ICN:** Observations on a daily basis and training and increasing the awareness on self reporting culture was encouraged. Trained the staff on appropriate usage of PPE & Standard Policies & procedures, and Planned by regular audits by ICN & Daily observational Audit by Team leader. Demonstration & re demonstration on BMW segregation & safe handling of sharps to all allied health science team. Post Knowledge assessment was done.

**Results:** We aimed to “0” Occupational Injuries by the end of July -19 but we had 2 incident still we will be continued this quality improvement till the end of December -19 to zero incidents with all the above mentioned Best practices’, reducing the cost for the follow up investigations & vaccination cost in AGGH.

**Conclusion:** We aimed to “0” Occupational Injuries by the end of July -19 but we had 2 incident still we will be continued this quality improvement till the end of December -19 to zero incidents with all the above mentioned Best practices’, reducing the cost for the follow up investigations & vaccination cost in AGGH. Improve the Employee’s Satisfaction. Improve the Compliance rate of BMW management

**References:**

Disclosure of Interest: None Declared
Exploring the Efficacy and Effectiveness of a Controlled Substance Management System in a Tertiary Medical Center in Southern Taiwan

Cheng Lung Hung1; Li-Chu Wu1; Shu-Mei Chen1; Ting- Ting Wu2

1Nursing Department, Kaohsiung Veterans General Hospital, Taiwan; 2Quality Management Center, Kaohsiung Veterans General Hospital, Taiwan

Introduction:

Medication safety is a global issue and also the most important indicator of patient safety and quality of medical care. According to the Medical Council’s 2013 Taiwan Patient Safety Reporting System (TPR) statistics, out of 52,401 reported incidents, category of medication errors accounted for 18,116 cases, of which medium level ones accounted for 6,206 (12.1%). Controlled substance issue deserves more attention from this perspective. Therefore in our study all incidents regarding controlled drug utilization in our hospital were enrolled and analyzed before the intervention (2014-2015) and after intervention (2017-2018).

From the analysis, we were aware that several missing links exist from order placement to order filling and along the pathway of controlled drug dispensing and we believed that a ward-based management system for controlled drug delivery would be helpful to reduce manual errors, save operation time and cost. Our study aimed to improve safety of controlled drug usage and at the same time simplify the process of drug transfer and dispensing by dint of building a novel Controlled Substance Management System (CSMS).

Methods:

The novel CSMS was build and put on line in 2016. The data from TPR were collected by two subsets, one as control group from 2014-2015 before system setup and the other as experimental group from 2017-2018 after system’s debut. Research subjects are 40 nurses randomly enrolled from inpatient wards in a medical center in Southern Taiwan. Operation times for controlled drug retrieval and checking during change of shift were collected for performance evaluation.

Results:

Our research results unveiled that before putting CSMS online for operation, from 2014 to 2015, the monthly report of medication error focusing on controlled drug usage accounted for 38% and the value dropped drastically to 2% after the intervention from the data collected from 2017-2018. The time spent by two nurses at the controlled drug cabin to complete the drug retrieval dropped from 96.25 ± 9.32 seconds before system online to 41.05 ± 7.53 seconds. The time for the nurses to check the controlled drugs in the cabin also dropped from 12.25 ± 2.24 seconds to 6.70 ± 1.42 seconds, which thanks for the digital transformation from paper-based auditing to electronic transaction.

Conclusion:

The hospital-wide ward-based novel Controlled Substance Management System prove itself a digital assistant to fit in the clinical workflow of controlled drug dispensing to improve patient safety and decrease medication errors as well as depeaking nurses’ burden. Taking 2017-2018 as an estimate,
CSMS collectively saved nursing staff about 1825 hours regarding controlled drug retrieval from cabins and further saved nearly 5,000 hours about controlled drug-checking at change of shift.

A nurse information system-embedded CSMS would be an ideal and valid extension for improving patient safety and decreasing nurse staff loading regarding controlled substance or drug dispensing.

References:

NO

Please declare any conflict of interest you may have:

NO.
Introduction: Litigation and financial losses resulting from clinical negligence claims represent an unavoidable risk for NHS, comparable to the risk of accident for an airline company but much more frequent, due to the intrinsic nature of healthcare activities, characterized by complex tasks, multiple professional interactions and by the extreme variability and preponderance of human factors. Ten years after the transition to a direct, public funded, not insurance based claims management system and to a voluntary alternative compensation scheme in the Tuscan Regional Healthcare Service, we can affirm that the efficiency in claims management and compensation has not been accompanied by an equally efficient auditing program helping trusts to learn from past claims and to reduce the number of future claims. In fact, data from the regional Center for Clinical Risk Management and Patient Safety show a slight drop in the number of claims/year (from 1612 in 2010 to 1140 in 2017) counterbalanced by an increase in the total annual expenditure (almost 18 million € in 2013 vs 26 in 2016). The aim of the study is to analyze, in a risk management perspective, the macro-process of claims management in the Tuscany Northwest Trust in order to identify critical issues and formulate an improvement plan, and to submit the analysis to decision makers in order to redesign the process according to a systemic vision.

Methods: We used the FMECA technique to analyze the claims management process in the Tuscany Northwest Trust; critical factors for each macro-phase were classified according to Vincent’s categories. We then calculated the risk priority index and built a masterlist of possible failure modes. The analysis was conducted by a multidisciplinary panel.

Results: The FMECA analysis identified n. 100 contributory factors, classified according to Vincent’s categories (fig 1) and graded by their risk priority index, resulting in: 1) limited availability and usability of comprehensive and detailed claims data at a local level and limited capacity to analyse them systematically, to draw out trends and clinical insights 2) lack of integration between data on claims, incidents and complaints, which cannot yet be linked to gather meaningful insights about the role of human factors and whether the quality of complaints handling and patient safety programs influences the number of clinical negligence claims 3) lack of benchmarking, internal auditing and integration between claims and clinical risk management 4) lack of an evidence-based and data-driven approach to support direct claims compensation vs insurance based systems.
Conclusion: An healthcare trust is an organisation with a memory which provides several opportunities to learn and improve quality and safety through a systematic approach involving clinical governance policies and closer integration between claims, incidents, complaint analysis and clinical risk management activities, in order to reduce financial loss and increase the proportion of the health budget available to deliver safe and high quality care to patients. Moreover, in order to monitor the sustainability of a direct claims management system over time, it is essential to undertake a robust HTA process, exploring financial, legal and medical legal issues, gain for patient safety from lessons learned, ethical and social perspectives, according to a wider framework of enterprise risk management, with the aim of minimizing the negative effects of uncertainty and maximazing resilience.

References:

Please declare any conflict of interest you may have:
The Author declare that there is no conflict of interest
Effective Communication and Team Collaboration in Multicultural Health Care Environment; Challenges and creative solutions

Manasik Hassan\textsuperscript{1,2}; Magda Youssef\textsuperscript{2}; Hatim Abdelrhman\textsuperscript{2}; Ahmed Alhammadi\textsuperscript{2}

\textsuperscript{1}hamad medical corporation, Doha, Qatar; \textsuperscript{2}SIDRA medicine, Doha, Qatar

Session description:

Promote communication and collaboration among Health Care Providers (HCPs) in a busy clinical environment is paramount. Effective communication associated with better patient care, less medical errors, increase teamwork & job satisfaction.

such collaboration is challenging and often requiring unplanned communication among busy healthcare providers. Differences in training, communication styles and multi-cultural background of nurses and physicians contributes to communication problems.

In this interactive workshop participants will be engaged in several activities:

(1) interactive didactic introduction on the significance of communication and team collaborations among (HCPs) in a multicultural healthcare environment, share decision and putting plan together, known challenges faced or perceived.

(2) Engagement in discussions and reflections on video-clips of different communication gaps in clinical workplace.

(3) in small groups, participants will identify barriers to implement effective communication in culturally diverse healthcare environment

(4) Practice different tool and strategies to support communication and team collaboration.

Target audience:

The workshop welcomes all stakeholders in medical education, physicians, patient’s safety and quality, nurses and other allied health working in any multicultural clinical environment, and other educators interested in promoting culture of safety in health care.

Objectives:

by the end of the workshop audience will be able to:

1) Highlights the importance of effective communication & collaboration among (HCPs) in a multicultural healthcare environment
2) Identify challenges and barriers to promoting communication in multicultural clinical work area

3) Use different practical communication tools and strategies to promote such collaboration
CareTrack Aged: The world’s first indicator set that comprehensively defines evidence-based care for people who reside in aged care facilities

Peter Hibbert1,2; Louise Wiles1,2; Charlotte Molloy1,2; Jeffrey Braithwaite1

1Australian Institute of Health Innovation, Macquarie University, Sydney, NSW, Australia; 2Australian Centre for Precision Health, School of Health Sciences, University of South Australia, Adelaide, South Australia, Australia

Introduction:

Globally, the aged population is growing rapidly and this is projected to continue. People living in Residential Aged Care Facilities (RACFs) are the sickest and frailest of this cohort, with a high prevalence of chronic conditions and complex co-morbidities which affect their quality of life and are costly. Therefore, there is a need to determine the extent that care is delivered to people in RACFs that in line with evidence (‘appropriate care’).

CareTrack Aged aims to develop ‘appropriate care’ indicators for commonly managed conditions and care processes, and assess the appropriateness of care delivered to residents in Australian RACFs. This abstract describes the indicator development objective.

Methods:
Selecting conditions

Fifteen conditions (Table 1) amendable to estimating appropriate care at population level were identified from prevalence data, clinical practice guidelines (CPGs), and indicator sets relevant to RACF settings.

Developing indicators

CPGs were identified by a systematic search of peer-reviewed literature and targeted searches of national and international CPG repositories. Candidate recommendations were extracted from CPGs and converted to a standardised indicator format. Duplicate recommendations were merged. Recommendations were excluded on the strength of their wording or low likelihood of information being documented in residents’ care records.

Review of the indicators

National experts (clinicians and researchers) for each condition were recruited to review the indicators via a Delphi process. Experts rated the indicators: on a nine-point Likert scale for their representativeness of appropriate aged care delivered in RACFs; according to their acceptability, feasibility and clinical impact; and provided comments.
Results:
We found 138 relevant CPGs or indicator sets from 8 countries. From these, we extracted 5584 candidate recommendations (Table 1). During the initial phase of screening, 3566 recommendations were excluded and in the first phase of the Delphi 382 indicators were excluded, leaving 239 indicators. Of these, 37 embody processes of care pertaining to a resident’s admission to an RACF.

Conclusion:
Population-level data regarding the level of appropriate care delivered to RACF residents is not available in Australia nor in other countries. This is the first time in the world that clinical indicators across multiple conditions have been developed for RACFs, which is the critical first step to understanding appropriate care delivery and is the basis for making evidence-based improvements.

References:

Please declare any conflict of interest you may have:
All authors declare that there are no potential conflicts of interest.

Ethics
The study has been approved by Macquarie University’s Human Research Ethics Committee (5201800386).

Funding
NHMRC Project Grant: no.1143223
<table>
<thead>
<tr>
<th>Condition</th>
<th>No. Recommendations extracted</th>
<th>No. CPGs</th>
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</thead>
<tbody>
<tr>
<td>Bladder and Bowel</td>
<td>379</td>
<td>15*</td>
</tr>
<tr>
<td>Cognitive Impairment</td>
<td>517</td>
<td>13*</td>
</tr>
<tr>
<td>Depression</td>
<td>256</td>
<td>6*</td>
</tr>
<tr>
<td>Dysphagia and Aspiration</td>
<td>64</td>
<td>3</td>
</tr>
<tr>
<td>End of Life/Palliative Care</td>
<td>869</td>
<td>16*</td>
</tr>
<tr>
<td>Hearing and Vision</td>
<td>82</td>
<td>5</td>
</tr>
<tr>
<td>Infection</td>
<td>763</td>
<td>14*</td>
</tr>
<tr>
<td>Medication</td>
<td>800</td>
<td>21*</td>
</tr>
<tr>
<td>Mobility and Falls</td>
<td>439</td>
<td>11*</td>
</tr>
<tr>
<td>Nutrition and Hydration</td>
<td>346</td>
<td>9</td>
</tr>
<tr>
<td>Oral and Dental Care</td>
<td>149</td>
<td>7</td>
</tr>
<tr>
<td>Pain</td>
<td>431</td>
<td>8*</td>
</tr>
<tr>
<td>Restraint</td>
<td>16</td>
<td>2</td>
</tr>
<tr>
<td>Skin integrity</td>
<td>390</td>
<td>13*</td>
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<tr>
<td>Sleep</td>
<td>83</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5584</strong></td>
<td><strong>146</strong>*</td>
</tr>
</tbody>
</table>

* This number includes duplicate counts of the RACGP Silverbook (2019) which was used for 9 conditions.
Introduction:

Since ECRI listed “missed ventilator alarms” as one of the top 10 health technology hazards in 2017, many hospitals started to develop a ventilator alarm system to avoid patient harm events. When the ventilator alarm, if no real-time confirm the status and solved, that probably induce patient’s harm. It is a critical issue especially in the ICU unit. It is the trends that the healthcare team sharing the medical record through technology tools. Therefore, developing a ventilator management system can deliver more complete and continuous care and reduce patient safety issues. Our objective is to develop a smart ventilator management system.

Methods:

Our project is composed of cross-team members, including physicians, respiratory therapists, intensive care unit nurses, IT and quality management center managers. After interviewed with stakeholders, we developed our own ventilator management system from Dec 2018 to Dec 2019.

In the past decade, respiratory therapists not only need to handwrite all the respiratory therapy record, but also spend lots of time to communicate with medical team members and sharing patient’s clinical data. Without any signal, if anyone changes the parameter or ventilator setting, the team members are unknow. Therefore, the main purpose is to provide a real-time ventilator central monitor platform, alarm function and electronic form of patient respiratory treatment records in general wards, emergency room and critical care units.

Results:

Cathay General Hospital is a medical center, it’s located in Taipei, Taiwan. We have 813 beds, there are 56 beds in the intensive care unit, and 55 ventilators. We established Web based on-line smart respiratory care system. In the first step, when setting down the ventilator’s mode and parameters, use the barcode technology to connect the patient’s ID and ventilator’s ID. Then start to create respiratory record. The patient’s respirator parameters, such as respiratory rate, SPO2, will be upload to the central monitor every 3 seconds automatically through the signal gateway. This system is equipped with a real-time dynamic central station. Respiratory therapists, nurses, and physicians can grasp the patient’s status through this monitoring board. We use different color to recognize different levels of alarm. When the alarm longer, a prominent red alert prompts the care team to rush to the bedside as soon as possible to confirm the patient’s condition. Besides, the
respiratory therapists will receive an alarm notification to smartphone in the same time. Even at midnight or limited manpower, respiratory therapists can grasp the whole situation in the hospital through this system, which is more convenient and efficiency.

In addition, the system also integrated all important records. Including respiratory care records, the Lab data (such as Gas data), allowing team members to share information on patient physiological parameters and ventilators setting. It can connect and transmit data between HIS, NIS and EHR records, making the patient's electronic records more complete and reduce the staff write the records time. Though automatic data analysis can help physicians do the decision-making for weaning protocol. After applied this system, team member’s average satisfaction is about 90%.

**Conclusion:**
The ventilator management system can help team members to monitor patient’s status more efficiently. Through the e-respiratory care records, it can integrate the care information of the patient, improve the patient's safety and communication.

**References:**

**Please declare any conflict of interest you may have:** None
Introducing an Advance Care Plan (ACP) documentation tool in the Adult Intensive Care Unit (ICU) of an HSE Hospital.

Niamh Joyce1,2
1 RCSI Institute of Leadership, Dublin, Ireland; 2 Galway University Hospital, Saolta University Health Care Group, Galway, Ireland

Introduction:

The Assisted Decision-Making (Capacity) Act (2015) was sanctioned by the Irish Government to maximise a person’s capacity to make decisions about their future. It promotes autonomy of the person with limited capacity, enabling them to be treated according to their will and preference and is applicable to all health and social services. New government and health policy will be introduced nationally as a result.

Decision-making tools support best practice in the planned management of the person with a chronic condition as treatment options come to an end (Hayhoe and Howe, 2011). Healthcare professionals are provided with the information that enables them to care for individuals in harmony with their treatment choices (O’Donnell et al. 2018). ACPs in ICU improve communication and early decision-making, aligning healthcare with patient preferences. Currently, there is no nationally standardised ACP tool specific to ICU in Ireland.

Objectives:

This project aims to prioritise the identification of patient healthcare preferences, improving communication and decision-making amongst healthcare professionals.

• Promote early decision-making in line with patients’ wishes and preferences.
• Enhance the communication and transparency of care goals, limitations of interventions and resuscitation status of patients.
• Change current practice to ensure compliance with upcoming changes in health and government policy.

Methods:

The ACP tool outlines a structured plan for ICU interventions and resuscitation in harmony with patient preferences. The critical care clinical director and risk manager were liaised with to adapt a validated ACP tool from another European healthcare system. It was adapted under local guidance, specified to the patient population and validated through patient and public advocacy. Ethical approval was obtained. Further validation was achieved through involvement of consultants and ICU nursing staff. The change was implemented using the new HSE Change Guide: People’s Needs Defining Change (2018). Pre and post audit was conducted to assess the impact of the change in line with the project objectives.
Results:

The results demonstrate that standardised documentation of care goals and resuscitation status in ICU had been established. Identifying patient wishes and preferences increased by 100%. The documentation of agreed care goals and resuscitation status is now easily identifiable in patients’ clinical notes. Though in its infancy, the overall result of this project indicates the possibility of a major impact on current services in Ireland.

Conclusion:

Early decision-making is enabled by ACPs. The communication of care goals in agreement with patient will and preference has been improved. This demonstrates the capability of conducting successful change when the appropriate framework is used.

References:


Promotion of proactive wellness and wellbeing in the community

Anuradha Pichumani1; Pichumani Parthasarathi1

1Sree Renga Hospital, Chengalpattu, India

Introduction: In a highly populous country like India where Non-Communicable Diseases (NCD’s) are on the rise and the availability of specialist doctors doesn’t keep pace with, promoting well-being proactively is critical. Absence of appropriate channels to continuously engage and motivate the subjects, throughout the lifecycle of their Annual Health Checkup, leads to their falling off from the projected health trajectory early in the cycle. Mechanisms for continuous engagement, such as those embedded in the present programme, mandates the beneficiaries to appreciate the significance of staying on the road to a healthy future thereby promoting their well-being.

Objective: Sree Renga Healthy Living Centre (a unit of Sree Renga Hospital) is a new-age boutique that aims to facilitate the future health of individuals with knowledge of Non-Communicable Diseases like Diabetes, Hypertension, Cancer, Cardiac issues, Stroke and Renal problems and inspiring ways to prevent them proactively and holistically.

Methods: Listening to and mapping all the information that clients share about themselves — medical & family history, food, physical activity levels, work, sleep patterns, habits, stress levels etc — and factoring in test results from blood, urine, ECG and cancer screening, the Centre’s proprietary Online Assessment Algorithm scientifically ascertains the baseline health quotient, setting the stage for the discussion with a multidisciplinary, Onsite Assessment Team (of Dieticians, certified Fitness instructors, certified Yoga instructors and Physician), to arrive at a plan of action. Through structured, personalised plans, the Centre provides colour-coded tools to monitor individuals’ lifestyles (diet, physical activity and stress levels included) on a daily basis, for subsequent modification via periodic coaching (In-person and Online). All, with the singular goal of helping people get on and stick to the path to a healthy future.

Year-round activities to inspire the clients for their future health include interaction sessions with Physicians and Experts on Theme Days (World Cancer Day, World Kidney Day, World Yoga Day, World Heart Day, World Diabetes Day etc), FREE sessions on Yoga classes, Life-size Puppet shows parodying popular movie songs themed around promotion of well-being, Open House programmes for school students, Healthy Cookout sessions, Display of informative Charts and diet exhibitions, conduct of health-themed competitions - Quiz, Walkathon, Cookery, Drawing, Speech, Essay writing, recognition for Best Male / Female Clients as Health Champions, distribution of an activity-based daily calendar to log the diet and exercise details and International Diabetes Federation-designed Go Blue for Breakfast programmes.
Cancer Institute (WIA), Chennai, India is a valued collaborator of the Centre.

**Results:** Motivating clients to proactively engage and take a stake in their future health is a sustainable approach towards promoting well-being. Providing them with easily understood, GREEN – YELLOW – RED colour-coded charts empower and engage clients for a healthy future. This programme has helped many clients with their weight- and stress-management plans, helping them to steer clear of NCD’s.

**Conclusion:** The weight- and stress-reduction results and testimonials from Clients enrolled in Sree Renga Healthy Living Centre attest to the effectiveness of the prescription for future health and well-being. The results demonstrate good correlation between an individual’s adherence to the prescribed plan of action and improvements in the Health Quotient.

**References:**

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

Lack of access to safe, affordable, surgical care causes immense suffering and preventable death in Low and Middle Income Countries. While efficiency gains using quality and process improvement techniques have enabled more surgical procedures to be performed in high income countries, we do not know if these techniques are acceptable and effective in low-resource environments. The Royal College of Surgeons in Ireland and the College of Surgeons of East, Central and Southern Africa are undertaking a pilot “Quality and Process Improvement in Operating Theatres in Sub-Saharan Africa Project” (QPOT) in two tertiary referral hospitals, one each in Tanzania and Ethiopia.

Objectives:

This study aims to explore the enablers and barriers to introducing a productivity data capture tool to inform operating theatre process improvement in Sub-Saharan Africa.

Methods:

Semi-structured interviews were undertaken with four members of the Quality Improvement team at the project outset – a surgeon and an operating theatre manager from each hospital. Response coding was based on the Theoretical Domains Framework (TDF) approach to behaviour change. Transcripts were interrogated for statements indicating barriers and enablers to the data capture envisaged in the QPOT project.

Results:

The most commonly cited barriers were in the environmental context and resources and social influences domains of the TDF framework. In the environmental context and resources domain both hospitals reported repeated staff turnover and role changes) as a barrier. In one hospital, the rotation of members of the surgical team, to equalize opportunity to earn additional income from private practice, was a particular barrier. In the social influences domain expectations of payment, and suspicions that others are receiving payment, were noted as barriers.
The most commonly cited enablers were in the knowledge, reinforcement, belief in consequences and goals domains. Knowledge of quality and process improvement in general, and the QPOT project in particular, was seen as key. Previous project successes were highly motivating for staff, enhancing belief in consequences with regards to the QPOT project. A key enabler noted was project alignment with hospital leadership goals in and personal development goals of project team individuals.

Interviewees felt that reinforcement strategies must place “sustained pressure” on staff to implement the QPOT project. Language was uniformly forceful in this regard, referring to the need to be “strict”, “tough” and to “hammer always on this.” Where previous QI projects had failed, a lack of reinforcement, partly due to leadership staffing changes, was seen as a key factor.

Domains relating to capabilities (Skills, beliefs about capabilities, memory, attention and decision making processes and behavioral regulation) were rarely mentioned by interviewees, who did not feel there to be any issue in this regard.

**Conclusion:**

The TDF framework provides a useful tool to identify barriers and enablers to process improvement data collection in Sub-Saharan Africa. The perceived importance of project alignment with hospital leadership goals suggests that either project selection should be based on the intervention hospital’s stated needs, or intervention hospital sites should be chosen based on their alignment with project aims.

In the local context of the intervention hospitals, reinforcement is seen as necessary. Mitigation strategies for high levels of staff turnover and rotation must be considered. The impact of remuneration, or lack of, for project stakeholders must be carefully considered.
Introduction:

Governing Boards of healthcare organisations are responsible for their organisations’ performance (HSE 2015). High performing hospitals have one thing in common and that is an effective and active boards which take a decisive role in improving delivery in quality care. National and International inquiries into failings in patient care suggest that Boards must have capable and dedicated leadership at Board level that focusses on holding Executives to account for quality and improving patient Safety. The Temple Street Board of Directors’ balanced score card reported on Access, Efficiency, Human Resources and Finance indicators monthly with small number of quality process indicators reported quarterly. Data was presented using red, green amber speedometer with an associated run chart. In 2017 it was agreed that the quality quadrant of board be reviewed to enhance discussion on quality, of clinical care delivered.

Methods:

The Board undertook a co-designed project with support from Health Service Executive Quality Improvement Division. Using the Modal for Improvement (IHI) Plan Do Study Act (PDSA) cycles, tests of change were undertaken at monthly board meeting from September 2016 to date. To understand the Board of Directors requirements and understanding of Quality of Clinical Care indicators a base line survey was completed. A focus group explored emerging themes identified and a proposed change package was presented to Board for endorsement. The aim was to identify 6/8 quality of clinical care outcome measures, agree usefulness of measure with Board of Directors and introduce on a phased basis using Statistical Process Charts (SPC). The use of a structure communication tool (modified ISBAR) to discuss measures presented was agreed.

Results:

Overall it was a positive process with the Board of Directors actively participating in the project. Following completion of 10 PDSA cycles the Board of Directors Quality Dashboard contained 8 approved measures using a variety of SPC charts (P, C, T charts) to visually present data. The Board have made recommendations both in relation to structure and format of the report as well as actions for Management on foot of information presented. Board confidence in understanding measures presented increased by 3 points on 10 point Likert scale, Quality is first item on Board agenda and over 25% of Board meeting is allocated to Quality and Safety.

Conclusion:
This completed project and published case study / toolkit was completed in August 2019 and handed over to Children’s Health Ireland. In January 2019 the Board in Temple Street was dissolved and with the integration of the 3 Children’s hospitals, into a new legal entity there has been a focus building on this work and developing a mechanism for incorporating these quality of clinical care metrics into the Board quality report with new Children’s Health Ireland (CHI) Board, as well as introducing a number of new cross site measures. Data for quality and patient safety report (QPS) is presented using relevant SPC charts.
To Improve Patients’ Satisfaction In Outpatient Department With Strategic Integrated Quality Control Circle (SiQCC)

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Introduction: Strategic Integrated Quality Control Circle (SiQCC) was innovated to address complex strategic quality improvement (QI) problems for many hospitals, it can organically combine the implement of top-down strategy and bottom-up activities of QCC.

This hospital studied was ranked about National Top 16 by technology and reputation. However its patients’ satisfaction is even lower than the average level of top 80 of its province. The hospital board had a strategy to significantly improve the patients’ satisfaction in 2019, the outpatient department took the duty of improving the outpatients’ satisfaction.

Aims

By launching five QCCs simultaneously, SiQCC is expected to systematically improve the medical quality and satisfaction of outpatients in a hospital of South China.

Methods:

1. SiQCC includes three problem-solving QCCs: 1) Signage guidance circle (1st QCC activity), 2) Environment & Patient’s privacy circle (for privacy protection and toilet sanitation), 3) Billing & Price circle; and two project-research QCCs: 4) Process-Location-Parking circle (for processes of medical diagnosis and treatment & car parking, 1st QCC activity) and 5) Staff satisfaction & spirit circle, which is the major QCC, since the patients’ satisfaction is closely related to staff's satisfaction. Each circle has their own measurement indexes, goals and financial budgets.

2. Each circle had 10-15 people with a leader and a secretary, totally SiQCC had 70 members (51 from the outpatient department, 16 from other departments and 3 from society). For better communication and collaboration, a 7-person joint coordinating group was established (including every circle secretary, a general secretary and a coordinator).

3. In addition, two hospital activities act as horizontal "grabbers" of SiQCCs, which are the Smart Outpatient Project and the Youth Civilization Unit Project. The former focus on using modern informational technologies, the other one focuses on encouraging young people self-growing and involving of QI activities.

4. The ultimate goal of SiQCCs is to construct better Civilization Hospital (See picture 1).

Results:

1. The percentage of “asking the way” in the lobby of outpatient building decreased from 67.3% to 40.2%, the time for patients to find the target department was reduced in half.
2. The one-way-pass rate of registration-waiting-consultation-lab testing-prescription increased from 3/35 to 16/34, indicating the medical process is smoother.

3. Although the difficulties of car parking increased due to many construction, the complaints declined, according to the third-party satisfaction surveys.

4. With the introduction of mobile payment and the real-time reimbursement of medical insurance, the overall business income increased but the complaints accordingly dropped in half.

5. Satisfaction about patients' privacy protection and toilet improved.

6. The staff’s satisfaction was routinely evaluated and announced, which keep improving firmly.

7. The outpatient's satisfaction has increased about 25% and to provincial average level by the end of 1 year, it is expected that by June of 2020 (1.5 year after) it will be provincial advanced level.

Conclusion:
1. The SiQCC, which is one of 80,000 QCCs of Chinese hospitals, is useful to solve hospital strategic challenges such as patient satisfaction.

2. SiQCC is good to controlling human factors and constructing of positive quality and safety culture.
Introduction:

We intend to present how a large philanthropic organization in Brazil, with 11 hospitals ranging from 50-350 beds (approx. 1500 total) of varying complexity, social and economic contexts and different levels of maturity in terms of quality improvement developed a large scale plan to offer a safe, effective and person-centered health care.

Methods:

Different approaches were used: Collaboratives (Institute for Healthcare Improvement Breakthrough Series - BTS) for Hospital Acquired Infections and Sepsis lethality reduction, Communities of Practice for reducing pressure ulcers, behavior change campaign (What Matter to You Campaign) and the development of an organizational nursing practice model. They all have some characteristics in common as the commitment to connect the frontline actors and the emphasis on shared goals.

Results:

Our large scale plan was initiated in 2015. The Collaboratives reduced Hospital Acquired Infections (VAP, CLABSI and CAUTI) by 67% in 18 months (June/2015-December/2016) and reduced Sepsis lethality by 33% in 22 months (September/17-July/19).

The session the way it is designed was never presented before. The Collaborative results have already been presented at Institute for Healthcare Improvement (IHI) National Forum and European IHI Forum in partnership with BMJ. The results have not been published.

Conclusion:

This large scale approach for quality improvement is unique and unprecedented in Brazil and has achieved expressive and sustainable results in different health services in terms of complexity, social and economic contexts.

Objectives:

After this session, participants will be able to:

1. Learn how to use different strategies to develop a plan for quality improvement in large scale.
2. Develop strategies to connect the frontline actors towards shared goals and improve patient safety through leadership, innovation and capacity building.
References:


Introduction:

In response to huge concern on patient safety, the Japanese government revised the ministerial ordinance in 2016 to mandate university hospitals to work on wide range of patient safety activities including monitoring of quality indicators on patient safety. The fact-finding survey was conducted by the Japan National University Hospital Alliance on Patient Safety (JANUHA-PS) in 2018.

Methods:

A) The internal committee of the JANUHA-PS identified several items to assess in the on-site survey which were quality indicator monitoring, incident reporting system, human resource allocation to the department on patient safety etc. The JANUHA-PS member hospitals carried out the survey in 2018. The report with collective analysis of the data was compiled in 2019. Likewise, the same survey followed in 2019 to produce the latest report which in now under process of publishing in 2020. B) The in-depth operation of the monitoring was studied in the frontline of hospital administration. Particularly, the reason of selecting monitoring item and the way of improving quality and safety with the monitoring was thoroughly investigated.

Results:

A) The 2019 JANUHA report revealed that all the national university hospitals commenced the monitoring for patient safety under the revised ministerial ordinance. Those monitoring items were classified into fourteen categories such as i) Surgery, ii) Venous thromboembolism, iii) Care environment, iv) Patient’s death during hospital stay, v) Consent form etc. The monitoring items covered wide range of procedures including consent for patient and family which are conducted by various medical professionals. Most frequent items carried by the member hospital was those related to venous thromboembolism such as “Prevention rate of venous thromboembolism prior to surgery”, “Number of venous thromboembolism after surgery”, “Rate of those who manifested venous thromboembolism during hospital stay”, “Rate of patients whose risk for venous thromboembolism was assessed”, “Number of appropriate and preventive application of elastic stockings”. This is presumably because the ministerial bureau notice issued to follow the revised ordinance highlighted venous thromboembolism as the example of appropriate monitoring item. B) Kyushu University Hospital carried a unique items related to prevention of “De novo reactivation of hepatitis B virus” which was nominated best practice in the survey. The item was selected as the institution underwent deadly accident. Under the leadership of the hospital administrator, working group in the presence of experts was installed in the division of patient safety. It crafted numerical targets on annual basis and achieved them in continuous fashion. The reason of the successful monitoring presumably attributed to “the leadership of the administrator and expert”, “Assistance with electric medical record”, “Continuous report on the numerical data” and so on.
**Conclusion:**

University hospitals have been subject to implementation of measures to ensure patient safety. The quality indicator monitoring is one of the measures and has ingrained in all the National University Hospitals. Investigation on how the monitoring is operated at institutional level demonstrated that there is successful monitoring practice which presumably brought by “the leadership of the administrator and expert”, “Assistance with electric medical record”, “Continuous report on the numerical data” and so on. These findings will be helpful to JQ’s latest QI project at national level.

**References:**

LESSONS LEARNT IN LEADING LARGE SCALE CHANGE TO DELIVER CONSISTENT, SAFE QUALITY CARE

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Introduction: Large scale transformational cultural change in health is critical as it strengthens improvement, innovation and the development of a fundamentally better state. However it requires emotional engagement, inspiration and creativity from leaders. Whilst there is an abundance of literature outlining normative models of change, the practical approaches utilised by health organisations for large scale cultural change are scarce. Transforming Your Experience (TYE) was developed to support South Western Sydney Local Health District (SWSLHD) to deliver consistent, safe quality care. The strategy defined the key focus areas to drive cultural transformation of staff and patient experience in the organisation. This study provides a review, three years into the five-year strategy, on the lessons learnt during the development and implementation of TYE and the role of leaders in large scale cultural change.

Methods: A case study approach implemented, using multi-methods. Data collected secondary document analysis (n=140) and informal field interviews (n=68) across eight working groups. These included patient experience, leadership, measurement and communication committees, as well as a peak steering committee and local implementation committees (n=10).

Results: Year 1 of TYE focused on the development of the strategy and subsequent implementation plan. The strategy was developed after extensive patient and staff consultation and was evidence-based. The process of consultation supported early engagement. Year 2 focused on the development of an implementation framework that included governance structures, measurement and monitoring, and a communication and engagement plan. A peak governance committee helped to continually drive the strategy over time, with local implementation committees focused on operationalising the cultural changes. Aligning TYE to the organisations strategic plan and including TYE in performance development processes has further supported implementation. The development of a measurement and monitoring plan supporting simple reporting and meaningful data was initially challenging. To address this, executive and clinical leaders developed the plan, and where possible included measurements already collected by the organisation. Finally, a communication and engagement plan was developed that supported leaders with consistent messaging. A critical factor was the inclusion of an annual survey that measures awareness and engagement of TYE. This supported the organisation to provide targeted communications. In Year 3 a structured change management process has been used to support executive staff and leaders with implementation of TYE. Change coaches play a critical role in this process, with evidence showing the importance of the coaches in not only behaviour change, but in defining the processes that support leaders to sponsor and reinforce cultural change. Conclusion: Five key lessons emerged from this review including: the importance of stakeholder consultation in the development of the strategy and evaluation measures; the importance of measuring staff awareness and engagement with the cultural change strategy; the critical role of local leaders in operationalising cultural change at a local level and in the consistent communication of cultural change; and the critical role coaches play in
the supporting the cultural change process across the organisation. These five lessons provide practical guidance for leaders and organisations undertaking large scale transformational cultural change. Results came from focusing on accountability, buy-in and communication, the ABC’s of large scale cultural change, to deliver consistent safe high quality care. Please declare any conflict of interest you may have: Nil
Session B18

[1910] Improving person-centeredness and safety of hospital care through a national participatory assessment based on partnership between citizens and healthcare professionals

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**Introduction:** Since 2011 the Italian National Agency for Regional Healthcare Services (AGENAS), has been researching in defining methods and procedures to assess and improve person centeredness and safety of healthcare facilities through a participatory methodology. A nationwide survey was carried out in 2017-2018 applying two checklists to assess person-centeredness and patient safety in hospitals and a procedure based on partnership between all the relevant stakeholders. Actions undertaken are in line with international recommendations on patient empowerment, patient centeredness, citizens/ patients participation in healthcare quality and safety improvement (WHO 2009; OECD 2014; WHA 2016; OECD 2017; OECD 2018).

**Objectives:** to assess and foster person-centeredness and safety in public and private accredited Italian hospitals basing on a participatory methodology involving professionals, citizens/patients organizations, regional representatives; to set up a national data base collecting data on person centeredness and safety of Italian hospitals.

**Methods:** The survey was coordinated by AGENAS and carried out in cooperation with the citizens association Cattadinanzattiva and Italian Regions and Autonomous Provinces (R&APs). The participatory procedure and the two checklists (on person centeredness/ on patient safety) were applied to Italian hospitals voluntarily participating. The checklist on person centeredness is composed of 243 items exploring four areas: Person-oriented processes; physical accessibility and comfort; access to information and transparency; patient-professional relationship. The checklist on patient safety is composed of 30 items that can be easily checked by non-professionals. The participatory procedure applied is structured as follows: trained local teams composed of citizens, patients and professionals fill in the checklists during discussion meetings and an on-site visits. Collected data are sent to AGENAS that stores them in a National database. Results are analyzed and sent back to R&APs, hospitals and teams for local public dissemination. Improvement plans are then jointly identified and monitored by hospital professionals and citizens.

**Results:** The survey covered 387 Italian public and private-accredited hospitals from 16 Regions out of 21 corresponding to 29% of the Italian hospitals; 355 facilities have also
completed the checklist on patient safety. About 711 citizen and 839 professionals were trained on the use of the checklists and procedure and 294 citizens/patients associations were involved. Results show moderately high levels of person-centeredness of care in Italy with an average overall score at national level set on 7 points out of 10

Table 1: National average score per area

<table>
<thead>
<tr>
<th>Area</th>
<th>Average (387 facilities)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processes</td>
<td>6,8</td>
</tr>
<tr>
<td>Access</td>
<td>7,3</td>
</tr>
<tr>
<td>Transparency</td>
<td>6,6</td>
</tr>
<tr>
<td>Relationship</td>
<td>7,1</td>
</tr>
<tr>
<td>Overall</td>
<td>7,0</td>
</tr>
</tbody>
</table>

**Conclusion:** Partnership between citizens, healthcare professionals, R&APs representatives has shown to be effective in promoting humanization of healthcare services through the assessment of hospitals’ person-centeredness and safety. It is possible to implement a multilevel program that involves central and regional government and engages hospitals in a continuous quality improvement cycle. Future developments include submitting a proposal of a Permanent Nationwide Participatory Program on patient centeredness to Italian Ministry of Health and R&APs. The National Observatory of Good Practices in healthcare established by a national law requested to include data collected on patient safety in the national data set used for monitoring patient safety.
Introduction: Diagnostic error is a leading cause of patient harm in the U.S. and is a global population health crisis. Nearly one in twenty patients in the U.S. is harmed by medical error annually. Identifying diagnostic pitfalls is a major challenge. Routinely collected survey information from patients may be an important source of data for health systems to identify patient-perceived lapses in diagnosis. Thus, our study examined free-text comments on patient satisfaction surveys to identify patient-perceived lapses in diagnosis and treatment as a surrogate measure of diagnostic error.

Methods: We used an exploratory mixed-methods study design to explore patient-perceived breakdowns in diagnosis for adult patients (≥18 years) presenting to one of 16 urgent care practices between January 1 and November 15, 2019. Open comments on the Clinician and Group Consumer Assessment of Healthcare Providers and Systems (CG-CAHPS) which were sentiment coded as “Negative” were systematically reviewed using content analysis to identify patient-perceived errors in diagnosis (missed, delayed, or mis-diagnoses). The comments were further coded to identify where in the process the failure occurred: patient engagement, information gathering (history, physical), testing and referral, communication, or treatment. Descriptive statistics were used to summarize the structured comment data. Chi-square test was used for categorical variables, and univariate analysis of variance (or covariance as required) was used for continuous variables using SPSS 26. The study received exempt determination from the IRB.

Results: A total of 4,315 open comments were collected during the study period. Of these, most of the comments were from women (n=3,072; 71.2%), and reporters had an average age of 57.7±16.8 years. Of the total reports, 1,632 (37.8%) were sentiment coded as negative. Patients reporting negative sentiments also tended to be female (n=1,177; 72.1%); this was not different from the total sample (p=0.299). Negative reporters were younger (54±16.9 vs. 59.9±16.3 years; p<0.0001) than patients reporting positive, neutral or both positive and negative sentiments. For patients with negative reports, 333 patients (37.3%) perceived breakdowns in diagnosis. Factors (patient or system) limiting engagement with the health system resulting in diagnostic issues were identified by 31 (9.3%) patients. Breakdowns in information gathering were identified by 50 (15%) patients and included issues with the patient history and physical examination. Testing (n=92; 27.6%), referral (n=18; 5.4%), and follow-up on tests/referrals (n=40; 12%), as well as information integration and interpretation (n=83; 24.9%) accounted for the majority of the breakdowns in the diagnostic processes. Communication breakdowns (n=48; 14.4%) and failure to establish an explanation of the health problem to the patient (n=74; 22.2%) were also
reported. These breakdowns in diagnosis led to 142 (42.6%) patients reporting treatment failures from their care experiences.

**Conclusion:** Patient reported surveys, such as CG-CAHPS, reveal important breakdowns in the diagnostic process from the patient perspective. Clinics and health systems should harness this information to identify breakdowns and opportunities for improvement. Future research should validate patient perceived breakdowns using structured chart review.

**References:**

**Please declare any conflict of interest you may have:** None
Introduction: 
In maternity care systems internationally, surveys are regularly conducted in order to explore the perspectives of service users on the quality and safety of care they have received, and inform approaches to quality improvement. In Ireland, the National Maternity Experience Survey (NMES) was developed in line with national policy, to listen to the women who use maternity care services, and act upon their feedback to improve care.

Objectives: 
This paper briefly outlines the development of a national maternity care experience survey, and focuses on describing how the survey was operationalised as a tool for understanding and improving maternity care experiences. An appraisal is provided of the development of structures to ensure that survey findings are acted upon, and the involvement of service users in the process.

Methods: 
A survey programme governance board was established, consisting of representatives of women who use maternity services, representatives of the public health service provider, the national regulatory body and the national policymaker. This group was tasked with governing the development and implementation of the maternity survey, and ensuring that its findings informed service improvement, regulatory practice and national policy. The survey design was developed in conjunction with academic researchers and was informed by systematic reviews of comparable maternity care survey programmes internationally, and engagement with service users and other relevant stakeholders. A data protection impact assessment was undertaken to ensure that the survey conformed to data protection requirements. A communication plan was developed to inform stakeholders of the rollout of the survey.
Results:
The final survey instrument included 68 questions covering aspects of maternity care from antenatal care through to labour, birth and postnatal care. Survey questions explored women’s experiences of maternity care delivered in the community, in hospital and at home. A retrospective survey design was chosen, with a postal mode of contact and an online mode of response. The data privacy impact assessment identified 13 risks relating to the privacy of women taking part in the survey. These risks primarily related to disclosure of sensitive information by participants and how survey responses were processed, stored and transferred. Robust information governance policies, processes and structures were developed to mitigate the identified risks. Ethical approval for the survey was attained from an accredited national body. Extensive engagement was undertaken through social and traditional media in advance of data collection to publicise the survey. Data collection opened in February and concluded in April.

Conclusion:
The formal partnership between the national regulator, provider and policymaker facilitated the development of the NMES, with clear commitments made to acting upon the findings. The significant involvement of women who use maternity services in the governance structure for the survey shaped its design and conduct. Some challenges were encountered in developing suitable structures to engage with community maternity care providers, given their geographically distributed and organisationally decentralised nature.

Please declare any conflict of interest you may have:
No conflicts to declare
Shared Decision Making: Developing a peer-support strategy to help Inuit in their cancer care journey – A knowledge translation study.

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Introduction: Inuit are resilient and have a strong culture that guides them in their everyday life. This culture includes close ties to the land, dedication to family and community and self-reliance in activities of self-governance and decision making.

Inuit also face increased risks: cancer is identified as the leading cause of the difference in life expectancy between Inuit Nunangat, the traditional territory of Inuit in Canada and the rest of Canada. Shared decision making (SDM) improves peoples’ participation and outcomes in health care. There is a need to enhance the participation of Inuit with their healthcare providers in their cancer care decisions. An integrated knowledge translation (KT) approach engages healthcare system users in research processes to co-create research evidence that is more client-centered and likely to be applied in practice.

Objective: To describe the development of a peer-support strategy that prepares Inuit for SDM with healthcare providers in cancer care systems.

Methods: Cancer care organizations and academic research partners conducted an integrated KT study, led by a Steering Committee of Inuit community members and providers and using consensus-building methods. The study included the development of a strategy that prepares Inuit for shared decision making with healthcare providers in cancer care systems and the provision of training the Community Support Workers (CSW). Peer-healthcare providers who are CSWs were trained with the strategy and paired with volunteer community members. CSW and community member pairs were observed in using the strategy and interviewed about their experience. A thematic analysis of transcripts was conducted as well.

Results: Development of a peer-support strategy to prepare Inuit for SDM with healthcare providers included: 1) the training for CSWs to provide non-directive support to prepare to make decisions about cancer care with healthcare providers, and 2) the development of a six question booklet to guide discussion and prepare for SDM with a healthcare provider.

Five urban-based Inuit CSWs were trained in the strategy and matched with eight community member patients in the cancer care system. Interviews relate six themes that
affirm the need, appropriateness and acceptance of the strategy structured by the booklet.

Conclusion:

A peer-support strategy may be used to prepare Inuit for SDM with healthcare providers in cancer care systems. Further work is underway to test and enhance the strategy.

References:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3417551

Please declare any conflict of interest you may have: There are no conflicts of interest.
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

**Abbreviations**

National Inpatient Experience Survey : NIES
Introduction:

The population is aging globally and the trend is remarkable in Japan. The population aged 65 or above was around 36 million, accounting for 28.1% of the total population in 2018 in Japan. Along with the increase in the older population, the number of older people who need support for daily activities is also increasing. Many of elderly residents in nursing home take many drugs for treatment, and the residents and their families are concerned about the proper drug management in the facilities. However, few reports are available on this topic, and even more limited outside Western country. The purpose of this study was to examine the incidence and nature of adverse drug events (ADEs) and medication errors (MEs) in nursing homes for older people in Japan.

Methods:

The Japan Adverse Drug Events (JADE) Study was a series of cohort studies at several settings [1][2], and the JADE Study for nursing homes is a prospective cohort study that was conducted at 4 nursing homes for older people in Japan. Based on the validated methodology [3], trained psychologists, psychiatrists and internists reviewed all charts to identify suspected ADEs and MEs. ADEs are injuries caused by medication use. MEs are defined as any deviation from appropriate medication in any step of medication use. After collecting suspected events, two psychiatrists and two internists independently reviewed the incidents to determine whether they were ADEs or MEs, and to assess severity and preventability. This study was approved by the institutional review boards of the Kyoto Prefectural University of Medicine.

Results:

We enrolled 459 residents at the 4 study sites, which yielded 3315 resident-months of observation time. The mean (SD) age was 85.8 (7) years and 344 (75%) were female. We identified 1378 ADEs and 627 MEs (incidence: 42 and 19 per 100 resident-months, respectively) during the study period, with incidence of 14 preventable ADE (ADE with ME) per 100 resident-months. Fall (41%, 561/1378) was the most frequent symptoms of ADEs, followed by constipation (14%, 186/1387) and diarrhea (8%, 116/1378). The most common
class of drugs associated with ADEs was atypical antipsychotics (17 %, 228/1378) and benzodiazepine hypnotics (12%, 163/1378).

Among the severity, fatal, life-threatening and serious ADEs accounted for 0.9% (12 events in 12 patients), 2.3 % (32 events in 29 patients) and 12 % (162 events in 107 patients) of all events, respectively. Medication errors were most frequently seen in monitoring stage (56 %, 354/627), followed by ordering stage (22 %, 135/627).

**Conclusion:**

The incidence of ADEs and MEs in nursing homes for older people in Japan were about 3-4 times higher than those in long-term care facilities in U.S [4] and fairly similar to those in general hospital in Japan [2]. Our findings suggest that caregivers may minimize injury associated with medications by paying attention to fall or excretion issue and focusing on the monitoring stages among the residents in Japan and other countries.

**References:**


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

None Declared.
Using the e-paper system to improve the safety of medication

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Introduction: The medication error is a common clinical mistake in medical treatment. The medication errors have 20.5% in drug event in Taiwan Patient Safety Reporting system (TPR) at Q1 of 2019. In this study, we proposed a solution to decrease medication error and improve inpatient medication safety during processes of administering medication, we have created an information system based on human factors engineering, which is applied to unit dose boxes combined with electronic paper (e-paper) labels (EPDLs) and internet of things (IOT) technology and medication and let the pharmacists and the nurses have easily check information in EPDL before dispense medication and administration.

Methods: In this study, we proposed the Electronic Paper Dosing-Box Labels information system (EPDLs) to solve of patient information not being updated immediately in UDDS. The EPDLs can be divided into five subsystems, including (1) UD box with display unit (2) commutation network using IOT technology (e.g. Zigbee network) (3) back-end information system (4) mobile device with specific Apps and (5) hospital information system. (See fig. 1)

Fig 1. Architecture of Electronic Papers Dosing-Box Labels information System

Results:
This research has completed the development and testing of the electronic Paper Dosing-Box Labels information system (EPDLs). The system was tested and validated in May 2018, using 500 UD boxes in two acute wards and two ICUs in a medical center of central Taiwan.

After testing, the medical staff has feedback to us that medication safety and medical work efficiency have improved. About the pharmacist’s feedback, the dispensing medication’s time was reduced about 3.5 Hr. in one day. Fig. 2 showed four wards save time in each month. The pharmacist has more time to evaluate to rationality of patient medications.
About the nursing staff feedback, the UD box was helped the nursing staff to check medication information and reduced medication error. About the patient safety, our system was reduced human error of medication and improved patient safety. Therefore, our system has extended to eight wards, and UD box has added 1100 in June 2019.

![Figure 2](image)

Fig 2. In four wards, number of change beds and number of save time in each month

**Conclusion:**
The era of smart hospital is full of many challenges and innovations. Our study solves problem that the problem of automatic update of patient identification information, saving valuable time for medical staff, allowing medical staff to focus more on patient care. It also solves improves medical quality and patient safety using the Internet of Things Technology. Finally, we solve that traditional displays that require a long-term power supply and uses electronic paper to reduce power consumption.

**References:**

- Ying Wang, Yu Hu, "Design of electronic shelf label systems based on ZigBee",2013 IEEE 4th International Conference on Software Engineering and Service Science,24-27 Jan. 2016, Austin, TX, USA

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

All authors were employees of Taichung Veterans General Hospital. This study was a small project at Taichung Veterans General Hospital, and all authors have joined this project, therefore, each author has no conflict of interest.
Utilisation of Patient data to improve Safety and Quality outcomes in rural India

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Introduction: Small healthcare providers in rural areas in India face multiple challenges such as availability of skilled and trained clinical staff and other resources. Yet, patient expectations and regulatory requirements continue to rise, motivating hospitals to design creative solutions and tools to meet the challenges of Patient Safety. A routine audit of patient data revealed a marked trend in the Code Blue calls generated from different patient locations in the hospital. Despite the constant monitoring by the bedside nurses, Code Blue calls originating from the Wards were on the higher side, often with poor outcomes. A system to effectively foresee and forestall the unfolding of potential emergency situations was badly needed, to improve outcomes.

Methods: The collection of appropriate patient data, leading to knowledge creation and development of an Action plan is a very important step in this Quality Improvement initiative. The Early Warning Score (EWS) system, adopted from National Health System, UK and modified to suit the local needs and capacities, was designed and implemented as a Patient Safety tool. Created in consultation with doctors including the Anaesthetist and Intensivist, this colour-coded Early Warning Score system was implemented as a Patient Safety evaluation tool throughout the hospital since 2014. Vital signs such as a patient’s Respiration rate, SPO2, Blood Pressure, Pulse, Temperature and Pain scale are monitored by the Nurse on Duty and documented every fourth hourly into the Green-Yellow-Red colour-coded chart. While entries made in the Green Zone will be routinely monitored by the Nurse, entry of a metric into the Yellow zone merits a call to the Medical Officer on Duty, who decides on the next course of escalated care for the patient. Slippage of a metric into the Red Zone of the colour-coded chart prompts a Code Blue call.

Significant entries of the patients’ Vital Signs made in the YELLOW and RED ZONES of the Chart are audited and reviewed periodically. During the monthly Committee meetings, they are collated, analysed and discussed to ensure process adherence to prescribed protocols and Standards for Patient Safety.

In parallel, Code Blue Mock Drills were conducted regularly, nurses trained on using the modified EWS and Crash carts standardized across multiple locations in the hospital. To support the influx of critically ill patients from the wards, identified by the EWS system, the competencies of the staff of the Intensive Care Unit was bolstered via specialized training and a tie-up with a team of Tele-Intensivists, raising the confidence levels in successfully managing such patients.
Results: Since the implementation of this scoring system, there has been a 57%-point reduction in the Code Blue calls generated from the wards and 23%-point improvement in recovery of patients, despite a 130% increase in the number of patients administered Code Blue.

Conclusion: Modification, design and implementation of the EWS Patient Safety tool has proved to be a creative solution to improving Patient Safety. By instituting colour-coded Early Warning Score system, training the nurses and standardizing processes across the hospital, Code Blue calls originating from the Wards dropped significantly even as the outcomes of the Code Blue calls improved overall, despite an increase in the number of patients. This demonstrates credible utilisation of patient data to improve Safety and Quality outcomes.

References: National Health System, UK

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

PINCER is a proven pharmacist-led IT-based intervention to reduce clinically important medication errors in primary care. Having demonstrated its effectiveness in a randomised controlled trial, we then assessed whether PINCER would work outside of a controlled trial environment and be ‘scaled up’ with the same effect. Findings from this further project showed that large scale roll out to 370 general practices was effective and demonstrated statistically significant reductions in hazardous prescribing (particularly for preventing gastrointestinal (GI) bleed). Our objective was to develop a replication model for the further scale and spread of the PINCER intervention using a social franchising approach and to use this model to roll PINCER out to at least 60% of GP practices in England over a five year period to make primary care prescribing even safer for patients.

Methods:

Social franchising involves enabling another team or organisation to deliver a proven intervention to agreed standards under a franchise agreement, with the primary aim of maximising social benefit. Over the last two years, we have been funded by the Health Foundation to work with Spring Impact, a non-profit global leader in social replication, to implement their systematic five-stage process (shown below) to design a replication model for the scale and spread of PINCER.

Figure 1. Spring Impact’s Five Stages of Scale

Results:
We have designed a replication model for the national rollout of PINCER using a social franchise approach, whereby the University of Nottingham acts as “Franchisor” and the 15 Academic Health Science Networks (AHSNs) in England act as “Franchisees”. As of January 2020, 4,231 (60%) GP practices in England across 125 (65%) Clinical Commissioning Groups have engaged in the PINCER rollout. Of these, 2,157 (51%) practices have uploaded baseline data to the national PINCER comparative analysis service showing that 20.8 million patient records have been searched to identify instances of potentially hazardous prescribing using 13 evidence-based prescribing safety indicators. Over 160,578 at-risk patients have been identified in at least one prescribing safety indicator at baseline. Early findings from analysis of follow-up data from 406 practices show overall reductions in numbers of at-risk patients (9.2%) with greatest reductions for those indicators associated with GI bleed (17.6%). Over 1,000 pharmacists have been trained to deliver the PINCER intervention and further training sessions are planned as the rollout progresses.

**Conclusion:** We have used the concept of social franchising to develop a replication model for the national rollout of PINCER. Early findings have demonstrated that this approach has been successful in terms of both reach and impact. There is potential for this approach to be used for the scale and spread of other proven interventions in healthcare.

**References:**


**Please declare any conflict of interest you may have:** The authors have no conflicts of interest to declare.
The human factors and ergonomics that contribute to a resilient Emergency Department: A thematic analysis

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Introduction: Emergency Departments (EDs) are resilient socio-technical systems, expected to be able to provide safe, timely and quality care despite disturbances or unexpected challenges. The ED socio-technical system consists of people (cognitive, social), organisational structure, work tasks and physical resources (hardware, software, facilities). The interactions between people and their environment (e.g., tasks, equipment, location) and the alignment between functional purpose, people and the environment (i.e., human factors) results in tension between safety, time, and quality in the provision of care in ED. The contribution of human factors and ergonomic designs for making EDs resilient has received little attention in the literature. The design of resilient systems requires a thorough consideration of the beneficial and harmful effects of the human factors and ergonomic characteristics of the ED socio-technical environment on workflow and patient safety.

Objectives: The current study aimed to describe the sociotechnical environment in an ED, thereby enhancing our understanding of how EDs work and why they are resilient when challenged by unexpected events. Understanding the ED system means we can identify design barriers and enablers of clinical practice to inform designing for resilience.

Methods: Data was obtained through observations conducted in a large (534 bed) metropolitan hospital ED servicing a low socioeconomic status community in Australia. Hand-written field-notes of the interactions between people (i.e., clinicians and non-clinicians) and their environment were transcribed and independently coded by authors. Codes were discussed and re-coded iteratively and organised into categories/themes.

Results: Over 2 months of the busy winter period, 263 hours of observations in ED were conducted. The codes were categorised into two major themes: environmental factors and people factors. Environmental factors such as communication systems, mobile equipment, and versatility of spaces that enables the patients to be moved around within the department contribute to the resilience of the ED sociotechnical system. ED resilience also depends on people factors including staff experience and structure. EDs are staffed by a mixture of novice and experienced clinical and nonclinical staff. The dynamics of the novice:experienced ratio influences individuals’ capacity to shift priorities, facilitate care, and respond to known and unknown barriers and challenges. ED resilience is influenced by the environmental and people factors in the broader hospital context, such as the ability of the hospital system to maintain inter-professional/departmental collaboration, department
capacity, and patient flow cycles, all of which are threatened by communication breakdown, focalised work cultures and technological change.

**Conclusion**: The human factors and ergonomic characteristics of the ED system influence workflow and patient safety in ED. Changes to clinical practice designed to improve workflow and patient safety involve changes to the human factors and ergonomic characteristics of the ED system. It is important for ED clinicians and administrators to consider human and ergonomic factors when designing and implementing changes to clinical practice. This will enable them to develop sustainable improvements to clinical practice that align the provision of safe, timely and quality care with the capacity to cope with unexpected disturbances or challenges.

**Please declare any conflict of interest you may have**: All authors declare no conflicts of interest.
Introduction: The inpatient fall rate is an outcome indicator widely used to compare the performance of hospitals regarding fall prevention. To stimulate benchmarking and continuous quality improvement across hospitals, there is a need for comparable data. Risk-adjusted inpatient fall rates might be a basis for this process, enabling hospitals as well as health authorities to identify potential areas for improvement. Even though the method of risk-adjustment is used for health care outcomes such as hospital mortality, readmission or surgical procedures, there are no publications about risk-adjusted fall rates in acute care hospitals.

Therefore, the aims of this study are: 1) to elaborate on an inpatient fall risk-adjustment model incorporating patient characteristics, and 2) to compare the inpatient fall rates between acute care hospitals in Austria and Switzerland.

Methods: Data was derived from the International Prevalence Measurement of Quality of Care (LPZ). This measurement follows a multicenter cross-sectional approach. It takes place annually in several European countries. In this study, the LPZ acute care hospital data on falls for the 2017 and 2018 measurements of Austria and Switzerland were used. Trained nurses collected data clinically and from patient documentation using a standardized questionnaire. Data was obtained from all inpatients over the age of 18 who had provided informed consent. Inpatient falls were measured retrospectively over the last 30 days. In Austria, ethical approval was given by the ethics committee of the Medical University of Graz (Ek-Nr 20-192 ex 08/09). The Swiss ethics committee classified the measurement as a quality measurement, and therefore, declared that they were not responsible. Data analysis was done using descriptive analyses and a risk-adjusted two-level logistic regression model.

Results: In total, 196 hospitals with 29,477 participants were included in the analysis. The inpatient fall rate prevalence was 3.7% in Austria and 3.3% in Switzerland, ranging from 0.0% to 22.2% between hospitals. The multilevel fall risk-adjustment analysis revealed that especially higher age (odds ratio [OR] 1.27, confidence interval [CI] 1.17-1.39, p<.001), increasing care dependency (partially care dependent, OR 2.60, CI 2.14-3.17, p<.001), a fall in the last 12 months (OR 2.34, CI 2.03-2.69, p<.001), the intake of sedative and or psychotropic medications (OR 1.70, CI 1.48-1.97, p<.001), and the ICD diagnosis “mental and behavioral disorders” (OR 1.46, CI 1.26-1.69, p<.001), significantly increased inpatient fall risk.
**Conclusion:** Based on the model, the fall risk assessment in practice should consider the factors age, care dependency, fall history, intake of sedative and/or psychotropic drugs, and mental disorders of a patient. The descriptive fall rates showed a considerably higher variability compared to the risk-adjusted fall rates at hospital level. In a non-risk adjusted hospital comparison there is a risk of under- or overestimating the performance of individual hospitals. This highlights the relevance of risk-adjustment in the benchmarking process.

**References:**

**Please declare any conflict of interest you may have:** All authors declare no conflicts of interest.
Introduction: NLNG hospital accreditation was a journey the hospital management embarked on with the aim of standardizing her professional practice to benchmark with what is obtainable internationally as well as provide improved quality of health care service to her clients. In preparation for the accreditation journey, staff engagement, baseline assessment, process and service improvement were the strategies deployed to achieve a successful accreditation.

Objectives:

To be a leading provider of quality healthcare in the Oil and Gas industry in Nigeria.

To deliver excellent quality services while benchmarking our professional practice with international standards.

To develop and implement policies according to approved standards and evaluate compliance

Methods:

A baseline study outcome placed the hospital facility at 62%.

Engagement of leadership and staff to support the pursuit for accreditation was established.

Steering committee was set up and 22 services to be accredited were identified. Trainings of Data capturers, Data managers and unit heads were done.

Over a hundred policies and procedures were developed and visit to other COHSASA accredited facility was carried out.

An 18 month (2015 July -2016 Dec.) pre and post evaluation review of the hospital standards, patient safety and quality guidelines was audited using the service elements for each standards.

Structural changes where applicable were done to comply with standards.

Results: Analysis showed that following the training in 2015, the base line assessment score was (62%).
Monitoring of assessment of Evaluation Period (EVP) to establish level of compliance to standards was done between August 2015 to December 2016 and results were:

EPV1 (74%), EVP2 (76%), EVP3 (81%), EVP4 (85%), EVP5 (88%), EVP6 (95%) and final score for the

External survey which resulted in accreditation was (98%).

There was a significant increase in patient/customer satisfaction from 72% to 87%.

**Conclusion:**

Accreditation of the hospital was achieved at the first external audit, quality of healthcare service was improved as evidenced by a significant increase in patient/customer satisfaction survey from 72% to 87%, and there’s increased acceptability and patronage of the hospital.

Comparison of staff attitude to delivering quality service showed that compliance to standards was improved.

Moreover, the accreditation has placed the hospital amongst reputable health care organisations that provide safe, effective and reliable service. Obtaining external accreditation is key to delivering quality service.

**References:**


**Please declare any conflict of interest you may have:** None to declare
Introduction: The Nigerian HIV response supports over a million persons living with HIV (PLHIV) and is key in assessing the fight against HIV in Sub Saharan Africa. Nigeria’s goal of a nationwide, standardized and transformational Quality Improvement (QI) activity aligned with the global Quality of HIV Care (HIVQUAL) framework resulted in the adoption in 2012 of NigeriaQual as the National Quality Management Program for hospitals providing anti-retroviral therapy (ART). This involves State multidisciplinary monitoring teams, HIV program Implementing Partners and facility QI Teams. The first round of data collection began July 2013; it became bi-annual in 2015 and by 2018, it was implemented in 360 facilities. Despite increasing focus on quality of HIV care, the 2018 Nigeria HIV/AIDS Indicator and Impact Survey (NAIIS) reports slow progress towards 90-90-90 UNAIDS goals.

Objectives: This study sought to ascertain the extent to which the bi-annual NigeriaQual performance measures improved quality of HIV services for adult PLHIV in participating Caritas Nigeria supported health facilities.

Methods: A retrospective desk review was conducted for the NigeriaQual Adult Indicators from January 2014 to December 2018. Results analyzed were for all nine rounds of NigeriaQual Performance Measures over the period. The review produced trend analyses for clinical indicators for 43 ART hospital programs supported by Caritas Nigeria.

Results: Over the five years of NigeriaQual implementation, only 4 of the 8 Adult ART indicators (50%) showed progressive improvement in Caritas Nigeria supported hospitals. These are ART Initiation, Adherence Assessment, TB Screening and Laboratory Monitoring. Performance over the period declined for four indicators (50%). Affected indicators are: Continuity of Care (Pre ART), TB Treatment, CD4 Monitoring and Cotrimoxazole Prophylaxis. Further analyses revealed no statistical significance between the introduction of the NigeriaQual Performance Measures and the improvement or deterioration in the score for adult HIV indicators; suggesting that the change was unlikely to have been caused by the intervention and as such, cannot be attributed to it.
Conclusion:

Nine rounds of bi-annual NigeriaQual Performance Measures over the past 5Yrs have not significantly improved the quality of HIV service delivery. Further analyses of the program resources invested and activities implemented in the Nigerian HIV response will deepen understanding of how to optimize the impact of global HIVQUAL standards and performance improvement interventions.

References:
Introduction: After 10 years of experience in Jordan, Health Care Accreditation Council (HCAC) evaluated its accreditation system from different aspects; survey process, surveyor empowerment, the scoring system in addition to the impact of accreditation in certain areas. The results and recommendations of this study were utilized to strengthen the accreditation system and have shown evidence of improvement. This project aims to evaluate the HCAC accreditation system and utilize the data collected to improve the HCAC accreditation system.

Methods:

Evaluation: A mixed design evaluation methodology was utilized, consisted of postal questionnaires, focus groups, and individual interviews; the total sample size was 165 participants and included different health care settings, HCAC staff, surveyors and board members. International Review: Ms. Triona Fortune was involved in the synthesis of the data collected, review of the processes for the accreditation award, rating system and surveyor training and review of key strategic documents, an additional individual interviews were conducted, involving surveyor, HCAC manager, and a board member.

Results: There was an overall response rate of 60% with the majority of stakeholders recording a strong satisfaction for the survey process, rating system and impact of accreditation. The lowest scores were achieved in the consistency of surveyors.

Opportunities for improvement: Survey process The pre-survey and survey processes are well organized and mechanisms are in place to encourage consistency across sites. More patient interaction was suggested and it appeared that sometimes it was difficult to organize interviews. There is no software program to support the survey process but plans are in place to develop this. Rating Scale The rating scale is robust, very well documented and transparent. While Met, Partially Met and Not Met are used. A four-point numerical rating scale would help to clarify the situation. There is no policy for not applicable areas of practice. Award Decision The accreditation/certification decision rules are documented and robust and served well for the past 10 years. The decision is calculated based on the % of critical, core and stretch standards. Fifty-five percent suggested extending the award from 2 to 3 years. Surveyors: the evaluation showed they feel appreciated and more importantly trusted and empowered to suggest the final decision. The highest satisfaction went to the training program that is relevant and comprehensive. Further exploration revealed that it is time-consuming for both the HCAC and the surveyor. This could be considerably reduced and enhanced by using other methods of learning such as quizzes, online modular activities
and role play. The Surveyor Manual is robust, knowledgeable and an excellent resource. Consistency between surveyors is always an issue and is usually caused by surveyor bias, scored neutral; therefore the stakeholders had no issue with this. **Standards:** There is always the temptation to continue to develop standards. The Hospital and PHC standards are ISQua accredited until 2020. **Impact of accreditation:** Interviews with surveyors indicated that HCAC accreditation had an impact on quality of care especially patient empowerment. Some stakeholders felt that more research could be done to document the benefits of accreditation in Jordan.

**Conclusion:** HCAC needs to be commended for seeking the views of all its stakeholders before it embarks on a revision of its accreditation assessment methodology. Several strengths were identified during this evaluation and some opportunities for improvement. None of the areas for improvement have the potential to cause any risk but will improve the efficiency of the program. No conflict of interest
Session C8

[1355] "Let’s Talk - Building trust and confidence in the quality of clinical coding"

Jacqui Curley

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**Introduction:**

Using a creative approach to increase the trust and confidence in coded hospital activity by clinicians and build relationships between coders and clinicians.

Hospital activity data is collected by trained HIPE clinical coders for the Hospital Inpatient Enquiry (HIPE) scheme in Ireland using the International Classification of Diseases - 10th Revision-Australian Modification. Data is collected on 1.7 million discharges annually and the Healthcare Pricing Office (HPO) in the HEalth Services Executive (HSE) manages the HIPE system.

**Objectives:**

- Build trust and confidence in HIPE data and the data collection process by establishing relationships between HIPE teams and clinicians so that there is a greater synchronized understanding of the importance of quality data by all.
- Strengthen the profile and understanding of HIPE amongst the clinical community.

**Methods:**

The HPO has embarked on a range of low cost initiatives with the HSE's National Clinical Programmes to bring HIPE coders and clinicians together in order to build trust and confidence in HIPE data. The National Clinical Programmes utilise HIPE data with particular emphasis on evidenced based approaches to healthcare; "The Clinical Strategy and Programme Division brings clinical leadership to the heart of decision making process with the ultimate aim of improving quality, access and value of healthcare in the country."

There has been extensive clinical engagement with local hospital HIPE teams through the auspices og the HPO including the following areas:

- National Clinical Programme for Anaesthesiology
  - Clinical audit and review, including publishing HIPE data
  - Local engagement with anaesthetic leads and HIPE teams
Development of HIPE data entry edits to improve anaesthetic coding

- National Clinical Programme for Sepsis
  - Utilization of HIPE data for sepsis pathway audit
  - Local engagement with HIPE departments and sepsis teams
  - Development of guidelines, documentation and training to support HIEP coding of sepsis and to ensure coding is in line with clinical practice.

- National Clinical Programme for Stroke
  - Utilization of HIPE information systems to support national stroke register
  - Extensive training provided to HIPE staff by clinicians
  - Provision of clinical advice to HPO on stroke coding

Results:
The results to date show that increased clinician involvement helps ensure that steps are taken to address clinical concerns and queries about activity data at an early stage. The increased involvement of clinicians has led to:

- Irish Coding Standards incorporate feedback from the clinical programmes e.g Irish Coding Standard on Systemic Inflammatory Response Syndrome (SIRS)
- Training by specialist clinicians for HIPE staff in complex clinical areas such as sepsis, anaesthetics, ventilation and stroke.
- HIPE coders link directly with sepsis leads locally
- Direct involvement of HIPE coders in anaesthetic clinical audits
- Decrease in reporting of non-specific codes
- Development of HIPE data entry edits following feedback from clinical programmes on data quality issues
- Improvements in documentation required by HIPE coders as a result of clinical audit

Conclusion:
The profile and awareness of HIPE coders and HIPE data has been strengthened by building trust and confidence in the data and the coding process through the National Clinical Programmes engaging with the HPO and HIPE teams. Coder and clinician relationships at local level provide a way of identifying and addressing quality issues at an early stage to the benefit of national hospital activity data.

References:
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Comparing the effectiveness and cost-effectiveness of on-line versus in-person training for strengthening the Zika response in Ecuador

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Introduction:

Health emergencies, such as Zika, require large numbers of front-line health workers receive training rapidly. Compared to face-to-face (FTF) training, online health training (OHT) has the potential to be more cost-effective and scalable for rapidly building capacity. However, research on effectiveness and costs is limited. From 2016-2020, the United States Agency for International Development Applying Science to Strengthen and Improve Systems Project (ASSIST) responded to the Zika epidemic in 13 countries in the Latin America and Caribbean region by delivering quality care to reproductive-age and pregnant women and newborns to strengthen Zika services.

In Ecuador, we compared MOH clinicians trained by ASSIST using OHT and FTF formats on Zika-related knowledge and satisfaction. Additionally, we calculated the total cost, cost per trainee and incremental cost-effectiveness of the approaches.

Methods:

513 OHT-trained public-sector clinicians and 83 FTF-trained providers were included. FTF providers received 12 hours of training from a Zika expert; OHT participated in a six-week, 15-20 hour program led by a virtual tutor. Both groups used a five-module curriculum. Zika knowledge was assessed via on-line, semi-structured surveys prior to and immediately following training. Data on inputs used to implement training and associated costs were also collected. Changes in the mean correct knowledge responses were assessed with a differences-in-differences multilevel linear regression model. Provider perceptions and satisfaction with training were assessed with data from open ended questions analyzed using a data reduction matrix. FHI 360’s Office of International Research Ethics, ASSIST and the Ecuadorian Ministry of Health reviewed and approved the study.

Results:

All providers increased their Zika knowledge; however, OHT providers answered nearly 90% of knowledge questions correctly in all five modules while FTF providers answered between 31% and 58% correctly. In two of the modules OHT providers showed statistically significant increases of 12% and 15% points. 100% of FTF providers reported being very or somewhat
satisfied with training versus 97% of OHT. 91% of the OHT group and 100% of the FTF agreed or totally agreed the format was effective in preparing them. FTF providers reported liking interactions with peers and tutors. OHT providers appreciated flexibility in the timing of training while approximately 15% of OHT group reported training was too long and the time allocated too short. A few noted that they disliked training during personal time and that tutors were not always available. The overall cost of the OHT training ($26,628) was higher than the FTF ($15,526), though the average cost per provider completing training was much lower for OHT ($43 versus $119).

**Conclusion:**

OHT providers improved their knowledge at a much lower unit cost than those in FTF training. While satisfaction and perceived effectiveness were slightly higher in the FTF group, the perks of an in-person training could account for this. Streamlining training, extending time to complete it or including it in work schedules, ensuring availability of tutors, or guaranteeing providers have in-person opportunities to discuss new knowledge could potentially improve satisfaction for OHT trainees. This study provides evidence of equivalent or greater effectiveness of OHT and suggests it could be an effective and acceptable modality for training in a health emergency.
Introduction:

The concept of process reliability traditionally has focussed on standardising systems, minimising waste and defects in the system, and reducing error and harm (Health Foundation 2013). This concepts fits well with rigidly controlled & regulated systems like Decontamination services. Weick et all (1999) suggest that the common approach to reliability excludes the ability of a system, process or people to perform under variable, unpredictable, complex conditions. They further recognise that even in the most efficient organisations people are rushed, distracted and prone to human error when events are continuously changing.

In Ireland health services are under considerable strain and the frontline service delivery is extremely busy and stretched. In such an environment a focus on Quality Improvement is critical to orientate the planning and delivery of healthcare away from crisis management to proactive service improvement (HSE 2016). The authors sponsored by Health Service Executive (HSE), Quality Improvement Team took a unique approach to improve the quality of decontamination services by developing a Foundation Programme with the aim of building capacity and capability in Quality Improvement methodologies among decontamination practitioners.

Methods:

The foundation programme works directly with hospital decontamination teams providing education, training and coaching on the science, methods, knowledge and skills for Quality Improvement. The curriculum has evolved over course of 4 modules delivered to-date and is based on 4 key concepts

1. HSE Framework for Improvement (6 drivers)
2. Understanding and using data for measurement
3. IHI(Institute Healthcare Improvement) Modal for Improvement
4. Engaging colleagues in improvement process

Results:
4 separate modules completed with 20 teams including acute hospital services, private hospitals and community dental services. Significant improvements achieved include standardising dental sets in community dental practice (all sets include same instruments), increasing capacity for endoscope decontamination by 20% which in turn has increased capacity for procedures, reducing overstocking of instruments by 50%, eliminating waste (cost of ineffective use of staff time).

The foundation programme has now been adopted as a module on B.Sc. Sterile Services Management in Technological University Tallaght.

**Conclusion:**

The foundation programme was targeted at frontline support staff who often don’t get opportunities to participate in formal Quality Improvement (QI) programmes. It is the first QI programme delivered in healthcare in Ireland which looks outside the direct clinical environment and focuses on support staff. We have learned that when attendees come from different organisations but who operate the same process, they can gain as much from learning from each other as from course content itself. The “all teach all learn” project coaching concept helps to bond the team and contributes to building a community of professionals with a shared interest in QI. One of the key outcomes of the training programme is to harness its potential for other support / non clinical staff who also have an important role in delivery of safe patient care.

**References:**

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

No conflict of Interest
Just because it’s online, it’s not less work: managing the QI e-Learner’s expectations

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Introduction: Why and how online is QI training significantly more difficult for learners than they expect? - built on an existing assessment of a comprehensive QI eLearning course that focuses on analyzing the level of engagement displayed by the learners and aims to develop an understanding of the factors that foster a persistent engagement with the online material and an adherence to the QI principles.

Methods: A tutored comprehensive eLearning course of six months "Quality Improvement: Key for Health Systems Strengthening" was developed and launched by evaplan GmbH at the University of Heidelberg, together with the International Society for Quality in Healthcare (ISQua), AQUA Institute, Institute of Public Health at the University of Heidelberg, and common sense eLearning & training consultants GmbH. Qualitative semi-structured interviews were conducted with the participants of the course, questionnaires (assessment and rating) were deployed; additionally, user data provided by the eLearning platform was analyzed. 2 focus groups with the tutors of the course was conducted in order to evaluate the learners’ performances.

Results: Most eLearners that struggle with the QI training do so not because of the material itself. They have proven to misjudge the amount of time investment required to complete the course due to a set of factors that they haven’t considered. These are: 1. the participants are learning and completing their assignments in isolation which requires considerable self-discipline and motivation; 2. Many of them are insecure about the relevance of their own experiences and are reluctant to share with peers or tutors, making interaction very limited; 3. Many of those who are not directly involved in working on QI projects already have difficulties writing and implementing a QI project necessary for certification. All of which contributes to the participants spending much more time on the course material than expected.

Conclusion: The promotion of eLearning courses and trainings has been too often done with messages focusing on the convenience because of flexibility and time-saving consideration, however in the area of teaching the basics of QI, these announced advantages might lead to false expectations about the time investment required. Following these findings, we are currently developing a set of guidelines and messages to accompany the QI trainings.
The Development of a Simulation Based After Action Review Training Programme in the Irish Health Services

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Introduction: After Action Review (AARs) originated in the US army in the 1970s. An AAR is a non-hierarchical facilitated structured discussion of an event that enables teams to come to a shared mental model about what happened, why it happened and to identify learning and improvements. After Action Reviews have been applied in healthcare mainly as part of national public health responses (e.g. flu pandemics). In 2018, the Irish Health Service Executive (HSE) incorporated After Action Review as a review methodology as part of its National Incident Management Framework. The purpose was to support staff involved in incidents, to identify quick learning and improvements, and to support timely response to patient and family concerns. The HSE also endorse AARs for learning from every day events regardless of whether they have positive or negative outcomes. Effective facilitation skills and organisational support have been identified as critical for developing communities of AAR practice. To train HSE Staff as After Action Review Facilitators across acute and primary care, the HSE collaborated with the Royal College of Surgeons in Ireland to co-design a simulation based training programme.

Objectives: To co-design a Simulation Based Training Programme for Action Review Facilitators and to use reflection on and feedback from the training stakeholders to continuously improve the programme.

Methods: The programme co-designed consisted of (1) one-day experiential learning and a series of simulated AAR scenarios with actors followed by peer, facilitator, actor and video feedback; (2) a six week interval period for participants to raise organisational awareness of AAR methodology and apply the skills learned; and (3) a half day reflective facilitated learning session. Training participants formed a mix of clinicians and of quality and safety managers. Since November 2017, up to 500 staff in cohorts of sixteen have been trained across the health services. The programme itself formed a modified plus version of AAR training provided by University College London Hospitals. Iterative modifications were made to the programme based on reflective practice and feedback from stakeholders.

Results: The utility of programme developers emphasizing the potential for formal and informal AARs and for using AARs for positive events emerged as an important learning in the early stages of the programme implementation. This helped support effective implementation. Seventy per cent of participants reported implementing an After Action Review in the six week interval period and most felt their facilitation confidence and skills improved.
Conclusion: The spaced simulation training (two days with an interval period for practice) was a useful educational strategy to facilitate continual improvement and uptake of the intervention and to help participants integrate their learning into local contexts and settings.
Introduction: Demonstrating a service works in one location is challenging: to improve it and scale it up and out across multiple state jurisdictions is even more so. Genomic testing is a long and laborious process that examines the entire genetic material for healthcare purposes. In 2019, Australian Genomics initiated a multistate trial, delivering rapid genomic testing in acutely unwell children. Several strands of research are underway, including the family experience, and here we focus on the practitioner perspective, using the Consolidated Framework for Implementation Research (CFIR), a conceptual framework designed to aid multilevel assessment of factors impacting on implementation. There are five constructs; Intervention Characteristics, Inner, and Outer Setting, Characteristics of Individuals and Process with a series of sub constructs.

Objectives: To investigate practitioners’ experiences of Genomics in acute paediatrics 1) before implementation 2) following implementation and 3) for future service provision, to inform scaling up.

Methods: An exploratory qualitative study was designed with interviews of all operational staff involved with delivery of the rapid genomics work (n=61) including, Clinical Geneticists and trainees, Genetic Counsellors, Project Officers, Laboratory Scientists and Intensivists to explore their experiences of implementing rapid acute care genomics. Interviews were undertaken April to June 2019 with everyone who responded to the email invitation (n=32). Deductive analysis was undertaken using the CFIR. Ethical review was provided by University of Melbourne Research Ethics Committee.

Results: Prior to implementation, practitioners’ principal focus was on Intervention Characteristics in particular the ‘relative advantage’ of finding a diagnosis for families. Following implementation, practitioners stressed the Inner Setting, particularly the ‘learning climate’ which permitted developing new knowledge and skills, as well as Characteristics of Individuals, their ‘personal attributes’ about how much they valued the intervention. Only when considering the future did practitioners consider the Outer Setting, highlighting the important role of ‘implementation leaders’ in providing clear communication and coordination.

Conclusion: This study demonstrates that different priorities exist at different stages of the implementation of a new project. At Pre-implementation, there is a need to ensure
intervention characteristics are well communicated. Once a project is underway the characteristics of the organisation and individuals are essential. When considering future scaling up of genomics in acute paediatrics, and sustainability, process matters from the *Outer Setting* come to the fore. It essential all these priorities, and their timing, are considered prior to implementation of future projects to maximise practitioner engagement.

**Please declare any conflict of interest you may have:** The authors declare no conflict of interest
Building a Social Marketing Nursing Program against antimicrobial resistance

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Introduction: Anti-microbial resistance (AMR) is a global public health priority, as multidrug-resistant pathogens increase morbidity, mortality and healthcare-related costs. The strongest determinant of AMR is behavioral: the inadequate and inappropriate usage of antibiotics (1). Most of the current infection control programs are mainly focused on health operators, but a successful behavioral change should invest the entire community.

Social marketing (SM) is “the application of proven concepts and techniques drawn from the commercial sector to promote changes in diverse socially important behaviors such as drug use, smoking, etc” (2).

On this premise, we planned to build a social marketing program (SMP), based on nurses (social marketing nursing), in order to change social behaviors facilitating AMR.

Methods: After reviewing literature on SM and AMR programs, we investigated knowledge about antibiotics, infections and AMR, perceptions and attitudes about nurses role against AMR and potential social exchange purposes (population target, settings and modalities) by an online questionnaire sent to all nurses at our institution. At the end, a SMP was designed according to questionnaire results.

Hereby, we present the results of such survey and resulting program.

Statistical analysis was performed by descriptive methods; all categorical variables were expressed as absolutely numbers and percentages; continuous variables as mean and standard or median deviation. Logistic regression was used to investigate relationship between variables.

Results:

Questionnaire was administered to 915 nurses; 637 (mean age; M 19%, F 81%), mainly from Emergency and Medical department, answered. Respondents exhibited a high-level knowledge about antibiotics and AMR (85% answered correctly to all the questions) and good compliance to AMR prevention measures. The majority (70%) perceive AMR as contrastable phenomenon due to antibiotics abuse and recognize themselves a co-primary role in such fight. Indeed >95% of respondents are usually asked for information on antibiotics by patients, verify the correct understanding of provided information, but less commonly recommend patients not to store/share antibiotics (65%). Awareness campaigns appeared not frequent in respondents' facilities (41%), but high-desirable (92%). According to respondents, a successful SMP should be aimed to all age groups (but mainly adulthood).
and all citizens, from healthy subjects to particular patients and should be Internet- or media-based; verbal communication should be preferred to written one and meetings of any kind (like themed days, conferences or seminars organized by professionals or charities) to diffusion of paper or digital content. Free health services or commercial discounts, provided in exchange for citizen participation to educational sessions, is seen as a useful strategy by 85.5% of respondents.

**Conclusion:**

SM could be an innovative strategy to induce people to voluntarily modify or abandon a wrong behavior to obtain a benefit for the community. Nurses could be key-figures to fight AMR. Social campaigns and community meetings would be the most engaging strategies, also incentivizing participation with free services would be helpful.

**References:**


**Please declare any conflict of interest you may have:** the authors deny any potential conflicts of interest.
Advance Care Planning for older people who experience clinical deterioration in subacute care

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Introduction: Patients who experience clinical deterioration in subacute care often require inter-hospital transfer to acute care for treatment. Decisions about goals of care, including end-of-life care, are guided by documented resuscitation status and advance care planning.

Objective: To describe the prevalence of advance care planning and compare characteristics and outcomes for subacute care patients who were transferred to acute care following clinical deterioration by resuscitation status.

Methods: This study was a secondary analysis from a prospective study of patients who experienced clinical deterioration and required emergency inter-hospital transfer from subacute to acute care conducted in five Australian health services1. Advance Care Planning and resuscitation status were compared in three categories (full resuscitation; limitation of medical treatment (LOMT) orders; or not-for-cardiopulmonary resuscitation (not-for-CPR) orders) using chi-square or Kruskal–Wallis tests. Stratified multivariable regression models were used to account for health service clustering effect.

Results: Many (30%) patients had no documented resuscitation orders, despite having a median age of 80 years, multiple comorbidities and a median length of hospital stay before transfer of 8.0 days. Overall, 63.5% of patients were for full resuscitation; 23.1% had LOMT orders and 13.4% had not-for-CPR orders. The prevalence of resuscitation status changed significantly (p<0.001) after transfer with a decrease in those for full resuscitation (63.5% vs 51.8%) and increase in those with LOMT (23.1% vs 31.0%) or not-for-CPR (13.4% vs 17.1%). Resuscitation status was not associated with differences in transfer timing (weekday, weekend or overnight), use of emergency ambulance or assessment of clinical urgency. Following transfer, 82.5% were readmitted to acute care, with no significant difference by resuscitation status (p=0.101). A total of 82 (14.7%) patients died during their health service stay. Compared to patients designated for full resuscitation, patients with a LOMT or not-for-CPR order were more likely to have rapid response team calls during acute care readmission (p=0.002) or to die during hospitalisation (p=0.001). Transition to end-of-life care was documented for 7.9% of patients following transfer from subacute to acute care.

Conclusion: The study results show an absence of clear directives regarding resuscitation status and planning for clinical deterioration for patients in subacute care. Resuscitation
status was not associated with any transfer characteristics, suggesting that the clinical decisions about escalation of care were not influenced by resuscitation orders. The proportion of patients with LOMT and not-for-CPR orders increased after transfer. The reasons for and potential preventability of emergency inter-hospital transfers from subacute to acute care hospital warrants further investigation and should be the focus of future research. It is recommended that patient preferences for care in the event of clinical deterioration at a subacute care hospital be discussed and documented early in their admission, with review at every transition in care.

References:


Please declare any conflict of interest you may have: There are no conflicts of interest to declare.
Return presentations to the ED within 30 days in older patients: A sign of frailty?

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Introduction: Increasing use of Emergency Departments (ED) by older patients (≥ 70 years) is causing a heavy burden on the acute care chain. This complex group of patients frequently returns to the ED negatively influencing the patient outcomes. The aim of this study was to provide insight into the root causes and potential preventability of unplanned return presentations (URP) to the ED within 30 days in older patients.

Methods: A prospective observational study was conducted from February 2018 to November 2018 in an academic hospital in Amsterdam. We included 83 patients, aged 70 years and older, with an URP to the ED within 30 days of the initial ED presentation. Patients, GPs and doctors at the ED were interviewed by trained interviewers and basic administrative data were collected in order to conduct a root cause analysis using the PRISMA-method.

Results: 151 root causes were identified and almost half (49%) of them were disease-related. A 52% of the patients returned to the ED within 7 days. In 77% of the patients the URP was related to the initial presentation. Patients judged 17% of the URPs as potentially preventable, while doctors at the ED judged 25% and GPs 23% of the URPs as potentially preventable. In none of the cases, there was an overall agreement between the patient and the healthcare workers that an URP was potentially preventable. The mortality rate at 6 months follow-up was 13% and the deceased patients had a high need and use of care in the last period of their lives, for example polypharmacy (91% in deceased group vs 69% in survival group).

Conclusion: Disease-related factors were most often responsible for an URP and the majority of the URPS were judged as not preventable. In order to prevent URPs we should focus more on the detection of disease-related root causes in an earlier stage in order to treat these patients differently and also consider advanced care planning. Furthermore, this study shows that return presentations of older patients at the ED can be used as an indication for the potential fragile state these patients are in.
Introduction:

Tenofovir/Lamivudine/Dolutegravir (TLD) is the preferred first-line ARV for treating HIV because it is highly effective, safe and proven to rapidly suppress viral load in adults and adolescent patients with HIV. This was adopted by Nigeria as the preferred first line in the year 2018. Because of the initial fear of the use of Dolutegravir-based combinations in pregnancy, it was not recommended for use in women of child-bearing age who could become pregnant. These women constitute up to 50% of the population of people living with HIV in the country so transition plan was to have at least 50% of adult clients on first-line medications on TLD by mid-2019. After 5 months of commencing transition, monthly encounters across 8 treatment sites showed that only 11% of eligible clients have been transitioned to the new regimen. This significantly few short of the expected for the transition target. The project aimed at ensuring that these sites at least meet the country set target for TLD transitioning by June 2019.

Methods:

The 8 treatment sites composed of 6 secondary and two primary health centres. All the secondary health centres were government owned institutions located in semi-urban/rural centres in the State. A multi-disciplinary team consisting of the focal persons from the supporting partner and the Quality improvement team of the respective sites conducted a Root Cause Analysis. This showed that poor knowledge of the new regimen and the transition plan, lack of commodities and low family planning uptake among women of child-bearing age who constituted the bulk of the population were the major impediments. Interventions to bring back the sites on track were planned for implementation in two PDSA cycles at intervals of 2 months:

- Cycle 1: training and hands-on mentoring of focal persons and ensuring demand for family planning through the client support group meetings to increase contraceptive uptake.
- Cycle 2: raising facility champions to monitor facility progress and support other focal persons, and improved commodity management to ensure continuous availability at the appropriate stock.

Data of adult clients attending ART clinics in these sites who are on first-line regimen were tracked on a monthly basis.
Results:

During intervention, 1097 adult clients on first-line regimen were seen in 3285 clinic encounters. Of these clients, 66% were females (n = 724) while 34% were males (n = 373). Post-menopausal women accounted for 15% of the women encountered (n = 109). Despite the drive for demand for family planning, only 19% of women of child-bearing age-group on first line took up family planning (n = 116).

A sharp rise in TLD transitioning following the first PDSA cycle from 11% to 45% was experienced. This was followed by steady sustenance of improvement reaching a peak of 56% at the end of the project. The achievement was more among men with 91% of them being transitioned at the end of the project compared to women who had just 40% transitioning.

Conclusion:

Following the implementation of the quality improvement project, the sites were able to achieve above the transition target of 50% by mid-year 2019. Low family planning uptake in women significantly limited the achievement in this group of clients. Reasons adduced to this was as a result of pregnancy expectations among these age-group of women. Longitudinal follow-up will be conducted to determine the impact of this on treatment outcome.

References:

[1215] Measuring the safety climate in Scottish General Practice

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Introduction: The Scottish Patient Safety Programme in Primary Care (SPSP-PC) was launched in March 2013, with a commitment to making care safer in the general practice setting. In order to measure safety climate in Scottish general practice, a psychometrically sound instrument was developed, validated and tested for this setting - PC-SafeQuest (SafeQuest). SafeQuest determines a total score as well as scores for five safety climate factors; Workload, Communication, Leadership, Teamwork, and Safety Systems. Safequest also collects anonymised data detailing job role, working pattern and other demographics. During the time period studied, the tool was included as part of the General Medical Service’s contract Quality and Outcomes Framework, thereby incentivising its completion by over 1000 general practices in Scotland each year. The primary aim was to determine differences and similarities of numerical scores between comparable groups derived from the use of the SafeQuest in successive years; 2013-2014 and 2014-2015.

Methods: A cross sectional questionnaire study using the validated 30 item Safequest questionnaire in general practices in the 14 territorial Health Boards of Scotland. The majority of general medical practices in Scotland submitted responses over 2013/14 and 2014/15 that were quantitatively analyzed. Respondent characteristics were used to interrogate and analyse the scores, with particular attention to job role, work pattern, duration of practice service and gender.

Results: The Safety Climate survey had 14,340 responses in 2014 and 13,478 in 2015, with completion rates of 90% and 92% for general practices in Scotland as a whole. The overall perception of safety climate in general practice was positive with a mean rating of 5.6 out of 7 (range 4.8 to 6.2). Leadership was the highest rated safety climate category and workload was the lowest scoring, with mean ratings of 6.2 and 4.8 out of 7 respectively). Variation between the Health Boards was minimal. There were differences in perceptions in all of the safety categories based on gender. Duration of practice service was a significant determinant of SafeQuest scoring from individuals. Work pattern was found to result in variation of scoring, with part-time staff scoring lower in the workload category, but higher in the leadership category. Locum or temporary staff were more likely to give safety systems a low score. A trend towards improvement in safety climate scores was found over the two-year period.
Conclusion:

Measuring safety climate has highlighted to all levels of staff the importance of patient safety, and sought to evolve a generational culture. However, there remains a fundamental problem in the study of numeral scores of safety climate with primary care. Whilst scores can be compared by practices and health boards in successive years, there are no meaningful, measurable endpoints. This study and overall safety culture assessment in Scotland has tried to introduce a systems approach within healthcare design. In the delivery of a questionnaire survey which has reached a large audience, this can be deemed a success. However, questionnaires only show up part of an organisation’s safety culture, and often with the exclusion of several important factors within that system. Further research into the relationship between patient safety culture and the other aspects of the wider working system (e.g., use of health information technologies; team climate) and other participant characteristics (e.g., job satisfaction, organisational commitment) are potential avenues for future research.
Introduction: Hospitals in Turkey are evaluated in terms of quality, efficiency and accreditation standards. Quality assessments are carried out by Republic of Turkey Ministry of Health (MOH) General Directorate of Health Services, efficiency assessments are imperatively performed by MOH General Directorate of Public Hospitals once a year, and the accreditation surveys are applied by Turkish Health Care Quality and Accreditation Institute (TUSKA), which are the systems implemented on a voluntary basis. 'Standards of Quality in Health-Hospital Set (SKS)' for the quality assessments of hospitals, 'Efficiency Observer On-site Assessment Guide (Efficiency)' for efficiency assessments, 'Standards of Accreditation in Health-Hospital Set (SAS)' for the accreditation surveys are used. Hospital staff state that there is a confusion regarding the distinction of SKS, Efficiency and SAS assessments. The aim of this study is to compare SAS, SKS and Efficiency standards and to determine whether the standard sets are similar.

Method: The study was conducted between 2016 and 2017 in cooperation with TUSKA and MOH. Within the scope of the study, SAS (v1.0 / 2015), SKS (Version 5-2015) and Efficiency (2016) were employed. SAS is a standard set consisting of 7 dimensions, 34 sections, 59 standards and 242 assessment criteria prepared by MOH, and accredited by The International Society for Quality in Health Care (ISQua). SKS is a standard set prepared by MOH and published in 2015, consisting of 5 dimensions, 39 sections, 557 standards and 1100 assessment criteria. Efficiency is a standard set consisting of 282 questions and 933 criteria, prepared by MOH and published in 2016. The study was carried out on "assessment criteria" (AC) for SAS and SKS, "criteria" for Efficiency, and the basic structure was based on SAS sections. When comparing the ACs in the SAS, matching was made by considering the requirements regarding the standards. The indicators appearing in SAS and SKS were not included in the study because they did not contain AC. The criteria related to "Oral and Dental Health Services" in Efficiency were assessed similarly to others because SKS and SAS had separate standard sets related to Oral and Dental Health. Standards that did not exist in SKS were included in the scope of the study as AC. Although some of the efficiency criteria did not fully meet AC for SKS, they were matched in consideration with the standard sentence.

Results: According to the results of the comparison made based on the total number of AC/criteria, 79 SAS Assessment Criteria, 346 SKS Assessment Criteria and 782 Efficiency criteria are common (Figure 1). 3 ACs in SAS are not included in SKS, but they are in Efficiency. 3 ACs in SAS are not included in both SKS and Efficiency. 742 ACs in SKS are
included in SAS, but not in Efficiency. 150 Efficiency criteria are available in SAS, but they are not included in SKS. 31% of SKS is common to Efficiency (Figure 2). 34% of SAS is common to efficiency (Figure 3). 97.5% of SAS is common to SKS (Figure 4). **Conclusion:** The standard sets are mostly similar. On the other hand, independent assessment practices are carried out by independent institutions in all three fields. Evaluators involved in the assessments may resemble. This situation may cause hospital staff to experience a continuous survey/assessment stress. Continuous Survey/assessment psychology can cause disruptions in the processes to improve the quality of service in hospitals. Clarifying the distinction between the standards will be effective in reducing the repetitions for quality, accreditation and efficiency practices and ensuring optimal quality in delivering service.
Figure 3. Results of SAS-Efficiency Comparison

SAS - Efficiency

- SAS Assesment Criteria
- Efficiency

Common Criteria
- 60 SAS Assessment Criteria
- 957 Criteria for Efficiency

66% 34%

Figure 4. Results of SAS-SKS Comparison

SAS - SKS

- SAS Assesment Criteria
- SKS Assesment Criteria

97.5%
How a Peer Exchange Program is helping to improve patient flow in public hospitals in Queensland

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Introduction:
Public hospitals in Queensland are struggling to meet the health care needs of a growing and ageing population that outstrips available resources. Despite the best efforts of individual clinicians, staff and teams, most hospitals report insufficient hospital beds and are recording increased patient-off-stretcher-times (POST), crowded Emergency Departments and more patients waiting longer than recommended for Specialist Outpatient and Elective Surgical Services. In response, the Statewide Patient Access Advisory Committee established a Peer Exchange Program (PEP) in March 2019 with the aim of improving patient flow in public hospitals.

Methods:
The PEP purposefully differs from a conventional review: a team of trained peers are assembled from a wide range of clinicians, consumers and managers across Queensland Health; the aims of the Exchange are to identify potential areas of improvements in a specific hospital as well as exemplars of good practice; peers focus on transitions of care and not clinical specialties; participation is voluntary; the findings and recommendations are provided a fortnight after the visit; and the methodology incorporates principles from complexity science. PEP has three main consecutive stages: (i) preparation, data collection and completion of validated self-assessment instruments; (ii) a site visit to consult with hospital staff, clinicians and consumers through focus groups, workshops and walk-arounds; and (iii) debrief, analysis, generation of recommendations and dissemination of findings.

Results:
Two hospitals participated in the PEP in 2019 - a large urban hospital and a smaller hospital in a semi-urban area. A total of 35 peers participated in site visits and consulted with more than 250 clinicians, staff and patients. A total of 113 recommendations were made with indications of their likely costs, impact, level of difficulty and time required to implement and improve patient flow. Good practice exemplars were identified and disseminated. The preliminary findings from the ongoing evaluation are that many recommendations have already been enacted, that the overall experience of peers and participants were positive and that they perceived PEP to be acceptable, feasible and useful. Three PEP visits are scheduled for 2020 with iterative refinements to further optimize the methodology.

Conclusion:
If healthcare to remain sustainable in the future, existing resources must be used in the
most efficient and effective manner. The Peer Exchange Program provides a novel approach to help optimize patient flow in public hospitals. The strengths of the program are derived from the role of 'critical friends' and a culture of 'all learn, all teach' to identify potential areas for improvements in patient flow as well as examples of best practice that can be disseminated Statewide.

References:
On request

Please declare any conflict of interest you may have:
None
International comparisons of pressure ulcers in long-term care facilities: methodological robustness of four point prevalence measurements

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Introduction:

Performance measurement in long-term care lags behind the hospital sector. Pressure ulcer indicators are among the most frequently used indicators in long-term care settings, which is not surprising considering how common they are and the high costs associated with them. However, there is limited knowledge about the comparability of different measurement systems. International benchmarking is essential to signal differences between countries and can enhance cross country learning.

Objectives

The aim of this analysis was to contribute to the establishment of an internationally comparable indicator of pressure ulcer prevalence among residents of long-term care facilities by comparing and analyzing four different Point Prevalence Surveys (PPS) used in 3 continents: the Prevalence Survey of Healthcare Associated Infections in Long Term Care Facilities undertaken by the European Centre for Disease Control and Prevention, the study undertaken within the Centers for Disease Control and Prevention Emerging Infection Program in the US, the Pressure Injury Point Prevalence Survey coordinated by the Clinical Excellence Commission in New South Wales, Australia, and the Landelijke Prevalentiemeting Zorgproblemen, established by the Care and Public Health Research Institute of the University of Maastricht in the Netherlands. The key question was, to what extent do these four measurement systems have the ability to adhere to a common set of methodological criteria to facilitate international comparisons of the prevalence of pressure ulcers in long-term care facilities?

Methods:

A descriptive analysis of these 4 PPS was performed based on a list of features, identified in the scientific literature on criteria for indicator selection, issues in international comparisons of data and specific challenges of pressure ulcer measurements.
Results:

The four PPS use (or may compute) a prevalence measure based on very similar numerator and denominator definitions. All four PPS also collect data on patient mobility. Differences include the coverage of nursing homes within an area, which is not always complete or random. They also differ in data collection systems (direct observation vs retrospective review of records) and extent of validity and reliability testing.

Conclusion:

The four PPS aim at measuring the same phenomenon. Their differences warn caution when data from different PPS are compared, in particular with regards to representativeness, validity and reliability. However, comparability was considered robust enough to publish first finding in OECD’s publication Health at a Glance 2019. Ongoing work will enhance comparability of the data.

Please declare any conflict of interest you may have: No conflicts of interest to declare.
Validation Panel in TUSKA Accreditation Process

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Introduction: The validation panel refers to the process of assessing and reporting by two Turkish Health Care Quality and Accreditation Institute (TUSKA) staff members the entire accreditation process of health institutions, which have applied to TUSKA accreditation program and have completed the survey, re-survey or interim survey process. Thus, before the accreditation decision of the health institutions is made, the whole process is reviewed and precautions are taken against probable errors and if any, suggestions for improvement are specified. The validation panel experience realized by TUSKA was shared with this study. Based on the available data, it was sought to answer the question why the validation panel is important.

Methods: Validation panel members evaluate whether all accreditation processes are clear and understandable starting from the application process after the survey, re-survey or interim survey, whether the processes are carried out in accordance with the provisions specified in the accreditation program. The validation panel conducts this assessment through 6 different forms consisting of a maximum of 7 items prepared for application, self-assessment, pre-survey preparation, survey process, analyses of survey / re-survey / interim survey preliminary reports and action plan process. After the assessment, the members prepare a report to be submitted to the Accreditation Executive Board. The Accreditation Executive Board makes the accreditation decision after the validation panel. In this study, the validation panel process, which was carried out after the surveys in 6 hospitals, the re-surveys in 3 hospitals and the interim surveys in 3 hospitals, was examined. It was examined which of the 31 items in 6 different forms used in the validation panel were interpreted most by the members of the validation panel.

Results: Within the scope of the study, all forms used were examined in detail in the validation panel carried out after 6 surveys, re-surveys and interim surveys performed in 6 hospitals. The most commented form by the members of the validation panel was the survey / re-survey / interim survey preliminary report. In this form, the item with 8 comments, the most commented one, was the item that the findings and comments made by the surveyors in the survey / re-survey / interim survey preliminary report make the necessary guidance for the institution or organization to provide standards and continuous improvement (stated in the table). Validation panel members stated that although improvement suggestions were made on the basis of standard and assessment criteria in the survey reports, the section of improvement suggestions in accordance with the report format and in which the report summary can be seen in a holistic manner should be filled in detail and this issue should be addressed comprehensively in the surveyor training programs.
Conclusion: Probably the most important purpose of the validation panel report is to inform TUSKA and the Accreditation Executive Board whether the survey findings accurately reflect meeting standard level decision and whether the preliminary report supports the survey team's recommendation regarding the accreditation decision. In addition, the suggestions made by the surveyors in the sections including the fields of good practice and improvement suggestions in the survey reports are thought to be a guide for the relevant health institutions. However, the validation panel confirms that the service provided is reliable since the entire accreditation process has been reviewed.

| Table 1. Items of Validation Panel Forms and Suggestions of Validation Panel Members |
|---------------------------------|-----------------------------------------------|
| Form                           | Item                                                                                     |
| Preliminary Report             | The findings and comments expressed by the surveyors in the Survey/Re-Survey/Interim Survey Preliminary Report make the necessary guidance for the institutions or organizations to comply with standards and continuous improvement (sections of the Good Practice Fields and Improvement Suggestions in the report will also be reviewed) | 8 |
| Pre-Survey Preparation         | Sending the Survey Schedule at the Appropriate Date (At the latest, 1 month before the survey or in case the institution to be surveyed accepted, 15 days before) | 5 |
| Preliminary Report             | Analyzing whether the findings written about the relevant standard and assessment criteria in the Survey/Re-Survey/Interim Survey Preliminary Report are clear and understandable | 4 |
| Preliminary Report             | Analyzing whether the findings in Survey/Re-Survey/Interim Survey Preliminary Report support the decision of appropriate meeting in the standard and assessment criteria level | 4 |

Suggestions: Some of the suggestions made were found to be inadequate and should be enriched. Although the findings provide guidance for the institution, they should be stated in the suggestions for improvement sections. Although improvement suggestions are made on the basis of standard and assessment criteria, the improvement Suggestions section should be filled in detail in accordance with the report format and where the summary of the report can be seen in a holistic manner. In the preliminary report submitted to the hospital by the surveyors, sections on improvement suggestions and good practice should be reconsidered extensively or surveyor training programs.

The survey schedule should be uploaded on the date specified by the survey team leaders.

The report language used should be improved. Even if the findings and explanations are adequate, the evidence presented should be more clear and understandable. The findings presented should be expressed in a way that further supports the decision of moving forward. More findings should be written to support the decision.

There is no conflict of interest among the authors.
Session D10


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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. Utilizing SMS is affordable and feasible where 3G or wi-fi network is not available. 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 demand was to have open-source software based on microservice architecture, supporting Vietnamese language, utilizing SMS to fulfill CP's requirements in monitoring and managing patients with GDM. The development and implementation of the software (called IOH-GDM) 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 was stored and protected via a secured cloud-based server at the University of Industry and no data were linked to patients' records in the Hospital Information System unless approved by the hospital’s director board.

Results:
The IOH-GDM software was developed and launched in August 2019. It was used for 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 by using the mobile app or by replying to the reminding SMS and receive informative feedback message.

Among 20 CPs who used the software and answered the survey after the first week of use, 90% of them used IOH-GDM for patient care, 70-80% reported that the software fulfilled their needs for daily clinical use, was user-friendly, intuitive and 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 patients (50) who used the software from September 2019 to December 2019 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. Patients reported that SMS reminders were necessary to keep them on track of SBGM and informative feedback messages helped them understand what to do and cooperate well with physicians.

Conclusion:

In low-middle income and non-English speaking countries, having a native language software that supports multiple data collection modes, utilizing SMS and visualizing data showed potential impacts in patient empowerment, enhance care quality through real-time data monitoring and strengthen the patient-provider partnership.

Conflict of interest:
The development of the IOH system was approved and funded by the Ho Chi Minh City Science and Technology Department.
Introduction:
There are increasing numbers of children who require complex medical care at home, (e.g. enteral tube feeding and tracheostomy care)\(^1,2\). Parents, with the support of nurses and other carers, deliver the day-to-day care these children require. There are many benefits of care at home for the child and family but also some serious risks. The aim of this research is to investigate the challenges and risks of delivering complex care for children at home, and to develop a training package for parents and carers.

Methods:
We are using a mixture of clinical and experimental studies to explore the problems in care, and to develop and test training interventions. The methods used are as follows: analysis of incident reports, thematic analysis of interviews and surveys with parents, online experimental studies and a mixed-methods evaluation of a training package co-produced with parents.

Results:
In an analysis of incident reports relating to enteral tube feeding and long-term ventilation at home, the most commonly reported problems related to broken equipment and inadequate training for parents, healthcare professionals and carers. Interviews with parents revealed that they have substantial responsibilities which can often feel overwhelming, including performing medical procedures, managing emergencies (sometimes life-threatening situations), co-ordinating care and advocating for their child. Their responsibilities have an enormous impact on the family: going out of the home becomes a challenge, there are constant constraints on time, parents are sleep-deprived and there are wider impacts on siblings. In a survey with parents, most parents described feeling anxious and stressed in the first few weeks at home caring for their child and over 50% indicated they wanted further training in the tasks they carry out. Findings from online experiments and a review of the literature suggest that training should include repeated opportunities for hands-on practice, visual aids such as videos, and mini tests to ensure parents aren’t falsely confident in their abilities. Evaluation of a training package for parents is underway.

Conclusion: The burden of care on parents caring for children with complex medical needs is
much greater than is generally understood by either multidisciplinary healthcare teams or the general public. Parents need to be better prepared and supported for the substantial responsibilities they take on. Good quality training for parents, professionals and carers is vital if these children are to be cared for safely at home. We are currently evaluating the impact of a training package for parents and other carers across the Oxford region which includes simulation training and videos co-produced with parents.

References:


Please declare any conflict of interest you may have: None
What is patient engagement?

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Introduction: Patient and family engagement (PFE) has been purported to be the “blockbuster drug” for improving the quality and safety of healthcare in the U.S. PFE is defined as set of behaviors by patients, family members, and health professionals that foster the inclusion of patients and family members as active members of the health care team. PFE is an expectation of modern healthcare, yet, there is little guidance on how to achieve PFE within the context of primary care. Multi-stakeholder perspectives on what PFE is and how to achieve it within the primary care are critical to attaining meaningful engagement.

Methods: We conducted an exploratory study on the perceptions of PFE from patients, family members or caregivers, practice staff and administrators, and clinicians from 15 primary care practices from across the U.S. Semi-structured interviews (clinicians) and focus groups (patients and staff) were conducted on the concept of PFE (“Describe what does PFE mean to you?”) and strategies on achieving PFE (“What is needed to engage patients and families in primary care?”). Concurrent content analysis of interview and focus group transcripts was completed. Information was summarized and synthesized by the two authors and confirmed by an interprofessional technical advisory panel that included patients, researchers, and clinicians.

Results: Interviews and focus groups were completed with 51 patients or family members, 63 practice staff, 13 practice administrators, and 47 clinicians over a 12-month period. Four main themes emerged across all stakeholder groups for the concept of PFE including relationships, trust, honesty and respect, time, and expectations for PFE. For the most part, clinicians, staff, and patients were harmonious in descriptors of PFE. One incongruence, however, was around responsibility for engagement. Here, clinicians reported that it was the patient’s responsibility to engage, whereas, patients reported that it was the clinician’s responsibility to invite patients to engage. Clinicians and patients both felt that open and honest communication was key to establishing trust and strong relationships, however, the patient’s felt that it was the clinician’s responsibility to make them comfortable to speak up, whereas clinicians believed it was the patient’s duty to be transparent. Time was another important factor with all three stakeholder groups reporting that limited time impedes PFE in the primary care encounter. Both patients and clinicians perceived that personalized care, central to supporting engagement, meant a consistent relationship with a single provider. Our stakeholders also provided insight into strategies for PFE. Strategies to improve communication were identified by patients, clinicians and staff including using lay language, confirming understanding of the information shared, and engaging in bi-directional communication. Staff reported that improved clinician listening would enhance engagement.
and patient safety. Patients also wanted verbal and written instructions with the support of graphics to improve understanding. Patients also wanted more time with clinicians for education.

**Conclusion:** For PFE efforts to be successful, clinicians, patients, and practice staff need to appreciate their differing perspectives. Building effective solutions to improve PFE will require the engagement of diverse stakeholders bringing their perspectives of PFE to codesign solutions together. Future research should focus on solutions that meet the needs of both the patient and clinician to foster meaningful engagement.
Introduction:

The transition after a period of cancer treatment to a "normal" life poses significant problems for patients. Indeed, after treatment, patients face symptom management related to the side effects of treatment [1]. Too often the management of these symptoms is done in the hospital setting when patients could be followed up in primary care. Furthermore, a regional health authority in Canada, has conducted a study among this population which has shown that resuming a normal life after cancer treatment is a stressful and often difficult transition period and that 80% of them experience problems in the post-treatment phase and nearly 50% find it difficult to find services to meet their needs. In this context, the regional health authority has decided to co-construct an intervention to ensure that people who finish their treatment are well prepared to deal with these new situations.

Methods:

We have adapted the Evidence-based co-design methodology to create the intervention [2]: 1) co-construction of the intervention; 2) testing of the intervention; 3) evaluation of the intervention.

Results:

The first phase consisted of creating a working group co-led by a patient and a manager, composed of 5 resource patients and 5 professionals. The committee proposed to work on three sub-projects: 1) providing tools for patients and family members; 2) structuring the medical transition; 3) introducing peer support. Regarding the patients, four videos were made to look back at different situations experienced in post-treatment. For the professional level, the Patient Oriented Discharge Summary (PODS) tool [3] was implemented and used during a consultation at the end of treatment between the patient, his or her family, an oncology pivot nurse, and an accompanying patient (AP). During this consultation, a structured file for the family doctor is set up in partnership with the patient and the PODS tool ensures that the patient knows where to find the resources if needed. Finally, during the transition, AP ensure that the patient is well seen by his/her general practitioner and continues to provide support with the primary care nurses in relation to post-treatment problems. The ongoing evaluation of the implementation of this system, conducted through interviews (n=22) with the various people involved in the project, highlighted the importance of implementing a three-tiered strategy and the relevance of
having access to the video to anticipate the next steps. Our interviews also highlighted the reassuring aspect for the patient and his family to leave with his complete file and an appointment with his/her general practitioner knowing that an AP bridges the gap between the two places of care. AP appreciate being able to support patients, their families, and teams. As for hospital teams, they consider better the problems experienced by patients.

**Conclusion:**

Through a multi-component approach and appropriate tools, it was possible to improve the situation so that the experience of patients and their loved ones are enhanced.

**References:**


**Please declare any conflict of interest you may have:** The authors declare no conflict of interest.
Introduction: Fluid intake restriction is important for adequate management of maintenance hemodialysis (HD) patients as nonadherence is correlated with an increased relative-interdialytic weight gain (R-IDWG), which has been associated with increased risk for major adverse cardiac and cerebrovascular events and increased mortality. While fluid restrictions are challenging for patients who live in a tea-culture society, especially in Guangdong province in China, where tea is considered one of the Seven necessities of Chinese daily life. Previous studies indicated that health literacy (HL) could affect treatment adherence and health outcomes which often require major lifestyle changes. However, studies are imperative for a clear understanding about the mechanisms by which and how HL and tea-drinking habits relate to R-IDWG in HD patients to guide practice. Our aim was to examine the relationships among HL, tea-drinking habits, perceived benefits of fluid adherence (PBEFA), perceived barriers of fluid adherence (PBAFA), self-reported fluid adherence (SRFA) and R-IDWG in Chinese HD patients. These efforts will allow for tailored interventions to decrease R-IDWG of HD patients.

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. Daily tea-drinking habits was assessed by a single (yes/no) question. PBEFA was measured by the PBEFA Subscale of Health Belief Model (HBM) Constructs. PBAFA was measured by the PBAFA Subscale of HBM Constructs. SRFA was measured by the Fluid Adherence Subscale of the HD Patients Therapy Adherence Scale. The R-IDWG (<5% or ≥5%) was calculated by the mean IDWG (NB: figures were from 3 consecutive HD), divided by the dry weight. Structural equation modeling (SEM) was conducted to test the hypothesized model which depicted the relationships among HL, tea-drinking habits, PBEFA, PBAFA, SRFA, and R-IDWG in Chinese HD patients. This study was approved by the Ethics Committee of Sun Yat-sen University.

Results: More than two hundred (n=239; 55.20%) patients kept daily tea-drinking habits after receiving HD treatment. The hypothesized model indicated a good fit to data: comparative fit index (CFI) = .979, Tucker-Lewis index (TLI) = .968, root mean square error of approximation (RMSEA) = .028, weighted root mean square residual (WRMR) = .511. The SEM showed that HD patients having inadequate HL tend to keep daily tea-drinking habits ($\beta = -.102, p < .05$). HL had direct positive effects on PBEFA ($\beta = .426, p < .01$) and SRFA ($\beta = .263,$
$p < .01$), a direct negative effect on PBAFA ($\beta = -.195, p < .01$), a total indirect positive effect on SRFA ($\beta = .144, p < .01$) through tea-drinking habits, PBEFA and PBAFA, and a total indirect negative effect on R-IDWG ($\beta = -.146, p < .01$) through Tea-drinking, PBEFA, PBAFA and SRFA. Tea-drinking habits had direct negative effects on PBEFA ($\beta = -.196, p < .01$) and SRFA ($\beta = -.173, p < .01$). The indirect effects of tea-drinking habits on SRFA ($\beta = -.041, p < .01$) and R-IDWG ($\beta = .054, p < .01$) were both weak but significant (Figure 1).

**Conclusion:** Improving Chinese HD patients’ HL could help quit their daily tea-drinking habits, improve their perceptions of fluid adherence, be more apt to follow fluid restrictions and thereby reduce R-IDWG.

**Please declare any conflict of interest you may have:** None declared.
Introduction: Accountability is at the heart of both corporate and clinical governance. Prior research generally assumes that practices of accountability from business are applicable to healthcare. Accountability in a hospital setting can ultimately be a life-and-death issue. This research examines practitioner insights into accountability for clinical governance in healthcare settings. The analysis draws on the distinction in the prior literature between formal “imposed accountability” and front-line “felt accountability”, as well as Mintzberg’s idea of “on-the-ground management”.

Objectives: The research question is: what are practitioner insights into accountability for clinical governance in high-consequence, life-and-death healthcare settings?

Methods: Interviews are conducted with 41 clinicians, managers, and governors in two publicly funded hospitals in Ireland. Practitioners share their experiences responding to critical clinical incidents (where unintended mistakes or harm happen). Interview data is used to reveal the practice of accountability. We obtain unique access to senior staff, including peer engagement, which elicits responses of an honesty and depth impossible for outsiders.

Results: This research highlights the unique aspects of accountability in life-and-death, high-consequence healthcare settings. In a hospital setting, the research finds a more nuanced, subtle and sensitive approach, compared with traditional considerations of accountability. Accountability emerges from the front-line, on-the-ground. Governors, managers and clinicians co-construct accountability. Internally in the hospital, less attention is paid to cost, blame, legal processes, or personal reputation. Interviews also reveal that money and other assumptions of accountability in business do not always apply in a hospital setting.

This research identifies a new emergent concept “grounded accountability”. The dynamic interrelationships between the concept’s constituent themes are presented in the Figure. Grounded engagement, between managers/governors and staff, along with front-line staff’s felt accountability, supports openness and the achievement of the ongoing process of “grounded accountability”. This leads to the co-construction of accountability, which is “grounded”. The nurtured (by managers and governors) sensitivity of front-line staff to a felt accountability shaped by their collective, unconsciously learnt responses and a repertoire of practices, enables practitioners to respond in an open accountable way to critical clinical incidents.
Conclusion: This research provides a new way of looking at accountability. It introduces the concept of “grounded accountability”, with 22 characteristics which is a credible, verified, useful concept, with practical applications. We offer this new emergent concept “grounded accountability” as a “more intelligent accountability” resonating with that described by O’Neill (2004) and Roberts (2009) for further empirical testing. To humanize the practice of accountability, we propose the concept of co-constructed “grounded accountability” comprising interrelationships between the concept’s three constituent themes of grounded engagement between managers/governors and staff, along with front-line staff’s felt accountability, supporting openness. “Grounded accountability” is potentially more suitable to a healthcare setting and, we argue, to other business settings. The research offers some optimism for transforming the practice of accountability by transforming the way it is used, informed by the emergent concept of “grounded accountability”.

References: available from author

Please declare any conflict of interest you may have: none
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>Baseline</th>
<th>Average Q4E Dashboard Score</th>
<th>Net promoter Score</th>
<th>Nosocomial Infection Rates</th>
<th>Average External Survey Score</th>
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<tr>
<td></td>
<td>60</td>
<td>40</td>
<td>5.60%</td>
<td>70</td>
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<tr>
<td>Target</td>
<td>75</td>
<td>75</td>
<td>0%</td>
<td>85</td>
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<tr>
<td>Achievement</td>
<td>84</td>
<td>82</td>
<td>0.35%</td>
<td>86</td>
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% Improvement over Baseline

<table>
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<tr>
<th>Baseline</th>
<th>Average Q4E Dashboard Score</th>
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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.
Innovate Multidisciplinary Information System and Case Management System Can Enhance Post-Acute Care and Interdisciplinary Quality of Holistic Care in Patients after Acute Stroke

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Introduction:

After acute stroke phase, stroke survivors still suffer from functional decline and possess neurologic disabilities despite comprehensive medical treatment. Since 2014, Taiwan’s National Health Insurance (NHI) proposed a post-acute care (PAC) pilot program for stroke patients with the potential functional improvement as a transitional rehabilitation model in regional or community hospitals between discharge and returning home. PAC can be provided more rehabilitation program in different settings. But, to enhance referral rate of stroke survivors received PAC program remained challenging. This study was aimed to enhance the referral rate of PAC and the interdisciplinary communication of holistic care in stroke patients.

Methods:

Since 2016, we organized a multidisciplinary team, including neurologist, emergency specialist, critical care specialist, pharmacist, nutritionist, physiotherapist , case manager and nursing staffs. Healthcare Failure Mode and Effects Analysis methods was used in the current process of acute stroke management. We developed innovative computerized system composed of case management system, analytic hierarchy process (including early warning system score, comorbidity score and multidisciplinary score) and multidisciplinary information system to survey acute stroke patients with modified rankin score (mRS) 3-4 and holistic score ≥ 40 to perform PAC and interdisciplinary holistic care.

Results:

Total 2,966 stroke patients admitted to a tertiary medical center between January 2014 and December 2017 were enrolled. With the ongoing intervention, the referral rate of PAC in all stroke patients was improved from 12.1% in 2014-2015 ,16.8% in 2016, 17.3% in 2017 (P=0.001). The rate of interdisciplinary holistic care improved from 0% in 2014-2015, 0.4% in 2016, 5.6% in 2017 (P<0.001). The rate of dysphagia screen before first oral intake improved from 25.7% in 2014-2015, 21.8% in 2016, 100% in 2017(P<0.001). The rate of rehabilitation assessment improved from 68.2% in 2014-2015, 78.7% in 2016, 100% in 2017(P<0.001). The rate of lipid lowering drug use improved from 44.6% in 2014-2015, 74.7% in 2016, 97.6% in 2017(P<0.001).
2017 ($P=0.009$). The rate of anticoagulant drug use in patients with atrial fibrillation improved from 21.9% in 2014-2015, 73.8% in 2016, 97.1% in 2017 ($P<0.001$).

**Conclusion:**
This study demonstrated that innovative multidisciplinary information system and case management system can enhance post-acute care and interdisciplinary quality of holistic care in patients after acute stroke.
Interventions to prevent or reduce rationing and missed nursing care: a scoping review

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On behalf of the RANCARE Consortium COST Action – CA 15208 and the other members Working Group 2 members, Prof. Dr. Bragadóttir Helga; Prof. Dr. Rochefort, Christian. M.; Dr. Bruyneel, Luk; Prof. Dr. Stemmer, Renate; Dr. Andreou, Panayiota; Leppée, Marcel who were involved in this scoping review

Introduction: The prevalence of rationed and missed nursing care and its effect on patient safety, quality of care has been studied widely. So far, the interventions used to reduce these rates was not mapped.

The overall objective of this review was to identify and describe interventions developed and tested to prevent or reduce the rates of rationed or missed nursing care across various healthcare settings.

Methods:A scoping review on studies published between 1980 and 2019 was conducted. We searched for eligible studies in the following electronic databases: MEDLINE (Pubmed), CINAHL, PsycINFO, EMBASE, and ProQuest Dissertation & Theses. Four central search terms were combined: (1) "rationing of nursing care", (2) "missed nursing care", (3) "omitted nursing care", and (4) "care left undone" with broader search terms, e.g., unfinished care, failure to maintain, clinical reasoning, clinical judgment, critical reasoning, critical thinking, decision making, registered nurses, new graduates, intervention, and quality improvement.

For each central search term, at least two researchers independently screened titles and abstracts of the retrieved studies against the inclusion criteria (e.g., healthcare setting, nurses, interventions at the individual, unit or organisational level) and exclusion criteria (e.g., other healthcare professionals, editorials, commentaries, single case reports, and letters). The reference lists of the retrieved studies were also searched for any additional studies. Decision about whether to include or not any given study was made through consensus.

Results: The search yielded 1815 records, of which, based on our eligibility criteria, 13 were included in the review. Of these, three described interventions at the structural level and 10 interventions at the process level. The structural interventions were increased nurse staffing levels and improved nursing teamwork and resulted in significant reductions in the rates of missed nursing care. Of the 10 process interventions, four referred to reminders (via technology or designated persons) and six to interventions to change or optimize the
relevant care processes, e.g., implementation of a medication unit dose system, safety packages, preventive care services. All 10 process interventions contributed to significant reductions in rates of missed nursing care. No studies that used interventions to reduce rates of rationing of nursing care were identified.

Conclusion: Evidence emerged that interventions targeting both the structure and the process of care could significantly reduce the amount of rationed or missed nursing care. There is a pressing need for further interventional studies addressing known predictors, i.e., patient safety climate, ethical climate, nurse education, nurse experience with nursing care rationed or missed, as well as relevant but not yet tested predictors, i.e., nursing tasks below skill levels.
Introduction: The elimination of preventable harm and death is a core component of successful and high quality health care delivery, and is essential to achieving Universal Health Coverage (UNC) and moving towards the United Nations (UN) Sustainable Development Goals (SDGs). This has been recognised as a key element of the first four Global Ministerial Summits on Patient Safety. The 2019 World Health Assembly identified the need to underpin a Global Action Plan with a strategy to support Low and Middle Income Countries (LMICs). The Global Patient Safety Collaborative (GPSC) is a novel educational and learning model developed jointly by Patient Safety and Risk Management Unit, WHO Headquarters (HQ) and the UK Department of Health and Social Care, with the appointment of Imperial College London as the lead academic partner.

Objectives: The overall aim of the GPSC is to increase the global action on patient safety, working more effectively in LMICs. It supports the reduction of preventable harm and works to improve the safety of health care systems via collaboration between WHO HQ, Imperial College London, and local partners in WHO Regional and Country offices, professional organisations, civil society organisations and WHO Collaborating Centres.

Methods: The work of the GPSC is based around three strategic areas shown in the table below:

- **Leadership**
  - Prioritise patient safety
  - Promote patient safety culture
  - Engage patients and their families

- **Education and Training**
  - Build competent, skilled and compassionate health workforce
  - Deliver an updated Patient Safety Curriculum Guide
  - Inter-professional education and training
  - Conduct targeted research

- **Research**
  - Enhance research capacities and capabilities
  - Increase evidence-based policy processes in patient safety

Online technical resources including educational materials, guidance materials and implementation tools will be open to all WHO Member States (MSs). Activities will include:

- Creating platforms for sharing experiences and best practice
- International E-academy and E-Library
- Resources for building leadership competencies
- Strengthening research capacities and meetings
- Conferences and workshops.

The four WHO HQ selected LMICs represent four WHO ROs; India, Kenya, Mongolia and Pakistan, will have access to country specific support for strategies to improve patient safety. The GPSC will aid the implementation and strengthening of national platforms for sharing best practices and will provide resources for education and training alongside the development of research capacity to increase evidence-based policies.

**Results:** The GPSC will strengthen leadership, education and training opportunities and build research capacity in the four LMICs currently selected. The 2020 Interprofessional Patient Safety Curriculum Guide will be published, alongside resources for training and leadership frameworks. The GPSC is delivering in-country missions for technical appraisals and learning opportunities to each of the four countries in the first half of 2020.

**Conclusion:** As the GPSC develops, further cohorts of countries will be offered direct support, alongside the scaling up of the further resources which will be available to MSs. A crucial element of the GPSC will be the development of sustainable partnerships between High Income Countries (HICs) in support of LMICs particularly from Academic Centres and Professional Organisations in their efforts to improve the safety of healthcare.

**References:**


Session D12

[1754] Driving quality improvement through language analysis of real-time patient experience feedback

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Introduction: Extracting meaningful information from free-text patient experience data using natural language processing (NLP) with sentiment analysis and machine learning (ML) and embedding a near real-time visualization platform can enable healthcare services to drive quality improvement (QI). The vast majority of patient experience feedback remains un-used for quality improvement in healthcare, because of the resource that would be needed to manually extract the necessary information, from the large volume of responses, in a timely manner. We are asking patients for their feedback, which could be used to inform patient-centric changes to care quality, but not using this information reliably.

Methods: This study assesses the suitability of NLP and ML to successfully and reliably extract coded data from free-text patient experience data (using both healthcare professionals and lay partners as coders) and develops visualisations for staff to instigate QI work. Retrospective free-text patient feedback data, across four healthcare services was used to build the ML algorithm in an open source data analytics platform. Supervised learning was used by training six ML algorithms to classify comments and assess their performance. A series of focus groups were conducted in order to develop dashboards to allow staff to visualise the near real-time NLP output, supported by QI coaching using Model for Improvement.

Results: 131,946 free-text comments were analysed. Inter-rater agreement in Inpatients was 0.852 and 0.952 for Patient Experience theme and sentiment respectively p<0.001, with similar results in the other services. Of the six ML algorithms tested, Support Vector Machine (SVM) learner produced the highest accuracy. The time taken to analyse free-text comments was significantly less compared to reviewing comments manually; 15 minutes versus four days, p<0.001. Using an iterative approach, theme and sentiment-driven interactive visualisation dashboards for frontline healthcare staff were created leveraging back-end analytics enabling patient-derived feedback on care quality to be analysed in near real-time, using ML techniques. Using this continually updated source data, the visualisation tool combined with PDSA cycles, has been used, to date, to ‘test’ for change in two healthcare settings; selected by virtue of their top three most negative patient feedback theme sentiment.

Conclusion: The NHS Information Strategy states that sentiment analysis of free-text could be a novel source of information, valuable in facilitating patient choice. NLP/ML, however, remains a nascent technology in healthcare, restricted to research settings and serving more
to supplement the analysis of structured data rather than a standalone tool. Our approach of rapidly, and continuously, analysing free-text using NLP meant that changes resulting from this information occurred in a timely manner and then implemented into the regular workflow of staff. This reinforced staff efforts in addressing and sustaining change for patient benefit and ensured that gaps in patient experience were identified as early as possible. Ultimately, this project revitalised the benefits of hearing from patients in their own words by holding narrative data to the same standard of scientific rigour already applied to quantitative data. To our knowledge our innovation is the first of its kind in the English NHS and the applicability of our tool is being assessed across other secondary care Trusts in collaboration with NHS England Insight and Feedback team.

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

Over the past few decades, patient satisfaction surveys have gained increasing attention as a useful source of information and a meaningful tool for improving quality measures. There are different techniques adopted to collect feedback from patients. Selecting the appropriate method is a critical challenge for health care managers since there is limited knowledge of the methods and their relative merits. The objective of the study was to understand if there were differences in feedback between the two methods and which of the two was a better method to get patient feedback.

METHODS

Study was carried out for two months with the approval (IRB 12136 dated 24/July/2019). For both methods same questionnaire was used and for passive method, “P” was stamped on the questionnaire. Questionnaire consisted of 21 questions on five-point Likert’s scale. Passive feedback is provided when patients fill up the form placed at different locations voluntarily. Active feedback is obtained by systematically approaching randomly selected patients and administering the questionnaire by trained feedback staff.
**Passive study method** was carried out by placing feedback forms in all clinics with a box to deposit them, and collected daily. The feedback forms were replenished as they were used up.

**Active study method** was done using stratified sampling method. Patients were chosen from different clinics on a daily basis. Over the period of 2 months all the clinics were covered. From each clinic every 4th patient was administered the questionnaire. Verbal consent was obtained. Questionnaire was collected back after 30 minutes or they could drop in the feedback box. Response rate was 60%

809 patients participated in the study, out of which 131 were through passive method and 678 were through active method.

**RESULTS**

Study reveals that the satisfaction level is higher in active group compared to the passive group. It was observed that 82.44% (95% CI: 75.92, 88.96) of the passive feedback respondents and 35.30% (95% CI: 31.70, 39.00) of the active feedback respondents had given specific written comments. The negative comments in passive group was higher 93.58 (95% CI: 88.98, 98.18) than the active group, 79.08 (95% CI: 73.92, 84.24) with (p<0.001).

Few factors could have played a role in this. Firstly, the active group had limited time to think through their responses. Also, they could have felt that their response was not anonymous and the person who collected the response could link their responses to them. In the passive group, it was the patient’s choice to give the feedback. They are therefore likely to do so when they have strong feelings, either positive or negative. It is likely that they may be more inclined to give feedback if their experience has been negative. It is also likely that responses from passive feedback are more thought through. Since we could not find previous studies on Passive feedback, comparisons cannot be made with other studies.

**CONCLUSION**

Active feedback method gives a good overview of the patients’ journey through the system and it could be used for systemic feedback collection. Whereas, passive feedback method provides more written suggestions and more adverse comments, which could help in planning quality improvement measures. The study shows that both methods collects complimentary information for the managers to facilitate improvement of services. It is recommended to have both systems complimenting each other for better understanding of patient feedback
Introduction: The ISQua strategy consider that Training and supporting emerging leaders from Low or Lower Middle Income Countries (LMICs) is a means of advancing quality and safety in healthcare in those countries through geometric progression. Thus, each year, one applicant is chosen by the ISQua Committee as the Emerging Leader. The candidate should have the capacity to transfer knowledge, ideas and skills to influencing groups from his country. I was awarded in 2018 and would like to share my experience and the lessons I learned.

Methods: The Emerging leader is selected following a competition with a section on the file (CV, cover letters, commitments ...) and an interview with the ISQua committee. The Emerging Leader Programme will be tailored for the successful candidate and he will also be enrolled in the ISQua Fellowship Programme. The successful candidate will also have the opportunity of being hosted as an Intern in the World Health Organization (WHO) Headquarters, Geneva, Switzerland.

Results: In March 2018, I was designated as ISQua Emerging leader for 2018. With the help of my tow mentors and Ms Elaine O’Conner, the programme responsible, we developed a tailored programme for me:

- I was enrolled in the ISQua Fellowship for the year.
- From 29th of October 2018 to 31st January 2019, I carried out a fellowship with the Quality Systems and Resilience Unit (QSR), at Service Delivery and Safety department (SDS), WHO HQ in Geneva. During 14 weeks, I was a part of the QSR team and have been involved in different projects. The main activities I fulfilled were related to:
  - Health System Resilience
  - WHO Taskforces on quality in UHC activities: WHO Implementation Guide for Quality of Care development
  - Community engagement
    - I attended the Quality in Healthcare Summit held by the Royal College of physicians of Ireland in Dublin and dealing with “Leading for quality in changing time”.
    - As a Client Relationship manager for the Tunisian accreditation agency, I Chosen to perform Study visits to 3 different types of accreditation agency:
• The Danish institute for Quality and Accreditation in Healthcare (IKAS) during the 20\textsuperscript{th} and 21\textsuperscript{st} of May 2019;
• the French National Authority for Health (HAS) from thr 3\textsuperscript{rd} to thr 6\textsuperscript{th} of June 2019;
• The Council for Health Service Accreditation of Southern Africa (COHSASA) on the 25\textsuperscript{th} of October 2019.

The overall goal was to learn from the experience of these organisations working differently and having other various mission promoting the healthcare quality and Safety.

• I attended the ISQua's 36\textsuperscript{th} International Conference in Cape Town-South Africa. I gave two oral presentations, the first within the preconference session dedicated to the African Community of practice and I talked about ”Health Innovation From Tunisia”, the second was about leadership and was a part of a session called “Generating Resonance: Leadership and Quality”. I also participated with a poster entitled “Development and implementation of a checklist for cardiac electronic devices implantation at Charles Nicolle University Hospital-Tunisia”
• I shared my experience as an African physician involved with ISQua in its continuous engagement for the patient Safety in the 24\textsuperscript{th} of October 2019 in the Africa Patient Safety Initiative.

Conclusion:
This experience was an opportunity for me to network, to get immersed on a deeper level in an international organisation like WHO, to learn from various experiences within accreditation’s agencies and so to look at things from a different perspective. I have gained new knowledge and skills which would Impact my career advancement. Currently, my challenge is to transfer knowledge, ideas and skills to my country.
Introduction:
Information technology (IT) has been introduced into the healthcare industry to improve care service delivery and hospital management. However, the incorporation of IT in healthcare facilities involves various errors, including (but not limited to) hardware crashes, cybersecurity breaches, and network failures. The harm caused to patients by IT-related medical errors (IRMEs) has become an emerging threat to patient safety with increasing use of complex technologies in healthcare information systems (HISs). Unfortunately, the industry has insufficient information pertaining to the reality of this influence. The taxonomy, prevalence, and solutions of such errors have not yet been thoroughly investigated.

In this paper, we report preliminary epidemiology data pertaining to IRMEs to promote effective strategies for preventing harm caused to patients by IRMEs.

Methods:
We organized an IRME task force (IRME-TF) from 11 hospitals (500–3000 beds) in the country. All hospitals have independent HISs, and each HIS is used rigorously. During a working period of six months, all task force hospitals were asked to report all IRME data from their sites. Each report was required to include detailed data pertaining to time, place, type of error, device(s) or IT system(s) involved, influence on the relevant HIS, and patient outcomes in detail. The IRME data were classified into three categories—HIS errors, human interface design problems, and medical device connectivity problems. The IRME-TF members met every month to discuss the possible causes and solutions of these IRMEs.

Results: HIS errors constituted 50% of the total errors; human interface design problems constituted 27% of all errors. Most of the IRMEs affect the following processes: data input (32%), data transfer (32%), and data output (23%). Moreover, 5% of all errors were general technical problems.

Most of the IRMEs were involved with medication (54.5%) and laboratory services (35%). A chi-squared test proved that the errors pertaining to medication were associated with HIS errors ($\chi^2$ test, $t= 7.07 \ p = 0.007$) and human interface design problem errors ($\chi^2$ test, $t = 6.6 \ p = 0.01$).
Conclusion:
Medication and laboratory services are vulnerable to IRMEs. Hardware problems do not appear to constitute a major category of problems. Processes that relay information (e.g. data transfer, data input, and data output processes) appear to warrant focused attention in patient safety management.
Understanding relative importance of status quo bias, patient expectations and clinical evidence in antibiotic prescribing decision-making: A discrete choice experiment

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Introduction:
Antimicrobial resistance is a global health crisis that renders antibiotics ineffective. Inappropriate prescription of antibiotics among clinicians remain a major contributor. Italy bears a large burden of attributable deaths and disability-adjusted life years caused by infections with antibiotic-resistant bacteria in the EU and EEA region according to a report by the OECD. This study aims to understand the relative importance of three different factors (clinical evidence, patient expectations, and status quo-bias) on antibiotic prescribing decision-making among physicians working in hospitals in Tuscany.

Methods: This study is a forced choice discrete choice experiment (DCE) embedded within aThe DCE was run in the context of a large-scale survey administered between October 15 and December 15, 2019 through Qualtrics to some 9,000 physicians working for the Tuscany healthcare system. Several randomized surveys were launched throughout that time frame, with this specific DCE being taken by 478 to physicians answering the survey from Nov. 13 through Nov. 19, 2019. Participants were provided with the following scenario, “An adult patient comes in to see you having not felt well. Patient has stayed at home and managed the symptoms for the past week by taking over the counter medications, vitamin supplements, and other home remedies. As they are still feeling unwell, they decided to visit the doctor. Based on this scenario, in which of these two situations are you more likely to prescribe antibiotics?” Three factors with two levels each were included in the scenario (Table 1). Factors and levels within the DCE design were informed by a literature review and finalized through focus group discussions with about fifty physicians from a variety of specialties and a representative of regional pharmaceutical governance.

The two diagnoses were selected based on a classification of appropriate antibiotic prescribing on ICD10 diagnoses (Chua et al., 2018). We selected diagnoses that were “sometimes” appropriate for antibiotics to prevent this factor from dominating the other factors.
Results:

Participants in this DCE included 478 hospitalists practicing in the Tuscany region. Physicians were 42% females, 38% males, and 20% did not provide sex information. 44% practiced in a general hospital setting, 15% in teaching hospitals, 20% in ambulatory settings, and 20% did not provide information about work setting. As to age, 12% of respondents fell in the 30-39 age group, 20% were between 40 and 49, 25% in the 50-59 age bracket, and 23% were 60 or older, and 20% did not provide age information. Preliminary results show that physicians valued the patient expectation factor the highest, with a strong preference to not prescribe antibiotics when patients have explicitly asked for it ($\beta = -0.48; 95\%CI -0.84 to -0.12$). This is followed by clinical evidence ($\beta = -0.37; 95\%CI -0.73 to 0$) and status quo bias ($\beta = 0.36; 95\%CI 0 to 0.73$).

Conclusion:

Preliminary results show that physicians valued patient expectations the highest in comparison to clinical evidence and status quo bias in antibiotics decision-making. Results should be interpreted in light of potential social desirability bias.

Table 1.

<table>
<thead>
<tr>
<th>Factor 1</th>
<th>Level 1</th>
<th>Factor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Influenza with pneumonia (symptoms: a runny nose, sneezing, sore throat and a dry cough)</td>
<td>The patient asks for antibiotics</td>
</tr>
<tr>
<td></td>
<td>Current circumstances, you did not prescribe antibiotics to this patient</td>
<td>Previously, in similar circumstances, you have prescribed antibiotics for this patient</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Factor 1</th>
<th>Level 1</th>
<th>Factor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chronic obstructive pulmonary disease (symptoms: shortness of breath and cough with sputum)</td>
<td>Patients asks for check-up</td>
</tr>
</tbody>
</table>

Please declare any conflict of interest you may have:
Author has none to declare.
Introduction: The purpose of the healthcare in Turkey is to develop and maintain the healthcare by integration of resources, institutions, people and the government. In this context, regulations set by Ministry of Health constitute one of the boundary judgments of the healthcare system. According to the regulations, a patient that comes to the emergency department (ED) of the hospital should be served even if she does not have an emergency situation. Key modeling methods used to address ED crowding in the literature include (i) simulation models, (ii) queueing models, (iii) mathematical programming models, (iv) regression models and (v) time-series based approaches. Regression models and time-series based approaches have been used to understand the relationships between the parameters mainly providing inputs to solution methods of ED problems.

The main purpose of this study was to rearrange the work flow within the ED using mathematical programming and optimization, simulation and queueing models and improve the resource allocation plans in order to decrease and balance patient waiting times, enable the demand-workforce balance and improve.

Methods: The study had made a state hospital, provides healthcare services to the public, in Ankara. Throughout the conduct of the study, the ED of the hospital was visited regularly to learn about the current system. After gathering information about the physical facilities, their working systems and the resources, the problem symptoms were observed. Then, to find the reasons behind these problem symptoms, related historical data of the hospital were obtained and analyzed. Regarding aspects of the system for which sufficient data was not available to arrive at justifiable conclusions, further data was collected by means of measurements, such as time study methods. Based on the related literature review, a simulation model based, two-phase solution approach was formed. This approach was used to develop of alternative solutions that are based on the changes in the processes, resources and patient flows. The alternative scenarios are expected to make improvements in the relevant performance measures.

Results: The most problematic issue in the ED was found out to be the high and imbalanced patient waiting times. Further analysis revealed that the main reasons leading to this include (i) demand-workforce imbalance, (ii) classification deficiency in the visual triage system, (iii) deficiency of result querying device & lack of a procedure for patients showing their test results. Among the alternative courses of action that had been assessed, a total of five
seems to produce promising results, namely (i) transferring a green doctor to the yellow area, (ii) transferring a green doctor to triage, (iii) procuring a query device for test results, (iv) allowing other doctors to view test results, and (v) a combination of the latter two. These alternatives have been presented to the hospital management for possible implementation. Other alternatives such as complexity-augmented triage, having the triage doctor ask for tests, and allowing idle green doctors to serve yellow patients have not been included in the list of recommendations, due to lack of improvements.

**Conclusion:** With this study we had a chance to work on the healthcare system in Turkey, where operations research and industrial engineering studies tools and techniques have scarcely been used. Furthermore it had been to improve the operations of a non-profit organization.
Patient safety baseline survey: Implications for patient safety policy and infection prevention and control (IPC) in Liberia

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Introduction: Referred to as processes or structures that reduce the probability of adverse events resulting from exposure to the healthcare system across a range of diseases and procedures (Kohn et al, 2000), patient safety is now a global public health priority. For every 100 hospitalized patients, 7 in developed and 10 in developing countries will suffer harm (WHO, 2017). Despite patient safety being a critical area in the Investment Plan for Building a Resilient Health System in Liberia and National Healthcare Quality Strategic Plan, understanding the problems affecting patient safety is challenged by inadequate data in Liberia.

Objectives: The patient safety survey was undertaken to understand the current patient safety status, to inform national policy and decision makers and measure future improvements in quality and safety in Liberia healthcare system.

Methods: An orientation workshop was held for 47 IPC personnel on the WHO African Partnership for Patient Safety Situational Analysis (APPS) tool for systematic data collection. The 12-key patient safety areas tool was adapted to include a scoring system and applied to collect data. Sixteen (16) out of 41 hospitals (39%) from all 15 counties were purposively selected and assessed for patient safety between March and August 2017. The IPC county focal persons arranged the necessary meetings prior to the assessment, which involved national, county and hospital leadership teams. Data was analyzed using Microsoft Excel. The results were then shared with senior health leadership, partners and key stakeholders at various coordination meetings and work plans developed to address gaps.

Results: Majority (94%) of the hospitals were public referral hospitals with a bedding capacity range of 54 to 203 beds per hospital. Most of the nurses (90%) have received training on IPC, unlike medical doctors (60%). Between 2015 & 2016, a total of 9,670 surgeries (54% emergencies and 46% electives) were performed in these hospitals. The national average score for the 12-patient safety areas was 47%. Patient safety, health services and systems development components scored 82%; healthcare waste management 65%; while safe surgical care 60%. Patient safety surveillance and research scored 19%, medication safety 28% and national patient safety policy 31%.

Conclusion: The APPS for the first time in Liberia underscored the fact that despite some post-Ebola resilient health system achievements, quality of care and patient safety remain poor. Stakeholders in healthcare should prioritize the elaboration ofa National Patient
Safety Policy and Strategic Plan, a Medication Safety plan, and establish Hospital Acquired Infection surveillance systems to have the biggest impact in this limited resource setting.
Introduction: The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) supports the Royal Cambodian Government’s vision to improve coverage, quality and equitability of Primary Health Care Service Delivery on the countries road to achieve Universal Healthcare. Within a multi-level capacity development approach, the ability of front-line health staff to contribute to the quality journey has been observed as limited. To date, modulating factors have hardly been investigated acknowledging the countries specific local context and its legacy of an autogenocide (VSO, 2013).

The research objective was to identify leadership stimulants for front-line health staff to contribute to the quality journey in the low-resource setting. This should inform the ongoing consultancy of organisational development.

Methods: Participatory Action Research (PAR) was conducted as an inductive pilot study using focus group discussions (FGD) with 42 front-line staff having given their informed consent at a provincial Cambodian government hospital. Discursive analysis against a framework of reference as PAR informed a set of semi-structured research items totalling in 5 cycles of FGD.

Results: The results demonstrate that front-line health staff express a remarkable willingness to contribute to quality initiatives. They are moved by holistic principals aspiring to “respect and care for all life as they desire for themselves” with a broad consensus. However, despite being motivated, a perceived strong psychological external locus of control inhibits their critical thinking capacity and their ability to take up action on the quality journey. These results support findings of previous reports (VSO, 2013) with a new insight on the inhibiting psychological construct.

Conclusion:

Approaches promising to strengthen the psychological internal locus of control should be incorporated in the ongoing organisation development supported by the GIZ and within the wider Cambodian healthcare service context with a focus on the individual health staff. Covey (1989) conceptualised the “7 Habits” to mature individuals from a state of “dependence” to “inter-dependence” concordant with the identified psychological construct. The organisational quality system and processes have been modified to support
these holistic leadership concepts. Further, a bespoke coaching approach at the hospital and health-centre level tailored to the local context is currently under implementation. It seeks to develop holistic leadership principals of individual health staff promoting self-leadership development thus strengthening their perceived
Introduction:
National Accreditation Board for Hospitals & Healthcare Providers was founded in 2005 with the mandate to draft, implement and review the Quality Accreditation Standards for India. Being a vast and diverse country, mostly with resource challenged settings, India, throws up varied challenges in myriad ways. While most metro cities boast of world standard infrastructure and expertise in healthcare delivery, the situation in tier 2 and tier 3 towns is starkly opposite.

There is a real need for a simple solution whereby any accreditation body can not only assess organisations but also promote quality.

Methods:
In such a scenario, inspecting, certifying and accreditating thousands of healthcare organisations in an objective, traceable and transparent manner is a real challenge. H.O.P.E. (Healthcare Organisations Platform for Entry Level certification) is an App based technology initiative from NABH which is proving to be a revolutionary tool in creating an ecosystem of quality, especially in resource challenged settings.

Results:
This short oral presentation, aims to introduce this novel and methodical two step technology based platform which over the past one year has lead to massive enrollments for empanelment and has lead to a genuine interest in creating a quality culture in healthcare.
Over the past one year, more than six thousand Healthcare organisations, mostly from remote, resource challenged corners of India, have, already enrolled under the progressive H.O.P.E. programme. These organisations which were earlier not following any structured quality protocol are now having knowledge and are actively in the process of implementing best relevant industry practices.

Conclusion:
H.O.P.E. is an excellent model of how the use of simple, inexpensive, technology can be a gamechanger and help create a progressive culture of healthcare quality in resource challenged settings.
A Mixed-Methods Analysis of International Standards Implementation in Kamuzu Central Hospital, Lilongwe, Malawi

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Introduction: Malawi’s health system has not had extensive exposure to health system accreditation. With financial support from the Gesellschaft für Internationale Zusammenarbeit (GIZ), the Council for Health Service Accreditation in Southern Africa (COHSASA) began implementing COHSASA standards 6.6. The pilot began in 2013 and ended in 2016. After a year hiatus, COHSASA was brought back to begin implementing accreditation with standards version 6.7. Although not all facilities that participated in the pilot were selected for this phase, KCH was. During both sets of the programme, COHSASA coordinated staff training and hospital surveying.

Objectives: To assess the effectiveness of COHSASA’s programme at KCH, particularly the impact that the gap in programming had on KCH’s health systems strengthening efforts.

Methods: Data from the 2013 and 2017 baseline surveys as well as the 2014 and 2018 progress reports were assessed to identify trends in KCH’s capacity during COHSASA implementation. The surveys generate overall scores, sub-scores for specific topic areas, such as ‘Patient and Family Rights,’ as well as a breakdown of KCH’s assessment for specific COHSASA standards 6.6 and 6.7 criteria. The two sets of standards were cross-referenced minor changes could be accounted for. Furthermore, an MOHP-organised thematic analysis of interviews with implementers at KCH whose feedback was incorporated into analysis of implementation.

Results: During the original COHSASA pilot, surveyors found KCH to have a baseline survey score of 23 in 2013 and a progress survey score of 33 in 2014. The largest improvements in the first progress report were in ‘Patient and Family Rights’ and ‘Management of Information,’ both of which service elements, where KCH was able to cross the threshold of trigger 2 (a score of 40) during the first progress report. ‘Medical Equipment Management Service’ was another service element that saw rapid improvement.

However, interviews with KCH staff highlighted a series of concerns over the programme, particularly that enough training was not provided to frontline staff workers, and that the process was not owned by the management.

After the gap, when the second baseline of KCH was taken in 2017, the hospital scored 23 on COHSASA Standards 6.7. Gains made in ‘Patient and Family Rights’ as well as ‘Management of Information’ (now labelled ‘Information Management and Quality Improvement’) during the pilot were lost, and it was not until the 2019 progress survey that KCH crossed the threshold of trigger 2 for either service elements again.
**Conclusion:** It is clear that the gap in implementation and the perceived lack of ownership led to the regression in COHSASA scoring for KCH. The sentiments of KCH staff are supported by the 2018 baseline, where a significant amount of progress made during the pilot was lost—some service elements even saw its score lower than the 2014 pilot. Without COHSASA involvement staff workers who were working to implement accreditation surveyors no longer continued health systems strengthening for the specific COHSASA criteria. However, during both the original pilot and phase 2 progress surveys, KCH made significant progress across many service elements, indicating that there was capacity of systems strengthening to meet standards. The lesson of KCH’s results is that without sustainable funding and a concentrated effort for local ownership, standards implementation can easily fall to the wayside in a low-resource context.

**Please declare any conflict of interest you may have:** MOHP has been working to help GIZ and COHSASA coordinate data collection and capacity building for their accreditation programmes.
Introduction: The increase in people with chronic disease and comorbidity in developed countries expands the demand for healthcare. Political organisations stress the need for preventive strategies to reduce the amount of potentially avoidable admissions, i.e. admissions that could have been avoided given timely and adequate care in the primary healthcare setting (1,2). To aid the decision-making of primary and secondary healthcare professionals, a clinical decision support system is developed to determine which patients require care and help, and thus prevent potentially avoidable admissions. To support the development and implementation of the clinical decision support system, there is a need to provide an overview of evidence on interventions targeting potentially avoidable admissions; to clarify healthcare professionals’ perspectives; and to involve stakeholders. This will provide a solid foundation for developing a framework for coordinated interventions targeting potentially avoidable admissions. The objective was to develop an evidence-based framework for coordinated interventions targeting potentially avoidable hospital admissions and strengthening the quality of primary healthcare services and cross-sectorial collaboration.

Methods: The project consists of three sub-studies. Sub-study 1 is a systematic review, including qualitative and quantitative evidence on effective and/or meaningful interventions targeting the prevention of potentially avoidable admissions. Sub-study 2 is a qualitative study focusing on healthcare professionals' perceptions regarding interventions targeting potentially avoidable admissions. Five focus group interviews were conducted with primary healthcare professionals in the Central Denmark Region, including general practitioners, home care providers, and specialist nurses. In sub-study 3, a framework for coordinated interventions supported by all stakeholders is developed. The results from the systematic review and the focus group study are combined in a participatory design using consensus development method and with participation of stakeholders from the primary and secondary care sector.

Results: Findings suggest that some admissions can be prevented by intervening on social determinants, e.g., living situation. Also, a strong collaboration between healthcare professionals from different disciplines and healthcare services is needed in order to improve the patient pathway and prevent hospitalisation. The collaboration may be strengthened if the health professionals share a common language regarding the citizens’ health status. These findings will be further elaborated and discussed at the conference, and the framework for coordinated interventions will be revealed.
**Conclusion:** The project contributes with an evidence-based framework for interventions targeting potentially avoidable hospital admissions. The framework is based on the best available evidence, knowledge from the healthcare professionals’ perspectives, and consensus among stakeholders. The framework will include recommendations for interventions that may support the provision of coordinated patient pathways to reduce the potentially avoidable hospital admissions and strengthen the quality of primary healthcare services.
Building Sustainable Palliative Care Services for Advanced Cancer Patients and their Caregivers: Comparing Two Implementation Strategies among Community Oncology Practices

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Introduction: Due to the benefits of early palliative care (EPC) in randomized controlled trials, the American Society of Clinical Oncology (ASCO) recommends “…combined standard oncology care and palliative care…early in the course of illness for any patient with metastatic cancer and/or high symptom burden.” Existing data, public health and patient needs justify the implementation of the evidence-based ENABLE (Educate, Nurture, Advise, Before Life Ends) EPC program.

Study Objectives:

Aim 1: Compare the effectiveness of Virtual Learning Collaborative (VLC) vs. Technical Assistance (TA) on ENABLE program uptake = the proportion of patients who complete the ENABLE program, defined as having a palliative care assessment and completing the 6 ENABLE sessions.

Aim 2: Compare the effectiveness of VLC vs. TA on NCORP practices’ overall ENABLE program implementation = the General Organizational Index (GOI), RE-AIM Self-Assessment Tool, Provider Perceptions of Early Palliative Care, fidelity to assigned implementation strategy measures.

Exploratory Aim 1: Compare NCORP practices randomized to VLC or TA on patient and caregiver quality of life (QOL) and mood outcomes.

Exploratory Aim 2: Determine the relationship among ENABLE program uptake, overall ENABLE program implementation, and patients’ QOL and mood across the two strategies.

Methods: Study Design: Hybrid type III cluster-randomized implementation trial.

Setting & Sample: 48 NCI Community Oncology Research Program (NCORP) practices affiliated with the University of Rochester Cancer Center NCORP Research Base. 15 patients per site=720 total patients. Patients can identify caregiver to participate.

Eligible Participants: Eligible patients are English-speaking, age 18 or older, willing to complete palliative care assessment & ENABLE sessions, advanced cancer diagnosis within the last 90 days (defined as a newly diagnosed stage III/IV, recurrence, or progressive solid tumor cancer), expected survival of at least 6 months, reliable phone service. Caregivers are
identified as someone who is an unpaid relative or friend who knows the patient well and provides support to their cancer. Eligible caregivers are English-speaking, age 18 or older, willing to complete the ENABLE sessions, reliable phone service.

**Results:** We have developed all study-related training activities (e.g., study procedures, ENABLE training), protocols for the two study arms (VLC and TA), all data collection forms and templates. Practices are actively being recruited. We anticipate the launch of Cohort 1 in Spring 2020 and will share on lessons learned to date.

**Conclusion:** Lessons learned from this study will 1) generate knowledge about methods to improve the adoption, adaptation, integration, and scalability of evidence-based practices; and 2) improve the integration of the evidence-based ENABLE EPC program in oncology practices for advanced cancer patients. Study results will fill a knowledge gap on VLC effectiveness and enhance the rigor and reproducibility of implementation strategies to adopt evidence-based palliative care.

**References:**


**Please declare any conflict of interest you may have**
Introduction: Palliative care patients often experience longer hospitalizations because of the impossibility of controlling the symptoms at home, and of receiving appropriate end-of-life home care. Structuring a support team for this group of patients at home is essential to enable dehospitalization along with the associated benefits. The aim is to describe the design and implementation of a home palliative care program in a Brazilian private home care company and present preliminary results.

Methods: A specific home palliative care program was developed by Home Doctor in 2019 to provide optimal care to patients with cancer for which there is no curative treatment. The medical staff is composed of specialist physicians, nurses, and members of the multidisciplinary team (psychologist, social worker, nutritionist, speech therapist, and physical therapist). The program was designed with 4 levels of complexity of care (Palliate levels 1 to 4), defined by applying the palliative performance scale (PPS) to the patient. The frequency of multidisciplinary visits was established according to each level of care, with monthly visits at Palliate 1 and weekly visits at Palliate 4, a level at which patients are also provided with 24-hour nursing care at home. Patients at Palliate levels 1 to 3 take only oral medication, while those at Palliate 4 receive intravenous or subcutaneous medication to control symptoms. At all levels, patients receive urgent medical care in case of complications. The quality of the program was measured through hospitalization rate, home death rate, and satisfaction survey with patients and/or family members.

Results: From July to December 2019, 16 patients were treated through the program; 8 were women (50%), and mean age was 70 years (53 – 91 years). Of 16 patients, 4 (25%) initiated care at Palliate 1, 5 (31%) at Palliate 2, 5 (31%) at Palliate 3, and 2 (12%) at Palliate 4. The principal diagnosis was breast cancer in 4 (25%) patients, colon cancer in 3 (19%), followed by gastric, prostate, pancreas, and central nervous system cancer in 2 (12.5%) patients each. Pain was the most common symptom in 3 (19%) patients, followed by dyspnea in 2 (12.5%). Overall, 2 events required hospitalization (infection) and 8 patients died; of these, 5 died at home (63%). Patient satisfaction survey showed a net promoter score (NPS) of 100% (all promoters).

Conclusion: A home care program of specialty palliative care can provide patients with dignity at the end of life, with low rates of hospitalization and high levels of satisfaction.
An Analysis of Geographical Maldistribution of Physicians in Japan From 1996 to 2016

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Objectives: In Japan, the emphasis on professional autonomy has allowed physicians to choose their specialties and work locations. In areas where the number of physicians is insufficient, ensuring the quality and safety of medical care poses a challenge. Secondary medical areas (SMAs) are medical administrative areas for which each prefectoral government must plan for the provision of general medical care and supplies. In the present study, a database of Japanese official statistics was used for analyzing the distribution of physicians in those 344 SMAs from 1996 to 2016.

Methods: For assessing the trends in geographical distribution of the physicians by sex, age, and workplace (hospital or clinic) per 100,000 population, we calculated the Gini coefficients in all 344 SMAs with information from the database. The Gini coefficients varied from 0 (geographically even) to 1 (geographically uneven).

Results: The median numbers of physicians per 100,000 population in 344 SMAs were 145.0 (interquartile range, 120.0 to 180.8) in 1996, 165.0 (interquartile range, 140.0 to 201.5) in 2008, and 186.5 (interquartile range, 155.0 to 228.0) in 2016. The Gini coefficients of male physicians working in hospitals were 0.26 in 1996, 0.25 in 2008, and 0.24 in 2016, and those reflecting the number of male physicians working in clinics were 0.18 in 1996, 0.15 in 2008, and 0.14 in 2016. The Gini coefficients of female physicians working in hospitals were 0.36 in 1996, 0.35 in 2008, and 0.34 in 2016, and those of female physicians working in clinics were 0.31 in 1996, 0.28 in 2008, and 0.28 in 2016. Figure 1 shows that the Gini coefficients of younger physicians (aged<=39 years) were lower than those of older physician (aged>=40 years). From 2000, the Gini coefficients reflecting the number of younger female physicians (aged<=39 years) was increasing, whereas the Gini coefficients of older female physicians (aged>=40 years) was decreasing.

![Figure 1: Gini coefficients of age groups in 344 SMAs]
**Conclusion:** The medians and interquartile ranges of physicians in the 344 SMAs were improving. Regardless of the workplace, the Gini coefficients of male physicians were lower than those of female physicians. For both genders, younger physicians (aged<=39 years) appeared to be more unevenly distributed, whereas the Gini coefficients for older physicians (aged>=40 years) had gradually decreased. Younger physicians are forced to live in urban areas because of longer education for themselves (for specialist qualifications and PhD degrees) or education of family members. This situation has deteriorated in the past 20 years, although the total number of physicians in Japan increased from 240,908 in 1996 to 319,480 in 2016. Therefore, further analysis is required for the identification of factors that contribute to physicians’ choices of specialties and work locations for ensuring the quality and safety of medical care.

No potential COI to disclose
Introduction: This work grew from the authors’ earlier Health Foundation study, ‘Skilled for Improvement?’ (1), which had suggested that successful quality improvement (QI) relies on an ‘Improvement-Skills Pyramid’ each of whose three walls – technical QI skills, ‘soft’ skills and learning skills – needs to be built equally tall on a supportive organisational base. Our aim in the present study was to explore in greater detail how those skills were used by frontline staff, to help inform future QI skills training.

Methods: We conducted ethnographically-informed qualitative cases studies of six groups attempting to improve care; two from one of the very best-rated acute hospital trusts in the NHS, two from one of the worst, and two in an intermediate site. All the improvement projects were multidisciplinary, involved cross-organizational clinical services, were of strategic/operational importance and were planned to have clear endpoints and outcomes, such as establishing nurse-led discharge from hospital, introducing enhanced care arrangements for elderly patients, and managing unprofessional behaviour. We studied the projects through various stages of implementation, using observations and, in all, 195 interviews. We analysed the results iteratively and thematically.

Results: We confirmed that successful improvement depended partly on the ability to perform basic QI techniques such as PDSA, but also on multidisciplinary learning and relational skills that promoted shared meaning and psychological safety. The third set of skills was the ability to perform a range of ‘socio-organisational functional and facilitative tasks’ (SOFFTs). We identified six sets of SOFFT skills used in these tasks (Box) without which improvement projects struggled or failed.

Box: SOFFTs

Adopting and promulgating the appropriate style and tone, e.g.:

- Ensuring a blame-free, nurturing and open environment
- Enabling staff to have difficult conversations through respectful critical dialogue
- Fostering a strong sense of ownership

Managing the QI roller-coaster, e.g.:
Timing and coordinating QI initiatives to avoid ‘initiative fatigue’

Following through and maintaining momentum

**Getting the problem and solution right e.g.:**

Understanding properly what is wrong and why

Co-designing the QI work

**Getting the message across e.g.:**

Getting to the right people

Framing the right message

**Enabling learning to occur e.g.:**

Creating the necessary culture of learning

Collectively growing relevant skills

**Contextualising experience e.g.:**

Adapting prior experiential learning

Using experience to contextually modify interventions

**Conclusion:**

Our six case studies detailed the skills that matter most to frontline staff engaged in QI. We will present a tool, in development, that will enable organisations to audit the levels of such skills among staff before they embark on ambitious QI projects.

QI has three facets, relational, technical and learning, all three of which require resource and attention. However, our earlier pyramid analogy was an oversimplification in that (1) it was above all the SOFFT skills that needed to be matched to the specific QI task in context; (2) the three sets of skills are closely interlinked e.g. technical skills are a social act imbued with contextual, political and personality-driven challenges.

Opportunities to engage in respectful critical conversations are necessary if technical QI skills and associated clinical skills are to be effective. Yet such opportunities are often absent. We suggest that those responsible for improvement lobby for ring-fenced resources that they can use to create space for such dialogue as part of everyday practice in order to nurture the essential SOFFT skills.

**Reference:**
Implementation and scaling-up of a tailored patient-centred care intervention using Quality Improvement Collaboratives in paediatric care in Spain: The “Miremos” program

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Introduction:
Patient-centred care is a crucial domain of quality of care. It can help to address the strategic objectives established by the European Council, where it is stated that health and social care should be friendly with children and promote and protect their rights during the hospital admission.
The objective of this study was to evaluate a tailored program aimed to propose, recommend and implement evidence-based strategies to improve the emotional wellbeing of children and adolescents during the hospital admission. After piloting in a group of hospitals, a scaling-up process is currently being tested.

Methodology:

Design: A multimodal, multicentre collaborative initiative implemented in 7 hospitals and then scaled up to other hospitals in Spain using time series evaluation.

Intervention: We implemented a quality improvement intervention based on the collaborative breakthrough methodology1. The intervention included several strategies as group dynamization and follow-up sessions, communication and dissemination activities, creation of a community of healthcare professionals, sharing effective solutions, tools and resources, e-learning packages and audit and feedback of process and outcomes' measures. The intervention used both online and face-to-face approaches.

The main outcomes assessed were evaluation and emotional support of children and adolescents by the multidisciplinary team, information and adapted communication with children and family, presence of parents 24 hours in ICU and during anaesthetic induction procedures, evaluation and management of pain and continuity and coordination of the paediatric care.

The evidence-based practices and outcomes were prioritised after a qualitative study performed with all main stakeholders.

The intervention was assessed between April 2013 and October 2014. The Scaling up is currently being performed and open to other hospitals to participate.
Participants and study population: For the pilot study 7 paediatric referrals hospitals Spain were involved, including 23 clinical units (7 Intensive care units) and currently being extended to other hospitals in Spain.

Results:
We observed improvements in the indicators of assessment of emotional status, presence of parents in the ICU, the existence of a protocol for the prevention and management of pain, especially for pain associated to minor procedures. Measures such as the introduction of the question book for communication have improved, but there are still opportunities for improvement in information for children, adolescents and families, as well as the presence of parents during anaesthetic induction. During the program implementation, 1,890 children were evaluated, 630 families involved, 702 trained professionals, 21 managers involved, and 23 follow-up teleconferences organised.

The implementation of the scaling-up to other hospitals is being well accepted and obtaining good results on the performance of the process and outcomes' measures.

Conclusion:
The collaborative intervention was associated with improvement in several processes and results measures in the participating hospitals. The initiative and materials developed are being adopted by other hospitals with paediatric care in Spain, creating a community network on patient-centred care and humanisation of care.

References


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Co-production of healthcare service for all?

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Introduction: Co-production is a recent concept in healthcare that offers new perspectives on how patients and health care professionals together can improve the quality of healthcare service. Yet, the broad application of co-production is often questioned. The assumption is that coproduction may disadvantage persons with lower health literacy. Also language and cultural differences between patients and healthcare professionals are considered barriers to co-production. In the worst case, co-production might aggravate health inequalities.

We challenge this assumption by studying conditions for co-production between immigrant patients and healthcare professionals. Due to factors related to their immigration background, these patients often receive lower quality care in their new country of residence. They are less likely to use the healthcare system and often find interactions with healthcare professionals difficult. Professionals on the other hand are challenged by differences of language and culture. The objective of the scoping review is to identify individual and context-related factors influencing co-production of healthcare service between immigrant patients and their healthcare professionals and to describe how these factors influence the co-production process between them.

Methods:
We conducted a literature search guided by the PRISMA Extension for Scoping Reviews (PRISMA-ScR). The search was limited to articles in English, German or one of the Scandinavian languages in PubMed, Scopus, Ovid EMBASE, EBSCO CINAHL, EBSCO PsycINFO, Cochrane Library and Web of Science databases for peer-reviewed publications from 2007 onwards. Additionally, we screened websites of Danish authorities, research institutes and interest organizations for non-peer reviewed literature. Two reviewers independently screened the studies for eligibility and extracted data. We applied an inductive, interpretive approach for data synthesis. The review is part of a bigger research project which is registered with the Regional Committee on Health Research Ethics for Southern Denmark (journal no: 19/16130).

Results:
The search yielded 15 peer-reviewed and 9 other documents. The identified articles illustrate that co-production between immigrant patients and healthcare professionals is
feasible if certain individual and context-related factors are being considered. Underlying preconditions for co-production to take place, revolve primarily around 1) having a safe space based on mutual trust and respect and 2) acting according to the patient’s situation. Organisationally, it is important that the intention to co-produce is more than a tokenistic gesture. Allowing flexibility in the care process, allocating resources for extra consultation time and translation services further facilitate co-production. Issues around settlement, cultural norms and family support should also be considered.

**Conclusion:**
Our findings question the criticism of co-production of healthcare services as an approach for privileged groups of patients. Our scoping review identified individual and context-related factors facilitating co-production between immigrant patients and healthcare professionals. Whilst being especially important for immigrant patients these factors are just as relevant for any other minority patient groups.

**Please declare any conflict of interest you may have:** No conflict of interest
Introduction: Patients expect to be safe while being cared for by the healthcare system. They believe that professionals do everything possible to ensure that they receive the best possible treatment, in the shortest possible time, with the best possible results. Yet, more than 138,000 hospitalizations (or 5.6% of hospitalizations in Canada) resulted in at least one harm in 2014-2015. This represents approximately one in 18 acute care hospitalizations. This rate has been constant over the past 3 years [1]. One of the currently recognized and preferred methods is to actively involve patients and their families in all activities that can limit the risks associated with healthcare activities [2]. In this context, the management of a regional health and social services authority in Quebec, Canada, decided to involve resource patients to improve the safety of care in order to: 1) reduce medication errors in the hospital setting by 10% (starting year: 2018-2019); 2) reduce falls in the hospital setting by 10% (starting year: 2018-2019); 3) train patients and their family caregivers to intervene to prevent medication errors or falls.

Methods: Inspired by the methodology of evidence-based co-design and learning organizations, where learning as a team and learning from one's mistakes create favorable conditions for the implementation of a true culture of improvement. This methodology includes 6 steps: 1) Formation of a project team, 2) Socialization, 3) Articulation, 4) Communication; 5) Internalization; 6) Evaluation.

Results: Between 2018 and 2019 the institution has implemented three types of activities. The first one consists in the realization of visits to the hospitalized patients by visiting patients who have been trained in conducting interviews. Each month rounds are made with visiting patients to collect information on the safety of care. Patients feel more confident talking to patients than to managers. Many malfunctions such as falls, people not informing of upcoming exams, medication errors, etc. have been reported. All this information was then used by clinical teams to implement short cycles of continuous improvement. The second initiative was to allow patients to report incidents or accidents by telephone. This measure was not well received by patients who were afraid of reprisals. The third was the development of a film to raise awareness among patients and families about their role in safe care. All hospitalized patients and their loved ones are invited to watch it when they are admitted. Patients have found the initiative very informative and feel more confident to share situations that potentially put them at risk. In the end, the number of falls and medication errors decreased by 20% and 23% respectively.

Conclusion:
The creation of safe spaces for patient and their relatives concern about patient safety thanks to patient visitors and the presentation of a video inviting patients to be proactive to improve their safety has rapidly led to many considerable improvements such as the number of falls and medication errors, and eventually, that contributed to money-saving by the healthcare facility.

References:


Please declare any conflict of interest you may have:

The authors declare no conflict of interest.
Laws that apply to patients recording clinical encounters: a scoping review

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Introduction
In clinical encounters, patients have to digest a high volume of information in a short period of time making it difficult to accurately recall the content. To aid recall, patients are using smartphones and other devices to record their visit. Variation exists within and across countries regarding the laws on recording clinical conversations, and the legal implications are often unclear. We seek to address this gap by conducting a scoping review of the laws related to the recording of clinical conversations in a range of countries.

Objective
The aim of this scoping review is to describe the laws that relate to patients recording clinical encounters for their own use.

Methods
A scoping review will be conducted with a search engine strategy using a combination of key phrases such as “patients recording medical encounters”, “wiretapping statutes”, and “recording laws”. We will search for legislation, regulation, and sub-regulatory guidance relevant to patients wishing to record clinical conversations for their own use on their own devices. We will limit our scope to the following countries: United States (US), China, India, Australia, Canada, and law as applied to the European Union. If healthcare-specific laws could not be identified, we assumed that general recording laws would apply. A narrative synthesis of the recording laws in each of these locations will be conducted to achieve the review aims.

Results
To date, we have synthesized data from two areas (US and Australia). We have determined that variation exists within and across all the regions analyzed. In the US, 11 states require two-party consent, whereas 39 states permit a patient to covertly record medical conversations without the consent of the clinician. While the Health Insurance Portability and Accountability Act (HIPAA) specifically governs medical data in the US, it does not apply to recordings generated by patients. General data protection also varies by state with the strictest legislation being in California which regulates how personal information is handled by businesses. In Australia, requirements for consent vary by state and purpose. For instance, a patient needs to obtain consent to record all encounters that are not intended for the protection of their lawful interests in South or Western Australia. In contrast, in two Australian states, a patient can covertly record encounters for the protection of their lawful
interests and personal use. The medical and general data protection both fall under the country’s Privacy Act which deems health information to be ‘sensitive information’ that can only be collected with special permissions. The results of our work will describe how patient recordings are covered by laws in China, India, Canada, and in countries within the European Union.

**Implications**
Quality improvement work could be developed based on patient recordings. Detailing the recording laws will help patients and clinicians understand the regulations that apply to clinical encounters.

**Conflicts of Interest**
Glyn Elwyn provides advice in the domain of shared decision making and patient decision aids to 1) Access Community Health Network, Chicago Federally Qualified Medical Centers); 2) EBSCO Health Option Grids TM patient decision aids; 3) Bind Insurance, 4) PatientWisdom Inc; 5) abridge AI Inc.

Other authors do not have conflicts of interest to disclose.
INTRODUZIONE: La Raccomandazione Ministeriale n. 8 definisce gli atti di violenza a danno degli operatori sanitari “eventi sentinella” nonché indici della presenza nell’ambiente di lavoro di situazioni di rischio che richiedono l’analisi e l’adozione di opportune misure di prevenzione e protezione nei confronti degli OS. L’analisi di un evento sentinella avvenuto a luglio 2019 nel TC del DEA, approfondito in sede di audit clinico, ha rappresentato l’input per il percorso di miglioramento (PM) realizzato.

OBIETTIVI: Gli obiettivi del percorso di miglioramento comprendevano l’implementazione di misure di prevenzione, protezione e contenimento previste dal Documento di Valutazione specifico, quali: adozione di opportune misure di prevenzione e protezione nei confronti degli OS nel setting; formazione specifica per gli operatori; monitoraggio degli eventi avversi-sentinella in ambito SPP e Rischio Clinico Aziendale (RCA); sensibilizzazione dell’utenza finalizzata alla riduzione del fenomeno delle aggressioni a danno del personale.

METODI: Il PM si è avviato grazie ad una stretta collaborazione tra SPP, RCA, STAFF Dipartimento DEA e professionisti del TC. Nel mese di luglio 2019, seguendo il ciclo di Deming, è stata effettuata un’analisi degli eventi e sono state identificate e condivise con i referenti delle strutture centrali aziendali e i professionisti del TC le azioni di miglioramento. Sono stati quindi definiti indicatori di monitoraggio, oggetto di analisi per il 2020.

RISULTATI: Sono state realizzate le seguenti azioni: 1.Attivazione di una seconda guardia giurata nei locali del Trauma Center - H24 2. Condivisione delle modalità di alert attraverso l’utilizzo del pulsante antiaggressione, l’affissione di cartelli in tutte le postazioni del TC e formazione sulle modalità di "riarmo" dei pulsanti in seguito all’attivazione. 3. Istituzione di un numero dedicato in “Area Triage” per fornire feedback agli operatori circa l’immediatezza dell’intervento. 4.Realizzazione di due simulazioni per monitorare i tempi di intervento dopo l’attivazione del pulsante antiaggressione. 5.Inserimento nel piano formativo per il 2020 di un evento relativo a “de-escalation verbale”, specifico per il personale dell’area Triage e mirato a far apprendere tecniche di gestione verbale del paziente aggressivo. 6. Istituzione di un tavolo paritetico periodico dedicato al TC composto da 4 componenti sindacali e 4 aziendali al fine di accogliere le istanze di miglioramento e monitorare l’attuazione delle azioni condivise. 7. Posizionamento di poster antiviolenza nei locali del TC per la sensibilizzazione dell’utenza.

CONCLUSIONI: I risultati conseguiti dimostrano impegno e sensibilità da parte della Direzione Aziendale verso le tematiche di prevenzione e protezione nei confronti degli OS. La sinergia
instaurata tra le componenti SPP, RCA, STAFF Dipartimento DEA e OS, hanno permesso di individuare e sviluppare ambiti di miglioramento. L’efficacia degli interventi intrapresi verrà monitorata attraverso le segnalazioni di atti di violenza sul personale recepite attraverso i canali aziendali del SPP e del Rischio Clinico Aziendale e gli altri indicatori identificati.