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The Functionality Of The Rapid Response Team Drive System And The Impact On Patient Safety - UNIMED Santa Helena Hospital

A. Pirutti 1 *, L. Torranso 2 , I. Tortoza 2 , P. Senna Mayrbaurl 2
1IQG - Health Services Accreditation, 2Unimed Paulistana, São Paulo, Brazil

Objectives: Demonstrate the assessment performance of the functionality of the Rapid Response Team drive system (RRT) in order to contribute to the safety of the care staff to use the system.

Methods: The study was developed from Jul/14 to Jan/2015 in a private, tertiary, hospital in the city of São Paulo, south-eastern Brazil. In Brazil, there is a growing number of Rapid Response Team requests (RRT) in tertiary hospitals, because one of the main challenges of quality management in health care (1) today is ensuring the safety of the hospitalized patient. The RRT consists in a multidisciplinary team approaching a patient intensive treatment with clinical signs of worsening in the inpatient unit, through codes established to trigger the service. It is designed to provide, in a timely manner, the appropriate and necessary resources to prevent or reduce the probability of a worsening of symptoms or risk of imminent death for the patient. There were visits performed by the Protocols Industry in the sectors of Surgical Medical Clinic of Unimed Santa Helena Hospital to conduct fortnightly a test of the functionality in the system used in the request of RRT. This consists in a bell system, by which the medical teams of hospitalist, physical therapy, Intensive Care Unit and elevator operator are requested by a beep for communicating their place of complications.

Results: Analyzing the results, we identified that between July/2014 and September/2014 there was a monthly average of 32 failures in the bell system/hospital beep during the tests. In October/2014 there was an interaction with the third company, responsible for the system in hospital. In this interaction we observed a failure in the unit request board and not only failures in beeps that were changed on time for the hospital maintenance. In November/2014 and January/2015, after the activities, we noticed a monthly average of 8 system failures. We also noticed an increase in the safety of the staff in the request of Rapid Response Team by the system, once we had an increase of 13.4% on the team request through the bell.

Conclusion: We have concluded that the functionality of the RRT request system is configured in a non-clinical risk, which must be constantly managed. The interference of non-clinical risks in care demonstrates the complexity of the health sector, ie, a multifaceted industry that demands and requires the involvement of multiple variables to perform duties efficiently and safely (2). The interaction of the protocols and maintenance teams has been essential to improve the system and trust of the care team.
Using A Computerized Communication Platform As A Tool For Spreading Safety Culture - The Brazilian Patient Safety Program Experience

F. Folco¹, T. Sotto Mayor¹, M. M. Damasceno¹, M. Machado¹
¹IQG - Health Services Accreditation, São Paulo, Brazil

Objectives: In order to generate a network of information and communication between Brazilian hospitals, the Brazilian Patient Safety Programme (PBSP) developed a Communication Platform via the web, to promote the exchange of experiences, dissemination of best practices, dissemination of protocols based on best practices related to quality and patient safety and training of multidisciplinary teams of the participating hospitals.

Methods: The web-based Communication Platform allows contact via videoconference among all members of the Program, considering the size of the country and bringing all the states to the same location, where exchange in information in real time is made possible. For this, the participating institutions receive free online tools for data collection and monitoring of performance indicators and results, which enables monitoring, also in real time, of the performance of all members. The information reported by the participating institutions, which together accounted for n = 117, occur voluntarily. This platform is guided by 7 goals: To position the quality of health care and patient safety as a strategic priority of the institutions; To facilitate the integration of quality care and patient safety in the practice of everyday life; To generate information and evidence in targeted safety results; To compile and provide information on quality and patient safety; To provide technical assistance in the design, improvement and implementation of quality and patient safety programs of the member institutions; To provide theoretical and practical tools to health services wishing to implement patient safety policies; To promote professionals training in the prevention of avoidable events in health care through continuing education; To assure scientific and technical support to participating institutions through monitoring and guidance throughout the process to implement the suggested protocols.

Results: Throughout the monitoring of the program we have seen a growing interest of hospitals to integrate and participate in the suggested protocols and practices. The assistance to the participating institutions, through the platform for scientific and technical support providing monitoring and guidance throughout the process of implementation of the various protocols, proved critical to continuity of processes. The analyzed data of different protocols members of the program, demonstrated increased assertiveness of care for patients elected in each protocol, which resulted in greater security for processes determining a better clinical outcome for the patient.

Conclusion: Our results demonstrate effectiveness of the Brazilian Patient Safety Program communication platform as a tool to promote the exchange of information between participating institutions and to disseminate the safety culture of the patient by hospitals in the country. The use of the tool allowed the exchange of experiences between hospitals, dissemination of protocols based on best practices related to quality and patient safety and the promotion of training of multidisciplinary teams of the participating hospitals.
Hospital Infrastructure Of Information Technology And Physician Use Of Clinical Practice Guidelines

N. Sasaki 1,*, Y. Imanaka 1, A. Okumura 2, N. Yamaguchi 2, 3
1Department of Healthcare Economics and Quality Management, Graduate School of Medicine, Kyoto University, Kyoto, 2MINDS Guideline Center, Japan Council for Quality Health Care, 3Department of Public Health, Tokyo Women’s Medical University, Tokyo, Japan

Objectives: To assess the relationship between accessibility (including hospital infrastructure of information technology) to evidence-based practice recommendation and physician use of clinical practice guidelines.

Methods: We conducted a two-step interview survey as follows:

i. a semi-structured, face-to-face interview for hospital administrators and

ii. (ii) a semi-structured, focus group interview for young physicians, consisted of first and second year residents group, and three to five year residents group who are more trained for specialties.

The initial step interview aimed to investigate both hospital infrastructure of information technology and the administrators’ attitudes towards evidence-based practice, and the second step interviews aimed to examine the training, perception, and actual use of young doctors related with clinical practice guidelines. These interviews were performed between June and August 2014 in five leading teaching hospitals (more than 400 resourced beds) mainly participating Quality Indicator/Improvement Project (QIP) in Japan.

Results: Fifteen hospital administrators and 45 resident physicians participated in these interviews. Hospital infrastructure of information technology including accessibility to internet using wireless LAN access services varied so much besides using electronic medical records, although study hospitals were all leading teaching hospitals. Young physicians tended to collect information from the internet for daily clinical practices, to prefer digital environment, and to use private tablets or PCs when those information are not available in their hospital circumstances (varied among hospitals from 40 to 91%). However, clinical practice guidelines were not utilized enough because of information in guidelines which were not fully updated, inconvenient hospital infrastructure for downloading, and so on.

Conclusion: Digital and web accessibility is crucial to disseminating clinical practice guidelines and evidence-based practice to young physicians in the Internet era. A trans-specialty search engine for clinical questions tagged with appropriate clinical practice guidelines may be required in the near future.
Challenges Facing E-Health Deployment In Nursing Practice From Perceptive Of Nurses: Qatar As A Case Study

R. A. Al-Huneiti 1*, Z. Al Hanaiti 2, W. Balachandran 3
1Healthcare Quality and Patient Safety, Supreme Council of Health, Doha, Qatar, 2UkAcademy, Chelmsford, 3Brunel University, London, United Kingdom

Objectives: This paper is part of research work develop an e-learning model for e-health education in developing countries. The objective of this study is to investigate the current e-health readiness in Jordan from the perspective of nursing community, with the focus on the main challenges which hinder e-health adaption and implementation within the nursing profession.

Methods: A comprehensive questionnaire was developed with the aim to gather information about the current use and readiness of e-health. A sample of 383 nurses working at both government and private hospital in Qatar were surveyed. To achieve the full understanding of the questions by nurses who use English as a second language, the questions concentrated on the main issues with short and simple wording. The completed questionnaires were collected and analyzed using Statistical Package for Social Sciences (SPSS) software.

Results: The results revealed that nurses lack the necessary knowledge towards e-health processes and applications. The top challenges facing e-health implementation are of educational related aspect.

Conclusion: The outcome from this study justifies the need to establish an educational framework for e-health implementation since e-health is an opportunity to improve efficiency, reduce costs, facilitate communication and enhance patient care.
Assessment Of The Readiness To Implement A Computerized Provider Order Entry (CPOE) System: A Pilot Study From King Saud University Medical City

Y. S. Amer 1,2,*, A. A. Jamal 3,4, M. Baksh 3, K. I. Aljonaieh 2,5
1Quality Management Department, 2eSiHi CPOE Physicians team, King Saud University Medical City, 3Family and Community Medicine, 4Medical Informatics & eLearning Unit (MILEU), 5Anesthesiology, King Saud University College of Medicine, Riyadh, Saudi Arabia

Objectives: Published evidence has showed that CPOE is effective in the reduction of medication errors and turn-around-time and in supporting order completeness and eligibility in hospitals. The objectives of this study are to identify preconceived attitudes and expectations of healthcare professionals (CPOE target users) in order to support strategic planning, implementation and evaluation of a new CPOE system (Electronic System for Integrated Health Information or eSiHi) and to serve as a baseline pilot pre-implementation study in King Saud University Medical City (KSUMC)

Methods: An adapted survey questionnaire was used for assessment of the attitudes and expectations of healthcare providers. In this pilot study, data were collected and managed using the REDCap (Research Electronic Data Capture) electronic data capture tools, developed by Vanderbilt University. Preliminary data analysis was done by utilizing the graphical data view and descriptive statistics module of the REDCap platform and final analysis was done using the SPSS (Statistical Package for the Social Sciences).

Results: Total responses to the pilot survey were 95 with 52 (54.7%) complete responses and 43 (45.3%) incomplete responses. The common categories of respondents were physicians (56%), nurses (19.1%), and technologists (11.9) that practice in both in-patient and out-patient settings (50.5%). Most of them felt that CPOE is beneficial (mean=86.18, SD=15.8), inevitable (mean=71.63, SD=23.6), will decrease the workload (mean=65.14, SD=24.4), require less time (mean=72.09, SD=18.8), improve patient satisfaction (mean=78.55, SD=20.1), decrease ordering clarification calls (mean=83.61, SD=17.3), decrease order errors (mean=86.08, SD=16.9), improve patient outcomes (mean=82.05, SD=15.7), they would definitely use CPOE (mean=84.88, SD=18), they would participate in CPOE development (mean=80.07,SD=16.2), they would participate in CPOE training (mean=76.07, SD=20.7). Also, most providers preferred CPOE with clinical decision support (CDS) (98.1%). The top 5 options requested in CPOE usage included; ease of use (56.1%), handheld access (52.6%), ability to quickly enter orders (49.1%), quick/ immediate online access (49.1%), and questions and help “hot-line” availability (49.1%). Regarding CPOE training, the top 5 requests were group sessions (3-5 people) (54.4%), self-training module (47.4%), one-on-one training (45.6%), training booths with assistance (40.4%), and reference sheets (31.6%). And finally the top 5 requests for CPOE support were; dedicated phone support 24/7 (73.7%), training updates (56.1%), user simplified “help” sheets (47.4%), individual support at entry site (31.6%), and user manuals/ texts (26.3%).

Conclusion: The pilot survey results revealed overall positive preconceived attitudes and expectations of healthcare professionals towards CPOE. Assessing providers’ perceptions before implementation is critical in order to identify and address potential barriers to implementation. Also, specific requests of providers were identified regarding the usage, training and support of the CPOE system
A Systematic Approach To Developing Quality Management System In Primary Health Care: Oman Experience
A. M. Taman, Prof. and Consultant Quality & Patient Safety, MoH-HQ, Muscat, Oman

Objectives: To investigate the experience of Ministry of Health of Oman in establishing quality management system at primary health care facilities.

Methods: This study was conducted in year 2014 using the following methods and tools: *Intensive review of the annual progress reports that monitor different strategies, indicators and the status of achievements of the objectives of quality and patient safety domain of the 7th (2006 to 2010) and 8th (2011 to 2015) five year health development strategic plans. *Situational analysis of the strengths, weaknesses, opportunities and threats of current situation of the quality and patient safety system in primary health care facilities.*Comprehensive review of different quality and patient safety monitoring and evaluation approaches and tools used in MoH organizations. *Investigating reports provided by external reviewers from World Health Organization (WHO-Short Term Consultants) on the quality and patient safety system of primary health care services in Oman.

Results: The present study revealed that the majority of primary health care facilities in Oman (87%) had well established quality management system (169 out of total 195 facilities). A national quality policy and strategic (5 year) & annual quality and patient safety plans at all levels were issued. Several standard operating procedures, manuals, practice guidelines, an electronic patient record & incident reporting system were developed. An ongoing audit system is established and a comprehensive audit exercise is conducted for each primary health care facility once a year. Nearly 1200 health care workers were trained and certified as auditors. A Comprehensive Manual of Quality Assurance Standards was developed including 34 standardized audit checklists that covered almost all aspects of services provided by the primary care facilities. About 30 quality improvement projects were implemented using well defined methodology. User/Staff feedback surveys are conducted every two years. In year 2012, overall user satisfaction was reported to be 75.3% (average of 3 governorates), whereas overall staff satisfaction recorded 80% (average of 5 governorates). Regarding training & national capacity building, well-structured continuous professional development policies and plans were developed. A central training program of Certified Quality Professionals in Health Care was implemented where 21 Omani cadres were qualified to lead and implement quality and patient safety systems in their health care organizations. Up to date 25 Omani cadres were awarded master degrees in quality & patient safety in health care from international universities. Appointment systems were implemented in 99 facilities and best staff & best institution award initiatives were established (in 86 facilities and 7 governorates respectively). The main challenges addressed were: continuing high expectations of service users, integrating quality system in other processes (e.g., administration, finance), automating quality and patient safety monitoring tools, ensuring sustained commitment of decision makers and leaders at all levels, in addition to allocating adequate budget for quality and patient safety initiatives.

Conclusion: The established quality management system in primary health care facilities is highly recommended to be expanded and built in other processes and functions of health care system including, but not limited to, administration, finance, human resources, education, pharmaceutical, purchase, information system, secondary & tertiary care hospitals as well as private sector establishments. The quality management system in primary health care in Oman is recommended to be a reference model with which others are benchmarked both regionally and internationally.
Quality Improvement Initiatives Tackled By Healthcare Organisations – A 5 Year Review Of ACHS Annual Quality Improvement Awards

M. W. Burgess ¹, L. O’Connor ¹, K. Linegar ², *¹Customer Services and Development, ²President, Australian Council on Healthcare Standards (ACHS), Ultimo, Australia

Objectives: To determine areas healthcare organisations prioritise for quality improvement by analysing ACHS Quality Improvement Awards winning and highly commended submissions over 5 years.

Methods: The ACHS Quality Improvement (QI) Awards recognise outstanding quality improvement activities implemented by ACHS member organisations. There are 3 QI Awards categories: Clinical Excellence & Patient Safety, Non-Clinical Service Delivery and Healthcare Measurement. Submissions are judged by an ACHS councillor, surveyor and organisation representative to award a category winner and highly commended submissions. A quasi-quantitative analysis was conducted on all 39 winning and highly commended submissions between 2010-2014. The QI Awards judging process provided a means to identify submissions that contain valid healthcare quality improvement data. Quantitative data was generated by applying uninominal scoring to identify key topic areas using the 15 EQuIPNational Accreditation Program standards, covering a healthcare organisation’s clinical, support and corporate functions. In parallel, demographic data of awarded submissions from healthcare organisations was generated detailing their location, bed number and public/private designation. Finally, a comparative analysis was performed between EQuIPNational topic areas, demographic data and QI Awards categories to identify correlations between these variables.

Results: Between 2010-2014, ACHS received 458 QI Awards submissions and 39 received recognition. There were 15 judges over the 5 year period with a service average and median of 3 years strengthening the validity of the data set.

1. General trends (winning and highly commended submissions)
   - Multiple topics emerged in each submission. Most common topics: Service Delivery (77%), Workforce Planning and Management (69%), Provision of Care (69%), Consumer Involvement (62%), Information Management (46%) and Organisation Governance (39%).
   - Majority of submissions from public healthcare organisations (74%) in metropolitan areas (72%) with more than 200 beds (72%).
   - 51% (20/39) of submissions recognised in the Clinical Excellence and Patient Safety category.

2. Correlations between Public & Private healthcare organisations and quality improvement topic areas
   - Public healthcare organisations concentrated on clinical quality improvement activities including Service Delivery (35%), Provision of Care (31%) and Consumer Involvement (18%).
   - Private healthcare organisations were more likely to concentrate on corporate quality improvement activities including Workforce Planning and Management (80%), Information Management (60%) and Organisational Governance (60%).

3. Correlations between healthcare organisation location, size and quality improvement topic areas
   - Metropolitan healthcare organisations showed prevalence for quality improvement topics on Organisational Governance (25%).
   - Rural/Regional organisations focused on Service Delivery, Provision of Care and Consumer Involvement.
   - Organisations with less than 200 beds showed patient-centric quality improvement topic correlations including: Service Delivery (91%), Provision of Care (82%) and Consumer Involvement (82%).

Conclusion: Strong correlations were shown between QI Awards clinical or non-clinical category areas and links to relevant clinical and corporate quality improvement topic areas respectively. Submissions from the private healthcare sector focused on corporate quality improvement initiatives while submissions from public healthcare organisations with less than 200 beds focused on clinical quality improvement issues.
What Aspects Of Quality Matter To Patients, Professionals And Policy Makers?
H. Crisp 1, 2 Research, The Health Foundation, London, United Kingdom

Objectives: QualityWatch is a 5 year programme to monitor the quality of health and social care in the UK over time, using a wide range of publicly reported indicators. The programme is jointly funded by the Health Foundation and the Nuffield Trust. The indicators to be included were initially selected from over 1500 identified, refined down to 200 through consultation with expert advisors on care quality and data. Once QualityWatch was established we wanted to check how the indicators selected by the experts matched with views on important aspects of quality of three distinct groups: patients and service users; health care professionals and policy makers.

Methods: In order to develop a meaningful exercise for respondents, the 200 indicator items were grouped into 73 themes across the quality domains of patient safety, access, person-centred care, effectiveness, capacity access and equity. A questionnaire was developed with 11-14 separate statements for each of these domains. Examples were ‘Patients receive continuity of care from services’ (person-centred care) and ‘People from different communities have the same health outcomes’ (equity). Health professionals and policy makers who had had some interaction with the QualityWatch programme were invited to complete an on-line questionnaire rating the importance of each statement and also to add comments about why they rated particular statements of higher or lower importance as an aspect of quality care. Respondents were also invited to suggest other important aspects of quality of care that were not covered by the statements. Alongside the questionnaire, 59 patients and service users participated in 8 focus groups to discuss the domains of quality and rate the 73 themes for their importance as an aspect of quality of care and to offer suggestions for other factors that are important for quality.

Results: Overall, the patients, health care professionals and policy makers were consistent in ranking the themes under ‘safety’ as the most important aspects of quality of care, followed by ‘effectiveness’. However, across all domains the majority of the 73 statements were ranked as ‘important’ or ‘very important’. This was reassuring as it validated the original selection of indicators for the QualityWatch programme by the experts on quality of care and the data analysts’ view of the more robust indicators. The study indicated some areas where respondents felt that the indicators missed important elements of quality of care such as access to appropriate care, rather than the same level of care and services being available to all. The QualityWatch programme is working with national bodies responsible for data collections to refine data terms to reflect a more nuanced approach.

Conclusion: The study showed that there is a broad consensus both within and across the three groups of patients, professionals and policy makers as to the most important aspects of quality of care, with safety seen as the most important. Within this there were differences, with patients being more pragmatic in many cases in accepting the limitations of services not being able to meet the highest standards across all quality dimensions all the time, particularly where there are resource constraints. The divergence between patients and professionals and policy makers on the importance of aspects of quality needs to be considered when planning and delivering services.
The Impact Of Pay For Performance (P4P) Project For Acute Stroke Quality Assessment

J. H. Yang¹*, G. J. Ha¹, Y. H. Rhu¹, M. K. Kim¹
¹Health Insurance Review & Assessment Service (HIRA), Seoul, Korea, Republic Of

Objectives: Health Insurance Review and Assessment Service (HIRA) started assessing the quality of acute stroke in 2007, and began applying Pay for Performance (P4P) Project in 2012. Top 20% of all hospitals that were participating in quality assessment received 1% incentive payment of medical claims fee through P4P Project. This study aims to analyze the effect of P4P by comparing the outcomes of before and after of the implementation.

Methods: Using all benefit claims data of HIRA and additional clinical data of all inpatients who were diagnosed with acute stroke. To evaluate the effectiveness of P4P, the results of CQS (Composite Quality Score) and six performance measures from pre-P4P (201 hospitals, 7,864 cases in 2010) and post-P4P (201 hospitals, 10,399 cases in 2013) were compared by simple and t-test analysis.

Results: The average CQS and result of all quality measures showed higher scores after the adoption of P4P. The average CQS increased from 80.3 to 90.6 (p<.0001). Dysphagia screening rate increased from 81.6% to 88.2% (p=0.0424). Brain imaging within 1 hour rate increased from 92.7% to 97.5% (p<.0001). Assessed for early rehabilitation rate increased from 74.2% to 83.2% (p=0.0094). Lipid blood test rate increased from 91.4% to 94.7% (p=0.0915). Thrombolytic therapy (t-PA) rate increased from 92.2% to 96.5% (p=0.0887). Antithrombotic Therapy within 48 hours rate increased from 90.1% to 96.4% (p=0.0048). Four measures, including dysphagia screening showed statistically significant score improvement.

Conclusion: This study showed that the adoption of P4P program had impacts on improving the quality of acute stroke treatment in Korea.
Is Quality of In-Hospital Care Associated with 30 Day Mortality Among Patients with Hip Fracture? A Nationwide Cohort Study
P. K. Kristensen 1 2,*, T. M. Thillemann 3, K. Søballe 3, S. P. Johnsen 2
1 orthopedic surgery, Region hospital Horsens, Horsens, 2 Department of Clinical Epidemiology, Aarhus University Hospital, Aarhus, Denmark

Objectives: We examined the association between quality of in-hospital care as reflected by five process performance measures and 30 day mortality among elderly patients with hip fracture.

Methods: We performed a nationwide cohort study based on prospectively collected data from the Danish Multidisciplinary Hip Fracture Registry. We identified 25,354 patients ≥65 years who were admitted with a hip fracture from March 1, 2010 to November 30, 2013. Quality of in-hospital care was reflected by six process performance measures: systematic pain assessment, early mobilization, receiving basic mobility assessment, post discharge rehabilitation program, anti-osteoporotic medication and prevention future fall accidents. Each process performance measure was analyzed separately. In addition quality of care was also modelled as a proportion of all fulfilled performance measures for the individual patient (0-25 %, 50-75 %, 75-100%). The outcome was 30-day mortality. For the analysis we only included patients found eligible for the individual process performance measures. We performed multilevel logistic regression analysis with data from patients nested within hospitals and units with control for age, gender, type of fracture, time to surgery, Charlson Comorbidity scores, family mean income, civil status, unit setting and patient volume of the unit.

Results: Overall the 30-day mortality was 11.2 %. For all six process performance measures, patients who met the process performance measures had a lower 30 day mortality. The adjusted mortality odds ratios (ORs) were 0.36 (95 CI: 0.31-0.41) for systematic pain assessment, 0.50 (95% CI: 0.45-0.55) for early mobilization, 0.74 (95 % CI: 0.64-0.86) for basic mobility assessment, 0.35 (95 % CI: 0.28-0.43) for post discharge rehabilitation program, 0.47 (95 % CI: 0.42-0.52) for anti-osteoporotic medication and 0.59 (95% CI: 0.54-0.66) for prevention of future fall accidents. Analyses with exclusion of patients who died during hospitalization showed weakened associations, but patients with fulfilled process performance measures still had lower adjusted ORs and the associations remained statistically significant for five out of six process performance measures. Receiving 75-100 % of the relevant process performance measures was associated with decreased 30-day mortality (adjusted OR =0.31 (95% CI:0.28-0.35 )) when compared to patients receiving 0-50% of the process performance measures. When we included all process performance measures in the same regression model for their mutual adjustment, basic mobility assessment (adjusted OR =0.86 (95% CI: 0.68-1.10)), anti-osteoporotic medication (adjusted OR =0.86 (95% CI: 0.59-1.26)) and prevention future fall accidents (adjusted OR =1.10 (95% CI:0.80-1.51)) lost their independent association with reduced mortality.

Conclusion: Higher quality of in-hospital care was associated with lower 30 day mortality among patients with hip fracture.
Is Compliance With Hospitals Accreditation Associated With Shorter Length Of Stay And Lower Risk Of Acute Readmission? – A Danish Nationwide Population-Based Study

A. M. Faltsie-Jesen¹,*, H. Larsson¹, S. P. Johnsen¹, E. Hollnagel²

¹Department of Clinical Epidemiology, Aarhus University Hospital, Aarhus N, ²Center for Quality, Region of Southern Denmark, Middelfart, Denmark

Objectives: To examine the association between compliance with hospital accreditation length of stay (LOS), and risk of acute readmission (AR).

Methods: A nationwide population based follow-up study was performed including 31 public, non-psychiatric hospitals. In-patients diagnosed with one of 80 diagnoses accounting for 80% of all deaths within 30-days after admission were included with their first admission between +/- 6 month from the hospitals on-site survey. Data were obtained from national, public registries in which data are registered prospectively. Compliance with the 1st version of The Danish Healthcare Quality Programme for hospitals (DDKM) was assessed by a survey team during an on-site survey. Based on these findings hospitals were classified fully (n=11) or partially accredited (n=20) according to their compliance with the 104 standards. Additionally, partially accredited hospitals were offered a follow-up activity by either submitting additional documentation (n=9) or having a return visit (n=11). An expert panel selected 4 standards with a priori expected particular importance for LOS and 3 for AR, then classified as fully or non-compliant.

LOS was defined as days and AR as all cause readmission within 30 days after discharge. In-patients were followed from admission until discharge or death for LOS and from discharge until 30 days after, readmission, or death for AR, whichever occurred first. We compared LOS and AR rates of in-patients admitted at fully and partially accredited hospitals. All analyses were performed using multivariable Cox Proportional Hazard Regression with the use of robust standard errors at hospital level and adjusting for six potential covariates.

Results: We identified 275 589 in-patients for the analysis for LOS (fully=75 127; partially=200 462) and 266 532 in-patients for AR (fully=72 742; partially=193 790 (death during admission excluded)). In-patients at fully accredited hospitals were more likely to be discharged before in-patients at partially accredited hospitals (fully: 4.51 days (95%CI: 4.46-4.57); partially (ref): 4.54 days (95%CI: 4.50-4.57), adjusted HR: 1.07; 95%CI: 1.01-1.04). According to follow-up activity, in-patients at hospitals requested to submit documentation were discharged earlier compared with in-patients at hospitals having a return-visit (adjusted HR: 1.11; 95%CI: 1.01-1.24). Compliance with two individual standards was associated with a particular shorter LOS for in-patients at fully compared with non-compliant hospitals (Standards “Nosocomial infections”: adjusted HR: 1.20 (95%CI: 1.07-1.34); “Critical observation results”: adjusted HR: 1.25 (95%CI: 1.09-1.44). No difference in risk of AR was found between in-patients admitted at fully accredited and partially accredited hospitals (fully: AR 16.96 % (95 % CI: 16.69-17.23); partially: 17.56 % (95 % CI: 17.39-17.72), adjusted HR 1.00; 95% CI: 0.92-1.09)). The neutral association was confirmed when comparing in-patients admitted to hospitals according to follow-up activity (return visit (reference), submitting documentation: adjusted HR 0.93 (95% CI: 0.83-1.0), no follow-up (fully accredited): adjusted HR 0.97 (95% CI: 0.86-1.10)). One standard was associated with a lower risk of AR for in-patients at fully compared with non-compliant hospitals (“Treatment plan”: adjusted HR 0.91; 95% CI: 0.83-0.98).

Conclusion: Admission at fully accredited hospitals was associated with shorter LOS than admission at partially accredited hospitals according to the 1st version of the DDKM. No differences in AR were found, although the study confirmed that AR is a frequently occurring event.
Revision Of The OECI Accreditation And Designation Standards

H. Blaauwgeers¹ *, F. Boomsma ¹, M. Docter ¹, M. Saghatcian ¹
¹Organisation of European Cancer Institutes, Brussels, Belgium

Objectives: The Organisation of European Cancer Institutes (OECI) launched the Accreditation Programme in 2008 in order to provide cancer patients within Europe an equal access to high quality of cancer care and helping European cancer institutes to implement a quality system for oncology care using the OECI standards and peer review system. After a first round of accreditation in the first years of the programme, it was planned to update the complete set of OECI comprehensive quality standards.

Methods: The expertise gained thanks to the Accreditation & Designation (A&D) of the 29 centres which entered the process, and the feedback coming from the Auditors, have given inputs to the standards and make suggestions of needed changes. This was used to reformulate / delete / add standards (April – May 2013). The first draft has been published online in order to invite the cancer community to provide comments, suggestions, inputs and was also presented for comments to a selected group of well experienced auditors, resulting in a second draft (May – June 2013). This second draft contained specific remarks on certain standards that have been presented to experts in oncology and to the European Cancer Organisation (ECCO). Member Organisations (August – September 2013). The comments were used to reformulate a new draft with discussion topics during the OECI General Assembly, June 2014. The draft was finalized with input of members of centres (with specific expertise, e.g. radiotherapy, pathology), auditors, the European Cancer Patient Coalition (ECPC), and several OECI working groups, e.g. palliative care (September 2014). The final version of the revised standards will be discussed during the March meeting of the OECI board (March 2015).

Results: The Accreditation and Designation Working Group of the Organisation of European Cancer Institutes (OECI) devoted many efforts in the evaluation and revision of the quality standards for comprehensive and multidisciplinary cancer care in European cancer centres. Thirty-one centres have participated in the A&D-programme from 2008 to 2014. Twelve of them are certified as a comprehensive cancer centre, 6 as a clinical cancer centre and 11 are still in the accreditation and designation process. The first edition set of quality standards have been developed and validated in the period 2006 till the launch of the A&D Programme in the 2008. From 2010 onwards, the accreditation programme was completed with additional quality and quantity requirements. The first edition comprised of 263 sub-standards in the field of general standards, strategic plan, and general management; screening, primary prevention, and health education; care; research, innovation and development; teaching and continuous education; information and involvement of patients. Due to the revision of these standards, a new (second) version set of the OECI Accreditation and Designation revised standards will be soon published, completing the revision process started in 2013. This version comprises of 290 sub-standards on the same topics.

Conclusion: An up-to-date set of quality standards is available for European Cancer Centres entering the programme or going for reaccreditation. The improvements concern more clear formulation, unrealistic standards are removed or replaced, expansion of the sub-standards of palliative care and more focus on patient involvement and items on outcome of cancer care.
Areas For Improvement Recommended By Hospital Accreditation Process In Japan
T. Yamano 1,*, R. Yokoyama 1, H. Sugawara 1, Y. Imanaka 1 1Japan Council for Quality Health Care, Tokyo, Japan

Objectives: To provide high quality in health care, it is important for hospitals to identify the points for improvement objectively. Japan Council for Quality Health Care (JCQHC) is a third-party organization conducting hospital accreditation in Japan based on their accreditation scheme. It evaluates based on around 90 items in 4 areas (Area 1: Promotion of patient-centered healthcare, Area 2: Quality medical practice - care process, Area 3: quality medical practice: Implementation of functions for providing safe care in each section, Area 4: organization management for achievement of ideas). The purpose of this study is to review areas for improvement recommended by hospital accreditation process in Japan.

Methods: The 441 hospitals which had an accreditation survey of JCQHC in FY 2013 were selected and a distribution of the result (S, A, B, and C) of each item was calculated in each 5 accreditation type (Hospital type 1, Hospital type 2, Rehabilitation hospital, Long-term care hospital, and Psychiatric hospital). Each 3 item which had the largest number of hospitals getting rate C, meaning Not Met, were selected in 5 accreditation types, and the trend of their contents were analyzed.

Results: In each area, the total number of hospitals which got C was as follows: Area 1 was 19, Area 2 was 138, Area 3 was 65 and Area 4 was 40. The top 3 items which had the largest number of hospitals which got C was shown in the table below.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Hospital type 1 (N=126)</th>
<th>Hospital type 2 (N=226)</th>
<th>Rehabilitation (N=20)</th>
<th>Long-term care (N=40)</th>
<th>Psychiatric (N=49)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Item (%)</td>
<td>Item (%)</td>
<td>Item (%)</td>
<td>Item (%)</td>
<td>Item (%)</td>
</tr>
<tr>
<td>1</td>
<td>4.2.3 (7.3%)</td>
<td>2.1.5 (7.1%)</td>
<td>2.1.4 (10.0%)</td>
<td>2.1.5 (15.0%)</td>
<td>3.1.1 (17.2%)</td>
</tr>
<tr>
<td>2</td>
<td>2.1.5 (7.1%)</td>
<td>4.2.3 (6.6%)</td>
<td>2.1.5 (10.0%)</td>
<td>2.1.9 (12.5%)</td>
<td>2.1.4 (10.3%)</td>
</tr>
<tr>
<td>3</td>
<td>2.2.20 (5.0%)</td>
<td>3.1.1 (4.4%)</td>
<td>3.2.1 (7.7%*)</td>
<td>3.1.8 (10.0%)</td>
<td>2.2.14 (4.0%)</td>
</tr>
</tbody>
</table>

*As the number of N was very small, it is a reference value.

2.1.4 Preventive measures against communication errors are implemented
2.1.5 Measures are taken for the safe use of medications
2.1.9 Activities are conducted for control of healthcare-related infections
2.2.14 Drug administration/injection is given reliably and safely
2.2.20 Physical restrictions are applied properly for safety assurance
3.1.1 Drug control function is fulfilled properly
3.1.8 The function of cleaning and disinfection is properly fulfilled
3.2.1 The function of pathological diagnosis is properly fulfilled
4.2.3 Safety and health administration of the hospital staff is properly conducted

To summarize the contents of the 15 items above, the items related to safety management including infection control were account for 14 items (90 %), which were except 3.2.1. 7 out of 15 (47%) were categorized as medication-related. 2 of them (13%) were about staffs’ safety, communication error, and infection control. 1 of them were categorized as physical restraint, and pathology respectively.

Conclusion: In conclusion, by reviewing quantitatively, the hospital accreditation process in Japan issued recommendations for improvement most frequently in the areas of safety management, including medication management, infection control, prevention of communication errors, and staff safety. Based on the facts that hospitals were accredited only after realizing improvement in these areas, it was evident that hospital accreditation contributed to improving safety management in health care.
The Quest For Safety And Quality Indicators: Linking Hospital Accreditation Scores And Hospital Acquired Staphylococcus Aureus Infection Rates Across 78 Acute Care Hospitals

V. Mumford 1,*, D. Greenfield 1, R. Reeve 2, J. Braithwaite 1
1Australian Institute of Health Innovation, Macquarie University, 2Centre for Social Impact, UNSW, Sydney, Australia

Objectives: Hospital acquired infection has been associated with increased morbidity and increased length of stay. Accreditation surveys assess hospital organisational and management frameworks and are widely regarded as a mechanism for enhancing patient safety and quality of care. The aim of this study is to assess the relationship between hospital accreditation survey scores for infection control and other mandatory accreditation standards, and hospital-associated Staphylococcus aureus infection (SAB).

Methods: We conducted a retrospective secondary data analysis using data from 78 acute public hospitals in New South Wales, Australia. The main outcome of interest was self-reported mean monthly hospital SAB rates. Accreditation scores were compiled from accreditation surveys conducted by the Australian Council on Health Care Standards. Each hospital underwent two accreditation surveys during the study period (2009-2012). Additional data included the timing and type of accreditation surveys, hand hygiene audit data, hospital size and location, and a marker for those hospitals with a higher percentage of vulnerable patients.

Results: Mean SAB rates across all hospitals in the study sample fell from 1.32/10,000 bed-days in 2009 to 0.77 in 2012, and were below the national target of <2/10,000 bed-days. We observed a size effect in that SAB rates in small hospitals were 0.23/10,000 bed-days lower (p=0.01) than in principal referral hospitals, after accounting for the variables in our model. No hospitals were refused accreditation during the study period but 61% received an approval conditional on compliance with a surveyor recommendation, or for a reduced period of time.

Large and principal referral hospitals with accreditation related infection control scores rated as excellent or above had significantly lower SAB rates (-0.19/10,000 bed days (p=0.02). However, this effect was reversed in small and medium hospitals with SAB rates 0.43/10,000 bed-days higher (p=0.01) in hospitals with higher infection control scores.

Conclusion: Large and principal referral hospitals rated as having excellent infection control processes experienced significantly lower SAB rates, but this relationship was reversed for small and medium-sized hospitals. Although all hospitals met the accreditation standards for infection control, none of the small hospitals in our sample received an excellent or above rating, despite having lower infection rates. Smaller facilities are less able to demonstrate involvement in research processes and benchmarking, both of which were requirements in achieving higher scores. This has implications for health safety and quality bodies in ensuring that accreditation indicators can be applied consistently across hospital groups.
National Accreditation Results Inform System Improvements In Safety
W. Nicklin 1, J. Mitchell 1, V. Roman 1, Q. Hasanaj 1 Accreditation Canada, Ottawa, Canada

Objectives: This presentation showcases the value of accreditation data in driving system improvement by presenting national accreditation results on quality and safety.

Methods: In 2013, 330 organizations representing approximately 1750 sites participated in an on-site survey as part of the Accreditation Canada Qmentum program. Compliance with the Required Organizational Practices (ROPs) is rated on-site by peer surveyors and constitutes a central component of the on-site survey. ROPs are evidence-informed practices that mitigate risk and contribute to improving the quality and safety of health services. The resulting data was analyzed for system trends, strengths, and opportunities for improvement.

Results: Of the 32 ROPs in the Accreditation Canada program, 23 had compliance rates [1] of 85% or greater. The top strengths in patient safety were identified for administering the pneumococcal vaccine and standardizing and limiting the number of medication concentrations. National compliance rates of greater than 95% were also observed for two ROPs in medication use: evaluates and limits the availability of narcotic (opioid) products and stores concentrated electrolytes away from client services areas. Detailed analysis demonstrating high performance across all sectors of care was publicly released in 2014.

Four ROPs showed a national compliance rate of 70% or less and represent system opportunities for improvement in safety. Results from 79 organizations in the first year of assessment during on-site surveys showed the lowest national compliance of all ROPs for antimicrobial stewardship at 57%. Provides venous thromboembolism prophylaxis for at-risk clients showed substantial improvement from 50% in 2011 to 68% in 2013. Since 2011, national compliance with the medication reconciliation ROPs have increased from 60% to 70% (at admission) and from 50% to 61% (at transfer/discharge). Organizations have placed additional emphasis on medication reconciliation in Canada and internationally (WHO, 2014), yet based on national accreditation results medication reconciliation remains an opportunity for system improvement.

Conclusion: Accreditation results continue to inform Canadian healthcare organizations on their quality and safety performance. Compliance trends highlight system strengths and opportunities for improvement, which can be used by healthcare organizations in conjunction with their organizational accreditation results to plan quality improvement initiatives. The system trends enable organizational health leaders and health system stakeholders to mitigate emerging risks identified through national accreditation results as well as through benchmarked jurisdictional results. The strategies used by high performing organizations can also be shared with those organizations striving to improve, thus enabling spread and capacity building across the country.

The trends identified inform Accreditation Canada on emerging risks in the Canadian healthcare system and are used to inform development of the ROPs. For on-site surveys beginning in 2015, three new ROPs were introduced: accountability for quality that pertains to the governing board; client flow that promotes a systems perspective to client flow, care transitions, and emergency department overcrowding; and skin and wound care. Enhancements were also made to existing ROPs on medication use, medication reconciliation, infection control, and information transfer at transition points. Continued analysis of national safety data is thus used to mitigate emerging risks in healthcare organizations and to ensure that the Accreditation Canada program remains a dynamic and evidence-informed accreditation programme.
Association Between Regional Health Spending And Health Outcomes After Out-Of-Hospital Cardiac Arrest in Japan: Does Spending More Matter?
Y. Tsugawa 1,3, K. Hasegawa 2, A. Hiraide 3, A. K. Jha 4 1Health Policy, Harvard University, Cambridge, 2Emergency Medicine, Massachusetts General Hospital, Boston, United States, 3Acute Medicine, Kinki University Faculty of Medicine, Osaka, Japan, 4Health Policy and Management, Harvard University, Boston, United States

Objectives: Regional variations in health spending are reported in many countries, and the evidence is mixed with regard to the relationship between regional health spending and health outcomes. Japan is considering a policy to set target health expenditure level for each prefecture (local region), a policy approach that has been considered in many other countries. Some worry that such an approach may hurt health outcomes by limiting spending on a variety of healthcare services. In this context, we examined the association between regional health expenditure and health outcomes after out-of-hospital cardiac arrest (OHCA) which incorporate the quality of both pre-hospital and in-hospital care.

Methods: We used a nation-wide population-based registry of all OHCA patients resuscitated by emergency responders in Japan from 2005 through 2011. We examined the association between prefecture-level per capita health expenditure and patients’ health outcomes after OHCA (1-month survival rate, and favourable neurological outcome [cerebral performance category 1-2]).

Results: We analyzed a total of 618,154 OHCA cases. The risk-adjusted 1-month survival rate varied by prefecture from 8.4% (95% CI: 7.7% - 9.1%) to 3.3% (95% CI: 2.9% - 3.7%). The risk-adjusted probabilities of favourable neurological outcome ranged from 3.7% (95%CI: 3.4% - 3.9%) to 1.6% (95%CI: 1.4% - 1.9%). An average per capita income in low-spending regions was US$ 25,343, which was higher than that in medium- (US$ 21,827) or high-spending (US$ 22,764) regions. We found that across prefectures, each US$ 100 increase in health expenditure was associated with 1.04 times higher odds of 1-month survival (95%CI: 1.01 - 1.07, p<0.01) and 1.04 times higher odds of favourable neurological outcome (95%CI: 1.02 - 1.07, p<0.01). Compared to prefectures with lowest-tertile health expenditure, 1-month survival rate was significantly higher in medium-spending (OR 1.30, 95%CI 1.03 - 1.66, p=0.03) and high-spending prefectures (OR 1.30, 95%CI 1.03 - 1.64, p=0.02). The survival rate in high-spending prefectures was not better than that in medium-spending prefectures. We observed similar results for favourable neurological outcome. Additional adjustment for regional per capita income-level, as a sensitivity analysis, did not affect our overall findings.

Conclusion: We found more than two-fold difference in health outcomes after OHCA between prefectures in Japan. We observed a non-linear association between regional health spending and the health outcomes after OHCA. Lowest per capita health expenditure was associated with significantly worse health outcomes after OHCA, compared to medium or high health expenditure, but the health outcomes in high-spending prefectures were not better than that in medium-spending prefectures. These results indicate that for national policymakers in countries who wish to set budget targets, focusing on the median spending may be the “sweet spot” that allows for saving money without compromising patient outcomes.
Designing And Implementing Best Practice Interventions In The Community: The Spinal Cord Injury And Spina Bifida Pressure Injury Project

J. C. Long 1, J. W. Middleton 2, L. Kelly 2, J. Hsieh 3
1John Walsh Centre for Rehabilitation Research, University of Sydney, 2Statewide Spinal Cord Injury Service, NSW Agency for Clinical Innovation, Sydney, Australia, 3Spinal Cord Injury Knowledge Mobilization Network, St Joseph’s Health Care, London, Ontario, Canada

Objectives: Pressure injuries (PI) (or pressure ulcers) are a significant problem for people with a spinal cord injury (SCI) or Spina Bifida (SB) with an estimated lifetime prevalence of 83%. PIs in this group can be devastating leading to loss of income, social isolation, reduced function and depression. We used a four stage process to design a community-based intervention and implementation strategy at 3 sites, 2 regional and 1 metropolitan.

Methods: The four stages were 1. Stakeholder focus groups and interviews and review of guidelines, policies and commissioned and ongoing research to set principles of care and clinical standards. 2. Process mapping local current practice microsystems at the 3 sites including contextual logistics and service constraints 3. Defining specific actions and behaviours that need to change to bring current practice into line with clinical standards and principles of care. 4. Collecting data (retrospective and prospective audits 12 months each) on intervention outcomes (10-15 cases per year at each site) and implementation outcomes: acceptability, feasibility and appropriateness of the new pathway and resources.

Results:
1. In 2012 the Agency for Clinical Innovation (ACI) State SCI Service invited clinicians (across 8 disciplines), consumers and other stakeholders to take part in developing of a Model of Care for PI. Eight themes emerged from the focus groups and interviews, leading to 3 principles of PI management: a) supporting self-management b) timely and equitable access c) service integration.

   New South Wales hospital utilisation data from 2006-11 was assessed by the Health Economic Evaluation Team showing PI in this group is a low volume, high cost condition with average length of stay 27 days and costing $AUD13M per year. Clinical standards were defined through synthesis of published research, guidelines and policies. A pathway, toolkit of resources and validated, SCI appropriate tools were developed.

2. After engaging executive support at the 3 sites we formed small Implementation Teams. We process mapped assessment, management, referrals and documentation of health and community processes (e.g. peer support). Local staff capacity (availability as well as SCI expertise), in-house policies and logistics were noted.

3. Clinical Standards were defined as the service provider behaviour each standard requires, acceptable and unacceptable variations of those behaviours, and clearly defined outcomes. From this process a local pathway was developed.

   To address the principle of timely access, we built in automatic triggers for referrals and included SCI-specific criteria to clinical priority tools. To address lack of integration of community and health sectors, a social network survey is being widely distributed to map referrals and key contacts with a view to closing gaps. A service directory has been made or updated at each site. This also provides consumers with more self-management options.

4. In ongoing work, surveys and interviews with people involved in the project are assessing acceptability, feasibility and appropriateness of the pathway (implementation outcomes). The toolkit of resources will be formally tested and refined by generalist and specialist service providers later this year. Adherence to the Clinical Standards will continue to be monitored.

Conclusion: Successful implementation requires a sound understanding of research, stakeholder issues and local context. Investing time in translation of principles into discrete actions keeps the focus on client outcomes and acceptable, feasible interventions clinicians are more likely to use.
The Chronic Care Model Improves HIV Patient Care In Uganda
E. Broughton
Research & Evaluation, University Research Co., Bethesda, United States

Objectives:
The Chronic Care Model (CCM) has been widely applied in developed countries to improve care for patients with chronic illnesses [1]. The CCM considers four integral components to improving quality of care: decision support, clinical information systems, delivery system design, and self-management support. In Africa, the CCM has proven valuable for improving care for persons with HIV [2]. This presentation will describe the intervention and report results of the evaluation of implementing the CCM for patients with HIV receiving antiretroviral treatment in two districts of Uganda. A cost-effectiveness analysis was also performed. This is relevant because improving the efficiency and effectiveness of HIV care in this setting and Sub-Saharan Africa in general is an important factor in controlling HIV and AIDS globally.

Methods:
This controlled evaluation began in six public health facilities in two districts in Uganda assigned as intervention (3) and control (3) sites. Clinicians and managers from intervention sites attended an introductory session to learn the Chronic Care Model and methods to implement it in their facilities. This was followed by periodic visits to the sites by improvement experts to coach the clinicians on their work to improve care using the CCM and check on their progress towards the goals of improving process of care and patient outcomes. There was a second meeting among clinicians and managers from the intervention sites to allow learning from each other about what specific changes to facility functioning were successful. Baseline and end line data on indicators of care processes and patient outcomes were collected from both intervention and control sites. Costs were determined by adding the time-cost of facility staff with the overall cost to the organization leading the improvement intervention. Decision-tree analysis was done to estimate costs per additional patient with improved CD4 and improved adherence to treatment.

Results:
There was an improvement in the CD4 counts and levels of adherence among patients in the intervention group compared to those in the control group. The incremental cost-effectiveness ratio was $7 per additional patient with improved CD4 and $3.50 per additional patient with better reported adherence to their ART regimen. The overall cost of the intervention was $12,000 for facilities that served 7,000 HIV+ patients or $1.70 per patient. The intervention also had other beneficial effects that may not have been fully captured by the evaluation.

Conclusion:
This is one of the few evaluations of an intervention to improve the quality of care in a low-resource setting that includes both a control group and a cost-effectiveness analysis. The results indicate that a modest investment to implement the Chronic Care Model for patients receiving care for HIV in this setting can result in better patient outcomes.
Evaluation Of A Novel Maternal Sepsis Assessment (MASA) Scoring System In Prediction on Intra-Amniotic Infection In Preterm Premature Rupture of Membrane

P. J. Cheng, S. Huang, S. Su, C. Hsiao
1Chung Gung Memorial Hospital, 2 Taipei City Hospital, Taipei, Taiwan

Objectives: Preterm PROM occurs in approximately 2-4.5% of all pregnancies but is associated with 20% of all perinatal deaths. The important complications related to preterm PROM are preterm delivery and intra-amniotic infection. Numerous studies in recent years have failed to identify a satisfactory prenatal marker of infection to predict intra-amniotic infection, chorioamnionitis and neonatal sepsis for pregnancies of preterm PROM. The progression from the systemic inflammatory response syndrome (SIRS) to sepsis is clearly defined in the non-pregnant population using specific objective vital signs and laboratory values. None included pregnant women in the initial study population and no study to date has evaluated the use of a pregnancy-specific scoring system for use in obstetrical unit to predict clinical deterioration in pregnant population presenting with signs of infection such as preterm PROM. In this study, we sought to design an obstetrical sepsis scoring system to identify of acute chorioamnionitis and/or neonatal sepsis in pregnant women of preterm premature rupture of membrane (PROM).

Methods: A novel Maternal Sepsis Assessment (MASA) scoring system was created by modifying validated systemic inflammatory response syndrome (SIRS) scoring criteria in accordance with recognized physiologic changes of pregnancy and maternal serum markers. The MASA scoring system was applied to a prospective observational cohort of singleton pregnancies of 24-34 weeks of gestation with clinical- and laboratory-confirmed preterm PROM from January 2012 through October 2014. The primary outcome was histological acute chorioamnionitis. Secondary outcomes were neonatal sepsis, length of the preterm PROM-to-delivery interval, antibiotic use, adverse perinatal outcomes (foetal or neonatal death, respiratory distress, grade III to IV interventricular haemorrhage and necrotizing enterocolitis), and maternal morbidity. Receiver operating characteristic curves were constructed to estimate the optimal score for identification of risk of acute chorioamnionitis.

Results: In all, 276 eligible pregnancies were included. 133 (48%) had evidence of chorioamnionitis after delivery. Patients with chorioamnionitis were more likely to hospitalize and deliver at an earlier gestational age (hospitalization, 26.5 weeks compared with 29.7 weeks, P < .001; delivery, 28.4 weeks compared with 32.1 weeks, P < .001) and have shorter preterm PROM-to-delivery interval (12.8 days compared with 16.3 days, P < .001). MASA score was elevated 24 to 48 hours before delivery in women with preterm PROM with chorioamnionitis compared with those without chorioamnionitis (4.2 compared with 0.33, P < .001).

The MASA score had an area under the curve of 0.95 for chorioamnionitis. A MASA score ≥ 3 (Maximal score 21) had an area under the curve of 0.91 with sensitivity of 89.3%, specificity of 96.7%, positive predictive value of 73.8%, and negative predictive value of 99.9% for chorioamnionitis, with an adjusted odd ratio of 98 (95% confidence interval, 21-543). A MASA score ≥ 3 was independently associated with risk of chorioamnionitis, neonatal sepsis, and length of the preterm PROM-to-delivery interval, adverse perinatal outcomes, and maternal morbidity.

Conclusion: A novel Maternal Sepsis Assessment scoring system specifically for a preterm PROM population appears to reliably identify patients at high risk of intra-amniotic infection.
Characteristics Of Cardiovascular And Diabetic Health Of Workers Participating In Worksite Screening In Ireland
R. Glynn1,*, P. McCarthy2, A. Shortt2
1University College Dublin, Dublin, 2Full Health Medical, Galway, Ireland

Objectives: In 2010, it was predicted that the number of adults with hypertension, coronary heart disease (angina and heart attack), stroke and diabetes (Type 1 and Type 2 combined) would increase by around 40% in the Republic of Ireland by 2020. Employment is a key social determinant of health, and the workplace is recognised as a key avenue for health promotion. This has led to a shift in attitudes around workplace wellness, with employers expanding the concept of employee health beyond conditions acquired in the workplace to any condition which could potentially impact on employee performance. No work has previously been published from large-scale, multiple workplace health screening programmes in Ireland. This study thus aims to characterise key demographic characteristics, the prevalence of cardiovascular disease and diabetes and their risk factors, among employees in Ireland using aggregated data.

Methods: Health screening software which has the ability to instantly convert complex medical test results into easy-to-understand personal reports and population group reports, which are accessible on any device connected to the internet, was developed. This software was then used to run health screening programmes across 53 organisations in Ireland, between October 2012 and December 2014. Participants agreed to the use of data obtained from the screenings and surveys being used for research purposes. All participants completed online questionnaires prior to attending for their screening. The questionnaire included demographic and health-related variables such as age, gender, body mass index (BMI), and medical history. Lifestyle, diet and exercise were also assessed. Screening programmes were tailored to each organisation, with point of care and laboratory investigations performed as requested by those organisations.

Results: 9,116 health screenings were performed across ten public and 43 private organisations in Ireland. 61% (n=5,563) of participants were male. 56% (5,122) of participants were aged between 30 and 49 years. 14% of participants were current smokers; of these, 43% were not content with their habit and 65% hoped to quit in the near future. 7.7% (701/9,070) and 11.1% (1,002/9042) of participants had a previous diagnosis of hypertension and hypercholesterolemia, respectively. 1.1% (104/9103) had previously been diagnosed with diabetes. At screening, 15.2% (1,378/9,062) and 60.1% (5,496/9,034) of participants had hypertension and hypercholesterolemia, respectively. 43.2% (3,931/9087) and 18.6% (n=1,693) were characterised as overweight or obese by BMI, respectively. 7,039 participants had a fasting glucose checked; (n=6,807); 3.3% (n=232) returned an abnormal result. 426 participants had a Hba1C level checked; 24 and seven were characterised as pre-diabetic or diabetic, respectively.

Conclusion: This study represents the largest of its kind undertaken in Ireland to date and its findings provide important descriptive data regarding cardiovascular disease and diabetes and their risk factors, among employees in Ireland. The results presented are from a diverse range of workplaces, across both public and private sectors. If selected, these results will be presented in the context of the Irish population as a whole and the relationship between risk factors and test results will be explored in detail. In addition the presentation will include a discussion around the potential for programmes like this to improve the quality and return on investment from corporate wellness initiatives.
Assessing The Effects Of New Methods On The Results Of Quality And Risk Management In French Comprehensive Cancer Centers
G. Sieradzki 1,*, A. De Jesus 1, H. Esperou 1, C. Bussy 2
1Quality and risk management, UNICANCER, PARIS, 2Quality and Risk Management, Gustave Roussy, Villejuif, France

Objectives: With the French accreditation procedure 2014, Cancer Centers (18) have implemented new methods: Quality Account (QA) and tracer methodology. Unicancer Group* decided to assess the effects of these methods on the quality and risk management in Cancer Centers, *Unicancer group is the only French hospital group, entirely devoted to healthcare, research and teaching in oncology. It was created in 2010 by all the French Comprehensive Cancer Centers (FCCC) and their “federation”.

Methods: On the one Hand, Unicancer Group is leading: A quantitative and qualitative study about quality accounts. Several settings have been studied: the level of likeness between the QA, the approach of risk identification and mitigation, the monitoring of quality and safety indicators and the model of decision-making to prioritize the improvement actions. A benchmarking study about the implementation of tracer methodology. Several settings have been studied: the number of tracer methodology per year per Cancer centers/the kind of tracer methodology/the integration level of this approach in the practice of Health Professionals (HP), the future of attendees. On the other hand, Unicancer Group is expecting to collect the perception of HP in these methods to improve the quality and safety of care: results on the work team, the process and the patient satisfaction.

Results: At the time of the project, the results are:

<table>
<thead>
<tr>
<th>Settings</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of likeness of QA for:</td>
<td>69 % [65 ; 74]</td>
</tr>
<tr>
<td>- indicators</td>
<td>89 % [85 ; 93]</td>
</tr>
<tr>
<td>- risks</td>
<td></td>
</tr>
<tr>
<td>Perception of tracer methodology</td>
<td>The HP think that the tracer methodology enables to:</td>
</tr>
<tr>
<td>- identify and share the same clinical plan in Cancer centers</td>
<td></td>
</tr>
<tr>
<td>- embed the patient and his/her experience in the process</td>
<td></td>
</tr>
<tr>
<td>- work on several case study in the multidisciplinary and multi professional teams</td>
<td></td>
</tr>
<tr>
<td>Patient satisfaction</td>
<td>2014 : 77 %</td>
</tr>
<tr>
<td></td>
<td>2015 : Not yet available</td>
</tr>
</tbody>
</table>

Additional results will be ready by the conference.

Conclusion: Tracer methodology appears accessible and seems to focus on the health professionals concerns. The risk methodology in the QA allows shifting from a quality approach (to comply with a requirement) to an internal control/risk management (to keep control of critical points/handovers on the process). In addition, the results of level of likeness in QA show that joint projects and common objectives in quality and safety for the Group can be even more developed.
Dark Side Of Culture: Influence Of Cultural Factors On Hand Hygiene Behaviour Among Health Care Workers In Intensive Care Units of Korean Hospitals

H. S. Jo ¹,*, H. J. Jeong ²

¹Department of Health Management and Policy, Kangwon National University, Chuncheon, Korea, Republic Of, ²Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, United States

Objectives: Hospital-acquired infection is a major threat to patient safety, especially in intensive care units (ICU), where the most severely ill patients are treated. Previous studies have shown that HCWs’ knowledge and positive outcome belief related to HH have reached saturation, and equipment such as alcohol-based hand rubs are located throughout hospitals in Korea; therefore, this study examines the influence of cultural aspects among HCWs—a frequently undervalued component in many studies—for complying with HH protocols, if any exist.

Methods: Using the reasoned action approach (RAA) as the backbone of the study, we interviewed 33 HCWs (9 staff physicians, 13 residents, and 11 nurses) working in ICUs in seven teaching hospitals. To prevent inter-reviewer bias, one interviewer conducted all 33 interviews, which lasted from 30 to 90 minutes. RAA is an extension of the theory of planned behaviour (TPB), with the most important difference being that RAA takes into account descriptive norm—namely, how one’s important referents performed the behaviour. Although our major interest focused on cultural aspects, we examined all the major components of RAA, such as attitude toward HH behaviour and situations that facilitate or hamper HCWs’ HH behaviour, to understand the context on which the culture was based. The interviews were audiotaped with interviewees’ consent and transcribed, then analyzed using ATLAS.ti, a qualitative analysis software.

Results: Most participants pointed out that infection prevention, better diagnosis and treatment by allowing HCWs to touch the patient, and good rapport development were positive outcomes of HH behaviour, suggesting that they were well aware of—and they believe patients know—the importance of HH behaviour. Negative outcomes included requiring too much time and leading to skin dryness and soreness on hands. Nurses and residents stated that the hospital’s quality improvement team influenced their HH behaviour by providing training and campaigns and, more importantly, individual feedback on their HH behaviour via email. It is worth noting that nurses indicated that seeing senior nurses washing their hands (descriptive norm) significantly influenced their HH behaviour; on the other hand, resident physicians pointed out that senior staff physicians’ HH behaviour was important, suggesting that role models were important among both nurses and physicians, but they saw only the same job type as their role model to follow. Senior staff physicians stated that they feel a responsibility to be a role model to their subordinates, including both resident physicians and nurses. Indeed, seniors’ behaviour played a role beyond a model to follow: Resident physicians and nurses stated that they could not wash their hands when their seniors did not. They demonstrated a huge fear of appearing to be undermining seniors’ authority. According to residents, especially when there were time constraints, such as making rounds, they could not wash their hands if it meant interrupting their rounds.

Conclusion: Hospitals in Korea have made huge progress in encouraging their HCWs’ HH behaviours, and HCW are well aware that they should wash their hands. However, cultural factors, especially the power gradient among HCW types, continue to play a significant role in HH-compliance behaviours, in both positive and negative ways. Further HH improvement programs should take into account such interactions among HCWs and develop a strategy to maximize HCWs’ influence on each other.
Cultural And Practical Barriers For The Implementation Of Rehabilitation Guidelines Across Sectors
L. Morsø L., P. Qvist P. Centre for Quality, The Region of Southern Denmark, Middelfart, Denmark

Objectives: To explore reasons for adherence or non-adherence to referral guidelines for rehabilitation of patients with Chronic Obstructive Lung Disease (COPD).

Methods: Most patients with COPD are diagnosed and followed up by their General Practitioner (GP). In Denmark guidelines recommend rehabilitation of COPD to be undertaken by referring patients from general practice to either hospital (severe COPD) or municipality rehabilitation (mild to moderate COPD). Focusing on barriers impeding adherence to referral guidelines we assessed the degree of implementation of guidelines using three different data sources (triangulation).

- Local data from a national database containing metrics on the frequency of referrals to rehabilitation from general practice.
- Record reviews of 127 patients referred to rehabilitation in two municipalities.
- Interviews with twelve GPs to study reasons for adherence or non-adherence to referral guidelines.

The data from the interviews were secondary analysis derived from a large transcribed interview study of GP’s general attitudes to the care for COPD patients. Analysis of interviews was done by a four step model including clustering, coding, condensation and synthesizing of data.

Results:
1. Data comprising registrations from 61 GPs showed that of a total of 749 COPD patients 344 patients (46%) were considered for referral to rehabilitation in either hospital or municipality setting. For different reasons 246 (72%) of these patients were not referred. The remaining 98 patients who were referred constituted thus only 13% of all COPD patients. There was no relation to severity of the disease when comparing referred and not referred patients.
2. The record reviews showed that 30 (24%) of all patients rehabilitated in the two municipalities were referred directly from the GPs. The remaining patients were either referred from outpatient clinics in hospitals or recruited from announcement in newspapers or internet homepages.
3. Analysis of the interviews showed several reasons for noncompliance to the existing guidelines:
   - Unawareness of the existence or the content of the municipality rehabilitation programmes.
   - Scepticism concerning the competence and professional experiences in the municipalities.
   - An overall tendency of sticking to individual gut-feelings and routine procedures rather than the recommendations stated in the guidelines.

The GP’s decision to refer patients depended mostly on individual feedback from patients.

Conclusion: This study shows that – in contradiction with guidelines - only few patients with COPD are referred for rehabilitation, especially to the municipalities. Furthermore recommendations for referral to hospital and municipalities tailored according to the severity of the disease are not met. Reasons for noncompliance included issues related to insufficient implementation of guidelines as well as cultural aspects. To improve actual practice both these challenges should be considered.
A Survey Of Patient Safety Culture From Medical Term Members In A Regional Teaching Hospital In North Taiwan
M. J. Wu 1,*, Y. G. Cherng 2, G. Y. Chen 2, Y. H. Cheng 2
1Medical Quality of Department, Taipei Medical University-Shuang Ho Hospital, Ministry of Health and Welfare, 2Medical Quality of Department, Taipei Medical University-Shuang Ho Hospital, Ministry of Health and Welfare, New Taipei City, Taiwan

Objectives: Nowadays, patient safety is an important issue in the worldwide. It is a goal for hospital wide to medical term to maintain safety while they provide treatment or producer. Additionally, medical staff ignored the perception of patient safety culture is one of the risk factors that lead to an adverse event. The purpose of the present survey was to obtain the patient safety perception and patient safety cultures from medical members at hospital wide. The data were collected by The Safety Attitude Questionnaire (SAQ) in Chinese version. It is a structured questionnaires from TCJHA. There are 881 medical staffs completed and returned the questionnaire for a valid response rate of 95.2%. Including eight dimension. It is suggested that further education program should design and provide an intervention protocols of patient safety culture.

Methods: A hospital-wide safety attitude survey was conducted in one regional teaching hospital in north Taipei. A survey study was performed, from October 1st through December 31st 2014. The Safety Attitude Questionnaire (SAQ) in Chinese vision by TCJHA. The questionnaires filling in by medical provider at hospital-wide. Each medical members completed a 46-item structure questionnaire. The questionnaire included demographic data and eight dimension (Teamwork Climate, Safety Climate, Job Satisfaction, Stress Recognition, resilience, Perception of Management, Working Conditions and work balance of life). The composite reliability: 0.77-0.93. All data analyses were done using SPSS version17.0Frequency distribution, descriptive mean, standard deviation, one way ANOVA.

Results: A total of 925 copies of the questionnaire were distributed to medical term staff in a teaching hospital, including physicians, nurses and medical technicians. There are 881 completed form returned during this time, a good response rate of 95.2%. As a result, 88.2% of responses of the age group between 21 and 40 years old, only 25.84% were male. 91.45% of staffs without administrative position. Approximately 63.8% of without experience to report adverse events in the past year. 87.5% of respondents (N=753) were graduated from university and one to ten of respondents (N=105) are postgraduates. Compare with each dimension between three groups, the physicians are significance higher in three dimension that Job Satisfaction, Stress Recognition, and Perception of Management. (P<0.001). The physicians be able to understand and control the Working Conditions than the others. The nursing staff are stronger in Teamwork Climate, Safety Climate dimension and work balance of life than the other medical members. However, the medical technicians have repaid resilience, on the other hand, nurse staff spend longer time recovery.

Conclusion: Based on the findings, patient safety culture should including in-service education protocols for staffs not only for medical term member but also non-medical employs in hospital wide. Furthermore, the hospital leaders emphasize TRM strategy to improve communication and cooperative between medical terms to enhance patient safety and the quality of nurse care during hospitalization. The hospital leadership must value front line nursing manpower to establish safety environment and promote each department’s patient safety culture climate. Additionally, increasing resilience ability and Job Satisfaction, reducing the stress from workplace of the medical term members. They will meet the international patient safety goal!
The Development Of A Clinical Protocol For The Prevention Of Ventilator-Associated Pneumonia (VAP) In The Brazilian Culture Reality

F. Folco, T. Sotto Mayor, M. M. Damasceno, M. Machado
IQG - Health Services Accreditation, São Paulo, Brazil

Objectives: The objective of the development of this protocol was to provide health care institutions, which are at different levels of safety culture maturity, a guide for preventing and detecting cases of ventilator-associated pneumonia (VAP), as a tool to normalize patient care standards with the probability of VAP, thus contributing to a safer process and a better clinical outcome for the patient in Brazil.

Methods: In 2008 the IQG – Health Services Accreditation (IQG), with the support of the Canadian Patient Safety Institute (CPSI), of the Institute for Healthcare Improvement (IHI) and of Accreditation Canada International, developed the Brazilian Patient Safety Program (PBSP). Through the voluntary participation of Brazilian hospitals, the Program promotes the dissemination of safety practices and the exchange of experiences among the participating institutions. Our protocol has been developed based on reference institutions protocols such as Centers for Disease Control and Prevention (CDC) and Institute for Healthcare Improvement (IHI), in collaboration with the Canadian Patient Safety Institute (CPSI), however, with a profile designed to meet the cultural differences and needs of Brazilian hospitals. There were 77 participating institutions with 2782 people exposed to the risk of VAP in intensive care units. The multidisciplinary teams at the intensive care units were oriented by through the protocol to provide the following practices to the patient under mechanical ventilation treatment: Elevation of the bed head to 45°; Daily ventilatory evaluation; Maintenance of the endotracheal tube cuff pressure between 25 and 30 cmH2O; Oral hygiene and decontamination with chlorhexidine 0.12% 12/12h; Enteral nutrition start within 24 to 48 hours of admission at the unit. The Brazilian Patient Safety Program gave scientific and technical support to participating institutions through monitoring and guidance throughout the process of protocol implementation, ie, from the implementation to data collection, analysis and feedback to institutions.

Results: Our results showed that adherence to each of the suggested practices reached or was very close to the target of 95%. Analyses of Ventilator Associated Pneumonia (VAP) density of incidence demonstrated linearity with a tendency to fall over the course of the implementation of practices suggested in the protocol. When comparing the average incidence density of infection of the first quarter of 2014 to the fourth quarter of 2014 we identified the significant reduction of 12.1%. When comparing the data from the analysis of the years 2013 and 2014 we observed that adherence to the practices defined in our protocol resulted in effectiveness in preventing ventilator-associated pneumonia (VAP) events.

Conclusion: The implementation of ventilator-associated pneumonia (VAP) prevention protocol worked as high impact barrier in the prevention of infectious complications, becoming an important tool to strengthen patient safety in the participating institutions. Adherence to the set of practices proposed by the protocol is directly related to reducing the incidence of pneumonia associated with mechanical ventilation in intensive care units independently of the maturity of the institutions evaluated. Because of this analysis the Ventilator-Associated Pneumonia Prevention Protocol proposed by Brazilian Patient Safety Program is supported as a high impact tool for improving clinical outcomes throughout Brazil.
Development Of A European Generic Cancer Consumer Quality Index Questionnaire
A. Wind\textsuperscript{1,2}, J. Heerink\textsuperscript{3}, H. J. Sixma\textsuperscript{3}, W. H. van Harten\textsuperscript{1,2}\textsuperscript{1}University of Twente, Enschede, \textsuperscript{2}PSOE, NKI/AvL, Amsterdam, \textsuperscript{3}Nivel, Utrecht, Netherlands

Objectives: Across health care systems, patient satisfaction has become an increasing concern over the past decades.\textsuperscript{1} Research has shown a relationship between patient satisfaction and compliance with treatment.\textsuperscript{2} As compliance affects the outcome of care, patient satisfaction (or positive care experiences) may positively relate to patient outcomes. In a European Benchmarking project involving 11 Cancer Centers we wanted to explore whether it is possible to use one index for benchmarking for patients with different cultural and ethnic backgrounds. The aim of this research is twofold:

i. The development of an international generic cancer consumer quality index questionnaire for cancer patients, and

ii. to pilot this in a maximum of 11 pilot sites/countries in the EU.

Methods: First a literature search identifying studies in which patient experiences were measured on international scale was performed. Within this search cross-cultural comparisons were explored to see whether cultural background influenced the comparability of the surveys. Secondly an already existing CQI for cancer patients\textsuperscript{3} was adapted by cross translation for the international use. The original CQI was based on the CAPHS (Consumer Assessment of Healthcare Providers and Systems) that was developed in the US, and which has been translated and validated in different countries, including the Netherlands. The CQI was translated into every local language at the participating pilot sites and 200 patients per site were asked to participate through convenience sampling. Data collection is complete by June 2015. Data will be collected through an online and paper based survey and analyzed with SPSS.

Results: Although this research is still in progress we can report on the survey involving at least 700 responses from 7 EU countries. Differentiated scores per country will be presented. Comparability, ethnocultural differences and relation with the degree of patient empowerment will be reported upon as well as the usability for international benchmarking. Previous projects with the CQI (or its precursor the CAPHS) have showed that this index is suitable for benchmarking patient experiences in both the USA as the Netherlands.

Conclusion: It proved possible to develop a CQI for Cancer Care that can be used for international comparison. Based on the findings from other studies we expect to be able to use the CQI on an international scale even taking possible cultural and ethnic differences into account. The differences in presentation of the index, paper based or online, might influence the outcome.
Determinants Of Patient Satisfaction With Cancer Care Delivered By The Danish Healthcare System
A. C. S. Heerdegen 1*, J. L. Knudsen 1 1Quality & Documentation, Danish Cancer Society, Copenhagen, Denmark

Objectives: As the number of cancer patients and the complexity of incidents are increasing, initiatives to improve the quality of cancer care are warranted. A core pillar in the assessment of quality of care is the patient experienced satisfaction. It is essential to investigate determinants hereof. The aim of this study is to identify factors, including patient characteristics and healthcare aspects that are significantly associated with Danish adult cancer patients’ overall rating of cancer care during the Diagnostic Phase (DP) and during the Treatment Phase (TP), respectively. The two phases of care are explored separately in order to identify more specific needs for improvement.

Methods: Data was collected through two recurrent nationwide questionnaire surveys conducted in 2010 and 2012 by the Danish Cancer Society. Analyses regarding cancer patients’ experiences of DP were based on the 2010 study population (n=3,681), while analyses of TP were based on the follow-up population (n=2,315), consisting of patients that had responded to both surveys. Multivariate logistic regression models were applied to identify which patient characteristics and healthcare experiences that determined an excellent overall rating of DP and TP, respectively.

Results: 55% of patients rated DP as excellent. The odds of rating DP as excellent in adjusted analyses differed significantly according to sex, age, and diagnosis. A total of 61.9% rated TP as excellent. The overall rating of TP differed significantly according to the patients’ sex, age, diagnosis, extent of supportive relatives, status of comorbidity, and region of treatment. Eight of 13 selected healthcare aspects were significantly associated with the rating of DP including waiting time from referral to specialist/hospital, time general practitioner spent before initiating further examinations, the information provided on future examinations, the delivery of diagnosis, and occurrence of delay-causing errors. Eight of 16 healthcare aspects were significantly associated with the overall rating of TP including information provided on disease and treatment, doctors listening to worries, being involved in treatment, number of doctors and hospitals, well-informed nurses, a clear treatment plan, and provision of one doctor with main responsibility throughout the care trajectory. Patients’ who reported negative experiences in these healthcare aspects were significantly less likely to rate DP and TP as excellent.

Conclusion: This study establishes priority areas within the DP and the TP of cancer care, respectively. The identification of these areas will ultimately enable healthcare providers and policy-makers to focus their efforts when planning and prioritizing initiatives aimed at improving the patient-experienced quality of cancer care. Moreover, specific patient groups were identified as being less likely to be satisfied with care, indicating that these are in need of special attention.
The Perspectives Of Patients With Complex, Long-Term Pathways: A Mixed Method Analysis In Light Of Recommended Practice

G. K. R. Berntsen 1,*, D. B. Gammon 1, A. Høyem 1, C. Ruland 2

1Norwegian Centre for Integrated care and Telemedicine, UNIVERSITY HOSPITAL NORTHERN NORWAY,, Tromsø, 2Centre for Shared Decision Making and Collaborative Care Research, Oslo University Hospital, Oslo, Norway

Objectives: The individual care process for patients with long-term conditions (LTC) is a collaborative project between multiple professions and organizations, the patient and his/her significant others. This care process is here called the individual Patient Pathway (iPP). The iPP experiences of persons with LTCs has to our knowledge not been studied previously. We examined how patients with LTCs experience their iPP in terms of the ideals outlined by the Chronic Care Model (CCM) (1) and patient involvement (2).

Methods: 19 patients from two different Norwegian studies:

Study1: Patients with a current- or former cancer diagnosis, receiving active or palliative treatment (11 patients).

Based on the hospital- and GP- electronic health records (EHR) we made a timeline of clinical events for each patient. In semi structured interviews, we asked patients to identify events of importance on the EHR-timeline, encouraged them to evaluate the events and explain their judgment. We then asked patients review the whole iPP in terms of patient involvement, treatment goals, follow-up plans, continuity of care and support for self-management. The analysis reviewed care in terms of whether the iPP included:

1) eliciting patient preferences and translating these into realistic goals for care.
2) Aligning the care plan, which outlines who does what, with personal goals.
3) Implementing the care plan.
4) Evaluating goal-attainment and learning from results.

Results: Patients had an average of 5 health problems per year, of which 2 were long-term or chronic (range 1-5). They had visited 59 different health services during 23 person years. These patients experienced a care service, which was profession-centered, and focused on providing those medical services that were deemed necessary according to “health care acknowledged”-problems. With the exception of rehab- and mental services, personal needs, values and preferences were largely ignored, and overarching personalized goals were thus not identified. Health professionals made the care choices, and patients were in general not included or involved in decision-making, nor did they expect to be. Care decisions were made in the context of single services; did not involve other professional competencies nor long-term care planning for the collected health care needs of the person. Implementation of planned interventions for “health care acknowledged” problems in terms of management-continuity was “acceptable” in about half the cases, while informational and relational continuity was far from best practice. Evaluation of care in terms of goal attainment was nearly non-existent.

Conclusion: With the exceptions of those receiving mental health and rehabilitation services, these patients with LTCs experienced a health service of uncoordinated sequential single provider meetings. Care was largely insensitive to patient preferences. The disjoint between the recommended practices and the care experience for patients with LTCs needs urgent attention.
Improving The Follow-Up Of Cancer Patients At Home: How To Design A Cancer Care Coordination Program?
M. Ferrua 1,*, F. Yatim 1, A. Fourcade 1, E. Minvielle 1 Projet Capri - Gustave Roussy, EHESP-MOS, Villejuif, France

Objectives: Describing how to design a Cancer Care Coordination Program (CCCP) based on Health Information Technology (through a web portal) and Nurse Coordinator (NC). The research objectives were to:
- Identify expected uses by patients
- Analyze current needs for coordination
- Describe NN activities and skills

Methods: The research was conducted within the CAPRI research project (Cancer, Parcours de Soins, Région Ile de France) at Gustave Roussy (Villejuif, France). It was the first step of the CAPRI project, which included the design, implementation and evaluation of a CCCP. Three studies using mixed methods were conducted in Gustave Roussy to design the CCCP:

1. A patient survey was initiated in June 2013 in 7 outpatient departments to understand the current level of use of internet-based technologies and assess the intention to use them for their health.
2. A qualitative analysis was conducted in September 2013/March 2014 which consisted in interviews with professionals from Gustave Roussy, primary care providers and patients to understand the existing care processes and define how both the web portal and the NCs could prevent difficulties and facilitate coordination between professionals. In addition, this study aimed to identify the constraints and precautions to take into account while implementing the CCCP.
3. An analysis of home care coordination activities (both qualitative and quantitative methods) was conducted in May-June 2014 within the department in charge of coordinating outpatient care for patients in need of post-discharge home care. The study objective was to identify the necessary skills and tasks to perform home care coordination. The content of phone calls received by the department was also analyzed.

Results:
1) For the patient survey, 1371 questionnaires were returned, participation level was 85%. Patient attitudes toward e-health activities were mainly positive. Among them, having an access to electronic records, filling out a self-test regarding their health status, communicating via email with their physician, scheduling an appointment, and getting information about their disease. Overall, the majority of patients included in our sample were willing to use Internet-based technologies for their cancer care.
2) 43 semi-structured interviews were conducted. The qualitative analysis enabled to refine the features the CCCP could offer: collecting and monitoring side effects, having a warning system, sharing data, scheduling appointments, getting access to information. The analysis highlighted the importance of collecting data on a flexible basis for the patient and the need for NCs to develop decision support tools to have an appropriate response for each situation of care.
3) 543 calls received at the coordination platform were analyzed. The majority of needs for patients and professionals were more related to managerial and organizational issues (e.g. patient navigation issues, lack of information about specific aspects of the care pathway) than clinical request.

Conclusion: This study identified patient’s needs and expectations such as being informed and supported in the management of the side effects, the treatment and the disease, being accompanied along the care pathway, having an interlocutor identified in the hospital and specific aspects of their personal background should also be considered. The main features expected by the technological support of CCCP were to facilitate contact, to share data, to access to information and to manage the follow-up (e.g. schedule appointment, collect data). Therefore, the study concluded that NCs should have a role as a case manager in order to prevent risky situations. The CCCP will be operational in March 2015.
**1522**

**Treatment Injuries In Danish Public Hospitals 2006-2012**

J. Tilma 1,*, M. Noergaard 1, K. L. Mikkelsen 2, S. P. Johnsen 1

1Department of Clinical Epidemiology, Aarhus University Hospital, Aarhus University Hospital, Aarhus, 2Danish Patient Compensation Association, Copenhagen, Denmark

**Objectives:**

Treatment injuries are responsible for considerable mortality, morbidity and financial costs. Claims of treatment injuries have increased substantially in Denmark in the last decade. Data from closed compensation claims may be useful in identifying pitfalls in patient safety and in designing interventions to reduce injuries.

**Aim:**

We aimed to determine the incidence rate of approved treatment injuries in Danish public hospitals from 2006 through 2012 and to identify independent predictors of severe treatment injuries amongst patient and system characteristics.

**Methods:**

We performed a nationwide, historical observational study on data from the Danish Patient Compensation Association, which receives all compensation claims from health care in Denmark. All approved closed claims of treatment injuries occurring in public hospitals 2006-2012 were included. Information on health care activity was obtained from the Danish National Registry of Patients through Statistics Denmark. Incidence rates were determined as treatment injuries per year by population and by public hospital contacts, respectively. By using a multivariable logistic regression model we calculated mutually adjusted odds ratios to assess the association between potential predictors and severe treatment injuries (permanent disability ≥ 50% or death) among all approved closed claims.

**Results:**

We identified 10,959 approved treatment injury claims in 2006-2012. The total pay-out was 360 million USD. Mean treatment injury incidence rates were 27.85 (SD=4.75) injuries per 100,000 inhabitants per year and 0.21 (SD=0.04) injuries per 1000 public hospital contacts per year. Severe treatment injury occurred in 11.0% [95%CI 10.4;11.6] of all approved claims. Preventable cases comprised 41.0% [95%CI 40.1;42.0] of all cases. Predictors of severe treatment injury included age, gender, comorbidity (Charlson Comorbidity Index), medical specialty, and region. Examples of mutually adjusted odds ratio estimates:

<table>
<thead>
<tr>
<th>Gender, ref. female</th>
<th>Age (years), reference &gt;0-40</th>
<th>Comorbidity, ref. no comorbidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mild</td>
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<tr>
<td></td>
<td></td>
<td>Severe</td>
</tr>
<tr>
<td>1.31</td>
<td>9.2 0</td>
<td>1.33 1.62 2.19 3.66 4.7 1.6 2.33</td>
</tr>
</tbody>
</table>

**Conclusion:**

The incidence rate of approved closed claims at Danish public hospitals appears stable. A high proportion of the injuries are preventable and both patient and system related factors may predict severe injuries.
One Fourth Of Unplanned Transfers To A Higher Level Of Care Associated With A Highly Preventable Adverse Event: A Patient Record Review In Six Belgian Hospitals

K. Marquet¹ ² *, N. Claes³ ⁴, E. De Troy⁴, A. Vleugels² ⁵
¹Department Quality & Safety, Jessa Hospital, Hasselt, ²Faculty of Medicine and Life Sciences, Hasselt University, Diepenbeek, ³Health Care Management, Antwerp Management School, Antwerp, ⁴Pharmacy, Jessa hospital, Hasselt, ⁵Centre for Health Services and Nursing Research, Catholic University Leuven, Leuven, Belgium

Objectives: The objectives of this study are to determine the incidence and preventability of Adverse Events (AEs) requiring an unplanned higher level of care, defined as an unplanned transfer to the intensive care unit or an in-hospital medical emergency team intervention, and to assess the type and the level of harm of each AE.

Methods: A three-stage retrospective review process of screening, record review and consensus judgment was performed in six Belgian acute hospitals. During a six month period the records of all patients with an unplanned need for a higher level of care were assessed by a trained clinical team consisting of a research nurse, a physician and a clinical pharmacist.

Results: AEs were found in 465 (56%) of the 830 reviewed patient records. Of these, 215 (46%) were highly preventable. The overall incidence rate of patients being transferred to a higher level of care involving an AE was 117.6 (95% CI 106.9–128.3) per 100,000 patient days at risk, of which 54.4 (95% CI 47.15–61.65) per 100,000 patient days at risk involving a highly preventable AE. This means that 25.9% of all unplanned transfers to a higher level of care were associated with a highly preventable AE. The AEs were mainly associated with drug therapy (25.6%), surgery (23.7%), diagnosis (12.4%) and system issues (12.4%). The level of harm varied from temporary harm (55.7%) to long term or permanent impairment (19.1%) and death (25.2%). Though the direct causality is often hard to prove, it is reasonable to consider these AEs as a contributing factor.

Conclusion: AEs were found in 56% of the reviewed records, of which almost half were considered highly preventable. This means that one fourth of all unplanned transfers to a higher level of care were associated with a highly preventable AE.
2014

Is There An Association Between Patient Safety Incidents And Practice And Organizations In Primary Care?
P. Michel1,*, A. Mosnier1, M. Kret3, J. Brami4 Hospices Civils de Lyon, Lyon, 2Open Rome, Paris, 3CCECQA, Bordeaux, 4Haute Autorité de Santé, Paris, France

Objectives: The French Ministry of Health mandated in 2013 a group of researchers to undertake a national survey with the objectives to measure patient safety incidents in primary care and to study the association between the number of incidents and practice and organizational characteristics of the participating GPs.

Methods: A prospective, observational study of a voluntary, confidential incident reporting, was implemented in randomly selected GP among physicians freely contributing in a network for flu surveillance. They reported daily incidents over a one-week period. An incident was an event or circumstance that could have resulted, or did result, in harm to a patient, and whose wish it is not repeated again. Careful quality control of the data was provided. The incidence was the percentage of incidents over the number of encounters. The global incidence of incidents and of preventable incidents and by type of incident was calculated. The association between the number of incident and practice and organizational characteristics was based on a negative binomial regression model.

Results: 127 GPs (participation rate 79%) reported 317 incidents of which 270 preventable among 12,348 encounters. 77% had no consequences for the patient. The incidence of reported incidents was 26 per 1000 patient encounter. Incidence of reports categorized as deficiencies in Makeham type 1 ‘processes’ was 17‰, and type 2 ‘knowledge and skills’ 5‰. 79% of the GPs had a secretariat; either located at the GP office (69%) or through a remote phoning platform (23%) or combined (8%). Among these offices with secretariat, 79% formalized protocols for emergent calls. 96% used a computerized medical record, 75% systematically used a prescription aid for drug and 58% an aid to long-term treatment management. 33% systematically deactivated their prescription software alarms. The GPs received the biological results by email (71%), postal mail (25%) or by fax (4%), and the radiological results mainly by postal mail (72%), followed by email (26%) and by fax (2%). 61% of doctors used a digital archiving of their complete records, 21% partially. For an increase of a yearly one-day education session, the relative risk of reported incident was 1.08 (p<0.01). For an increase of one minute per encounter, the relative risk was 1.05 (p=0.02). For GPs in a multidisciplinary primary care clinic, the relative risk was 2.26 compared to isolated GPs (p=0.03).

Conclusion: Patient safety incidents occur once every two days in France, 2% of them have severe consequences for the patients. Although 2014 Commonwealth Fund International Health Policy Survey findings tend to indicate that the French primary care system behaves well in terms of communication, coordination and accessibility, the incidence was in the middle range of other national surveys. The relationship between coordination, access to primary care and safety and the validity and relevance of these indicators can be discussed in light of these results. The type of practice and organization of GPs reporting more incidents is in favour of good practice conditions. An heterogeneous underreporting by GPs may be the main explanation for the limited association found. The greatest immediate challenge in reporting systems is that of creating a culture of safety in the outpatient setting. We started multidisciplinary mortality and morbidity conferences in primary care with that in mind.
Application Of Knowledge Gained Through Adverse Event Reporting System And No-Fault Compensation/Peer-Review System To New Peer-Review System On Clinical Death Case In Japan

S. Ushiro1*, M. Sakaguchi1, H. Sakai1, J. Inoue1

1Adverse Event Prevention, Japan Council For Quality Health Care, Chiyoda-ku, Tokyo, Japan

Objectives: Japan Council for Quality Health Care (JCQHC) has carried nationwide adverse event reporting system and no-fault compensation/peer-review system for cerebral palsy. In those programs, adverse event was investigated, analyzed and eventually gave rise to a peer-review report though the degree of detail varies. The Japanese government is planning to build a new peer-review system on patient death on October 1, 2015. The idea of how to introduce the knowledge achieved by those two projects to the new peer-review system will be presented.

Methods: The adverse event reporting system has been operated through web-based system covering broad medical specialties, while the compensation/peer review for cerebral palsy has been based on case-by-case, in other words, in-depth review in restricted realm of medicine. The optimum combination of those two different methods was reviewed seeking full coverage of clinical death case in a new peer-review system.

Results: The reporting system collected 3,194 accident and 29,736 incident reports in 2014 under the condition of anonymity from 1,399 medical institutions accounting for 16% of Japanese hospitals. JCQHC published annual/quarterly reports and monthly alerts as planned in 2014 for recurrence prevention. It should be stressed that web-based reporting and analyzing system developed in JCQHC has enabled to efficiently deal with a great number of cases reported from entire medical specialties. In contrast, the Japan obstetric compensation/peer review system has an intensive peer review in which expert groups review and eventually compile a peer-review report of individual cases. Six hundred and fourteen reports have been completed and delivered to both families and childbirth facilities so far. Despite the initial criticism that intensive causal analysis and in-depth reports may ignite conflict between childbirth facilities and families, no significant rise in the number of liability insurance payment/ lawsuit case for cerebral palsy has been observed. This peer-review system is characterized as the one which applies in-depth review to restricted realm of medicine in contrast to the one developed in the adverse event reporting system as we expect that only 400-500 cases are dealt annually in Japan. As both systems grow steadily, the government is planning to build a new peer-review system specific to clinical death aiming at patient safety promotion based on revised "Health service law". 1300-2000 death cases are expected to be subjected to the new system. As worry on too much burden of peer-review work on medical institutions and allegedly possible conflict ignited by compilation of in-depth peer-review report still lingers, volatile discussions on various points composing of opinions such sides as doctor, lawyer and civil representative is now underway. It appears that clinical death cases should be processed in the two different manners according to description of each case making full use of knowledge achieved by JCQHC’s adverse event reporting system and no-fault compensation/peer-review system.

Conclusion: The new peer-review system will begin on Oct 1. JCQHC’s adverse event reporting system and no-fault compensation/peer-review system has fostered two different methodologies to cover entire adverse event for prevention. They surely provides with ideas which enable the new system to be operated efficiently and effectively.
Our Journey Towards Implementation Of Key Performance Indicators Sets For Hospitals In Oman
Samra Al Barwani; OM, Directorate of Quality Assurance Ministry of Health, Sultanate of Oman

In the years ahead Healthcare providers will continue to face numerous challenges from unresolved safety & quality of care issues. Some of these issues include increase in complexity of healthcare system, increased cost of healthcare, and increase in scrutiny of the quality and safety of services, which is often driven by the media. This is coupled with an increase in patient and family expectations for high standard patient safety.

The Ministry of Health In Oman has considered patient safety & quality of care as one of its important priority and urges all healthcare leaders and decision makers to conduct more training and awareness programs relevant to patient safety & quality of care.

There are different approaches for implementing Hospital Performance Measurement System and most approach uses a voluntary process with adopted standards that are measurable. Those standards usually focus on improving the quality of care and patient safety.

As a result, Ministry of Health in Oman had implemented National Performance Measurement sets since in 2009 for hospitals. Therefore, The Ministry of Health in Oman invited an external Consultant in Hospital Performance Measurement System to review the current National key Hospital Performance Measurement Sets and provide guidance to improve the current existing Key Performance Measurement sets.
Measuring Pediatric Quality Of Care In Rural Clinics: A Multi-Country Assessment In Cambodia, Guatemala, Zambia and Kenya

A. Edward 1,*, K. Dam 1, J. Chege 2, A. Ghee 3

1International Health, Johns Hopkins University, Baltimore, United States, 2World Vision International, Arusha, Tanzania, United Republic of, 3World Vision International, Washington DC, United States

Objectives: To determine clinical quality of care provided to children by rural practitioners in low and middle income countries

Methods: The Integrated Management of Childhood Illness (IMCI) algorithm, designed by WHO and UNICEF, has become an increasingly popular national strategy to ensure appropriate case management for common childhood conditions that contribute to a high disease burden in low and middle income countries. However, evaluations have indicated poor health provider compliance due to structural and capacity impediments including health workforce deficits inherent in rural health clinics with poor geographical access. This study was conducted as part of a baseline research to determine the impact of targeted intervention strategies for maternal and child health. Outpatient clinics in the four project sites were selected for the study and five children presenting with IMCI symptoms were selected using systematic random sampling from each clinic. Trained survey teams from health research institutions in each country performed the assessments using patient observations and exit interviews with the child’s caretakers using validated instruments.

Results: The final sample included a total of 60 outpatient clinics and 333 children. The most common presenting complaints in all country settings were those prioritized by the IMCI; fever, cough and diarrhoea. More than 88% enquired about the age of the child, and >97% enquired about duration of illness in all countries except Kenya where a little more than 2% were checked. Assessment of danger signs requiring immediate referral varied considerably in each country – in Guatemala and Cambodia more than 60% were children assessed for ability to drink whereas only 44% Zambia and 26% in Kenya were assessed. Likewise 57% of the children were checked for vomiting in Guatemala, 36% in Zambia, 20% in Cambodia and 13% in Kenya; Assessment for lethargy and convulsions were performed in less than 40% of the children in all settings. Checking for the IMCI symptoms also varied – more than 60% of children were checked for diarrhoea in Zambia and Guatemala but only about 40% in Cambodia and Kenya. There was a higher compliance in assessing symptoms for cough and fever (>70% for cough, and >90% for fever, except for Cambodia <75%). Performance for assessment of child’s nutritional status was also suboptimal, <30% in all sites, except Guatemala (56%). Checking palmar pallor for clinical symptoms of anaemia was performed in <20% of the children. About two thirds of the child’s caretakers were informed about administering medications and dosage, but in Kenya and Cambodia, very few were counselled on potential side effects. ORS prescription or treatment of children presenting with diarrhoea was less than 40%. The average patient consultation time was six minutes, except for clinics in Guatemala (12 minutes).

Conclusion: Despite the enormous capacity investments by these countries to establish IMCI in primary care clinics, adherence to screening and counselling standards by these rural practitioners was suboptimal. Strategies to improve universal health coverage must integrate and accelerate efforts to enhance quality of services for priority health conditions which are the major contributors to child mortality in these settings.
Triangulating Data On Improved Quality Outcomes Of Obstetric Care In Mozambique’s Maternities

J. Ricca 1, M. D. L. Vaz 2,*, M. Anjos 2, E. Necochea 2

1Maternal and Child Survival Program, Jhpiego, Washington, United States, 2Maternal and Child Health Integrated Program, Jhpiego, Maputo, Mozambique

Objectives: To determine the effects of the Mozambique national Model Maternities quality of care initiative on clinical practices and maternal mortality.

Methods: Since 2009, the Mozambique MOH, with support from the USAID/MCHIP Program, has implemented the Model Maternities Initiative (MMI), a quality improvement effort based on the Standards-Based Management and Recognition methodology. MMI started in 34 facilities and expanded to 102 maternities by 2013, covering approximately one third of institutional deliveries in the country. MMI uses periodic internal assessments, based mainly on direct observation, in which facilities rate themselves on performance standards in ten thematic areas, including quality of maternal and new-born care, infection prevention practices, and management. Scores are analyzed to correct performance gaps. Since 2012 MOH maternity registers have contained information on seven key clinical practices, including active management of the third stage of labour (AMTSL), magnesium sulphate for eclampsia, partograph use. Facilities also report institutional maternal deaths. Data was examined from three sources:

- Results of the periodic internal facility performance assessments expressed as percent compliance with performance standards.
- Time trends of indicators of key clinical practices and maternal mortality, reported in MOH registers.
- Data on improved coverage of clinical practices was modelled using the Lives Saved Tool (LiST). Modelling estimated the impact of four key practices: AMTSL, magnesium sulphate for eclampsia, use of partograph (labour management), and infection prevention (clean delivery practices) using effect sizes developed by the Child Health Epidemiology Reference Group through their literature review and expert opinion.

Results: Data reported from the 102 MMI facilities demonstrated that performance quality scores improved from an average attainment of 25% of standards in 2009 to 73% in 2014. There were marked improvements in all 7 monitored clinical practice indicators, including AMTSL, use of magnesium sulphate, use of partograph, and infection prevention. When improvements in coverage of these four clinical practices were modelled, the predicted drop in institutional maternal mortality ratio was 26% (416 to 308/100,000 live births), for an estimated 1,130 maternal deaths averted. The directly measured improvement in institutional maternal mortality ratio was 46% (416 to 226/100,000 live births). See table:

<table>
<thead>
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<th>Year</th>
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<th>LIST modeling</th>
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<tbody>
<tr>
<td></td>
<td>Deaths</td>
<td>% reduction from 2009 baseline</td>
</tr>
<tr>
<td>2009</td>
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<td>-</td>
</tr>
<tr>
<td>2010</td>
<td>406</td>
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<tr>
<td>2011</td>
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</tr>
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<tr>
<td>2014</td>
<td>226</td>
<td>-46%</td>
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Conclusion: Data analyzed on self-reported practices, tracking of key indicators, and directly measured and modelled institutional maternal mortality ratio give a consistent picture of quality improvement in these 102 maternities. Self-reported performance scores improved in 48% absolute terms. Self-reported coverage for key clinical practices improved. When improvements in coverage of four of these key practices were modeled with LiST, the predicted decline in institutional maternal mortality ratio was consistent with the decline reported through the maternity registers (26% modeled versus 46% directly measured). The difference between the reported and modeled decrease might be due to practices not included in the model. MMI covers about 1/3 of the country’s institutional deliveries, which has a 53% institutional delivery rate, so it likely makes an appreciable contribution to improvement in the national maternal mortality ratio.
A Framework For Improvement Of The Quality Of Care At The Primary Care Level
M. Letaief 1,*, M. A. Ardakani 1, S. Siddiqi 1
1Health System Development, WHO/EMRO, Cairo, Egypt

Objectives: To develop a framework for assessing and monitoring the quality of care at the PHC level and select a list of core indicators and standards that can be used by primary care facilities to assess, report and monitor the quality of care

Methods: The adopted methodology includes literature review on the available publications related to quality indicators and standards for primary care, the identification of a potential list of indicators then the conduction of a DELPHI survey with a group of 28 international and regional experts in primary care and quality of care, the pilot test of the shortlisted core indicators and the development of a framework for the field implementation of quality indicators. In addition, we have developed of a set of quality standards for the primary care.

Results: In total 24 experts responded to the DELPHI online survey. 83 indicators covering the different dimensions of quality of care were included for discussion and scoring by the expert’s panel. 26 indicators were shortlisted. These indicators are related to process and outcome and cover 5 areas: 3 indicators for Patient/community centered, Health Workforce Development (3 indicators), Planning and Management (4 indicators), Medicine and Technology (2 indicators) and Effective clinical practice (14 indicators). The field test of the indicators at the operational level through several meetings with PHC teams allowed more feedback on the feasibility of the indicators collection and adaptation to the local context. The field teams suggested few additional indicators they consider important. On another note, a draft set of quality standards for primary care was developed and pilot tested. These standards are considered as core (compulsory) that PHC teams may refer to as a self-assessment tool. The use of these tools would support identifying and closing the quality gaps as well as benchmarking with similar PHC facilities.

Conclusion: The quality of care at the PHC level is a priority that faces health systems world wise. More attention should be give to the quality of the delivered care in the in the Eastern Mediterranean Region that faces many challenges. The adoption of the quality framework would allow better understanding of the quality of the care through the use of valid indicators and standards. For the successful implementation of this tool, additional work should be initiated to support member states on the integration and institutionalization of quality and safer care at the PHC level through leadership engagement and governance, health policy support for quality and rewarding mechanisms for better performance and responsiveness of community/patient’s needs.
A Multi-Faceted Intervention To Improve Quality Of Clinical Records At Primary Care Level

O. H. Mahomed 1,*, S. Asmall 2, S. Naidoo 3, M. Taylor 3
1Public Health Medicine, University of KwaZulu Natal, Overport, 2National Department of Health, National Department of Health, Pretoria, 3Public Health Medicine, University of KwaZulu Natal, Durban, South Africa

Objectives: To determine whether a multifaceted intervention using a Structured Clinical Record to supplement the educational outreach training has the potential for improving the quality of clinical records for patients with long-term chronic illness

Methods: This study falls within the scope of implementation research and could be considered as a pragmatic trial (17). A quasi-experimental study (before and after study with a control group) was conducted between May 2012 and January 2013. The study was conducted across thirty PHC clinics located in the three ICDM initiating districts (Dr Kenneth Kaunda District (DKK), North West Province, West Rand Health District (WRH), Gauteng Province and the Bushbuckridge (BBR) sub-district within the Ehlanzeni District, Mpumalanga Province in South Africa. Data were collected through a review of the clinical records for patients attending the facility in the previous three months for chronic diseases - patients on antiretroviral treatment (ART), Diabetes, Hypertension, Chronic Respiratory Diseases such as Asthma and Chronic Obstructive Pulmonary disease (COPD). A structured data collection tool was designed for the review of the patient clinical record.

The mean coverage for the intervention and control sites for each chronic diagnosis was calculated. A paired t-test with unequal sample variance was used to compare the average district coverage per chronic disease at baseline (prior to the intervention), and at three months from baseline, and six months, post PC 101 training. A 95% confidence interval was reported with the accepted level of significance being 0.05 (α=0.05).

Results: There was a statistically significant increase in the proportion of clinical records that achieved the benchmark of a record of an acceptable quality, for patients with hypertension (61% to 96%, 22% to 71% and 3% to 91%) and patients with diabetes (56% to 89%, 20% to 71% and 3% to 91%) at the intervention sites across the three districts at six months post SCR implementation. Although the proportion of clinical records for HIV positive patients that achieved the benchmark of a record of an acceptable quality increased six months post intervention at all the intervention sites the increase was statistically significant only in Bushbuckridge sub-district

Conclusion: This study has demonstrated the potential of a SCR as a supplement to the educational outreach component of the ICDM (PC 101 training) for improving the quality of clinical records for patients with chronic diseases at primary care clinics in South Africa.

The improvement that was noted in the intervention sites was due to the ease with which the healthcare professionals adopted the SCR at facility level and across all three districts.

A major contributing factor to the uptake and application of the SCR was its availability. The printing of the SCR, PC 101 training, including accommodation of staff during the master training was funded by the external support partner with no printing costs or logistical costs that needed to be covered by the Province or district.
Standards Of Nursing Practice A Cornerstone Of Quality Safe Patient Care: Examining The Challenges Of Establishing A Standard Of Practice In A Greenfield Hospital In Qatar
M. Boyd 1,*, V. Buchannon 2

1Chief Nursing Officer, 2Quality, Safety, Clinical Governance & Research, Sidra Medical and Research Center, Doha, Qatar

Objectives: INTRODUCTION: By virtue of its numbers and adaptive capacity, the nursing profession has the potential to effect wide-reaching changes in a health care system. Nurses are crucial in preventing medication errors, reducing rates of infection, and even facilitating patients’ transition from hospital to home. Although the importance of nursing standards of practice is well defined in existing hospital systems, the challenges of establishing an international nursing standard of practice in a greenfield hospital site that ensure all nurses practice to the full extent of their education and training in a developing country has not been examined.

OBJECTIVE: The aim was to explore the challenges of establishing a standard of practice for an international nursing workforce commissioning a Greenfield hospital in the Middle East and its potential impact on patient outcomes.

Methods: SEARCH METHODS: The following databases were searched: Cochrane/EPOC resources (DARE, CENTRAL, and the EPOC Specialized Register), PubMed, CINAL Plus, CAB Health, Virginia Henderson International Nursing Library, the Joanna Briggs Institute database, The British Library, international theses databases, as well as generic search engines.

SELECTION CRITERIA: Randomized control trials, controlled clinical trials, controlled before and after studies and interrupted time series analyses of interventions relating to establishing standards of practice for an international nursing workforce and patient outcomes.

Results: There were 6213 studies that were potentially relevant to the review. Following a detailed examination of each study, 35 were included in the review. There is strong evidence that supports standards of practice for nursing and the impact of all nurses practicing to the full extent of their education and training on patient outcomes. Despite the number of studies that underpin the importance of standards of practice, there is little published evidence to assist new hospitals with establishing nursing standards of practice for an international workforce in a developing country.

Conclusion: Standards of practice are essential to the planning and delivery of safe patient care of the highest quality. Nursing practice covers a broad continuum from health promotion, to disease prevention, to coordination of care, to cure –when possible- and to palliative care when cure is not possible. While this continuum of practice is well matched to the needs of well developed countries, the nursing profession in developing countries has its challenges. The establishment of a standard of practice for an international workforce is an essential and crucial part of producing a health care system that delivers the right care – quality care that is patient centered, accessible, evidence-based, and sustainable – at the right time. In order for nursing to deliver quality and safe patient care, the establishment of a standard of practice is required for an international workforce in Greenfield hospital site. However, this intervention should be treated with extreme caution due to the limited evidence available from research conducted to this date to guide this process.
Increase Of Adverse Events Notifications: A Change In Institutional Culture

A. Pirutti 1,*, G. Ruiz Cruz 2 1IQG - Health Services Organization, São Paulo, 2Hospital Unimed Americana, Americana, Brazil

Objectives: Evidence the awareness and increase of sentinel events notifications.

Methods: It’s an retrospective analysis based on institutional data of Hospital Unimed Americana, State of São Paulo. In 2009 was established the Quality Department on the institution, performing the process, risks and dangers mapmaking. However, only in the end of 2011 the High Administration choose the Organização Nacional de Acreditação (ONA) methodology. Since then, it was stared a awareness work with the contributors and leaders relative to sentinel events notifications. The contributors’ fear of punishment and leaders less maturity to realize that the faults were from the process and that they must be continuously improved, were factor which contributed to the low index of notification in 2012. In 2013 some reformulations was made in the Quality Department, however was developed with the leaders the non-punitive culture and the needs of redesign the process to proceed improvement. In October, 2013 was found the need of reformulation of the notification print to be a better instrument to make easy the notifier work, beyond consider the notification classification by the gravity rate according to the ONA criteria. In 2014 was found the need of sensitize the contributors relative to the notification, this way, was chosen to use the active methodology, in other words, make that they feel as part of the institution and changing protagonists. Actions such as the “June Party of Patient Safety”, “Nurse Week”, “Answers of Quality” and “Whishing Tree of Patient Safety” were developed with the multi-professional team.

Results: With the implantation of this strategy, was found a significant increase of sentinel notifications. In the year of 2012, which was the beginning of the notifications the result was 251 notifications; in 2013 it increased to 398 notifications; in 2014 the year closed with 857 notifications, in other words, an increase of more than 340% compared to 2012. It was found that 56% of notifications are from rate 4, which were occurrences that no reached the health Professional, the client or the patient, which demonstrate that the barriers instituted are being effectives, because the fail is being detected before reach the patient.

Conclusion: By the new training methodology applied it was found that had a great awareness of contributors relative the sentinel events notifications, because they started to feel as part of the work process and responsible by the improvements, which before they imagine be only role of the leaders. Could be notice too the notifications between areas disaccord, setting new accord. The constant work with educational feature and non-punitive was determinative to the contributors feel safe to notify. With the increase of notifications happens the changing in the answers to areas, which started to be weekly, to the actions could be corrected the nearest of the event date occurrence.
Using Models For Continuous Quality Improvement To Improve Paediatric Enrolment In The HIV/AIDS Care And Treatment Clinics

B. Mbwele 1,*, B. Chirangi 2 Clinical Team, Christian Social Service Commission, CSSC. HIV/AIDS Care and Treatment & PMTCT, Mwanza, 2HIV/AIDS Care and Treatment Clinic, 1.Shirati Designated District Hospital, P.O Box 18 Shirati, R Rorya

Objectives: Most of the facilities in Mwanza, Geita and Rorya District in Mara Region enrol less than 5% of the total clients centrally to the 20% or 15% required by National Aids Control Programme or Centre for Disease Control, CDC in Tanzania. The aim of the research was to assess the effectiveness of the quality principles in enrolling HIV positive children to care and treatment clinics.

Methods: The CQI team of the district hospital in Rorya district collaboratively with the guidance Christian Social Service Commission, CSSC Clinical team, used the brainstorming principles and the fish borne analysis to produce the cause effect analysis. The 6 performance indicators were collaboratively set into Plan-Do-Study-Act (PDSA model) and followed up actively by the CSSC Clinical Team. The indicators were:

1. Testing of all the children admitted in the paediatric ward was done by Provider Initiated Testing and Counselling (PITC).
2. Testing all the children who attends outpatient’s clinic by PITC
3. Testing all children admitted in the wards by PITC.
4. Testing all children whose mothers missed pregnant HIV tests during the vaccine at the Reproductive Child health clinic visits.
5. Encouraging adult HIV clients from to bring their children along with them for testing, and lastly.
6. Counterchecking every child discharged and recording exit status. Division of labour for the implementation of the test of change was done with monthly followed up through sub units of the clinics.

Provision of meal during paediatric HIV clinic and home counselling by Home Base Care, HBC team provided retention strategy.

Results: Cumulative enrolment of HIV clients has raised from 4650 to 5350, Current children on care and treatment has risen from 46 out of 1262 (3.6%) in December 2013 to 114 out of 1474 (7.7%) in September 2014. By end of December the facility presented a rise of to 11.3%.
Lost to follow up has decreased with retention rate of 25 children out of 46 (54.3%) in December 2013 to 102 out of 114 (89.4%) enrolled in 12th September 2014.
Twenty eight children from the age of 7 to 14 years have proven commitment and proper understanding to continue with treatment.

Conclusion: Guided HIV/AIDS CQI Teams perform well quality improvement in paediatric testing enrolment, and retention once indicators for testing and social attraction are collaboratively designed and collaboratively followed.
Cultural Safety In Maternity Care Workshops: High Fidelity Simulation As A Conduit To Quality Improvement And Enhanced Collaboration

S. Andy, B. Gibson-Thorpe, B. Bulle, K. Freeman

VACCHO, Melbourne, Echuca Regional Health, Echuca, The Royal Women’s Hospital, Melbourne, Australia, Maternity Services Education Program, The Royal Women’s Hospital, Melbourne, Australia

Objectives: A culturally competent workforce was recognised as a priority reform area in Closing the Gap in Indigenous life outcomes. Improving partnerships between mainstream and Aboriginal Community Controlled Health Organisations (ACCHOs) to enhance cultural safety across the continuum of care is a key aspect of closing the gap. However, clinically focussed interdisciplinary education supporting clinicians to provide culturally safe care is limited.

Maternity Services Education Program (MSEP) and the Victorian Aboriginal Community Controlled Health Organisation (VACCHO) partnered with Aboriginal communities and mainstream services to develop interdisciplinary, collaborative, Cultural Safety in Maternity Care Workshops which included high fidelity simulation and cultural safety skills training on site in two rural Victorian health services.

Methods: Workshops started with an introduction to cultural safety by VACCHO, the state peak body for Aboriginal Health.

Participants included a range of groups including GP obstetricians, midwives, Aboriginal health professionals, Aboriginal Elders and paramedics.

Each workshop involved simulated maternity emergencies requiring stabilisation and transfer of an Aboriginal woman and her baby. The simulations were held onsite in the birth suite, providing clinicians the opportunity to practice their clinical and cultural safety skills and consider all stages of the woman’s journey.

Cultural leaders provided post scenario feedback and peer review in a supportive environment. On day two participants worked together to develop an action list focusing on improving cultural safety on individual, organisational and inter-organisational levels. A post workshop meeting involved leaders from the mainstream health services and ACCHOs to maintain momentum and provide support for on-going improvement.

Results: Pre and post surveys detail the usefulness of the workshop in improving cultural safety and clinical knowledge and skills and understanding key aspects of culturally safe maternity care.

Sites are reporting back to the MSEP team to outline initiatives that have developed from the workshop. Examples of changes in organisations as a result of the workshop:
- Collaboration and relationship building across clinician groups and organisations
- Policies and procedures
- List of Koori English terms that are clinically relevant in maternity care
- Involvement in a new project to improve identification of Aboriginal babies

Conclusion: Onsite facilitation supports an efficient approach to service delivery and improves access to the education. Face to face delivery supports enhanced collaboration and understanding of the role of the Aboriginal Hospital Liaison Officer and Aboriginal Health Worker. Using an Aboriginal simulated patient wearing a life like birth suit enhances fidelity. Facilitating the workshop over one and a half days enhances networking opportunities and improves collaboration between service providers.

Every project that aims to improve cultural safety in a mainstream service is an opportunity to strengthen partnerships with local ACCHOs and community.
Clinical Protocol Of Sepsis Early Detection Developed For Brazilian Culture Reality

T. Sotto Mayor 1, M. Machado 1, M. Damasceno 1, F. Folco 1
1IQG - Health Services Accreditation, São Paulo, Brazil

Objectives: The objective of this study was to develop a protocol defining operational guidelines for Sepsis and Septic Shock Early Detection, considering the first three hours of service in order to systematize the initial assistance and reduce mortality related to sepsis in participating hospitals of the Brazilian Patient Safety Program.

Methods: Since 2008, IQG - Health Services Accreditation, in partnership with the Canadian Patient Safety Institute (CPSI), the Institute for Healthcare Improvement (IHI) and the Accreditation Canada International (ACI), has developed the Brazilian Patient Safety Program, through voluntary participation of Brazilian hospitals, promoting the dissemination of safety practices and the exchange of experiences among the participating institutions.

In 2013, the Brazilian Patient Safety Program defined a set of best practices based on evidence that, when implemented together, should result in the reduction of sepsis-associated mortality. To develop this study, institutions participated voluntarily, reaching a total of 45 institutions with 1,154 patients. The best practices recommended are: exams result (sepsis package) within 45 minutes; Blood collection for blood cultures prior to antibiotic administration; Broad-spectrum antibiotics administration within 1 hour; Beginning of fluid resuscitation with 30 ml/kg of crystalloid solution in the event of hypotension or lactate to 4 mmol/L. The Brazilian Patient Safety Program gave scientific and technical support to participating institutions through monitoring and guidance throughout the process of implementing the Protocol, ie, from the implementation and data collection, to the analysis of results, with feedback to all hospitals.

Results: Our results have shown that compliance percentage to recommended practice on the results release of sepsis package tests, within 45 minutes, was up to 57%; The compliance percentage to blood culture collection practice before the administration of antibiotics was up to 88%; The compliance percentage to the recommended practice of antibiotic administration within 1 hour was up 82%; The compliance percentage of early fluid resuscitation practice, within 1 hour for hypotense patients or lactate, was ≥ 4 mmol / L was up to 86%; The percentage patients included in the protocol that received reassessment for ICU admission, within 3 hours after SIRS detection, was up to 43%; the percentile of patients included in the protocol that died ranged between 10% and 20%. The percentage of patients included in the protocol that did not progress to septic shock was up to 80% and, finally, the percentage of patients included in the protocol that did not died due to sepsis was 89%. The analysis of sepsis mortality rate shows a tendency to decrease throughout the year of 2014, with a progressive increase of compliance to recommended practices in the protocol.

Conclusion: The early detection of sepsis and the implementation of best practices in a timely manner is a challenge for many Brazilian hospitals. The implementation of the Early Detection Protocol for Severe Sepsis has enabled the systematic practices within the first hours after the detection of a suspicious sepsis situation and worked as a high impact barrier for the prevention of sepsis deaths, making it an important tool to strengthen patient safety in the participating institutions. The compliance to the set of practices proposed by the protocol is directly related to decreased sepsis mortality rate. Because of this analysis the Early Detection Protocol for Severe Sepsis proposed by the Brazilian Patient Safety Program is considered as a high impact tool for improving clinical outcomes in all Brazilian territories.
Risk Management: From Controls To Resident Advancement In Irish Designated Centres
O. Gilvarry 1, J. Sweeney 2*, M. Murphy 1 1Research and Development, 2Health Care Informed, Headford, Ireland

Objectives: To review the transition of Ireland’s designated centres’ risk management model from one that focused on the application of restrictive controls towards one that supports advancing residents’ quality of life while still ensuring risk awareness.

Methods: Review of the original risk management models applied within designated centres against the developing models now supported for implementation.

Results: The road to a comprehensive model of risk management within Irish designated centres has not been the easiest of ventures. Unlike the medical device industry, risk management within Irish designated centres was for many providers a laboured process aligned more with health and safety requirements rather than a strategic tool underpinning all aspects of care and service delivery.

The mantra “First do no harm” was the primary focus in initial designated centres legislation where risk management was concerned, requiring “the identification of risk throughout the centre” and then requiring “precautions to control” the risk (S.I. No.236 of 2009). However, away from the requirements of the regulation, the reality of organisational and resident needs was starting to demand more from the risk management process. Risk Registers were evolving to encompass corporate risk management, resident care and service provision as well as the standard health and safety risks, however, the drive to utilise the model for positive individual development remained somewhat removed from the methodology.

In the last year, a new focus has emerged from the Health Information and Quality Authority through the Guidance for Designated Centres: Risk Management (2014), this time with a focus on individual risk management. The guidance provided an illustration of what individualised risk management for residents could look like, using evidence based information to make balanced judgements between resident goals and wishes and unnecessary risk.

On investigation, this process demands both proactive and responsive strategies, requiring resident and multidisciplinary involvement with the resident’s rights as a central concern. Based on the Guidance, and with consideration to related legislation, an effective model may consider:

1. New Activity Risks: pre-emptively considering possible risks associated with new activities or goals that have been set by the resident,
2. Medical Concerns: consideration of specific medical risks to the resident,
3. Personal Difficulties: consideration of the resident’s current difficulties and the Team’s concerns for the resident based on experiences to date or

By engaging the resident from the outset, there is increased awareness by the resident, their representatives and the staff regarding the applications required to ensure quality of life while offsetting the possible occurrences of underlying risks in as far as is possible.

Conclusion: Risk is an inherent part of our everyday lives – it can never be completely eliminated but the designated centres are incumbent to manage risk appropriately from all angles. As the risk management model has developed within Irish designated centres, the guiding principle in relation to residents has developed from a “prevention of negative occurrences” towards “support of positive advancement”, assisting the centres and the residents to have a clear understanding of the strategies required to ensure ongoing quality of life in an ever changing environment.
What Do Patients Value In The UAE: A Cross Sectional Analysis Of Patient Experience

S. Devkaran, P. N. O' Farrell

1Quality and Patient Safety, Cleveland Clinic Abu Dhabi, Abu Dhabi, United Arab Emirates, 2economics, Edinburgh Business School, Edinburgh, Scotland, United Kingdom

Objectives: The objective of this paper is to identify the variables that are associated with patient experience in the UAE. The paper investigates the relationship between patient demographic variables, stay characteristics and patient experience constructs with patient experience outcome measures. The paper also assesses whether the predictors of patient experience are modifiable and how hospital managers can use these to improve patient experience.

Methods: Design: Multiple regression analysis of data from an interview-based patient experience survey of 391 in-patients.

Setting and participants: Adult in-patients with a length of stay of 24 hours or longer who attended an acute multi-specialty hospital in the UAE in 2013.

Outcome measures: The coefficients and odds ratios of independent variables associated with the four patient experience outcome measures: Overall rating of the hospital, Overall Global Measures Score, Willingness to return and Willingness to recommend.

Methods: Examinations of the associations between patient, hospital characteristics and four patient experience outcome measures. Multivariate analysis was used to estimate the coefficients of the explanatory variables of the Overall rating of the hospital (Y_1), Willingness to return (Y_2) and Willingness to recommend (Y_3), and the Overall global measures score (Y_4).

Results: The predictors of positive patient experience were patient demographics (age, nationality and health status), hospital stay characteristics (hospital treatment outcome) and patient experience constructs (care from nurses, care from doctors, cleanliness, pain management and quality of hospital food). Attempts to foster those attributes of positive patient experience have the potential to reap rewards to the healthcare organisations in terms of more effective use of healthcare resources, and to the individual patients in the form of better treatment outcomes. This analysis of the patient experience data reveals that the strongest construct predictors were ‘care from nurses’ followed by ‘care from doctors’ and ‘pain management in the hospital’. These predictors are alterable and therefore can be utilised by health providers to improve upon the patient experience.

Conclusion: This study identifies those characteristics that have the greatest influence on patient experience which will enable the delivery of quality healthcare to be tailored to meet the needs of a diverse patient population in the UAE. Knowledge of the modifiable predictors on patient experience can be utilised by health providers to improve service quality, quality of care and subsequently patient experience.
Towards An HIV-Free Generation: Putting The Needs And Values Of HIV-Positive Mothers And Their Babies At The Forefront Of Their Care
T. Nsubuga-Nyombi 1,2, E. Karamagi-Nkolo 1, M. Namwabira 1, J. Draru 1
1University Research Co. LLC, Kampala, Uganda

Objectives: The Institute of Medicine (IOM) describes patient-centered care as health care which promotes and supports the active involvement of patients and their families that is respectful of, and responsive to preferences, needs and values of patients and consumers. [1] Patient-centered care puts the patients’ needs and values at the forefront of all clinical decisions and includes respect, emotional support, physical comfort, accessibility, information and communication, coordinated care, continuity, transitions and involvement of family carers.

The Partnership for HIV-Free Survival initiative is a part of a global effort to eliminate new HIV infections among children and improve the health of HIV-positive mothers. In 2013, the USAID ASSIST Project, in collaboration with the Ministry of Health and implementing partners, began supporting 22 health facilities (3 district hospitals, 12 level IV health centers and 7 level III health centers) in Uganda to improve the quality of postnatal HIV and nutrition care for HIV-positive mothers and their babies through a continuous quality improvement (QI) collaborative model that incorporated the dimensions of patient-centered care.

Methods: As of April 2013, 22 health facilities assessed showed that only 2.9% (9/309) of the HIV-exposed babies and their mothers stayed in care each month to access the services necessary to protect the babies from getting HIV. The facility quality improvement (QI) teams prioritized improvement of retention of mother-baby pairs in care. When 41 mothers of exposed babies from selected health facilities were asked why they had missed an appointment, the responses given were all centered on the cost of receiving care for the mother and baby (costs in terms of time, monetary value). Because of the different types of services and care required for the mother and exposed baby such as immunization, HIV care, tests, etc., teams found that one mother could easily come to the facility about 4 times in a month. The same mothers proposed solutions to the retention barriers and the facility teams tested changes based on these solutions. Changes tested involved pairing mothers and babies; giving pairs same appointment dates and providing services in the same area. QI coaches worked with QI teams to review their PMTCT client flow charts and integrate services such as nutrition assessment, counselling and support so that mother-baby pairs could receive all the services in one area.

Results: Baseline performance of retention at the 22 facilities ranged from 0 to 2.9%. As of November 2014, of the 1,525 mother-baby pairs expected to access care each month, 1,284 accessed care (83%). Mothers and babies are cared for as a pair at established mother-baby care points at all facilities. As we progressed with implementation of these changes, the number of exposed babies testing positive at 18 months has dropped from 3/19 (15.7%) at baseline to 2/85 (2.3%) in November 2014. The absolute number of babies staying in care until 18 months has also increased.

Conclusion: By engaging and empowering HIV-positive mothers through discussions, education and providing information on services, health workers have been able to improve the patient-centeredness and quality of services provided to mother-baby pairs and contribute towards the goals of reducing infections amongst children and having healthy mothers.
Performance Of Patient & Family Rights In Malaysian Accredited Public and Private Hospitals

Y. T. Poh, K. Marikar, Malaysian Society for Quality in Health (MSQH), Kuala Lumpur, Malaysia

Objectives: To analyse the compliance of Patient & Family Rights service standard in Malaysian accredited public and private hospitals from year 2009 to 2014.

Methods: A retrospective study conducted on the performance of Patient & Family Rights service standard in Malaysian Hospital Accreditation Programme from year 2009 to 2014. Patient and Family Rights service standard have been incorporated into the 3rd edition Hospital Accreditation Standards since year 2009. In this study, compliance ratings for Patient & Family Rights service standard were derived from survey reports from year 2009 to 2014. In Malaysian Hospital Accreditation Survey Programme, there are four (4) compliance rating; Substantial Compliance (SC), Partial Compliance (PC), Non Compliance (NC) and Not Applicable (NA). The Substantial Compliance (SC) rating is be given when surveyor believe sufficient key elements of the standards are achieved (80% and above). A comparison on compliance/performance between public and private hospitals was studied.

Results: From year 2009 to 2014, 188 surveys of Patient and Family Rights (PFR) service standards have been conducted in Malaysian hospitals. Of the 188 surveys, 118 and 70 surveys were conducted in public and private hospitals respectively. From year 2009 to 2014, above 70% of the surveys done on PFR service standards have achieved substantially compliance status. The performance of private hospitals toward PFR service standard is improving every year from 90.9% (2009) to 100% (2014), except for year 2011 (80%). However, the trend of performance for public hospitals is declining from year 2010 (84.6%) to 2012 (71.9%), but recovery in the following two years. In year 2013 and 2014, performance for both public and private hospitals has increased to 91.7% and 100% respectively.

Conclusion: The findings conclude that private hospitals have achieved better performance on PFR service standards compared with public hospitals. Private hospitals as a business entity, patient satisfaction and patient experience are particularly important. Adequate numbers of qualified staff and space have been provided in private hospitals and these have enabled them to achieve better compliance with the service standard as compared with public hospitals. The decrease performance of public hospitals on PFR service standard from year 2010 to 2012 is mainly due to the involvement of more public specialist hospitals in the accreditation survey in these three years as compared with other years. In public specialist hospital, comfort and privacy of patients are compromised as there are sharing of examination rooms in the clinics and overcrowding in wards due to extension beds to accommodate large number of admissions. The performance of public specialist hospitals can be improved if more resources are provided to address the issues. In year 2013 and 2014, hospitals have undergone re-certification after full three-year accreditation status since 2009. Better compliance performance is observed in the second cycle of survey to the PFR service standard. In public hospitals, percentage of substantial compliance with the PFR service standard has increased from 71.9% (2012) to 91.7% (2014), whereas in private hospitals, 92.9% of substantial compliance has increased to 100% in 2014.
Patient Characteristics Predict Little Of The Risk For Adverse Events During Heart Failure Hospitalizations

J. Huddleston 1,*, S. Romero Brufau 2, J. Naessens 1  1Center for the Science of Health Care Delivery, 2Mayo Clinic, Rochester, United States

Objectives: There has been little improvement in Adverse Events (AE) rates in aggregate hospital populations. More knowledge is needed about AEs among common causes of hospitalization like Heart Failure (HF). The ability to predict those at high risk of incurring an AE would allow for tailoring of their care to mitigate risk.

Methods: To ascertain the types, frequency and risk factors for adverse events during hospitalizations with a primary diagnosis of heart failure (HF), we retrospectively reviewed the clinical record for patient characteristics and used a trigger tool to identify AEs.

Results: Among 1727 HF patients, we identified harm occurring during 379 hospitalizations (21.9%; 95% CI, 20.1 to 24.0), or 559 events over 9145 patient-days (61.1 per 1000 patient-days). These events were distributed amongst 4 types: infections (19.0%), medication errors (46.3%), patient care (23.6%), and procedure–related complications (11.1%). Cox proportional hazards model of time to first AE revealed increased odds of an AE associated with poor functional status, being an unmarried female and severity of acute illness. However, in logistic regression these patient characteristics accounted for < 10% of the variance (R² = 5.8%).

Conclusion: AE rates during these HF hospitalizations are consistent with those reported for aggregate hospital populations. While several patient characteristics increase the probability of harm, they explained only a small portion of the variance. Important determinants of risk remain to be identified. Operations research is needed to understand under what constellation of system factors our patients are most vulnerable to experience and adverse event.
A Qualitative Study Of Unannounced Surveys In Public Hospitals In Denmark: The Experience Of Hospital Staff And Surveyors
A. G. Junge 1,*, G. S. Rasmussen 1 Danish Institute for Quality and Accreditation in Healthcare, Aarhus N, Denmark

Objectives: Even though some accreditation organisations around the world conduct unannounced and short notice surveys only few studies have examined the experience of unannounced surveys in the receiving organisation (1-2). The health care accreditation system in Denmark operates with surveys with long notice. However, this approach meets increasing resistance in the public hospital sector due to resources spent preparing for the survey. Also some staff feel that this leads to a staged reality being examined at survey.

The objective of this qualitative study is to investigate the experience of unannounced surveys of hospital staff and surveyors. The focus of the study is to explore 1) whether it is possible to carry through surveys unannounced in regards to feasibility and access to key persons and information, 2) how the surveys were received by the hospital staff and their attitude towards the method in light of their experience.

Methods: This qualitative study is the third sub-project of the nationwide research project “Unannounced surveys in public hospitals” designed by the Danish Institute for Quality and Accreditation in Healthcare (IKAS) and the Danish Center for Healthcare Improvements (DCHI).

Altogether 21 interviews were conducted with 50 persons in groups or individually. Hospital staff at different organisational levels were interviewed, including hospital and department management (n=11), administrative quality staff (n=11), and doctors and nurses working close to the patients (n=19). The surveyors (n=9) participated in one focus group interview. All interviewees had been directly involved in the surveys. Interviews were conducted between one and two months post survey giving the interviewee’s time to reflect on their experience.

Observations were conducted as the survey team showed up at the hospitals and the surveys were carried out. The main focus of the observations was, whether it is possible to carry through unannounced surveys and which, if any, barriers it involves.

All interviews and observations were conducted in four hospitals. The hospitals were selected by size, geography, and specialisation to give a broad variation in data. Three of the selected hospitals received unannounced surveys and one received announced. The latter was selected to explore possible difference between the two groups.

A framework method is used for analysing data (3). All interviews were transcribed. Transcripts and observation notes are studied and coded on basis of the investigation questions. Subsequently, summarised data of each interview is charted into a framework matrix.

Results: Data collection is completed. Data will be analysed to map attitudes to feasibility and perception of unannounced survey, and to compare attitudes among those having received announced and unannounced survey.

Conclusion: Preliminary analysis of data indicates no evident obstacles to the application of unannounced surveys in regards the practical conduct of the surveys. Further results and conclusions follow after a more exhaustive analysis of the data.
Stakeholder Views Of The Australian National Safety And Quality Health Service Standards: Perspectives From The New World

D. Greenfield 1, 2, A. Hogden 1, D. Debono 1, J. Braithwaite 1 2Centre for Healthcare Resilience and Implementation Science, Australian Institute of Health Innovation, Macquarie University, Sydney, Australia

Objectives: Reform is a demanding and challenging process that disrupts and enhances stakeholder views, relationships and expectations. The study aim was to investigate stakeholder perspectives of the new Australian National Safety and Quality Health Service (NSQHS) Standards.

Methods: Across 2014, 427 healthcare organisations enrolled with the Australian Council on Healthcare Standards were invited to complete an online survey. The 61 questions addressed: aims, acceptance, penetration and compliance with the NSQHS Standards; reliability of outcomes; and duplication between standards. Results were analysed using descriptive statistics.

Results: A total of 144 responses (33% return rate) to the survey were received. Respondents' views categorised by topic are presented with percentage agreement against each question (Table 1).

Table 1. Respondent views

<table>
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<tr>
<th>Topic</th>
<th>Statement (% agree)</th>
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| Aims  | Provide a framework to assess HCOs systems ensure minimum safety (93) and quality (93)  
Assist HCOs improve delivery of high quality (86) and safe care (84)  
Promote CQI (77)  
Promote consumer participation (94) and evidence based practices (90) |
| Acceptance | HCOs confident the Standards support safety (79) and high quality care (76)  
Federal and State Health Departments have confidence with (42, 54) and support (60, 73) the Standards  
Use of core and development items is appropriate (79)  
Standards are easy to understand (55)  
Implementation support was provided by the Health Department (25) or ACSQHC (42) |
| Penetration | Professionals and consumers understand the Standards (38, 6)  
Standards provided assurance to the community about the safety (47) and quality (49)  
Standards were considered to drive the use and improvement of quality systems (79)  
Standards reduce HCO efforts to improve safety (19) and quality (18)  
Standards facilitate coordination between stakeholders (38)  
ACSQHC support activities to improve the quality (79) and safety (78) |
| Reliability | Standards were reliable (42)  
Survey teams were consistent in using the rating scale (30)  
Standards supported surveyors to make reliable assessments (27)  
Standards would increase capacity for benchmarking between organisations (52) |
| Compliance | Overarching Standards framework easy to understand (52) and implement (29), and worthwhile to implement (73)  
Public and private HCOs: effort (40, 22) and compliance costs (32, 18) are reasonable  
Clear to what HCOs the NSQHS Standard actions do not apply (52)  
Clear what is required to comply with either the core (65) or developmental (60) items  
The consequences of not gaining accreditation were regarded as explicit (76) and appropriate (54) |
| Impact | Consumers, clinicians, managers, executives and board members were more involved in implementation (54, 72, 81, 72, 46) and monitoring (45, 68, 80, 66, 43)  
The Standards increased documentation requirements (85), are accompanied by increased feedback mechanisms (63) and consultation (68) |
| Duplication | The Standards had reduced the number of programs HCOs participated in (7) and led to a reduction in overlap between programs (17) |

Legend: HCO = healthcare organisation; ACSQHC = Australian Commission for Safety and Quality in Health Care; CQI = continuous quality improvement

Conclusion: Stakeholders appreciated and supported the aims and framework of the Standards but were more critical of the capacity for these to be realised in practice. Concerns regarding reliability, compliance efforts and costs, and duplication were most prominent. Knowing stakeholder points of agreement and difference enables the ACSQHC to refine implementation strategies, and target their own CQI processes associated with the Standards.
How Is Feedback From National Cancer Audits Used? A Mixed-Methods Study Based On Views From English NHS Trust Audit Leads

O. Groene1,*, 2Health Services Research and Policy, London School of Hygiene & Tropical Medicine, London, United Kingdom

Objectives: National clinical audits are well-established in England, but little is known about how feedback from audits is used, and whether there are opportunities for enhancing their effectiveness. We therefore pursued two research questions: Firstly, how is published feedback of national cancer audits currently used to improve local services? Secondly, what are the main perceived barriers to the use of the feedback for improvement?

Methods: We conducted a mixed-methods study with the primary recipients of four national cancer audits. 274 (45%) local audit leads completed a questionnaire, and 32 participated in an interview. Our questions focused on how the audits were used for local service improvement, and whether barriers existed to using the audits for improvement. We described variation in questionnaire responses between the audits using chi-squared tests and logistic regression models. Qualitative data was analysed using Framework analysis.

Results: More than 90% of survey respondents agreed that the audit findings were relevant to their clinical work. Interviewees described using the audit for a number of purposes, and 42% of survey respondents reported having changed their clinical practice in response to it, whilst 56% had implemented service improvements. The degree of change differed between the four audits, evident in both the questionnaire and the interview data. In the interviews, two recurring barriers emerged:

1) the importance of data quality, which in turn influenced the perceived relevance and validity of the audit data and therefore the ability to make changes based on it;
2) the need for clear presentation of benchmarked local performance data. A key factor underpinning the use of the audit findings was the perceived authority and credibility of the professional bodies supporting the audits.

Conclusion: The feedback of the national cancer audits is drawn on to improve services, but there is further opportunity for increasing their impact by improving the relevance of feedback and the data quality. This study highlights a number of practical strategies that national quality agencies can draw on to improve the effectiveness of audit and feedback.
Implementation Of Internal Quality Audit (IQA) In A Private Hospital In Hong Kong

T. T. Pang 1,*, S. F. Wong 1
1Quality Assurance Department, Union Hospital, Hong Kong, Hong Kong, Hong Kong

Objectives: As one of the mandatory requirements for an organization to be certified with the ISO 9001 Quality Management System, Internal Quality Audit (IQA) was a systematic and independent review carried out by trained staff as internal auditors to ensure policies, procedures and guidelines were implemented effectively as per the predefined objectives. In the Union Hospital in Hong Kong, IQA has been practiced for over 15 years since the very first certification of ISO 9001 for the whole hospital in 1999. This descriptive study aimed at examining the impact of IQA on the Hospital in terms of staff engagement, system improvement and change of open culture.

Methods: Using 5-year data, all IQAs conducted in 2010 to 2014 would be included in the analysis. Data of recruitment and participation of staff as internal auditors would be analysed in terms of total number, auditing experience and professional background as a surrogate marker for staff participation in driving quality improvement.

Recommendations raised in each IQA by internal auditors were categorized according to the “ACCREDIT” framework. The “ACCREDIT” framework was an in-house developed classification scheme which contained 8 Critical Failure Factors for recommendations raised. Dimension of system improvement would be evaluated and summarized using this framework.

Feedback of auditees would be collected through a structured questionnaire and these data would be analysed to assess culture change in terms of acceptance of recommendations and comments towards to the IQA programme.

Results: During the study period, 10 IQAs were conducted on a biannually basis. A total of 41 departments were attended in 147 visits. Departments were audited at least once in 18 months, depending on the procedure and service provided.

126 auditors from 40 departments were involved in the IQAs, of which a majority of auditors (71%) were nurses, followed by supporting staff (17%), allied health professionals (10%) and clinicians (1%). Among the auditors. 19% of them possessed over 10 years of auditing experience.

The auditors raised a total of 514 recommendations during the 10 IQAs. Subsequent grouping of recommendations to the 8 Critical Failure Factors were performed. As a result, most of the recommendations were related to Quality Arrangement and Work Process Control. Training and Education, and Deficiency in Communication were found to be emerging areas of concerns.

Evaluation forms were sent to all staff in the auditee department who had participated in the IQA. As a result, 593 questionnaires were collected with an overall response rate of 72%. Around 90% of the auditee agreed that the recommendations made by auditors were appropriate and valid, of which 30% of them explicitly indicated that recommendations were useful to the department.

Conclusion: IQA has become a mature system for continuous quality improvement to all departments after years of implementation. Staff mix of auditor has been changing, acknowledging that the involvement of clinician was important. As indicated by the results, IQA continued to drive quality improvement in the Hospital. Complemented by the positive feedback on the IQA programme, the participation of staff as auditor and auditee had reflected that they were receptive to new ideas and comment, which is an essentially important attributes to quality improvement in an organization.
The Impact Of Client And Family-Centred Care On The Accreditation Canada Standards Development Process
W. Nicklin¹, D. Dorschner¹, T. King¹, L. Phillips¹
¹Accreditation Canada, Ottawa, Canada

Objectives: Accreditation Canada has strengthened the Client-and-Family-Centred-Care (CFCC) focus of the Qmentum accreditation program to support health care organizations across the continuum of care to implement practices reflecting this approach. This presentation will provide an overview of the experience and learnings acquired through the process of incorporating the principles of client-and family-centred care into standards development.

Methods: Developing standards is a rigorous process designed to ensure that standards are measureable, relevant, evidence-informed and serve as effective tools for transforming knowledge to practice. Input and participation from an advisory committee comprised of appropriate experts is key in a deliberative development and review process. This group of experts provides contextual knowledge and expertise to generate new ideas and identify potential gaps or redundancies in the requirements. Based on the culture of partnership and co-design promoted by CFCC, it is critical to include clients and families in the advisory committee to guide the standards enhancements related to CFCC. As such, half of the members of the advisory committee were client or family representatives, balanced with service providers and administrative experts with experience implementing CFCC.

Results: The process to strengthen client and family-centred care in Qmentum resulted in two major changes. First, new program requirements were incorporated, and existing standards language was revised to better reflect the principles of CFCC. Ultimately, changes were introduced to move away from provider focused language and requirements, applying a lens of “doing with” rather than “doing to” to the standards, which emphasizes partnership between clients and providers. Second, an enhanced means of including clients and families in the standards development process was established whereby clients, experts on their health care experience, were equally represented on the standards working group with providers, and traditional experts on health care, and will continue to be represented. Engaging clients and families in developing content related to a client-centred approach was critical to the integrity of the content by keeping the innovative, informed perspective of the client and family at the centre of the conversation.

The advisory committee provided Accreditation Canada with ideas regarding other aspects of the program where clients and families could be engaged, including the on-site survey process, surveyor education and internal committees. In 2015, these concepts will be explored with the aim of further integrating clients in the evaluation of CFCC in organizations, identifying indicators for measuring client engagement and ensuring consistent representation of clients and families on our working groups and committees.

Conclusion: The provision of health services with a true CFCC focus and culture is increasingly recognized as essential to improving client experience and outcomes¹². As a first step, the process of developing new content and language through the CFCC advisory committee was critical in achieving a client-centred outcome. Accreditation Canada will continue to work on integrating client engagement in other aspects of development, which is expected to lead to enhanced client-centredness of future accreditation products.
Working With A Cascade Approach To Monitor And Evaluate HIV Chronic Care Outcomes
G. Aluma 1,*, K. B. Kasule 1, M. Muhire 1
1University Research Company, USAID ASSIST Project, Kampala, Uganda

Objectives: To have a deeper understanding of what happens to HIV-positive clients in the continuum of care over the years through a cascade lens. To assess and understand the flow of HIV positive-clients in the continuum of care through a cascade lens over a period of 2 years.

Methods: The Uganda Government scaled up the use of AntiRetroviral Therapy (ART) in 2003 with support of the United States Government (USG) through the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR). There has been a significant increase in persons receiving ART. It was anticipated that if clients are initiated on ART and are adherent to medicines, there would be full suppression of the virus with less opportunistic infection; hence a low new infection rate and reduced HIV-associated mortality. This has not been the case in Uganda: instead there is increased new HIV infection rate. This has left unanswered questions as to whether all clients who test HIV-positive and enrolled in care are retained with good clinical wellness. The USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project and Ministry of Health (MoH) Uganda took on an approach to support 46 health facility teams countrywide to monitor clients enrolled in care through a cascade lens. The aim of this approach was to determine the numbers of HIV-positive clients in a particular cohort and follow up to establish what happens to them along the entire Continuum Of Response (COR).

An assessment was done in 46 health facilities and records reviewed from a period of 1/1/2012 to 31/12/2012 to determine the number of HIV-positive clients identified and linked to HIV chronic care within each facility. The total number obtained were selected as a study cohort and assessed annually for a period of 2 years to evaluate retention and clinical wellness levels. The USAID ASSIST team designed a longitudinal data collection tool which was used to capture information from respective HIV registers (HIV counselling and testing, pre-ART and ART) and HIV care cards by trained data collectors who are health workers with a wealth of knowledge and experience in HIV care. Data cleaning, validation and analysis were further done by monitoring and evaluation experts from the USAID ASSIST Project.

Results: The results show that of the 14,284 clients identified as being HIV-positive at the 46 HIV COR facilities, 9,108 (63.7%) were enrolled in care. 4890 (53.7%) of the enrolled clients had a CD4 test done and 3,324 (67.9%) were found to be eligible for ART. 2864 (86%) of the eligible clients were started on lifelong ART and by the end of the first year 2,573 (89.8%) of the clients were retained in care of which 87.7% were doing well clinically. Retention on ART by the second year was at 85.6% of which 85.5% were doing clinically well.

Conclusion: Major gaps in the HIV continuum of care were identified at the stages of enrolment, eligibility assessment and ART initiation, whereas retention and clinical outcome of clients in care after the first and second year period is above MoH standard of 80%. This analysis identifies gaps where more effort can put to improve care in the continuum using quality improvement methods to support health systems and individuals better, further understand why HIV infection rate in Uganda is on the rise and develop strategies to break the cycle of HIV transmission.
Healthcare Quality Improvement Through Indicator Linkage Management Service (ILMS) On The National Health Insurance Service In Korea

K. S. Bae, J. S. Yoon

1Standardization Dept., HIRA, Seoul, 2Grad. School, Kyoungpook Nat’l. Univ., Daegu, 3Daegu Branch Office, HIRA, Seoul, Korea, Republic Of

Objectives: The aim of this study is to evaluate the effect of ILMS which is one of feedback programs implemented by the HIRA, and its impact on healthcare providers whose were located in Daegu Metropolitan City (DMC) and Kyungpook province (KP) region in Korea.

Methods: In order to improve healthcare quality of the providers and its physicians, HIRA chooses and calculates 3 indices of some healthcare items related with serious social issues or managerial necessities at the national level regarding healthcare provision such as Visit Day per Disease (VDD), Medication Cost for Outpatient (MCO) per person and Prescription Rate on Injectable Formulations (PRIF). Daegu Branch Office (DBO), one of branch office of HIRA, was provided clinical tendency to the provider that are located in DMC and KP region based on claim data in the first half of year 2013 by comparative analysis with high level providers within other region. After that, we analyzed clinical tendency in the third quarter of 2013 compare with the third quarter of 2012. We analyzed and monitored for clinical tendency for the 1,577 clinics in DMC and 1,173 clinics in KP region.

Results: The result shows as following table:

<table>
<thead>
<tr>
<th>Item</th>
<th>Region</th>
<th>2012</th>
<th>2013</th>
<th>Result</th>
<th>Qualities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visit Day per Disease</td>
<td>DMC</td>
<td>1.62(Days)</td>
<td>1.58(Days)</td>
<td>0.04(Days)</td>
<td>Improved</td>
</tr>
<tr>
<td>(Avg.)</td>
<td>KP</td>
<td>1.55(Days)</td>
<td>1.51(Days)</td>
<td>0.04(Days)</td>
<td>Improved</td>
</tr>
<tr>
<td>Medication Cost for outpatient</td>
<td>DMC</td>
<td>20.94(USD)</td>
<td>18.99(USD)</td>
<td>1.95(USD)</td>
<td>Improved</td>
</tr>
<tr>
<td>(Person’s Avg.)</td>
<td>KP</td>
<td>20.08(USD)</td>
<td>19.14(USD)</td>
<td>0.94(USD)</td>
<td>Improved</td>
</tr>
<tr>
<td>Prescription Rate on Injectable Formulations (Avg.)</td>
<td>DMC</td>
<td>24.82(%)</td>
<td>23.78(%)</td>
<td>1.04(%)</td>
<td>Improved</td>
</tr>
<tr>
<td></td>
<td>KP</td>
<td>28.92(%)</td>
<td>27.29(%)</td>
<td>1.63(%)</td>
<td>Improved</td>
</tr>
</tbody>
</table>

Conclusion: This study shows that ILMS is effective in improvement of healthcare quality for providers. In order to improve the healthcare quality of service, healthcare providers should awareness of their own behaviour and quality level. ILMS was designed to help providers’ awareness through comparing the relative such as feedback. According to the literature, feedback has been moderately successful in physician’s motivation. Thus, DBO is necessary to supplement ILMS for better performance and expansion of items.
Reducing Surgical Intercase Time Using The Lean Single Minute Exchange Of Die (SMED) Approach For Primary Knee And Hip Arthroplasties
L. Vaillancourt 1,*, O. Fichet 2, L. Perreault 1, G. Moreau 1
1Hospital Montfort, Ottawa, 2Fujitsu, Montreal, Canada

Objectives: To increase surgical efficiency for orthopaedic primary knee or hip arthroplasties by reducing the intercase time, increasing operating room resource capacity and decreasing the cost per case.

Methods: The “intercase” time, defined as the time between dressing application at the end of the one surgery and first skin incision at the beginning of a subsequent surgery, was analyzed using the “Define, Measure, Analyse, Innovate & Implement, Control (DMAIC) methodology. After a structured roll-out of the “D” and “M” phases, a “Kaizen” or “Change for the better” workshop gathered a multidisciplinary team representing surgeons, anaesthesiologists, nurses, custodians, and porters, who participated for 5 days to conduct the “Innovate and Implement” phases. The LEAN Single Minute Exchange of Die (SMED) approach was used during the Workshop. After visualization on videos and through the 5 formal steps of the SMED approach, several activities of the intercase process were systematically eliminated (wasteful activities) or externalized, that is excluded from the intercase time interval. For example the anaesthesiology assessments were externalized. Internal steps were also reduced by innovations and changes, helping with further reduction of the time interval. For example, reducing the instrumentation numbers to just necessary standard sets, rearranging the instrumentation on the surgical case carts for ease of preparation, standardizing the teardown and cleaning of the operating room resulted in internal time reduction. A streamlined and standardized intercase workflow emerged from the workshop. The Intercase Standard Work was described by 51 key steps that were implemented across 2 orthopaedic operating rooms. The new standard was tested on two real cases during the Kaizen week. Acceptance of the new standard was greatly increased thanks to the highly participative, and cross discipline approach used and the fact that the project was supported by and through senior and middle management (administrative, medical and clinical) engagement activities. The new standard was implemented and its performance tracked for a period of several months to control its sustainability over time.

Results: The average intercase time for primary knee and hip arthroplasties decreased by 49% (from 65 to 33 minutes). Daily orthopaedic surgical time capacity was increased by 57% (from 195 to 306 minutes per OR orthopaedic suite). The implementation of streamlined instruments sets resulted in savings of 62 179 CDN$ per year as well as productivity gains in the sterilization and processing department. Overall, the increase in capacity enabled the existing surgical staff to perform one extra primary knee or hip arthroplasty per day per operating room, using the same resources (staff and equipment) which represents an increase in productivity of 33% per orthopaedic OR suite; consequently, increasing access to care for our patients.

Conclusion: The application of Lean approach and tools used in the manufacturing industry has significant potential in improving efficiency as well as quality in healthcare, while reducing its costs. Using the Lean SMED tool, the Hôpital Montfort successfully reduced its intercase time, increased surgical capacity and reduced the cost for primary knee and hip arthroplasties.
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Kenya: Impact Of Systemic Evidence Based Quality Management On Maternal And Neonatal Health in Kenya

M. Marx¹*, M. Nafula², H. Richter-Airijoki³, J. Szecsenyi⁴

¹Evaplan International Health, University Hospital Heidelberg, Heidelberg, Germany, ²Institute of Health Management, Policy & Research, ³Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nairobi, Kenya, ⁴AQUA Institute, Göttingen, Germany

Objectives: In Kenya, the Maternal Mortality Rate (MMR) is high. According to the 2008 Kenya Demographic Health Survey, there are 488 deaths per every 100,000 live births per year, well above the MDG target of 147 per 100,000 by 2015. The high mortality is due to delays in:

1) deciding to seek appropriate medical help for an obstetric emergency;
2) reaching an appropriate obstetric facility; and
3) receiving adequate care when a facility is reached.

A large number of policy documents, including the Kenyan Quality Assurance Model for Health (KQMH) and clinical guidelines exist for maternal health. However, putting the standards and recommendations that they propose into clinical practice has proved to be difficult. Moreover, previous quality improvement efforts in this area have tended to focus on inputs/structure, with little attention on the processes that transform these inputs into outcomes.

This paper addresses the development and implementation of a participatory multi-dimensional indicator based quality management (QM) system to improve maternal and neonatal outcomes. The system was developed with support from Gesellschaft für Internationale Zusammenarbeit (GIZ). The system enables individual facilities (health centers and hospitals) to assess the quality of their services, identify strengths and challenges, benchmark them against other facilities, and set their own quality improvement targets and develop improvement plans.

Methods: The present QM system, based on the European Practice Assessment (EPA), an indicator based QM system developed in some European countries, was developed in Kenya using a modified RAND/UCLA approach by a multidisciplinary expert panel. The indicators were derived from existing standards and guidelines in the Kenya health system using the Kenya Quality Model for Health as the guiding framework. Indicators were selected and analysed on the basis of SMART criteria and clarity. The performance of facilities in five dimensions was measured using five instruments- a facility self-assessment, patient questionnaire, staff questionnaire, observer checklist and facility leaders interview guide. Each indicator was scored on a scale of 0 to 100% and the results summarised by dimension and domain and presented using graphical tools- a pentagraph showing the overall performance of the facility and box plots that compares the facilities performance in each indicator using a range of descriptive statistics- mean, median, maximum and minimum scores. A detailed narrative report was also produced and the results of the assessment are presented to the health management team to identify opportunities for improvement for which implementation plans are developed. Facilities are supported through coaching and mentoring to implement the improvement plans using a structured approach.

Results: Initial results have shown an improvement in areas such as of performance of quality improvement teams, better infection prevention control processes, documentation and use of partographs and customer feedback. The assignment of scores to indicators and benchmarking enables facilities to prioritise improvement areas. After a second round of health facility assessments, this paper will analyse the impact evidence-based and structured quality improvement measures have on health outcomes as measured using selected indicators.
Executive Patient Safety Walkrounds Enhance Patient Safety Culture And Empower Staff
K. A. Mohamed 1,*, B. Alhouri 1, A. Mustafa 1, M. Janahi 1
1Pediatrics, Hamad Medical Corporation, Doha, Qatar

Objectives: To describe the impact of patient safety walkrounds on the patient safety culture in a tertiary paediatric department in the state of Qatar. To reflect on the lessons learned from conducting safety walkrounds.

Methods: The department of paediatrics through the chairman office and the quality and patient safety committee (QPS) initiated patient safety walkrounds to empower the frontline staff to report concerns about patient safety and show visible leadership support in the wards and units. Walkrounds were structured with a questionnaire and the department chairman and the chair of the QPS as well as the Director of nursing and two or three members from the OPS including the designated patient safety lead conducted the rounds every month in one of the six units in the paediatric department.

Results: The walkrounds identified recurring themes of issues with patient safety expressed by frontline staff around patient transport and unit layout as well as doctor-nurse communication especially in critical situation. Noise was also identified as an important safety issue with the background noise impairing the staff ability to hear and respond to warning signals.

Re-structuring of the ward round was suggested as a way of improving doctor-nurse communication and a working group started work on patient transport especially of sedated patients.

Frontline staff felt more empowered and were able to identify more issues and report more incidents following the introduction of safety walkrounds.

Conclusion: Patient safety walkrounds present an important tool for improving quality and patient safety by showing visible leadership presence and support for the frontline staff, identifying important patient safety concerns and encouraging a blame free culture where staff are empowered to report concerns.
Minimising Post-Operative Risk Through Use Of A Post-Anaesthetic Care Tool (PACT)

M. Street 1,2,*, N. M. Phillips 1, B. Kent 3

1School of Nursing & Midwifery, Deakin University, Burwood, Victoria, 2Nursing & Midwifery Research Centre, Eastern Health - Deakin University, Box Hill, Australia, 3School of Nursing & Midwifery, Plymouth University, Plymouth, United Kingdom

Objectives: To evaluate whether use of a Post-Anaesthetic Care Tool, for nursing assessment of patient readiness for discharge following surgery would:

a) enhance the recognition and response to patients at risk of deterioration,
b) improve nursing handover, and
c) result in improved patient outcomes.

Methods: A non-randomised prospective study at three hospitals of nursing management in the Post-Anaesthetic Care Unit (PACU) for adults undergoing elective surgery before (Phase 1) and after (Phase 2) the introduction of a Post-Anaesthetic Care Tool. Patient outcomes were determined from the medical record following hospital discharge. Descriptive statistics (frequencies, mean and standard deviation, median and interquartile range) were used to describe the two groups. Inferential statistics (Pearson’s Chi-square, Mann Whitney U-test) were used to identify differences between Phase 1 (before) and Phase 2 (after) implementation of the Tool.

Results: 1417 patients were included in this study, 723 in Phase 1 and 694 in Phase 2. There was no difference in the average age and gender distribution for both groups. Half the patients were day surgery cases or overnight admissions, the remainder being admitted as in-patients. Adverse events occurred in 151/723 (21%) in Phase 1 and 207/694 (30%) in Phase 2; this difference was significant (p<0.001). The rate of adverse events after discharge from PACU remained constant (16.5% in Phases 1 and 2).

There were higher rates of cardiac events (3.5% vs 8.4%, p<0.001) and uncontrolled pain (2.2% vs 5.5%, p=0.001) in PACU during Phase 2. However, in Phase 2 there was higher response to these deteriorations with increased consultations with the anaesthetist (19% vs 30%; p<0.001) and higher rates of analgesia administration (37.3% vs 54.2%, p=0.001). Following discharge from PACU, the rates of clinical deterioration (8.4% vs 4.3%, p=0.002) and cardiac events (5.0% vs 2.6%, p=.019) were significantly lower in Phase 2.

Having an adverse event was associated with longer median length of stay in PACU and resulted in a PACU discharge delay for 3.9% (28/723) Phase 1 and 5.0% (35/694) Phase 2 patients. However, for patients who did experience an adverse event in PACU, the median length of stay decreased significantly from 100 minutes in Phase 1 to 84 minutes in Phase 2 (p=0.027).

If a patient was unstable in PACU, this appeared to lead to greater accuracy and completeness of documentation than if the patient had an uneventful PACU stay. Following PACU, patients went to Day Procedure Unit (46%), Short Stay Unit (11%), general wards (42.5%) and Intensive Care Unit (0.5%), with no difference between Phase 1 and Phase 2. Most patients were discharged home from hospital 1330/1417 (94.5%). For patients who did experience an adverse event in PACU, the median length of hospital stay decreased from 2.0 days (IQR= 1.0-4.0) in Phase 1 to 1.0 days (IQR=0.5-2.0) in Phase 2 (p=0.047).

Conclusion: Nursing management of patients with complex recovery in PACU was more responsive following the introduction of standardised processes for recognition and response to clinical deterioration. For patients who experienced an adverse event in PACU, patient outcomes improved in Phase 2, following the introduction of the Post-Anaesthetic Care Tool, with an associated reduction in length of stay in PACU, rates of clinical deterioration and cardiac events after discharge from PACU and shorter hospital admission.
Engagement For Patient Safety: Umbrella Strategies For Thai Patient Safety Program
P. Limpanyalert¹, S. Kunaratnapruk¹, A. Supachutikul¹, N. P. Plaizier²
¹The Healthcare Accreditation Institute (Public Organization), Nonthaburi, Thailand, ²WHO, Geneva, Switzerland

Objectives: This paper describes the development and implement of engagement strategies that guides a nation-wide movement to initiate and facilitate patient safety and quality improvement efforts in Thailand.

Methods: The Healthcare Accreditation Institute (HAI) has developed, in collaboration with the World Health Organization (WHO) an umbrella of Engagement for Patient Safety, which includes 3 key programs: Patient Safety Education, Patients for Patient Safety and Safe Hospital. Through these programs, key stakeholders are engaged as partners in a nation-wide movement to improve patient safety using concept known as the Triangle that Moves the Mountain. This concept aims to the forefront of Thai health services by guiding and facilitating three primary modes; knowledge, social mobilization and health policy. Sustainable and lasting outcomes, will only be possible through the engagement of all healthcare stakeholders included patients and families to be active partner in such movement. 4 approaches have been developed to facilitate the implementation of the Engagement for Patient Safety. These are Share, Chain, Shape and Change approaches.

Share: This step uses listening and information sharing to build relationships and foster mutual respect, care and love with all healthcare stakeholders through organizing meetings, workshops and focus group discussions.

Chain: This approach encourages and facilitates collaboration through building networks among the various healthcare stakeholders. This has been achieved by establishing:

1) a working group of patients to ensure the possibility for team building, collaboration, empowerment and peer-support
2) a working group of multi-professionals among universities and health-care institutions to encourage and integrate patient safety into their curriculum and
3) a group of safe hospitals initiatives

Shape: This approach requires that all stakeholders have a shared vision and purpose to create a process that is specific and suitable for their context.

Change: This approach enables people to take responsibility for their work, develop Safety culture in the hospital and monitor change by the information system and research

Results: The Engagement for Patient Safety program was able to attain a high level of success due to engagement of various healthcare stakeholders. In the education arena, 133 healthcare institutes committed to integrate the WHO Patient Safety Curriculum Guide into their courses. Secondly, there was an increase in patient participation and discussion in patient safety topics countrywide. The Patient Working group has developed tools for example patient experience survey, reminding cards for patient and doctor. Finally, 148 Hospitals have enrolled in our Safe Hospital program. 11 expert groups were created to develop 11 modules of solutions, practical guidelines and indicators for implementing knowledge management in these hospitals. The modules include three groups of topics:

1) Management (Leadership, patient engagement and human resources),
2) Systems (infection control, risk management, medication, environment),
3) Specialty (emergency, delivery, operative and intensive care).

The modules were with guidance from the Thailand Hospital Indicators Project and the patient safety culture survey with an aim to share and learn about Patient Safety improvement.

Conclusion: Our Engagement for Patient Safety strategies emphasize changes through knowledge sharing, social movement and integration of patient safety topics into policy for sustainable and lasting patient safety improvement.
Debriefing To Improve Safety Culture And Reduce Preventable Obstetrical Harm
S. Powell 1,*
1Synensis, Synensis, Peachtree City, United States

Objectives:
1. Design a team-based strategy for implementing debriefs following unscheduled C-section
2. Practice debriefing following unscheduled C-section simulations
3. Analyze sample safety culture data pre/post intervention

Methods: Our study involved a pre-post survey of patient safety culture using the AHRQ Hospital Survey On Patient Safety (HSOPS) in conjunction pre-post training in debriefing, simulation, and teamwork skills for critical events in obstetrical patient care across 30 US hospital obstetrical care units.

Results: Eleven of the twelve HSOPS dimensions showed significant improvement post-training (> 5% improvement). Additionally, obstetrical harm was reduced by 18% as measured by the Adverse Outcome Index. Pre-post learning confidence increased from an average of 30% to 93% among study participants.

Conclusion: Teams that use a debriefing following critical obstetrical events (in real-time and simulated environments) self-learn and subsequently reduce preventable obstetrical harm and improve the culture of safety.
The Meaning Of Patient Safety Culture For Patient Outcomes – Is The Glass Half Empty or Half Full
S. J. Brandis¹,²,*, S. Schleimer¹
¹Griffith Business School, Griffith University, ²Research Directorate, Gold Coast Health Service, Gold Coast, Australia

Objectives: The goal of this systematic review paper is to advance our knowledge on patient safety culture, its emergence and outcomes. We here take stock of our current understanding of patient safety culture, its underlying dimensions, the multitude of antecedents and contextual factors affecting it, and its impact on patient outcomes. Safety and quality outcomes in health are not new ideas. “Primum non nocere” or “first do no harm”, has its heritage in Greek philosophy and is the cornerstone of modern professional ethics underpinning the philosophy of patient safety and quality in clinical practice. The concepts of beneficence (doing good) and non-maleficence (avoiding harm and risk) underpin the concept of “first do no harm”. This leads one to wonder if patient safety culture is a solution looking for a problem. What if safety culture has a two tailed effect? That is, outcomes are not merely the absence of adverse events (non-maleficence) but may in fact lead to positive outcomes or do good (beneficence)? We systematically examine the last one and a half decades of literature in order to find an answer to this key research question.

Methods: Electronic searches using specific search terms were conducted using databases of Cochrane, Medline, Embase, Cinahl and psychinfo in the last 14 years. To be included, a literature review had to be in English, peer reviewed, published since 2000 and included particular search terms related to patient safety culture. We found 19 literature review articles on patient safety culture encompassing over 700 empirical and theoretical articles on the subject matter. Next, these reviews were mapped in the form of a bibliometric analysis to ascertain the current state of knowledge on the topic of patient safety culture.

Results: Grouping the combined content of these papers into a bibliometric cartography, a number of key research areas on patient safety culture appear including antecedents, core dimensions, interventions and its relationship with patient outcomes. The vast majority of studies are clustered around either organizational antecedents leading to patient safety culture, the construct/definition of patient safety culture or measurement of patient safety culture. Surprisingly, although it is implied that patient safety culture prevents adverse patient outcomes, evidence to support a direct link is limited in the studies we reviewed. Instead, most studies merely suggest to improve patient safety culture, but fail to empirically substantiate its link with patient outcomes. The few studies that test the relationship between safety culture and patient outcomes do so by looking at its effect on reducing adverse events. Interestingly, our review also reveals that although a plethora of staff training programs have been developed with the intent to improve “safety culture” and patient outcomes, evidence of this relationship remains inconclusive.

Conclusion: The last 14 years have shown an escalation in scholarly discussion regarding patient safety culture indicating that the topic has been comprehensively explored. Closer analysis shows a lack of findings in relation to the impact of patient safety culture on key outcomes, and a predominant focus on the prevention of adverse events. We develop a model where safety culture is more than the prevention of harm and where it can lead to outcomes that do not merely present the absence of adverse events but lead to positive outcomes. It is time that that patient safety culture research consider the glass to be half full.
Does Radiographic Technologists’ Communication Skills Play A Role In Ensuring Efficient Procedure And Impact Patient Satisfaction?
H. Ali 1,*, A. H. Tasneem 1, S. M. Naqvi 1
1Radiology, The Aga Khan University Hospital, Karachi, Pakistan

Objectives: Effective communication is an essential component of radiographic technologists’ traits which enables them to extract right information, required for the procedure, from patients. The purpose of this study was to test whether the technologists were equipped with proper tools to effectively communicate with the patients and if educating and training them on communication and taking proper history improved their performance and patient satisfaction.

Methods: At the department of Radiology, The Aga Khan University Hospital (AKUH), Karachi effective communication is considered a fundamental element of competencies required to be an effective team member. In an environment; with various kinds of patients of varying education and understanding level together with certain degrees of illness and health issues, it is very common to experience variable moods and attitudes from them which may create panicky situations. Use of effective communication is required to comfort such patients and at the same time inquire about their medical history.

A questionnaire was developed to assess the existing communication skills of the staff. 25 radiographic technologists were selected to participate in the survey.

The questionnaire focused on:
- Technologists’ demographics
- Technologists’ level of confidence in their own communication skills
- Technologists’ perceptions on the communication skills required when interacting with different patient groups.
- Technologists’ approach to ask about patient’s medical condition

After initial assessment, the same group of staff was given training, through dedicated in-house sessions, on various aspects of interpersonal communication thus enabling them to enhance their skills.

Another survey was conducted after the training sessions had ended and staff was engaged in their routine activities. The purpose of this post training survey was to evaluate if there has been any significant change in the level of awareness in staff and how well they were communicating with the patients. Moreover, the patients were also asked if they could fill a questionnaire which focused on their experience with the staff inside the examination room.

Results: All the 25 staff who participated in the survey accepted that they lacked understanding of effective communication skills; the training sessions improved their role as a better healthcare professional. It was observed that staff had a good understanding of the importance of taking proper history from the patients. The patients also showed improved satisfaction after their interaction with the staff.

Conclusion: Use of proper communication skills is a very important tool for the healthcare professionals since they interact frequently with patients with variable moods and attitudes. For being able to communicate properly one has to learn the techniques to deal different types of patients efficiently. Taking history prior to the x-ray examination always helps in managing the patient while applying proper radiographic techniques. It is also very important and helpful for the radiologist while reporting the image.
Improving Quality Through Academic Primary Care Health

J. Øvretveit 1,*

1LIME/MMC, Karolinska Institutet, Stockholm, Sweden

**Objectives:** This presentation describes the formation of an academic primary care health network (APCHN) for partnership research and primary care improvement between the Karolinska medical university and AMC and eight Stockholm primary care centers.

Implementing evidence-based practices in primary care has been a slow process. In part the reasons are lack of support and incentives to Primary Care Practitioners (PCPs) to change their practice and service delivery models, and in part due to the lack of relevant research on practices for better care and outcomes for patients which PCPs see, often with many co-morbidities.

Academic Medical Centers are one approach which have had some success in improving quality and generating relevant research.

**Methods:** Case study mixed methods interview and documentary data

**Results:** Key helping factors were:
1) supportive management,
2) educated staff, and
3) facilities fit for the purpose to integrate academic processes into daily work and to nearby health care services.

Key hindering factors were:
1. conflicting, non-supportive reimbursement systems,
2. unspecified and unspecific implementation strategies and
3. organizational and physical fragmentation between “regular” health care and the part of health care involved in the APCHN.

We found the APCHNs provide extra capacity for more specific initiatives such as audit and feedback and other QI projects.

**Conclusion:** The presentation gives lessons and recommendations for improving quality using closer research-practice partnerships, drawing also on research and development on this subject in the USA recently published by the presenter.
Objectives: Antibiotics are the most prescribed medication worldwide. Their use causes disturbances in the gut flora resulting in several symptoms such as severe diarrhoea. To detect antibiotics-related diarrhoea at early stage and reduce its severity, we developed the alert system of early detection of antibiotics-related diarrhoea on inpatients and assessed its effect on ameliorating the severity and the duration of antibiotics-related diarrhoea.

Methods: We developed and implemented the alert system of antibiotics-related diarrhoea at a tertiary care teaching hospital. We conducted prospective cohort study for consecutive 6-months, which consisted of 3-months control period with usual electronic medical record (EMR) and another 3-months intervention period with alert system of antibiotics-related diarrhoea plus usual EMR. The alert system provided the alert pop-up on the display of EMR if diarrhoea occurred to a patient to whom an antibiotic was administered. The system made doctors and nurses detect potential patients with antibiotics-related diarrhoea at the earliest stage. During the former 3-months control period, this alert was not installed but we collected all data of diarrhoea including severity, frequency, and duration as well as medications which were administered to the patient with diarrhoea for the consecutive 6-months study period. All adult patients (>= 15 years old) admitted to the hospital, whose admission or discharge was within the study period, were included in this study.

Results: We included a total of 3,648 patients with 50,059 patient-days in the control period and 3,597 patients with 50,171 patient-days were included in the intervention period. Totally, 132 patients (4%) were dead during their hospitalization in the control period and 135 patients (4%) were dead in the intervention period (P=0.8). In both the control period and the intervention period, each 1,236 patients (34%) had diarrhoea during their hospitalization (P=0.6). The sum of diarrhoea days of each patient who had diarrhoea was 6,999 days in the control period and 6,936 days in the intervention period (P=0.5). The total number of alerts in the intervention period was 1,633 times on 262 patients (7%).

Conclusion: We assessed the effect of the alert system which was developed to ameliorate the antibiotics-related diarrhoea by early detection. We found there was no difference in the frequency and the duration of diarrhoea between the control and the intervention period overall. We will update the further detailed analysis at the conference.
The Effect Of Citizenship Status On Satisfaction With Healthcare Services: Implications For Policymaking In Qatar

S. M. Khaled 1,*, H. F. Abdul Rahim 1
1Social and Economic Survey Research Institute, Qatar University, Doha, Qatar

Objectives: Using data collected before the roll out of the Qatar National Health Insurance Scheme, this study explores the role of citizenship as a predictor of general satisfaction with healthcare services and its potential interaction with utilization and health insurance type. These questions are particularly relevant in light of the goals and expansion of the new insurance scheme.

Methods: A population-based survey was commissioned by the Supreme Council of Health and conducted by the Social and Economic Survey Research Institute in 2012. A probability-based sampling approach was used to select a representative sample of citizens and non-citizens, 18 years of age or older. Of the 3,080 who completed face-to-face roster interviews, 2,751 reported their opinion about Qatar’s healthcare system, regardless of recent utilization. General satisfaction was measured on a 1-to-5 Likert scale. Dissatisfied respondents were asked to select up to three reasons for their discontent from a pre-coded list with an additional choice of an open-ended response. Information was collected on self-reported health status, utilization, private health insurance, age, gender, education, and income. In addition to bivariate analyses, multivariable logistic regression models were fit to data to estimate the main effects of citizenship on overall satisfaction with healthcare services while accounting for other predictors. Two interaction terms were introduced to test for whether associations between utilization or private health insurance and general satisfaction differed by citizenship status. All statistical analyses were weighted and carried out in STATA version 13.

Results: In the combined model adjusting for all variables, a statistically significant negative association was found between citizenship status and overall satisfaction (OR=0.43, p<0.001). No evidence that the association between private health insurance and overall satisfaction was different among citizens and non-citizens (p=0.1). However, a significant interaction was found between citizenship status and utilization of healthcare services on overall satisfaction (p<0.05). The design adjusted Wald test comparing models with and without citizenship by utilization interaction was significant (p>0.001). In the citizen model adjusting for all variables, users were more likely to be satisfied than non-users (OR=1.87, p<0.01). Females were more satisfied than males (OR=1.81, p<0.01) and those with any private health insurance than no private coverage (OR=1.7, p=0.07). Outpatient users were more likely to be satisfied than non-users (OR=1.82, p<0.05), but a weaker association was detected for inpatient users relative to non-users (OR=1.1, p=0.79).

Conclusion: Citizenship status emerged as an important predictor of general satisfaction with healthcare services above and beyond previously identified determinants. Utilization to general satisfaction association differed for citizens and non-citizens. Among the Qatars, non-users were less likely to be satisfied than users while users were less likely to be satisfied relative to non-users among the non-Qatars. This may suggest that expectations rather than recent experience drive satisfaction among citizens of Qatar with important implications for policy makers in this part of the world. Relative to non-users, outpatient rather than inpatient services were the strongest driver of satisfaction among Qatari users. Furthermore, among the Qatars, having any private health insurance appears to be an important predictor of general satisfaction, an indication that the advent of QNHIS may garner more satisfaction from citizens in the future.
Lebanese National Accreditation System A Success Story And Useful Pattern For Regional Healthcare Facilities

A. S. Olleik, S. I. Al Rabaa

Quality and Safety, Gates, Quality and Safety, St. George University Hospital, Beirut, Lebanon

Objectives: Despite chronic political instability, the World Health Report 2010, dedicated to universal coverage, tells a success story about health system in Lebanon. It points out major achievements as results of sound policies and professional work. It states « a series of reform has been implemented by the Ministry of Health to improve quality, equity and efficiency... ». Lebanon has sustained a regional leader for quality, safety and accreditation in healthcare. The accreditation system was launched since 1985. Till 2015, Hospital standards have been upgraded 4 times and new standards are being developed and implemented for the long term stay hospitals, private medical laboratories, blood banks radiology centers and primary care systems.

After 30 years, the accreditation impact could be easily noticed on quality of services, patient safety, healthcare performance, capacity building and human capital. To make it an obligatory, the MOH established and implemented the pay for performance (P4P) program, through it linked the payments to a basket of performance indicators, out which the accreditation rank is a major element in it. This program has been vital and drove around 95% of public and private hospitals to improve their performance. After this successful history, the MOH in collaboration with the syndicate of hospitals aim at:

- Improving the national accreditation system to be in compliant with ISQua standards
- Foster the healthcare continuum of care
- Have an appropriate patient flow.

This paper explains the main components of the Lebanese Accreditation system, its failures and successes, its opportunities for improvement, and its validity to be replicated in regional healthcare systems.

Methods:

- interviews with stake holders: MOH officials, National Accreditation Committee members, Syndicate of Hospitals, hospitals managers and staff, surveyors, auditing bodies, and educators.
- focused interviews
- Review of the data base of survey reports by a selection of the auditing bodies
- Both qualitative and quantitative techniques will be used.

Results: Most of the information are ready; however, some updates regarding the current situation, challenges, and future of the accreditation system will incur some interviews and document analysis. This will be ready by August 2015.

Conclusion: * Accreditation has a positive impact on the Lebanese Healthcare system: implementation of quality management systems, increased quality and safety awareness, improved management commitment, improved documentation structures, better qualifications of healthcare managers.
* Lebanese accreditation system needs upgrades in standards, methodology, training of healthcare facility staff, and certification of surveyors
* Lebanese experience could be replicated to countries of the region
Failure Mode And Effect Analysis (FMEA) For Implementation Of Clinical Practice Guidelines At A Tertiary Care Teaching Hospital In Saudi Arabia

A. M. I. Babiker¹, Y. S. Amer² ³ ⁴, H. A. A. Wahabi⁴ ⁵, K. A. Alswat⁶ ⁷

¹Pediatrics, King Saud University College of Medicine, ²Pediatrics Department Quality Team, ³Quality Management Department, ⁴Clinical Practice Guidelines Steering Committee, King Saud University Medical City, ⁵Research Chair for Evidence-Based Health Care and Knowledge Translation, ⁶Medicine, King Saud University College of Medicine, ⁷Hospital Quality Committee, King Saud University Medical City, Riyadh, Saudi Arabia

Objectives: Implementation of evidence-based clinical practice guidelines (CPGs) has been proven to decrease variation of practice, support informed clinical decisions, and improve healthcare quality and patient safety. The CPG adaptation and implementation program was launched in 2009 in all clinical departments at King Saud University Medical City (KSUMC). FMEA is a tool used for process evaluation to identify different potential failures and their relative impacts on the process in order to anticipate areas for change and/or further improvement in the process. The aim of this work is to demonstrate the usefulness of using FMEA in the evaluation of CPG implementation.

Methods: Generic FMEA Steps were used to assess implementation of CPGs by a multidisciplinary team in the Paediatrics Department at KSUMC, including:

i. process review and recording of the steps and activities,
ii. hazard analysis by recording activity-related failure modes and their effects, identification of actions required, assigned severity, occurrence and detection scores for each failure mode and calculated the risk priority number (RPN) by multiplying the 3 scores and the total RPN was calculated by adding the single failure mode RPN using the Institute for Healthcare Improvement online interactive FMEA tool,
iii. Planning: RPNs prioritization based on the 3 scores and failure mode causes were analyzed, recommendations made and planning of the new actions needed,
iv. Monitoring: after reduction or elimination of the failure mode. Furthermore, the calculated RPN will be compared with the subsequent ones.

Results: The CPG program resulted in the adaptation of 25 CPGs in different departments (including 6 CPGs finalized and 4 in progress in the department of Paediatrics). The identified potential failure modes in the CPGs implementation process with the highest RPN (≥ 80) were in the awareness/training activities, accessible printed and electronic implementation tools, advocates from clinical champions, auditing of the CPGs including the data management process. Actions taken included:

i. regular awareness activities,
ii. printed and electronic copies made available and accessible to healthcare providers at points of care,
iii. consultants and senior practitioners were encouraged to get involved in the CPG adaptation and implementation process,
iv. the auditing was followed by the Paediatrics Department Quality Team and the Quality management department as a part of the quality sustainability plan and the CPG program in KSUMC.

Conclusion: Application of FMEA helps to identify potential failures and monitor barriers in CPGs implementation. It also identifies the most important and relevant critical activities that need to be adopted in order to achieve a successful outcome. It is vital to address these recommendations and actions that result from the FMEA.
Implementation Of Quality Assurance Program (QAP) In Sudanese Hospitals: Lessons Learned
H. Awadalla 1,*
1Federal Ministry of Health, Khartoum, Sudan

Objectives: Different approaches have been exercised to implement QAP in hospitals in different countries. No single approach approved to be effective in every country. Adaptation to local context is always required. Sudan has started its national QAP in health sector in 2001. Nonetheless, obstacles facing the program have led to poor and ineffective implementation.

The aim goal was to identify possible interventions to improve the implementation of the QAP in public hospitals in Sudan. The four objectives were to: discuss the implemented QA policies and strategies; analyze the current challenges, search for possible interventions; and then giving practical recommendations.

Methods: It was a review study of the existing QAP in Sudan. The ‘Policy Triangle Framework’ was used for the analysis of current situation and for discussion of findings. Secondary data were collected from different sources through electronic and manual search from: electronic databases, specialized quality journals, and Sudan Federal Ministry of Health reports. The search was limited to articles published in English and Arabic Language after 1990. Sixty-seven articles have been studied.

Results: Findings: Different types of challenges have been revealed. The most important ones were: the QA policy formulated at federal level has not been well communicated with the lower levels. The limitations of the top-down approach (the implementation process) have not been tackled. The main contextual factors were related to: poor financial and technical capacities, disparities between the states, and non-supportive contextual culture. The main key actors like: physicians and hospitals’ managers were not well involved in QAP implementation.

Conclusion: To improve the implementation of the QAP in Sudan, three sets of comprehensive interventions could be followed: Strengthening the QA system through establishment of QA committees involving different stakeholders at all levels; gradual implementation, in vertical and horizontal levels; and sustainability through training programs and reallocation of resources.
Objectives: Hospitals often use "Business Intelligence Software Package", establish management reporting and quality or performance measurement system. But the system always have limitations that about high cost, long-term import time, high technical threshold, less flexibility and less linked hospital another systems. For the above reasons, we try to develop more efficiency system model to enhance health of quality, process and decision-making.

Methods: In December 2012, we invited decision manager, information technology sector, and analysis staff to set up a cross-functional team integrated hospital information system, cloud computing technology and mobile device function, and thus build decision support system. We used Microsoft EXCEL tools (Self-service business intelligence, SSBI), SQL Server Integration Services (SSIS) and SharePoint 2013 to build the system frame and integrate function of data warehouse and dashboard. We provided system and analysis training program (named it BI training program), the training strategy included extend and deep to increase BI seed numbers. We also established import process guidelines and strategy, information systems assessment checklist to enhance imp system efficiency. Finally, we assessment the project cost-effectiveness in January 2013 to December 2014.

Results: We spent nearly two years to build decision support systems from 2013 to 2014, and approximately cost US$30,000 dollars of built system. Now, managers can quickly and receive real-time information at anytime, anywhere and any mobile device. We developed 124 management dashboards, include hospital administration, financial management, clinical quality, patient safety, medical education and medical research results.

The effectiveness and efficiency include:
1) Utilization: The number of website query and browse average 163 visitors and 313 times per monthly;
2) Function: The data of flexible (correct, integrate and real-time), interactive visual charts, abnormal warning mechanism and information technology, have reached the indicator criteria of business intelligence system;
3) Processes streamline: Each automate dashboard could saving approximately US $1,100, in addition approximately saving US $136,400 each year of hospital operation cost;
4) Clinical benefit: Especially in clinical quality and patient safety, we also have evidence-based study to reduce the average length of stay, patient discharged return to hospitalization rate, antibiotic use.

Conclusion: Our import BI system process had created an innovative self-service business intelligence model, it integrated management strategy, data analysis and visualization technology, to enhance the efficiency of management, and explore innovations services with patient journey. We found the project invested fewer resources, and received the excellent results, include reduced cost of manpower, paper and decision-making process. We expect to the project model can use for other healthcare organization quickly, and bring more cost-effectiveness applications in the future.
A Study On The Effect Of Major Indicators On Health And Treatment And Efficiency

E. Bae

1Health Insurance Review and Assessment Service, Seoul, Korea, Republic Of

Objectives: HIRA calculates various indicators values using national benefit claim data collected electronically. This study will examine the impact of indicators such as Visiting Index (VI), Lengthiness Index (LI), Costliness Index (CI) and Case-Mix Index (CMI), which are often used for indicator linkage system, assessment, on-site investigation, on the effect and efficiency of healthcare. All indicators are relative value when compared with the average.

- VI: Calculated based on the number of outpatient treatment days per patient for the institution.
- LI: Expected average number of inpatient treatment days when the patient composition of the institution is taken into consideration.
- CI: Expected charges per case (per patient) when the patient composition of the institution is taken consideration.
- CMI: Used for monitoring the patient composition of the institution.

Methods: We analyzed the values and yearly fluctuations of VI, LI, CI, CMI between 2010 to 2014 for their current use in indicator linkage system, assessment, on-site investigation, etc.

Results:

A. Indicator linkage system
HIRA encourages institutions to voluntarily improve their medical service practice by providing indicator values related to medical fields where the cost is significantly growing. VI greatly influences the increased costs. As a result of providing VI value to providers from 2013, the value dropped from 2.9 to 2.85 days.

B. Assessment
HIRA assess whether medical institutions provided healthcare services adequately by quality assessment. For acute myocardial infarction (AMI), LI and CI are used to measure the effect and efficiency of institutions. As a result of providing LI by institution, there was an effect that LI was reduced from 8.6 days in 2010, to 8.1 days in 2011 and to 7.5 days in 2012.

C. On-site investigation
- HIRA conducts the on-site investigation to ensure that medical care benefits costs received by senior care institutions coincide with actual treatment records. When CI value is high in an institution, HIRA sends the value of CI and LI to the provider to encourage them to correct themselves. If it is not corrected, then the on-site investigation would be conducted.
- HIRA reviews the medical records and costs of patient. When CI value is high in an institution, HIRA sends the value of CI, LI and CMI to the provider to encourage them to correct themselves. CMI is an index used to know the share of severely sickness of the applicable medical institution.
- The results of on-site investigation, and reviews provided by CI and CMI by year by institution

<table>
<thead>
<tr>
<th>Item</th>
<th>2010.4/4</th>
<th>2012.4/4</th>
<th>2014.4/4</th>
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<tr>
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<td>25,756</td>
<td>30,117</td>
<td>30,618</td>
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<tr>
<td>CI</td>
<td>M 0.99</td>
<td>0.99</td>
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<tr>
<td>CI</td>
<td>SD 0.14</td>
<td>0.15</td>
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</tr>
<tr>
<td>CMI</td>
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<tr>
<td>CMI</td>
<td>SD 1.81</td>
<td>1.79</td>
<td>1.51</td>
</tr>
</tbody>
</table>

Conclusion: HIRA collects benefit claims from providers through the e-claim system and generates indicator values for creating accurate and well-grounded data. These indicators (VI, LI, CI) provide meaningful info for the cause of ineffective and inefficient treatment and growing medical cost. In the indicator linkage system, VI was reduced (from 2.9 to 2.85 days), in the AMI assessment, LI was reduced (8.6 -> 8.1 -> 7.5 days), and the reduction in CMI by year by institution the reduction in the rate of registry of severely upcoding and the deviation between institutions was low, therefore it could be seen as a positive effect. It is expected that the national health insurance finance and the quality of treatment could be improved by expanding the application of major indicators in the improvement of review method and the development of indicators for assessing.
Evaluation Of A Continuous Quality Monitoring And Feedback Initiative To Improve Quality Of Anaesthetic Care
J. Benn 1,2, G. Arnold 2, D. D’Lima 1
1Patient Safety Translational Research Centre, Imperial College London, 2Anaesthetics Department, Imperial College Healthcare NHS Trust, London, United Kingdom

Objectives: Research suggests that performance feedback on variations in care can stimulate improvement and change professional behaviour. Common quality improvement models advocate a continuous measurement approach based upon industrial process control principles. We aimed to evaluate a continuous monitoring and feedback initiative to improve quality of post-anaesthetic recovery through implementation of both basic and enhanced feedback to a cohort of 44 anaesthetists in a large UK academic hospital.

Methods: A mixed methods quasi-experimental time series design was used to evaluate the effects of the two feedback conditions on anaesthetic quality. Basic feedback consisted of the provision of summary monthly personal data to anaesthetists. Enhanced feedback was based on end-user requirements elicited through interviews with anaesthetists and was designed to stimulate intra-professional dialogue on quality of post-operative care. It consisted of a statistically-enhanced personalised report, peer-comparative and longitudinal data presentation, enhanced case breakdown and deviant case identification. Enhanced feedback was implemented institution-wide and was accompanied by anaesthetist peer-group collaboration on specific quality issues identified through the data, such as post-operative pain control. Interrupted time series analysis was performed to evaluate the serial effects of basic and enhanced feedback on quality of anaesthetic care indicators, including post-operative patient temperature, post-operative pain, post-operative nausea and quality of recovery scale score. Quality indicator data from 22,600 surgical cases, performed by 44 consultant anaesthetists over a 4 year period at the primary hospital site were analysed.

Results: The hypothesis that introduction of basic data feedback would improve quality of care was not supported for the majority of quality indicators, with the exception of mean weekly patient temperature which increased by .082 degrees. In contrast, the subsequent implementation of the enhanced feedback protocol was associated with significant beneficial effects for a broad range of quality indicators. Following enhanced feedback, patients were on average .064 degrees warmer upon arrival in recovery, the trend in patient-reported quality of recovery scale scores improved, 12% more patients reported freedom from severe pain and 5.8% fewer patient’s experienced post-operative nausea. These effects were robust following control of disease severity, patient age and gender.

Conclusion: Enhanced feedback of quality of recovery indicators to anaesthetists can support improved perioperative normothermia, use of analgesics and anti-emetics for improved patient experience of recovery from surgery. Our results suggest that continuous quality monitoring and feedback represent an effective quality improvement strategy, where feedback is tailored to the requirements of end-users and implemented as part of a complex intervention with peer support, active engagement and professional dialogue concerning how to respond to evidence of variation. Better understanding of how to maximise the return on investment in routine monitoring of clinical services is an important area for development. Engaging end-users in this process is important in fostering local ownership of data and ensuring data is translated into information for improvement.
Applying The MSQH Electronic Assessment Tools For Hospital Accreditation Survey Helps To Improve The Effectiveness Of Survey Report

R. Osman 1,*, K. Marikar 1
1Information Technology, Malaysian Society for Quality in Health (MSQH), Kuala Lumpur, Malaysia

Objectives: The purpose of this study is to show impact of the MSQH Electronic Assessment Tools (My e-HAP) for Hospital Accreditation Survey in improving the turnaround time for survey report.

Methods: The data was collected from surveyor’s feedback through structured questionnaires and report tracking from 2011 until 2014. The feedback was distributed to surveyors who were involved in Hospital Accreditation surveys in 2013 and 2014.

Results: The result from the study showed, in 2013 a total of 62% of surveyors were satisfied with My e-HAP. 18% selected were dissatisfied. There are still issues with user’s compatibility, time consuming in entries the data and navigating the contents, slow connection and lack of user training.

In 2014, the system was further improved based on 2013 feedback from surveyors. Thus, the study once again proves that My e-HAP positively helps surveyors improve in preparing the survey report. In 2014, 90% of surveyors provided positive satisfaction about their experience in using the system and 10% provide a neutral answer. No surveyors are dissatisfied.

In 2013 surveyors took 2 weeks and chief surveyor took 4 weeks to complete the survey report. Overall in 2014 surveyor took 1 week and chief surveyor took 2 weeks to prepare the survey report as compared before implementing the electronic assessment tools for Hospital Accreditation Programme. In 2011 and 2012 surveyors took about 3 to 4 weeks and chief surveyors take 4 to 5 weeks to prepare the survey report.

Conclusion: MSQH Electronic Hospital Accreditation Program is aimed at improving the efficiency, effectiveness and transparency of Hospital Accreditation Program. The result showed that the overall level of surveyor satisfaction with the My e-HAP was high. Moreover, most surveyors considered that the electronic assessment tools help to improve effectiveness of survey report. Therefore, it is necessary to prompt user to use the system by making the operation ways and interface of the system simple and easy to learn.
An Internet Platform Based Toolbox For Healthcare Quality Management

S. Sax 1*, S. Abelfoni 2, A. Plueschke 3, I. Omogi 4
1Institute Public Health, University of Heidelberg, Heidelberg, 2Health and Social Protection, GIZ, Berlin, 3Health and Social Protection, GIZ, Eschborn, Germany, 4Health and Social Protection, GIZ, Nairobi, Kenya

Objectives: To introduce a ‘Healthcare Quality Management Toolbox’ via an internet platform accessible to key decision makers in partner countries of German Development Cooperation (GIZ) and GIZ staff members. To provide Healthcare Quality Management resources and country examples to enable increased knowledge and discussion on improvements in health care quality.

Methods: The recognition of the need for a bottom up approach to improvement highlighted the need for a more coherent documentation of Quality Management and related concepts and experiences of GIZ supported approaches. An on-line knowledge management platform was identified as an appropriate means to share QM knowledge and country experiences in QM with those involved in improvement activities. The mechanism identified was a ‘toolbox’ delivered through an on-line platform. This toolbox serves as a means to support the GIZ advisory role on the topic, as an advocacy tool for partners interested in the introduction of QM and provides a means to share country examples that demonstrate how approaches were adapted in different contexts. An additional benefit is the inclusion of downloadable implementation documents to be used as templates by GIZ projects and partner ministries. The platform is available through the GIZ intranet and world-wide internet.

Results: The tool box:
http://health.bmz.de/what_we_do/Quality-management/GIZ_quality_management_toolbox/index.html, provides concise concepts, tools and examples in user-friendly terminology and structure to maximize access to health professionals, managers and policy makers with little experience in QM in low resource settings. The toolbox provides information on specific QM approaches, the results of GIZ programmes, examples from more than 10 countries and the range of GIZ services related to QM.

The GIZ Health Division has been able to effectively document approaches in QM using the toolbox. This has further improved the ability of programmes from different countries to learn from each using the virtual platform provided by the toolbox. Since the beginning the toolbox was used not only by GIZ staff but by interested QM experts from other development organizations, universities and professional audiences. The number of clicks at the platform confirms this. The toolbox has also strengthened the internal knowledge management of GIZ through their intranet. In general this toolbox in itself is useful but could be augmented by more detail such as uploading specific tools and descriptions of using these. A challenge has been to put documents without GIZ authorship (because produced under the ownership of partner Ministries) into the web.

Conclusion: Using modern technology to provide easy access to health system strengthening and other concepts is important. This toolbox provides a means to disseminate QM concepts and tools and a demonstration of their implementation in various low resource countries. These practical experiences provides vital information to others attempting to apply these concepts, such as country leaders, other donors and program and project staff. It also provides a platform for further exchange of experiences and easy access for managing updating of QM knowledge.
Every Move Counts In Medication Safety: Reducing Wrong Time Medication Administration Errors By Strengthening E-Mar System At The Secondary Care Hospitals, Karachi

R. S. Ramji 1,*, A. I. Noorani 1, R. T. Meghani 1, S. S. Ali 1

1Quality and Patient Safety, Aga Khan University Hospital, Karachi, Pakistan

Objectives: The purpose of the project is to investigate the prevalence of WTMAEs via e-MAR and to explore the contributing factors and intervene accordingly. Recognize the reliability of technology for identifying discrepancy of WTMAE through voluntary incident reporting (IR) against electronic medication administration recording (eMAR) system. To reduce non compliances from 25% to 10% in Wrong Time Electronic Medication Administration Record.

Methods: Quality improvement project aimed to improve core process of Medication safety, for our project we used Plan-Do-Study-Act (PDSA) model. The project was conducted at 3 Karachi Secondary care university hospitals in Karachi, Pakistan. The data was collected from all discharge patients from Nov to Dec 2013 (Pre project) and from May to June 2014 (Post project data review), random sample size was calculated with 95% confidence level interval. In addition data was also obtained data from Incident reporting system to compare eMAR data to analyze actual WTMAE reported.

Results: Total 2789 (n=2789) doses were observed from Nov to Dec 2013 as pre implementation data, out of which 673 (n=673) doses were administered late and 25% non-compliances were observed. Project team realized the fact and plan for project implementation. Data analysis for reasons of WTMAE revealed 10 different types of reasons for late administration and most of the reason was given on time but not documented timely, high work load of nurses and IT system related challenges were major areas of concern.

Following strategies were implemented with the support of multidisciplinary team and users:

- Ø Nursing and QIPS teams met with IT professional to discuss system gaps in e-MAR.
- Ø Review of Nurses’ Orientation Process
- · Practical on-job trainings
- · One – on – One mentorship
- Ø Medication Administration defined as a “Special Assignment”
- Improve nurse pt ratio in order to timely administer medication by modification of shift hour.

From April to June 2014, Total 3740 (n=3740) doses were reviewed, out of which 265 (n=265) doses were administered late and found out 7% non-compliances were observed which indicates that strategies has positive outcome and process improved which enhance patient safety.
Positive And Safe: An English Approach To Reducing The Need For Restrictive Intervention
B. Thomas 1,*, D. Atkinson 2

1 Public and International Health Directorate, Department of Health, England, 2 Independent Consultant Nurse & Professional Project Manager, London, United Kingdom

Objectives:
- To highlight a number of reports and research studies which have focused on the use, or abuse, or restrictive interventions in health services including physical restraint and seclusion
- To outline the development and introduction of a strategy to reduce the use of restrictive interventions in healthcare settings
- To describe the implementation of the two year program to reduce the incidences of restrictive interventions and improve safety in healthcare settings

Methods:
- An international literature review examining restrictive interventions
- A national consultation exercise involving a number of focus groups and round table discussions
- A national consultation exercise with over 300 responses
- The development of the Government strategy and Action Plan for implementation

Results:
- The results have been the setting up of a national reporting and benchmarking exercise with data collection twice a year
- The formation of a champions network to share good practice
- The development of a Positive and Safe webpage http://www.6cs.england.nhs.uk/pg/dashboard
- The production of an e-learning package on reducing restrictive interventions
- The facilitation of a number of national culture change workshops aimed at reducing restrictive interventions and improving safety

Conclusion: In recent years a number of international reports and research studies have highlighted the use, or abuse, of restrictive interventions. Such interventions often risk breaching human rights. This large scale initiative is aimed at reducing the incidence of restrictive interventions across healthcare services. This is a two year program and the presentation reports on the completion of the first year. Comparisons are drawn with similar international incentives
Building Pews Into The Healthcare System For Paediatric Patients Of 5 Dutch General Hospitals Via The European Union Network For Patient Safety And Quality Of Care

E. Van Der Schrieck-De Loos, L. V. D. Steeg, S. V. Schoten, C. Wagner

1CBO Dutch Institute For Healthcare Improvement (a TNO company), 2NIVEL-Netherlands Institute for Health Services Research, Utrecht, Netherlands

Objectives: Within the European Union (EU) network for Patient Safety and Quality of Care (PaSQ) 28 Member States (MS) collaborate to improve patient safety and quality of care via exchange of safe clinical practices. The Netherlands is one out of 4 MS implementing Paediatric Early Warning System (PEWS). This system consists of a PEWS score, which is generated by combining the scores from a selection of routine observations of patients. The overall score indicates whether a child’s clinical condition is deteriorating. If a high PEWS score is calculated, nurses are expected to contact a physician and if necessary adapt the care plan. PEWS is aimed at averting resuscitation by timely recognition of deterioration and timely intervention.

Five Dutch general hospitals participating in PaSQ aim to effectively implement PEWS in their paediatric care units.

Methods: Despite the Dutch National Patient Safety Programme identifying PEWS as a theme to be implemented and sustained in 2013, few hospitals succeeded. Participation in PaSQ gave hospitals an opportunity to implement PEWS supported by exchange with other Dutch and EU hospitals. Hospitals selected or developed a PEWS to implement in their paediatric care units. They developed a PEWS protocol to guide nurses on use of the score and corresponding actions. To evaluate PEWS implementation, the PEWS score use was determined and whether action was taken based on the score, using an observational design and collecting data through Medical Record (MR) review. A baseline measure was carried out using MR from Oct-Nov ‘13. Measures are repeated using MR from May-June and from Nov-Dec ‘14 to evaluate PEWS implementation. Per hospital a sample of 30-40 MR of admitted patient’s ≤18 years was used per measure. Data were used to measure the percentage of patients for which a PEWS score was recorded in the MR. When no PEWS was recorded, the other measures that were used to monitor the clinical condition of patients were determined. In 2015, qualitative interviews on implementation with 2 hospital team members on-site complemented the quantitative data.

Results: The PaSQ toolbox with evidence-based tools for implementing PEWS in combination with education, including exchange among hospitals and countries, supported implementation training. Two national face to face conferences, 2 online webinars and 3 individual hospital calls supported the evaluation of interim results. The baseline measure showed 0% of hospitals (n=5) using a PEWS system and a space in the MR (n=207) to monitor PEWS. Follow-up measure 1 showed 4 hospitals succeeded in implementing a PEWS system ≤6 months. The PEWS scores registration differed significantly between these hospitals from 0% to 92.3% of patients having at least one PEWS score calculated during their hospital stay. Follow-up measure 2 (Feb ’15) will be available at ISQua, but preliminary findings show an increased use of PEWS scores (n=4), hospital 5 implementing PEWS and the launch of a national PEWS working group.

Conclusion: Building PEWS into the healthcare system of five Dutch general hospitals did benefit from sharing knowledge, experiences and tools with other hospitals and countries, as well as implementation support from the Dutch PaSQ team. Hospital care and in this specific case care for children could be improved by the exchange of knowledge, experiences and tools on safe clinical practices within the EU network, including experts from policy, management and frontline staff.
Prioritization Of Patients In See And Treat Front Line Areas By Experienced Staff And Creating Majors in Minor’s Area For Timely Patient Management – A New Concept Busy ED

S. Anjum 1,*, Y. Sharma 1, Y. Mohammad 1

1Emergency Department, Hamad Medical Corporation, Doha, Qatar

Objectives: HGH ED is one of the busiest ED in the world with daily census of 1200-1600 patients. There are multiple challenges which make this department unique. We have patients from different countries and nationalities speaking different languages. The case mix is huge with a wide variety patient and staff background. There are times when more than 100 cases get registered in one hour with average of 300-400 cases in 3-5 hours. It is a real challenge to deal with this huge influx of patients in those busy hours and appropriately triaging them and redirecting them to suitable treatment area. We needed a unique system suitable for our Emergency department. The objective of this project was to tailor the triaging system and see and treat area according to our requirements.

Methods: We modified see and treat area by creating sub areas as frontline and triaging area, RIAMS, reassessment and assessment areas and procedure area. We developed roles for physicians and nurses in the see &treat area and job action cards were made for each area. We created concept of majors in minor area where cases who are very sick are immediately seen by a dedicated staff. To maintain one way flow all cases needing X-rays, quick treatment like IM injections and nebulization’s are seen, assessed treated and sent in a room called reassessment room where they are again seen by dedicated staff. This will ensure one way flow. The front line area have sort and sieve model where one physician separates priority 1 and 2 cases and direct them to RIAMS whereas priority 3,4 case are confined in waiting area to be seen by frontline physician until disposed.

Results: We observed very good results as per our expectations. Time to triage patient was reduced, time to see physician reduced. All patients had vital signs before discharge. Sick patients are seen immediately and redirected to appropriate area. It improved the flow of patients in the area. Also by allocating roles to staff, all the areas are monitored very well. One of the parameter which deteriorated was length of stay in ED. This was unexpected outcome with definite reasons.

Conclusion: In emergencies like HGH, Qatar, the standard triaging systems cannot work appropriately where in some hours we register more than hundred cases. In such busy emergency departments, there is a need of modified triaging system which fulfils the local requirement. We designed such system and succeeded to great extent in achieving our targets.
Cohesion And Diversity Bring Opportunity: A Survey Of The Critical Elements, Strengths And Challenges To An Australian Primary Care Accreditation Program
D. S. Debono 1,*, D. Greenfield 1, A. Hogden 1, J. Braithwaite 1
1Australian Institute of Health Innovation, Macquarie University, Sydney, Australia

Objectives: Accreditation programs are designed to stimulate improvements in quality and safety and produce sector cohesion in the direction and goals of quality care. Whether stakeholders understand and accept this proposition is rarely investigated. This study investigates stakeholders’ attitudes towards a well-established primary care accreditation program.

Methods: The study was conducted in 2013 and focused upon the Royal Australian College of General Practice’s (RACGP’s) accreditation program. Participants (n=210), accredited by the Australian General Practice Accreditation Limited, completed an online survey questionnaire. Respondents rated statements (n=56) related to the critical elements, relative strengths and consequences of the RACGP accreditation program on a five-point Likert Scale. Descriptive statistics were used to analyse data.

Results: Respondents’ views were aligned with the philosophy, purpose and contribution of the accreditation program. Accreditation and organisational transparency were recognised as essential components to engender improvements in primary care practices. Participants reported the independence of the accrediting agency and financial incentives to participate, created a positive environment in which the program operated. There was widespread acceptance that several elements contributed to driving improvements for organisations. These included: accreditation standards; staff participation; on-site visits by collaborative multi-disciplinary survey teams, with appropriate knowledge and skills; and, surveyor feedback, grounded in evidence, and the advice they provided for improvements. Accreditation outcomes were perceived as fair and surveyors were respected by the sector. Respondents indicated that surveyor personalities influenced the process and that the public needed further education about the accreditation program.

While there was agreement across the respondent group, there was increasing diversity of opinions on a number of items, including: whether the program is valued by healthcare professionals; if the focus was on the right organisational process responsible for safety and quality; the program implementation and education processes; surveyor and survey team reliability; and, the cost-benefits and contribution of the program to organisational quality and safety.

Sector-wide agreement was lacking for a range of issues. Respondents had diverse views on: whether participation should be mandatory or not; the organisational impacts of the accreditation process; the cost-benefits and benefits of accreditation over time; consumers’ roles in and perceptions of the program; the disclosure of results to the public; the contribution of surveyors to their own organisations; how insurance agencies perceive the program; and, altering the established survey process.

Conclusion: Respondents’ views of the critical elements, strengths and impact of the accreditation program are largely aligned. However, some discordance with program aims is apparent. The primary care sector remains on the whole committed to the accreditation process, to improving care processes, and attempting to do so in a unified and transparent way. Resolution of issues may not be possible, nor required, as quality and safety actions evolve over time. Examining the status quo of accreditation stakeholders provides opportunities for stimulating improvements to programs and further building quality and safety into the healthcare system.
Hospitals Accreditation Program in Romania. A Review of the First Experiences in Implementing Accreditation at National Level

V. Cepoi \(^1\)\(^2\), I. N. Iacob \(^1\), I. Ilisei \(^1\)\(^3\)*, G. A. Militaru \(^1\)

\(^1\)National Commission of Hospitals Accreditation, Bucharest, \(^2\)University of Medicine and Pharmacy Gr. T. Popa, Lași, \(^3\)National University of Political and Administrative Studies, Bucharest, Romania

Objectives: The study examines the results of the first hospitals accreditation program at the national level in Romania. It aims to explore the situation of health quality management in hospitals in Romania and indicate future directions in the development of the country’s next accreditation program.

Methods: In 2008 the National Commission of Hospitals Accreditation (CoNAS) was established in Romania as the first governmental institution responsible for the implementation of the hospitals accreditation program at the national level. Between 2011 and 2014, the institution evaluated 145 hospitals, covering a wide range of medical specialties, from both the private and public sectors and representatives of various Romanian geographical regions, sizes and administrative statuses. The total number of hospitals in Romania is 446, and non-accreditation, by the end of the 5 years accreditation cycle, implies the suspension of most of the public funding for hospitals.

The evaluation of each hospital involves three steps: 1) a pre-visit period when the evaluators analyze the hospital’s self-assessment file and materials, which is an evaluation visit based on a pre-established schedule 2) a post-visit period when an evaluation report is drafted in order to give the hospital the opportunity to have objections and 3) the final evaluation report. Based on this evaluation report, CoNAS issues the accreditation report. Hospitals can either be fully accredited, accredited with a high level of trust, accredited with a limited level of trust or non-accredited at all. In 2014, aiming to increase the accuracy of the evaluation process, changes were introduced in accreditation procedures concerning the collection of data. This accreditation process is based on a package of 90 standards distributed in 11 chapters of references. Each reference represents different dimensions of accreditation standards such as: strategic management of the organization, management of the care environment, patient rights and communication, and management of nosocomial infections.

The study is based on the data collected from the 145 hospitals that went through CoNAS’s accreditation program. The information was collected by evaluators during hospital evaluation visits and, afterwards, centralized. The statistical methods applied consist of a series of descriptive statistical tests and correlations.

Results: This study realizes a comparative analysis of the different levels of compliance reached by hospitals in 11 chapters of references. Furthermore, existence of a statistically high correlation between the levels of compliance in different chapter of references was identified. This demonstrates the intertwining of different dimensions of evaluation in the hospital accreditation process. Moreover, the study investigates which standards have higher and lower levels of compliance and it also investigates the correlations between standards belonging to different chapter of references.

Conclusion: This paper draws a comprehensive overview of the results of the hospitals accreditation process and program in Romania. The relevance of the study consists in creating the foundation for the design and development of the future accreditation program that is set to commence in Romania in 2017.
Regional Analysis Of Compliance To Joint Commission International’s Hospital Accreditation Standards For Patient Safety And Quality Healthcare At Accredited Hospitals

P. Chang1*, R. Clinard1
1Accreditation, Joint Commission International, Oak Brook, United States

Objectives: The objective of this study was to review the accreditation standards compliance of hospitals surveyed by Joint Commission International in 2013 to determine if any country or regional differences existed in standards compliance and, if so, describe what these were. Further analysis would also be done to explain for these differences.

Methods: This analysis focused on the JCI’s hospital accreditation program and surveys performed in 2013 was used for the analysis since the 4th Edition of the Hospital Accreditation Manual had been in use for two years, the field surveyors had become proficient in its use and the JCIA Central Office operations was working from a stable processing platform. Anonymized organizational demographic data as well as organizational performance on 2013 accreditation surveys was collated and analysed.

Results: 174 accredited hospitals (48 Europe, 52 Middle East, 56 Asia Pacific, and 18 Americas + Africa) were surveyed in 2013 with a total of 6,805 Standard measureable elements for compliance scored as ‘not met’ or ‘partially met’. The data was sorted by region and aggregated at the Standard and Chapter level as per the JCI Hospital Accreditation Manual to facilitate comparison.

Standards in the Facility Management and Safety chapter were the most frequent scored in all regions of the accredited hospitals surveyed. The second most frequently scored Chapter varied per region. In Europe and the Americas, the organizations surveyed had more compliance issues associated with the Assessment of Patients (AOP) Standards. In the Middle East, the Care of Patients (COP) Standards ranked 2nd while in the Asia Pacific region the Prevention and Control of Infections (PCI) Standards came in 2nd. In the Middle East and Asia Pacific regions the third most frequently scored Standards was associated with Assessment of Patients (AOP). In Europe, the Medication Management and Use (MMU) ranked 3rd while in the Americas the Prevention and Control of Infections (PCI) was ranked 3rd.

Examples of partial and non-compliance of the standards in each region were examined further and explanations were put forward as to why there were regional similarities as well as regional differences for standards compliance.

Conclusion: Compliance to JCI’s hospital accreditation standards requirements during surveys conducted in 2013 presented some similarities as well as some differences. Local understanding and customised solutions may be required if international accreditation organizations are to support the enhancement of patient safety and quality healthcare globally.
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The New Model Of Highly Intensive Acute Hospital Inspections In England: Purpose, Process And Impact
K. Walshe 1,*, R. Addicott 2, A. Boyd 1
1Manchester Business School, University of Manchester, Manchester, 2The Kings Fund, London, United Kingdom

Objectives: The health and social care regulator for England (the Care Quality Commission) introduced a new model for acute hospital inspections in 2013, and is now spreading this model to other health and care sectors. The main innovations include the use of very large and more expert inspection teams (typically 20 people visiting for 4-5 days for a single hospital site and up to 80 people for large multi-hospital providers); a much more detailed and extensive set of inspection processes drawing on a very wide range of prior data sources and fieldwork; focusing the inspections on eight defined core clinical service areas or departments; assessing and rating performance in each of these core service areas and at hospital level in five domains (safe, effective, caring, responsive and well-led) using a four-point rating scale; and producing a very detailed and comprehensive inspection report with a full narrative description of services in each of the core service areas alongside the quantitative ratings. Overall, this is a highly intensive, costly and expert-led model of hospital inspection. We set out to examine the diagnostic purpose and value, implementation process and early impact of the first inspections in this new model during late 2013 and early 2014.

Methods: We undertook non-participant observation of six hospital inspections in full (totalling about 48 person-days of observation), reviewed inspection documents and reports, undertook about 80 interviews with CQC staff, inspection team members and hospital staff which were all taped and transcribed for analysis, and carried out on-line surveys of over 350 inspection team members and over 600 hospital staff in about 20 hospitals undergoing inspection.

Results: The new acute hospital inspection model receives near universal endorsement from stakeholders, not least from acute hospitals themselves, and is seen as transformative in comparison with the form of inspection it replaced. It is regarded as credible, authoritative, rigorous and in-depth and much less likely to miss any issues of significant concern. But there are issues such as its cost, pace and timing, consistency and reliability of assessment, forms of reporting, and impact.

Inspection teams now contain external specialist advisors with content knowledge, seniority and expertise working alongside its own inspectors who have regulatory experience. But the sustainability of the very large inspection teams used seems questionable. Inspection teams need more formal training and development, and teams need better matching to ensure they have the appropriate expertise and skills for the hospital they are inspecting.

The inspection process itself has been a formidable exercise in planning and execution, giving a depth and granularity to the inspection process that was missing before, but presenting major challenges in data analysis, ratings and reporting.

Conclusion: CQC’s new approach to hospital inspection is a very intensive, costly and rigorous process with high face validity and widespread acceptance among providers, though a number of changes could be made to make inspections more focused and less costly. It is too early to assess the long term impact of inspections, but our evaluation suggests that hospitals both make changes in advance of inspection and after inspection and largely agree with the regulators.
The Successes And Challenges In Implementing The National Accreditation Program For Hospitals In Kuwait, Retrospective Review Of Accreditation Reports
M. Husain 1,*, A. Elbashir 1, B. Al-Muthaf 1, G. Okasha 1
1Accreditation & Quality Directorate, Ministry of Health Kuwait, Kuwait

Objectives: To review the successes and challenges noted by organizations in fully implementing the National Accreditation Standards for Hospitals in Kuwait

Methods: The National Accreditation Program for Healthcare Organizations in Kuwait was established in 2002 with Accreditation Canada International consultation in 2008. The program utilizes standards of excellence in leadership, clinical services (emergency, medical, surgical, maternal/child and specialized/intensive care services), as well as clinical support services (pharmacy, diagnostic imaging and laboratory services) and non-clinical support services (human resources, information management and environment. The standards were published and available both as hard and soft copy. Organizations utilize a standard-Software to generate the self-assessment report and the surveyor similarly.

The accreditation reports for twelve (12) organizations surveyed between 2012 and 2014 were reviewed. Both self-assessment and the accreditation reports follow standard format generated by software. The name of the organization was blinded. The successes and challenges were classified as patient care and those related to patient safety required area (PSRA).

Results: Twelve (12) self-assessment and accreditation (external surveyor) reports each were available for the reviewer. Among the twelve hospitals, five (5) were general hospital and seven (7) subspecialty hospitals. Accreditation visit were done for three (3) hospitals each round with a total of four (4) groups. The overall compliance rate with the national standards and patient safety required area (PSRA) were 2.75 (69%) and 2.62 (66%) in scale of 4.00 respectively. The average score for all standards of the general hospital and subspecialty were 2.62 (66%) and 2.86 (72%) in scale of 4.00 respectively. The average score for all standards for groups 1, 2, 3 and 4 were 2.68 (67%), 2.84 (71%), 2.50 (63%) and 3.01 (75%) in scale of 4.00. The PSRA average score for similar groups were 2.31 (77%), 2.41 (80%), 1.86 (62%) and 2.21 (74%) in scale of 3.00. Specialized services, clinical services (except for surgical and emergency services) as well clinical support services (pharmacy, laboratory, diagnostic imaging) achieved the national average compliance rate compared to surgical, emergency and non-clinical support services. The latter i.e. human resources and information management among the most challenging to achieve the national average score. Quality and safety plan including the use of indicators were among the most challenging area. Patient verification, look alike sound alike medication names, control of concentrated electrolyte and hand hygiene were the most successful in PSRA. Medication reconciliation, performance of correct procedure at correct body site and training on patient safety were the most challenging areas in PSRA.

Conclusion: Overall, considering the recent implementation of the national standards, organizations are generally achieved a good average national score. Most recent hospitals visited tend to score better indicating the overall awareness and preparedness for the program. However, similar pattern was not observed in the PSRA. Organizations need to support their non-clinical support service. The use of quality initiatives and indicators as well as training especially in patient safety area is a significant threat to the implementation of the national program.
Lean Journey In Endoscopy Unit
A. Sayegh 1,*, Z. Mneimneh 2
1Managing Director at Lean Enterprise Inc. Canton Ohio, 2Utilization Review Manager, AUBMC, Beirut, Lebanon

Objectives: Introduction: In the new Era, healthcare costs are being examined from every perspective. Rising costs are unsustainable and require intervention to lessen the burden. Leaders in the organization are urged to review their internal processes and options to streamline efficiency, productivity, and work-flow thus contributing to quality patient outcomes and cost savings.

To achieve significant cost reduction by raising labor productivity and eliminating waste, one of the endorsed Quality Improvement tool used was the Lean System Thinking as “Lean is about having the best processes in place right now.”

Methods: As a team, Lean guided us through our journey of excellence in the Endoscopy Unit. The work started by drilling down into the operational process of this unit to determine how the work is actually accomplished; then, the colonoscopy process was value streamed and many inefficiencies and wastes were identified and addressed by conducting several Kaizen events.

This session will outline the Lean framework (VSM) and tools (Kanban and 6S Kaizen) that were used to improve both operating and financial performance:

Results:
- Procedure time was reduced from 70 minutes to 50 minutes which allowed us to accommodate 600 more patients per year and generated US$400,000.00
- Recovery time was reduced from 51 minutes to 30 minutes which helped in accommodating more patients without the need for expansion.
- A 50% decrease in monthly linen supply was achieved and by utilizing disposables for the remainder our yearly saving was US$124,000.00.
- Effective Total Preventive Maintenance (TPM) was implemented; routine cleaning and inspection stopped the accelerated deterioration in addition to planned training that improved operation and maintenance skills; This eventually resulted in cost reductions due to extended life of equipment and supplies (yet to be quantified).
- The supply and the store were re-organized and managed using Kanban, and 6S tools. Results revealed a saving of US $48,000.00.
- $20,000.00 US worth of supplies in excess and not used were returned to Central Storage for credit to the Unit
- Kaizen helped build capabilities in addition to developing competencies and skills: 3 technicians received advanced certification.
- Standard work and organized workplace dramatically improved patient safety and reduced patients’ incidents to 0.
- Improved flow and patient satisfaction had the highest ROI according to the Unit Administrator.

As we journeyed through the Lean transformations and worked all (management and front liners) as one team to achieve the same goal, a success story is born. The endoscopy unit became one of the most organized and equipped unit in our organization; The financial indicator monitored throughout the implementation phase of the lean process yielded US$750,000.00 profit; in addition, 0 loss of supplies has been reported during this period; the payback was real and fast.

Conclusion: To conclude, we realized by streamlining our processes in endoscopy, that administrative quality and clinical quality are equally important in terms of patient care and safety. We strongly believe that embracing Lean as a Continuous Improvement Culture will place us ahead of the competition in our quest to transform our healthcare operations and provide value to our customers and major stakeholders. Changing the culture to lean is a long term endeavour.
Patient Safety In Sao Paulo State Hospitals: Preliminary Findings
A. M. Malik 1, L. Schiesari 1,*, M. L. Zanardo 1, R. R. Graf 1
1Gvsaude, Escola de Administração de Empresas de São Paulo - FGV, São Paulo, Brazil

Objectives: to assess structures and patient quality and safety initiatives in hospitals located in São Paulo State; to analyze data of the first hundred hospitals which answered the survey.

Methods: An exploratory survey was designed to answer those objectives. Data were collected by telephone through interviews ideally with hospital CEOs and/or professionals responsible for quality. Data analysis was done using Minitab 17. Study funded by Fapesp - São Paulo State Research Supporting Foundation.

Results: Sample description of the 100 hospitals: 41 are in São Paulo city (the state capital); 68 are general hospitals; 55 are private (32 non profit). Occupants of different positions answered the interviews, and 66 were women. Four hospitals had more than 500 beds; 53 were between 151 and 499 beds; 29 between 51 and 150 and 14 were under 50 beds. Main findings i) 4 hospitals had all committees listed in the questionnaire (all of them above 151 beds); ii) 66 had a structure directly aimed at patient safety; iii) 85 hospitals had quality initiatives. Of those, 10% started before year 2000; 50% between 2000 and 2010 e 23% after 2011; all of them stated that quality and safety’s main goals were to improve healthcare delivered; iv) more frequently used quality tools are patient satisfaction assessment (70 hospitals) and incident report (68); v) less mentioned were chronical disease management (32 hospitals) and internal audit (37).

Conclusion: This sample does not represent all hospitals surveyed. There were several hospitals who refused to answer the questionnaire, possibly because of their lack of involvement with quality and safety issues, or lack of transparency. Eventually they were also afraid of consequences in case they didn’t answer correctly or they are used to telephone interviews, not very common in Brazil. There is great heterogeneity regarding adoption of quality and safety practices in São Paulo hospitals. There are hospitals that can be considered international benchmarks but some are still in a very primitive stage. These 100 hospitals are part of a census that might bring light on structures and patient quality and safety issues in São Paulo State hospitals and allow monitoring the National Patient Safety Program impact.
The Relationship Between Patient Safety Culture And Patient Safety Indicators: Four Years’ Follow Up In Taiwan
C. M. Lo¹*, Y. L. You¹, S. Liao¹, H. J. Lin²
¹Division of Quality Improvement, ²Taiwan Joint Commission on Hospital Accreditation (TJCHA), New Taipei City, Taiwan

Objectives: To understand the correlation between patient safety culture (PSC) and Patient Safety Indicators (PSI) in hospitals.

Methods: Data was collected from the Taiwan Patient Safety Culture Survey (TPSCS) and Taiwan Clinical Performance Indicator (TCPI) conducted from 2011 to 2014. Respondents of the TPSCS were employees of healthcare institutions and were tested through the Chinese version of the Safety Attitude Questionnaire (SAQ-C). The SAQ-C is consisted of 26 core questions for 5 major aspects: teamwork climate (TC), safety climate (SC), job satisfaction (JS), perception of management (PM), and working conditions (WC). In all cases, perspectives with mean scores of more than 4 were considered positive responses. To ensure data quality, a questionnaire with the same answer or containing many missing data were considered to be invalid in the data cleaning process. 10 patient safety related indicators were also collected from TCPI. To analyze the relationship between PSC and PSI, the scores of hospital SAQ teamwork and safety climate were compared to the values of patient safety indicators.

Results: From 2011 to 2014, a total of 16 hospitals participated both in the TPSCS and TCPI, consecutively. Out of the 10 patient safety indicators, there were 2 indicators that correlated strongly with the patient safety culture (p<0.01). Among which, the general ward central line-associated bloodstream infection (PSI-CLABSI) was negatively correlated with the SAQ - teamwork climate and SAQ - safety climate (TC: 49%, 60% v.s. PSI-CLABSI: 4.4‰, 3.7‰); (SC: 44%, 56% v.s. PSI-CLABSI: 4.2‰, 3.7‰). The prophylactic antibiotic received within one hour prior to surgical incision was positively correlated with the SAQ - teamwork climate and SAQ - safety climate (TC: 49%, 60% v.s. PSI-Antibiotic: 86%, 96%); (SC: 44%, 56% v.s. PSI-Antibiotic: 88%, 94%).

Conclusion: The results of the study revealed that the more positive the patient safety culture was, the lower the general ward central line-associated bloodstream infections and the higher rate of prophylactic antibiotic received within one hour prior to surgical incision. Positive teamwork and safety climate were helpful for enhancing the safety care. However, the patient safety indicators were lagging indicators. Therefore, in addition to the patient safety indicators combined with investigation of patient safety culture, the measurement of patient safety should incorporate early identification of patient safety risks in order to achieve the goal of preventive actions. Although the results show there is a positive correction between patient safety culture and patient safety indicators, but cause-and-effect relationship need to be identified in future studies.
Patient Safety Situational Analysis In A Developing Country: The Case Of A Large Teaching Hospital

E. H. Otchi², C. Bannerman², C. O. Peprah³, R. Esena³

¹Public Health, Korle Bu Teaching Hospital, ²Institutional Care Division, Ghana Health Service, ³Health policy & Planning Management, University of Ghana, Accra, Ghana

Objectives: The objectives of this study were:
1. To assess the 12 action areas of patient safety in the Hospital
2. To have a baseline understanding of the patient safety situation in the Hospital

Methods: This was a descriptive cross-sectional survey. Data collection methods included the use of structured questionnaire, interviews and observation checklist to assess the situation of patient safety in the Hospital. The hospital has 19 clinical units/departments and three centers of excellence (i.e. cardiothoracic center; reconstructive plastic and burns center; and radiotherapy and nuclear medicine). A multi-stage sampling technique was used. Five Departments (i.e. Child Health; Polyclinic; Surgery; Internal Medicine; and Obstetrics and Gynaecology) of the Hospital (KBTH) were purposively selected for this exercise. Respondents from these facilities were also purposively selected and interviewed. Multiple data collection approaches was used in the data collection to help provide useful diagnostic information relating to the variables being studied. Data was collected along the WHO’s 12 Action Areas. The APPS Patient Safety Situational Analysis (PSSA) Long Form that addresses all 12 action areas of patient safety in its assessment was adapted from the WHO and used for the collection of data. Data collection personnel were identified and trained for a period of three days on the data collection instrument by a WHO Consultant on Patient Safety. This was to ensure uniformity and consistency in data collection. The data was collected from 1st to 17th December, 2014. Quantitative Data was analyzed using Stata Version 13.0 statistical software. Qualitative data was transcribed immediately after each session and analyzed by content and themes.

Results: The hospital serves as Ghana’s referral facility for tertiary healthcare. The hospital is a 1812 bed capacity with annual admissions of 48,252 and a total staff strength of 4754 (i.e. details of the staff distribution is illustrated in Figure 1). The hospital did not have records of the total number of nurses and doctors trained in IPC. The Hospital was weakest in the action area of “Hospital General Information” where it had a “Yes” score of 33% and strongest in the action area of Healthcare waste management where it had an 86% “Yes” score. Varied percentage “Yes” scores were recorded in the other action areas as illustrated in Figure 2.

Figure 1: Distribution of the categories of staff at the KBTH

Figure 2: Summary results of Patient Safety Action Areas at the Hospital

Conclusion: The Hospital is very weak in the action area of Hospital General Information (especially with respect to the basic infrastructure of the hospital such as internet/email, reliable water and electricity supply and telephone system) PS and Health Services, PS Awareness raising, PS Partnerships and PS funding. The hospital however also needs to undertake some more work in National PS Policy and Surgical safety though their cumulative “Yes” scores were higher than the cut-off of 60%.
Patient Safety In Danish Cancer Care After Primary Treatment – Attention Is Highly Needed!
A. H. Christiansen¹, H. Lipczak³, J. L. Knudsen¹,*
¹Documentation & Quality, Danish Cancer Society, Copenhagen, Denmark

Objectives: Improved long-term survival in cancer has increased the number of patients needing follow-up care. Knowledge about patient safety issues and care transitions after primary treatment of cancer is sparse. The aim was to build knowledge and understanding of cancer patients’ safety after primary cancer treatment by examining:

1. Patient-experienced errors during cancer follow-up and by identifying patient-related, treatment related and organisational factors associated with experiencing errors.
2. Types of adverse events, consequences to patients and numbers of AEs in care transitions reported by health professionals.

Methods: Two data sources were used:
1. A nationwide cross-sectional survey based on a sample of 4,401 cancer patients diagnosed two years earlier. The response rate was 64%. This study included 3,731 respondents. Multiple logistic regression analyses were performed.
2. Cancer related adverse events (AE) from health care professionals reported to the Danish Patient Safety Database, including a total of 724 reports. AEs were categorized by type and consequences to the patient. AEs in care transitions were identified manually and content analysis were performed. Descriptive statistics were performed.

Results:
1. Overall, 27.6% of the 3,731 responders experienced at least one error during cancer follow-up. 11.7% experienced that important information was missing at follow-up consultations, 9.8% were not called in for a follow-up visit as expected and 16.7% experienced that the doctor/nurse had not studied the patients’ course of disease prior to consultation. Other errors were experienced by 4.7%, which will be elaborated at the presentation. The factors significantly associated with experiencing errors were: experience of error or complication during primary cancer treatment, not having one health professional with responsibility for the entire follow-up pathway, age < 70 years, diagnosis of rare cancer, poorer self-rated health, and many healthcare contacts.
2. Common types of AEs were administrative processes (58%), communication & documentation (56%), clinical processes (42%) and medication (27%). 46% of AEs resulted in physical harm. 4% resulted in severe physical harm or death. 18% resulted in delay in detection of relapse, diagnosis of new cancer or treatment. 50% of all AEs were related to care transitions. Results from content analysis of care transitions will be elaborated at the presentation. The AEs in care transitions have great potential for prevention, as they often relate to inadequate administrative practices, poor communication and documentation, or to unclear transferal of responsibility for the patient.

Conclusion: The results shows that cancer patients are at relatively high risk of being harmed during follow-up care, thus specific attention to patient safety after primary cancer treatment is required. Processes as handling of test results, referrals, bookings and medical records should be redesigned to enable safe performance. The identification of a substantial number of AEs in care transitions stresses a need for increased continuity and clear transfer of responsibility in cancer care after primary treatment. A reduction in the number of healthcare professionals providing follow-up care to each patient would provide better oversight, increase responsibility and potentially enhance safety. Patients vulnerable to experiencing errors should be subject to particular attention. Implications will be discussed at the presentation.
Objectives: Safety culture plays a key role in improving patient safety; thus, many instruments have been developed to measure safety culture. More often than not, the unit of analysis in safety culture has been clinical area or job type. Though meaningful, such a one-dimensional approach does not capture combinational effects of clinical area and job type; therefore, this study examines the combinational effects and provides statistical models that hospitals can easily apply.

Methods: We used the Korean version of the Safety Attitude Questionnaire Revision 1 (SAQ-K-R1) based on a frequently used safety measuring instrument, SAQ, in a large metropolitan hospital in Korea. SAQ-K-R1 (henceforth, SAQ) was composed of 34 items in six domains – Teamwork Climate (TC), Safety Climate (SC), Job Satisfaction (JS), Stress Recognition (SR), Perceptions of Management (PM), and Working Conditions (WC) – and demographic information questions, including job type and clinical area of work. We administered the SAQ in November 2013.

For each domain of SAQ, we built 5 models: a naked model with mean and standard deviation for the overall hospital (model 1), a variance-components model with clinical area as a random effect (model 2), and a variance-components model with job type with random effect (model 3). Likelihood ratio (LR) tests between models 2 and 1 and 3 and 1 were conducted to examine whether clinical area and job type explain the variance in SAQ scores. We then developed an additive crossed random effects model including both clinical area and job type as random effects to examine the effect of each of the two random effects variables (model 4). Then we relaxed the additive assumption of model 4 by including an interaction term between clinical area and job type, allowing us to examine whether specific combinations of work area and job type can significantly increase or decrease SAQ scores (model 5). Statistical significance was examined with LR tests comparing a model with its immediate nested model.

Results: A total of 1,142 returned questionnaires from 72 clinical areas and 14 job types was analyzed. Internal consistency and construct validity were all satisfactory. For all domains, the random effects in models 2 and 3 were statistically significant, suggesting that clinical area and job type independently influence SAQ scores. For model 4, all domains but WC showed statistically significant random effects, meaning that clinical area and job type influence SAQ scores simultaneously but in an additive manner. In the WC domain, such additive influence was not observed; therefore, we did not develop model 5. For model 5, the primary interest of this study, random effects (coefficients are described in standard deviations) for clinical area, job type, and interaction term were statistically significant at 3.64, 3.41 and 4.96 for TC; 2.63, 2.86, and 4.50 for SC; 1.07, 3.94, and 5.52 for SR; and 3.16, 1.59, and 3.79 for PM. For the JS domain, the interaction term was not significant, and therefore we returned to model 4 with additive random effects.

Conclusion: Four of six SAQ domains showed that combinations of clinical area and job type significantly influenced SAQ scores, suggesting that some clinical areas are more beneficial for certain job types regarding safety culture. We can develop more effective safety improvement programs by addressing such combinational effects. In addition, each hospital can plug in categorical variables other than clinical area and job type to reveal its own cultural physiology.
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**How Scientific Is The Plan-Do-Study-Act Method? Comparisons Of The Scientific Method And Its Application In Chemistry And In Healthcare**

J. E. Reed 1,*, C. McNicholas 1

1NIHR CLAHRC Northwest London, Imperial College London, United Kingdom

**Objectives:** Improvement science aims to support the democratisation of science, empowering people in local settings to construct hypothesis, test changes, and review progress to inform future action. Plan-Do-Study-Act cycle method is critical to this goal. However, the scientific rigour of PDSA method is often questioned at a theoretical level as well as its application in practice. (Taylor et al 2014, BMJ Quality and Safety).

This study aims to compare and contrast the use of PDSA method in healthcare with the scientific method in chemistry and identify challenges and solutions to maintaining scientific rigour in practice.

**Methods:** An observational study of the use of PDSA method in 12 improvement initiatives at 3 healthcare organisations in Australia, UK and USA. Data collection included non-participant observation (n=70 hours), document analysis, and semi-structured interviews (n=65) and focus groups (n=6) with improvement initiative members and organization leaders. Results from this study were systematically compared to a review of the practice of chemistry laboratories in academic institutes.

**Results:**

The use of scientific method in chemistry and PDSA in healthcare is strongly analogous, both influenced by scientific and pragmatic considerations to optimise learning and subsequent chances of success. In contrast, PDSA in healthcare is used in complex social systems which introduces challenges including:

- Number of people required to work collaboratively to conduct a PDSA cycle;
- Number and interdependency of areas for further investigation which emerge following learning from an initial PDSA cycle;
- Relevance and reliability of available data to inform learning and influence next steps;
- Managing portfolios of inter-connected PDSA studies.

Learning from high performing QI teams reveals tactics to overcome challenges and maintain scientific rigour. Lessons include:

- Importance of the social functions of PDSA method to foster collaborative working and learning;
- Influence of context factors (Kaplan et al 2011, BMJ Quality and Safety) including prior experience of QI methods and availability of data infrastructure;
- Role of expert QI facilitation.

**Conclusion:** This work provides a structured defence of PDSA method as a scientific method in comparison to basic sciences. It provides caution as to the challenges of maintaining scientific rigour in complex social systems, and suggests solutions for overcoming these challenges. This work has implications for the practice, teaching and evaluation of PDSA method in healthcare.
Preserving Occupational Health In The Ebola Outbreak
J. J. Mira 1,*, S. Lorenzo 2, T. Gea 3, P. Anton 3
1Universidad Miguel Hernández, Alicante, 2Hospital Alcorcon, Madrid, 3Hospital Sant Joan, Alicante, Spain

Objectives: The virulence of the most recent Ebola outbreak and the news of Ebola’s arrival in Europe and the US have made the difference to the past. This time cases of secondary infection have caused alarm among healthcare professionals. A review of the safety systems to protect the staff has been required. The purpose of this presentation is to describe the framework and the tools designed and implemented in our Health District in Spain. These were designed to verify the Ebola guidelines’ applicability into actual practice, considering resources and procedures.

Methods: Observational study. A Poka Yokes’ approach was used. A checklist and audit procedure was designed to audit structural, functional and operational conditions to manage a self-presenting patient (Ebola’s suspect) in a safety context for patients and professionals. The audit was conducted two times with an interval of 3 weeks. Results of this intervention were evaluated.

Results: The checklist was structured according to 9 categories and a total of 51 elements. This checklist identified the critical points of the Ebola guidelines and potential areas of improvement. The audit was applied in each center of our health district. The percentage of checklist elements requiring direct intervention to rectify deficits ranged from 14 to 51%. The second audit verified the fulfilment of the rest of elements, and checked the improvements implemented. The average length of the audits was 45 minutes in the first one and 75 minutes the second time.

Conclusion: This kit tool helped professionals reviewing those precautions, memory aids and quality control procedures that anticipate risks. Anticipating potential failures is a necessary condition to ensure adequate translation into actual practice the Ebola protocol.
Reconceptualising Patient-Centred Care: The Role Of Family Carers
A. Hogden 1,*, D. Greenfield 1, P. Nugus 2, M. Kiernan 3
1Australian Institute of Health Innovation, Macquarie University, Sydney, Australia, 2Centre for Medical Education and Department of Family Medicine, McGill University, Montreal, Canada, 3Brain and Mind Research Institute, University of Sydney, Sydney, Australia

Objectives: Patient-centred care involves the formation of partnerships between patients, families and health professionals as a responsive approach to the needs of patients. The roles carers take in these partnerships are not well understood. This study investigated the extent of carer participation in decision-making for Amyotrophic Lateral Sclerosis (ALS), to determine carer roles in facilitating patient-centred care.

Methods: An exploratory, in-depth study was conducted with eight carers of ALS patients. Carers participated in semi-structured interviews. Topics included: carer experience with ALS; carer participation in decision-making; and influences on patients’ decision-making. Interviews were recorded and transcribed, and coded and analysed for emergent themes.

Results: ALS carers formed decision-making triads with patients and health professionals for patients’ symptom management and quality of life. Carers facilitated patient-centred care through their participation in decision-making. Four carer roles were identified: promoting the patient voice by endorsement and advocacy; promoting patient health literacy by sourcing, synthesising and filtering information; providing emotional support; and providing logistical assistance. Carer roles were shaped by the dynamic disease trajectory of ALS, and by the patient-carer relationship. Various barriers existed to carer participation in these role, including: tension between patient choices and their best interest; communication difficulties with service providers; carer coping strategies; lack of carer support; and the high burden of care. Moreover, perspectives on planning for the future differed between spouse carers, and carers who were adult children of the patient. Spouse carers preferred to avoid thoughts of the future, responding to changes in the patients’ condition as they arose. Carers of parents were proactive planners, and sought to anticipate patients’ future care needs.

Conclusion: Carers roles in patient-centred care are multifaceted, and extend beyond the previously recognised roles of physical, emotional and logistical support. In particular, carers promote patient autonomy through their advocacy for patients’ choices, and information synthesis and filtering in promoting patients’ health literacy. Patient-centred care is facilitated by decision-making partnerships between patients, carers and health professionals. However, challenges to carer participation are complex. Other than communication difficulties between patients, carers and health professionals, the majority of barriers are dictated by the individual circumstances of the disease and the patient-carer relationship. Barriers frequently impede carer participation, beyond addressing patients’ basic care needs. Further difficulties arise from health professional practice and policy. Issues of patient confidentiality and duty of care hinder health professionals’ capacity to work collaboratively with carers to fully achieve patient-centred care.

The implications of this study are that health professionals may need to reconceptualise ‘patient’ as ‘patient and carer’. Engagement with carers allows health professionals to fully realise the caregiving role, and further tap in to the resources that carers offer. This may require rethinking current practice and policy that restricts carer participation through confidentiality and duty of care considerations.
Empowering Patients, What Interventions Work For Chronic Patients? Results Of An Overview Of Systematic Reviews Of Patient Empowerment Interventions
C. Orrego123*, M. Ballester12, L. Perestelo34, R. Sunol123
1Avedis Donabedian Research Institute, 2Universitat Autònoma de Barcelona, Barcelona, 3Red de Investigación en Servicios de Salud en Enfermedades Crónicas (REDISSEC), Madrid, 4Servicio de Evaluación del Servicio Canario de la Salud, Islas Canarias, Spain

Objectives: To identify the effective empowerment interventions targeting chronic patients (Chronic Obstructive Respiratory Diseases (COPD or Asthma); chronic cardiovascular diseases; diabetes (type 1 and 2); severe mental illness (schizophrenia or chronic depression; complex patients (multi-morbidity) or health or social professionals working with the described chronic patients). Also we aimed to describe main contextual factors that help or hinder their implementation.

Methods: Overview of systematic reviews (SR) of empowerment interventions for patients with chronic conditions from 2000 to 2013 was conducted for EMPATHIE (EU Project on Patient empowerment). Selected articles were extracted collecting intervention characteristics, outcome measures and scientific quality (AMSTAR). The effectiveness of the interventions was measured in terms of patient empowerment related measures, clinical outcomes, quality of life measures and use of health services. The success and failure factors were identified with a mixed methodology: results from meta-analysis and subgroup analysis and qualitative review of the conclusions of the SR’s authors. The interventions and identified factors are categorized by type of intervention, targeted condition, and level of evidence.

Results: The search identified 101 SRs of interest (corresponding to more than 2300 individual studies) A descriptive analysis detected that most of the interventions reported in the studies were addressed to patients at micro or meso level. A predominance of interventions targeted diabetic patients (28.7% of SRs), followed at a distance by interventions targeting chronic respiratory conditions (25.7%), cardiovascular (12.9%), mental health conditions (10.9%) and just 1% specifically targeting complex patients.

Within a general positive tendency (when compared to usual clinical centred care) some specific interventions emerge as the most effective: self-management support interventions across all conditions and different formats of patient education for diabetic patients. Recent innovative practices (such as virtual interactive platforms and tele-monitoring through smart-phones) present a positive tendency, mainly in diabetes and cardiovascular conditions. Finally, systemic changes regarding the model of care (such as the chronic care model), seem to yield positive results.

Similar interventions report different levels of effectiveness, which can be partially explained by multiple factors such as targeted condition, specific components of the intervention, patient and provider characteristics, contextual factors and outcome measures used. The study of the effect appears to indicate that, to a significant degree, success and failure factors are related to the targeted behaviour, which in turn is mediated, by the type of condition in which it is applied.

Conclusion: Interventions targeting patient empowerment tend to present positive results in several types of outcomes. Self-management support interventions and some type of patient education formats presented the most conclusive evidence in their effectiveness. Recent innovative practices (as IT based platforms) present a positive tendency but still need further research particularly regarding the ideal combination between more traditional care and these innovative practices. Practical implications for policy and clinical organization will be discussed during the presentation. Stronger evaluative work on effectiveness of meso and macro level initiatives of patient empowerment is needed.
The Consent Form: Enabling Or Disabling Patients’ Active Involvement?

C. Stavropoulou 1*, C. Doherty 2, M. Saunders 3

1 HSRM Division, City University, London, London, 2 Health Care Management and Policy, 3 Surrey Business School, University of Surrey, Guildford, United Kingdom

Objectives: In many countries standards expected by doctors’ regulatory bodies, in respect of the process of consent to treatment have arguably sought to restructure the nature of the clinician-patient relationship from one of paternalism to that of shared decision-making (AMA, 2009; GMC, 2008). However, health care is an inherently intersubjective process, therefore how patients perceive the consent process will inevitably influence how it is co-constructed in practice (Doherty & Saunders, 2013). Yet, few studies have explored how consent to treatment enables patients’ participation in decision-making about treatment options from the patients’ perspectives.

Aim: To examine patients’ attitudes towards the consent process; to explore how and why these attitudes enable or disable patients’ active participation in decision-making; and to consider the possible consequent medico-legal issues.

Methods: A total of 35 patients and 19 caregivers participated during their chemotherapy treatment, in an English hospital between February and November 2014. Data were collected using longitudinal semi-structured interviews and ethnographic observations.

Results: Patients and their caregivers discern signing the consent form as a routine process. The purpose of the form being mainly to inform them about the risks of the treatment and to protect doctors from the threat of legal action should something go wrong. Patients believed that they had little option but to sign the form if their treatment was to proceed. In general patients preferred not to make treatment decisions, and signing the consent form was considered as formal means of putting themselves ‘in the hands of the doctor’.

Conclusion: Most participants in this study saw signing the consent form as legitimising their apparent desire to hand over responsibility for decisions about their care to the doctors. In addition, signing the form was considered a routine procedure in the interests of the hospital and its doctors. Hence the consent form may be a barrier to policy aspirations of greater patient participation in treatment decisions.
Becoming A “Second Victim” In Health Care, Pathway Of Recovery After Adverse Event
M. Panella 1*, C. Donnarumma 1, C. Rinaldi 1, F. Leigheb 1
1Translational Medicine, Amedeo Avogadro University Of Eastern Piedmont, Novara, Italy

Objectives: The goal of this research is to study second victims in Italy. Specific objectives are:
1. Describe the psycho-physical impact of an adverse event on health providers;
2. Specify the recovery course after the event; 3. Describe the assistance provided to the second victims.

Methods: A 25-item semi-structured interview guide based on the six post-event phases theorized by Scott et al (1) was used and included personal and professional demographics, participant recount of adverse event circumstances, physical/psychosocial symptoms experienced and recommendations for improving post-event support. The interview was conducted in Italian, one-to-one. The duration of an interview was about 60 minutes. The interview was audiotaped and field-notes were taken to maintain contextual details and non-verbal expressions. The analysis was executed by two persons: the interviewer and a psychologist experienced to healthcare provider support. Data were analysed considering the QUAGOL guideline.

Results: Thirty-three were subjects completed the interview. The sample included nurses, physicians, midwives and other professionals. 61% of participants were women (n = 20). Years in the profession ranged from 3 to 20 years. Time since the adverse event ranged from 5 months to 132 months (mean 56.5 months). All the participants remembered clearly the event occurred and referred in detail the physical and psychophysical symptoms. In addition to the symptoms most commonly reported in literature 5 subjects remembered great headache immediately after the event and in the days after and 4 subjects referred gastralgia in the days after the event. The physical symptoms appeared immediately after the event, while the psychosocial ones arrived in different times. Even the duration was changeable and it seemed related to the event response of the patient, 18% of the interviewees referred to suffer of some symptoms related to the event still today. Second victims passed through six post-event restoring phases described by Scott even if the order changed from person to person. The interviews showed that nobody obtained a proper and correct support from his/her organization. The second victims did not receive a support outer to their supervisor (or e. to talk to a psychologist). 21 participants (65%) declared that would have needed to receive support, but they did not know how to ask for it and therefore they did not receive any institutional support. 13 participants (40%) referred for help to private psychologist.

Conclusion: In actual healthcare organizations often healthcare workers become second victims and our study showed how the psychological support obtained by them is still poor and inefficient in Italy. Our findings showed also that the post-event recovery pathway theorized by Scott is predictable but not always clearly respected. Therefore we think it is necessary to further study the second-victim phenomenon and make it bring out to try to understand how it can be effectively faced by actual healthcare organizations.
The Characteristics Of Falls In Hospitalized Patients In A Regional General Acute Hospital In Hong Kong

1Nursing Service Division, 2Department of Medicine and Geriatrics, Tuen Mun Hospital, 3Quality and Safety, New Territories West Cluster, Hospital Authority, NT, Hong Kong

Objectives: This study aimed at studying fall rates, the characteristics of falls and risk factors associated to a significant injury outcome in a general acute hospital in Hong Kong.

Methods: A retrospective cross-sectional review on 720 falls incidents between 01/07/2012 and 30/06/2014 in a regional non-teaching acute hospital of 1800 beds in Hong Kong has been conducted. Fallers’ demographics, circumstantial characteristics of falls, and falls outcomes were analysed by the hospital committee designated for falls management. Fall rates across gender, age groups and clinical specialties were compared. Univariate analyses were performed to risk factors for a significant injury outcome.

Results: Among the 720 falls reviewed, 423 (58.8%) were committed by male patients. The mean age was 67.6 year old (Y.O.). The overall fall rate (per 1000 BDO) was 0.62 (95% CI, 0.56 to 0.67). The rates across different age groups were significantly different (p=0.002): patients who were 65-74 Y.O. had the highest rate of 0.82 (95% CI, 0.63 to 1.02), while patients younger than 65 Y.O. had the lowest rate of 0.48 (95% CI, 0.44 to 0.53). Male had higher fall rates than female across all age groups. Only 2.3% of the fallers fell more than once. 62% of all falls occurred at bedside, followed by 15.6% in toilets. Among nursing shifts, 232 (32.2%) falls occurred in A-shift (0700 to 1400), 178 (24.7%) in P-shift (1400-2100), and 310 (43.1%) in N-shift (2100 to 0700). Three peaks were shown at 0200-0300, 0700-0800, 1200-1400 and together contributed to more than one fifth of all falls. Statistically significant trends was observed between female fallers’ age group and some circumstantial characteristics of the falls. Older female tended to fall more at bedside (41.4% among the youngest female patient group vs. 83.3% for the oldest age group); the contrary was observed for falls in toilet. The older the female patients, the less likely they fell in toilet (25.8% of the youngest female group vs. 5.6% in the oldest female group). This may reflect the lower capability of older female to reach the toilet before they sustained a falls. An obvious diurnal pattern was observed for the oldest female fallers: they fell more often in N-shift than in younger female patients (59.3% in the oldest group vs. 32.8% in the youngest group). Male fallers exhibited similar trends but the effect was not as clinically significant as in female. Across different specialties, there were significant differences in age groups of fallers (p=0.024), gender (p<0.001), falls at N-shift (p=0.024), and fall rates (p=0.011). Medicine and geriatrics had the highest rate of 0.92 (95% CI, 0.81 to 1.05), oncology had the lowest rate of 0.49 (95% CI, 0.28 to 0.69). Proportions of male fallers were higher among oncology (>70%) and medical rehabilitation (>80%). More than 60% of falls in oncology occurred at N-shift. 49 (6.8%) of falls led to a significant injury. Age group was the significantly associated with a significant injury outcome (p=0.008).

Conclusion: The observed patterns in circumstantial characteristics of falls in hospitalized patients could be related to factors like patients’ judgment, physical capability and complexity of underlying clinical condition, and the matching between nursing care support with patients’ physical needs. While further study is needed to define the individual contribution and the interaction of these factors within different clinical settings, information derived from this study provides insight for more targeting modification strategies in reengineering daily nursing care aiming at effective falls prevention within hospitals.
Epidemiology Of Medical Errors Among Inpatients In Japan: The Jet Study
T. Morimoto 1,*, Y. Ohta 2, M. Sakuma 3, D. W. Bates 3
1Department of Clinical Epidemiology, 2Division of General Internal Medicine, Hyogo College of Medicine, Nishinomiya, Japan, 3Division of General Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, United States

Objectives: Quality of care is the large concerns among admitted patients. Medical errors (ME) should be prevented or ameliorated, but the knowledge of epidemiology and nature of such MEs was not well investigated in the current medical settings.

Methods: Japan adverse EvenTs (JET) study was a multicenter prospective cohort study which had evaluated MEs and actual injuries and at 2 tertiary care hospitals. The 38 medical and surgical wards were stratified according to hospital and whether they were medical or surgical wards, and study wards were randomly selected. Intensive Care Units (ICUs) were all included. We included all adult patients aged ≥15 years who were admitted to any of the 23 study wards (10 medical; 11 surgical; 2 ICUs) over a 2-month period. The primary outcome of the study was the ME, defined as deviation from appropriate process of care, including medication use; operation, invasive/non-invasive procedure, testing, judgment, rehabilitation, nursing, and administration. We also identified actual harm from the MEs. Trained nurses placed at each participating hospital reviewed all charts daily on weekdays, along with laboratories, incident reports, and prescription queries to collect any potential event. They also collected the characteristics of the patients in the cohort. Independent physician reviewers evaluated all potential events and classified them according to whether they were MEs. We also evaluated their actual injuries, potential severity, and stage.

Results: A total 1130 patients with 19317 patient-days were enrolled during the study period. Mean age was 67 years old, and men consisted 57 %. Wards were internal 33 %; surgical 47 %; and ICUs 20 %. 54 % were admitted emergently. Median length of hospital stay was 8 days ranged from 1 to 374 days and mortality was 6 %.

The collected potential events were 2969. We found 854 MEs in 372 patients (33 % of patients). Among 854 MEs, 479 (56 %) were associated with actual patient harm while the rest were not resulted in the harm but considered potential harm. The incidence of ME was 44 per 1,000 patient-days or 76 per 100 admissions.

Considering multiple causes, most prevalent errors among 854 MEs were nursing with 59 %, followed by 57 % of medication and 17 % of judgment. Surgical and procedure related errors were 5 % and 7 %, respectively. Stages of errors were judgment 26 %, order 20 %, preparation 1 %, administration/procedure 20 %, and monitoring 54 %. 7 % of MEs with actual patient harm was lethal or life-threatening, and 35 % was serious. On the other hand, 3 % of MEs with potential harm but no actual were considered life-threatening, and 18 % were serious. The most responsible healthcare professionals for MEs were 41 % of physician and 56 % of nurses.

Conclusion: We scrutinized the incidence and nature of MEs among hospitalized patients in Japan. Detailed analyses would shed light on the chasm of current practice, and such endeavour should provide the new solutions to decrease the morbidity and mortality.
Quality Improvement In The Education Of Doctors Of Pharmacy In The United States: A Project Update

T. L. Warholak 1,*, J. Cooley 1, A. Hincapie 2
1University of Arizona, Tucson, 2California Northstate, Elk Grove, United States

Objectives: The Accreditation Council for Pharmacy Education (ACPE) in the United States (US) requires pharmacy schools to guarantee that graduates are competent to manage medication use systems; and to promote the availability of effective health and disease prevention services and health policy through the application of Quality Improvement (QI) strategies. ACPE standards, however, do not dictate the content, method of delivery, or minimum number of hours that pharmacy students should be taught. Moreover, the external value-based driven health care environment in which US pharmacists should practice creates wide variation in the content of QI education. This study aimed to analyze the state of QI education in accredited US pharmacy schools.

Methods: This study used mix-methods data collection in two stages. Stage one consisted of an initial inspection of each ACPE-accredited pharmacy school website to reveal the presence of published online QI curriculum or other related content; and to identify QI instructors’ contact information if available. In the second stage, an e-mail questionnaire was sent to one representative of each of the 129 accredited schools in the US who was interested in or who teaches QI at his/her school. School representatives were identified during Stage 1 and combined with a list of pharmacy faculty members of the Pharmacy Quality Alliance (PQA) Education Committee and faculty who have requested a copy a QI program “EPIQ: The Educating Pharmacy Students and Pharmacists to Improve Quality program” from PQA. In the case that multiple persons from the same school were identified as teaching QI, individuals were contacted to determine who had the primary QI teaching responsibility. Respondents had three options for completing the questionnaire: 1) electronic; 2) paper or via phone.

If a school representative felt he/she could not answer all of the questions posed by the researchers (in the event of an integrated QI curriculum or several classes) the researchers allowed that person to conference with the others to complete the questionnaire to ensure completeness. The survey instrument contained both multiple choice and open-ended items. Information collected includes: 1) type of courses (required of elective); 2) content; 3) number of unit hours; 4) requirement of a QI individual or team project; and 5) grading system among others. Descriptive statistics and chi square tests were used to analyze data.

Results: Sixty responses were returned from the 129 accredited schools (47% response rate). Respondents indicated that the least covered QI topics in their curricula were: Quality dashboards and sentinel systems (covered in 30% of respondents’ curricula); Six-sigma, or other QI methodologies (45%); Measures of safety and quality (57% of respondents); Medicare Star measures (a national measurement program) and payment incentives (58%); and How to implement changes to improve quality (60%). More private schools covered Adverse Drug Events than public schools (p=0.039). Requiring a specific QI class was more likely in private schools (p=0.003) while requiring a QI project was more often reported by public schools (p=0.014).

Conclusion: To the investigators’ knowledge, this is the first national study to map the state of QI education in US pharmacy schools. The results of this investigation will help inform pharmacy and other health related professional programs in the integration of QI concepts into their curriculum.
Improving The Quality And Coherence Of Rehabilitation For Cancer Survivors In Denmark Through Inter-Municipal And Cross-Sectorial Co-operation

A. Bech 1,*, I. Kristensen 2, J. Albaek 3

1Unit of Cross-sectoral Cooperation, Development and Research, Herlev University Hospital, 2Healthcare and Social Services, Ballerup Kommune, 3Unit for Cross-sectoral Cooperation, Development and Research, Herlev University Hospital, Copenhagen, Denmark

Objectives: This paper explores how cancer rehabilitation can be organized across sectors and across professions (multidisciplinary) in an administrative health planning area in the Capital Region of Denmark such that the rehabilitation services are targeted appropriately, of uniform high quality and coherent for the people involved.

Methods: A large program, aiming to establish an inter-municipal and cross-sectorial cooperation on cancer rehabilitation between six Danish municipalities and a hospital administered by the Capital Region of Denmark, was initiated in 2013. The six municipalities have a total population of 256,000 residents as of 2012, with around 1,700 residents being diagnosed with cancer every year and just over 11,000 people living with or beyond a cancer diagnosis. The program was originated as a mean to reach the overarching objectives of improving coordination of cancer rehabilitation services among disciplines and across sectors as well as coherence in the rehabilitation trajectory, as stated in the Danish cancer management programme published in 2012. The program is divided into three stages, each of which will be conducted subsequently. The stages are: design and development of the cooperation; implementation of the cooperation; and evaluation and aftercare. A project organization was established to deliver the targets and goals of the program on the basis of regular meetings, seminars and committee work, comprising a strategic steering committee and several multidisciplinary working groups.

Results: This paper reports on the design and development phase of the program. Between April 2014 and February 2015 significant progress was made towards designing the practical form of the inter-municipal cooperation as well as initiating a number of cross-sectorial cooperative activities. Some of the main outcomes were as follows:

- Six principles for cooperation were formulated and approved by the city council in each of the six municipalities.
- A multitude of new multidisciplinary interventions targeting the complex physical, psychological and social rehabilitation needs of cancer survivors were developed.
- A professional standard for each intervention was formulated and approved by managers in each of the municipalities.
- A model for the physical distribution of the cancer rehabilitation services across the municipalities was developed.
- A contact person program was designed and established across the six municipalities to enhance coherence of the rehabilitation process for the individual citizens with cancer.
- Standards and indicators for monitoring the quality and effect of the inter-municipal and cross-sectorial cooperation were formulated according to the Danish Quality Model, including indicators for organization, coordination, professional competencies and multidisciplinary collaboration.
- A formalized structure for coordinating efforts across the hospital and municipalities as well as across the municipalities was formulated, including distribution of responsibilities and tasks, communication between the involved parties and relevant transfer of knowledge.

Conclusion: The implementation stage of the program is scheduled to commence in April 2015 in which increasing attention focuses on actual starting of the cooperative activities. It is expected that the implementation of the cooperative activities will be an efficient and sustainable solution to improve the effectiveness, quality and completeness of cancer rehabilitation services. However, this will be assessed in an evaluation scheduled to be completed in April 2016.
Improving Timely Access To Art Among TB/HIV Co-infected ART Naive Clients: Successes From High TB/HIV-Burden Kampala City, Uganda

C. Namajji 1,2, M. Muhire 1, H. Kisamba 1, E. Karamagi Nkolo 1
1University Research Co., LLC, USAID ASSIST Project, Kampala, Uganda

Objectives: To decrease the time lag between HIV diagnosis and initiation onto ART for TB/HIV positive clients for better TB treatment outcomes.

Methods: USAID Applying Science to Strengthen and Improve Systems Project (USAID ASSIST), collaboratively with TRACK-TB and Ministry of Health National Tuberculosis Leprosy Program (MoH/NTLP) is providing technical support to 16 Kampala Capital City Authority (KCCA) health facilities using a Continuous Quality Improvement (CQI) approach to improve TB care.

A joint partner brainstorming session held in June 2014 revealed that, the leading causes of longer waiting time to ART initiation were:
1. poor linkage between TB and HIV clinics,
2. limited staff knowledge on co-infection management,
3. incomplete and inaccurate client records
4. stringent requirements for the ART initiation, and
5. long intervals between ART preparatory sessions. 4 of the 16 health facilities developed an objective to decrease the time lag between HIV diagnosis and initiation onto ART for TB/HIV positive clients for better TB treatment outcomes.

To achieve this objective, the following steps were taken:

a) Facility leadership was engaged to buy in to improvement work,
b) Partner and health facility staff QI trainings were held
c) Bi-weekly on-site coaching/mentorship visits were conducted whereby facility teams were supported to; (1) identify, analyze, and prioritize possible solutions to longer waiting times and test the best option using PDSA cycle.
d) QI teams held monthly performance data reviews to guide process improvement, check on data quality and follow up on linked clients.
e) Health facilities held monthly coordination meetings whereby progress, challenges and way forward towards improvement were shared.

Results: Between July 2014 and January 2015, facility teams tested the following changes:
1) reviewing ART preparatory sessions to make them more focused and short,
2) introducing short continuous individual client ART adherence sessions,
3) relaxing stringent requirements for a treatment supporter,
4) assigning specific staff to regularly review data, and
5) starting a “one stop centre” where all TB/HIV services for co-infected clients are provided at one of the facilities. With this, the proportion of TB/HIV co-infected ART naïve clients initiated on ART within 8 weeks improved from 64% (SD±21.22) to 90% (SD±5.91) across the four demonstration facilities. Time before initiation onto ART also reduced from an average of 12 weeks (SD±4) to 6 weeks (SD±3). 99% of co-infected clients were initiated on Cotrimoxazole, while 91.5% were sustained on ART.

Conclusion: Employing a collaborative CQI approach can successfully reduce the time lag between HIV diagnosis and initiation on ART for TB/HIV co-infected clients in high burden settings. However this calls for full health facility engagement and partner commitment.
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**Improving Population Health: Comparison Between Complementary & Alternative Medical Care (CAM) And Conventional Medical Care In India**

S. Mohapatra 1, *

1Quality Medical Education, Dammam University, Dammam, Saudi Arabia

**Objectives:** To investigate patient satisfaction with homeopathy medical care as compared to conventional medical care in the primary health care setting, where CAM was integrated and implemented by India's National Rural Health Mission (NRHM).

**Methods:** A cross-sectional survey was conducted during June to August 2014 among the patients utilizing both homeopathy and conventional medical care provided in the community health centers (CHCs) and primary health centers (PHCs) in the Balasore District of Orissa, India. Using stratified sampling the District was divided into central, northern and southern stratum. Two PHCs and two CHCs from each stratum were selected where both homeopathy and conventional medical care provision were available. In total 240 patients from six PHCs and six CHCs were interviewed. Data analysis was performed using SPSS-20. A paired-samples t-test was performed to measure significant differences in the patient satisfaction between two types of medical care. Significant p-value cut-off point was set at < 0.05.

**Results:** Patient participation in this survey was 100%. Gender distributions among patient are 52% male and 48% female. Patient who has used both conventional and homeopathy medical care second time are 47% as compared to 53% patient have used them frequently. Cronbach's alpha coefficient 0.91 for 32 perception and satisfaction scale items indicates the scale items are internally consistent and reliable. While majority of patients revealed positive perceptions of both homeopathy and modern medical care, patient satisfaction with homeopathic care was higher 86% (where 45% fully satisfied and 41% satisfied) as compared to patient satisfaction with conventional medical care 65% (where 35% fully satisfied and 30% satisfied). Paired t-test result shows presence of statistically significant decrease in conventional medical care patient satisfaction score (Mean=3.25, SD=1.25) from homeopathy medical care patient satisfaction score (Mean=4.3, SD=.455), at t (df 239) =11.513, p < 0.0005 (two-tailed). The mean decrease in the patient satisfaction score is 1.05 with a 95% confidence interval. The Eta squared statistic 0.35 indicated "large effect size" according to Cohen's guidelines on effect-size. Patient loyalty for and patient outcome from homeopathic medical care was found higher as compared to conventional medical care.

**Conclusion:** With substantial difference in the patient satisfaction scores and presence of large effect size, patient shows significantly higher satisfaction with homeopathy medical care as compared to conventional medical care at the primary levels (CHC & PHC) of health service delivery. These findings are also highly relevant for NRHM policy advisors and project directors in the context of improving the quality of health service delivery towards achieving population health in India. Considering the above factual findings about high patient satisfaction with homeopathy medical care (a type of CAM), NRHM should implement strategic initiatives to strengthen integration of the CAM provisions at secondary level health service delivery in the District health system.
Incorporating Quality In To The Measurement Of The Hospital Efficiency For Pay-For Performance Diabetes Care: An Application Of The Two-Stage Approach With Double

T. T. Chen 1,2
1Fu Jen Catholic University, New Taipei, Taiwan

Objectives: There is a lack of studies that have investigated the efficiency of the P4P concept, and there are many important issues that must be considered in advance of conducting P4P efficiency profiling, especially with respect to a specific chronic disease (e.g. diabetes). The objective of this study is to build a diabetes P4P (pay-for-performance) efficiency profiling model (integrates with quality) and check to see whether the diabetes P4P program is an efficient one in Taiwan. We also discuss the environmental factors influencing P4P efficiency. Taiwan’s P4P program is a type of voluntary pay-for-participation program. If the patients are enrolled by the physicians, then the physicians are potentially eligible for four kinds of fees per capita: new enrolment fee (US$13), follow-up fees (US$7), yearly evaluation fees (US$27), and physician fees (US$15). The P4P program suggests, for example, that when conducting a yearly evaluation for one patient, this patient could be checked by 11 essential exams, but this is not a mandatory regulation.

Methods: This study’s data come from the National Health Insurance (NHI)’s databases from 2008-2011. Following propensity score matching, the analysis encompasses 137,660 subjects from 600 hospitals in 2009 (a hospital must have treated at least 20 patients): 27,532 are in the experimental group (first enrolled in P4P in 2009) and 110,128 are in the control group. We track those patients into 2010. We apply the Double Bootstrap (DB) method proposed by Simar and Wilson (J Econ, 136: 31-64, 2007) on the two groups by incorporating three negative risk-adjusted outcome measures as environmental factors: hypoglycaemia-related emergency care rate, avoidable diabetes-related admission rate, and non-hypoglycaemia-related emergency care rate. We follow up one year later for each patient after the final index date of the outpatient to check whether he got those adverse events and then aggregate those events into the hospital level to derive the risk-adjusted negative outcome rates for every hospital for the two different years (2009 and 2010).

For each hospital, we use the hospital outpatient costs and the counts of patients assigned to each one of the three severity levels of DCSI (Diabetes Complications Severity Index) scores as two input variables. The output variables are the count of patients who were conducted the 11 essential exams/tests respectively or the average number of 11 essential exams/tests.

Results: This model (average number of essential exams as the output) shows a decrease in marginal absolute inefficiency scores (=1/[TE-0.01], TE: original technical efficiency) by 0.01, while there is an increase of one percentage point of patients who participated in the P4P program for hospitals after controlling the quality of care (P < 0.001). Environmental factors, such as a bonus given to the hospitals, do not improve efficiency (P < 0.001), and a drop in one percent of the negative outcome measure (hypoglycaemia) will incur a decrease in the marginal absolute inefficiency score by 0.1 (P < 0.001). However, the other two negative outcome measures do not produce a decrease in the marginal absolute inefficiency score.

Conclusion: These results show that the bonus from the pay-for-participation program cannot drive efficiency even when a higher participation rate for hospitals will result in slightly higher efficiency. We also prove that an increase in quality scores, especially for the outcome scores, could not totally improve efficiency.