



2nd Conference of International Society for EBHC
6th International Conference for EBHC Teachers and Developers
Evidence, Governance, Performance
Taormina (Italy), 30th October - 2nd November 2013

EBHC International Joint Conference 2013



Abstract Book



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ORAL PRESENTATIONS



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1. MAPPING FROM SORT TO GRADE

Alper Brian, Ehrlich Alan

DynaMed

BACKGROUND Guideline developers are more frequently using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system for classifying quality of evidence and strength of recommendations in guidelines. Guideline developers who use evidence appraisal systems that have used the Strength of Recommendation Taxonomy (SORT) system for classifying quality of evidence have asked for methods and strategies for efficiently converting content to use the GRADE system.

AIMS We will report an efficient protocol for determining the GRADE classification for recommendations and evidence when using source material that has used provided critical appraisal of evidence and used the SORT classification for evidence quality.

METHODS We will identify 200 recommendations that can be made from evidence summarized in DynaMed (a system with explicit criteria for evidence identification, critical appraisal and reporting which uses the SORT classification system), record the time to create GRADE classifications, and record when and why additional evaluation of the original evidence is necessary to create GRADE classifications.

RESULTS The project will occur in the summer of 2013 and results will be shared at the EBHC conference 2013. Initial mapping protocol includes Level 1 evidence mapping to High-quality evidence unless other studies have inconsistent results, Level 2 evidence mapping to Moderate-quality evidence (if highest-validity study type with few apparent limitations) or Low-quality evidence (if lower-validity study type without very large associations) with adjustments based on number of methodologic limitations and magnitude of associations, and Level 3 evidence mapping to Low-quality evidence (if very weak comparative evidence) or Very low-quality evidence (if no comparative evidence).

LIMITS The methodology for SORT and GRADE requires training and expertise in critical appraisal. Mapping from SORT to GRADE can facilitate efforts for guideline developers but does not replace the need for understanding of critical appraisal methodology.

CONCLUSIONS Mapping from SORT to GRADE will further the use of GRADE as a universal common language among clinicians, guideline developers, systematic reviewers, and others involved in evidence reporting and implementation.

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2. INVESTIGATING BELIEFS ABOUT EBP: THE INFLUENCE ON DEVELOPMENT AND IMPLEMENTATION OF INTERDISCIPLINARY RESEARCH AND EBP FELLOWSHIP PROGRAM

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BACKGROUND Research and Evidence-Based Practice (EBP) are important approaches to improve patient outcomes. Barriers include, lack of knowledge and resources and organizational constraints. Evidence-based nursing practice is an important approach to provide the best quality care to patients and their families. Melnyk and Fineout-Overholt (2005) purport that practice based on evidence can help decrease uncertainty commonly experienced by both patients and healthcare professionals in today's complex healthcare system. Further, evidence-based practice improves patient outcomes as compared to traditional practice. Research has shown that patients who receive care based on evidence from well-designed studies experience nearly 30 percent better outcomes (Heater, Becker & Olson, 1988). The EBP movement was founded by British epidemiologist, Archie Cochrane. His extensive work is most evident in the Cochrane Database of Systematic Reviews, published in 1988. The database contains highly structured and systematic reviews on a multitude of priority healthcare topics. It is essential for nurses and other healthcare professionals to be knowledgeable about the rapidly changing health care system and of new evidence-based practices. Further, nurses must be able to translate relevant research findings to their practice to improve patient outcomes. It is important that healthcare organizations recognize the importance of closing the gap between research and care at the bedside, thus implementing evidence-based nursing practice.

AIMS The overarching purpose of this study is to implement a Research and EBP program aimed at developing a culture within nursing where practice is based on research evidence, thus improving patient outcomes. The purpose of this study is 3-fold: 1) To conduct EBP and research education and increase the knowledge of EBP strategies among nurses and other healthcare professionals. 2) To increase the number of EBP and research projects. 3) To improve patient outcomes based on EBP implementation and research conduct. This study was significant in that nurses and other healthcare professionals are in a prime position to develop clinical research expertise to evaluate and implement nursing interventions based on relevant evidence. The grant-funded program provided resources to enable nurses and other interdisciplinary staff to accomplish this goal.

METHODS The design is a descriptive longitudinal one-group pre and post-test design with an intervention. The Iowa Model provided the framework for this study. The sample consisted of 151 Registered Nurses, Ancillary Staff and Managers in an acute care two hospital system. Participants completed an anonymous EBP/Research pre-test survey. Data were collected on Organizational Readiness for System-Wide Integration of EBP; Beliefs about EBP and Implementation of EBP. Descriptive data analysis was conducted using percentages and frequency distributions. Based on the results, an Interdisciplinary EBP/Research Fellowship education program was developed. Ethical approval was obtained through the Research/EBP Council and guidelines of the Office of Human Research Protection.

RESULTS Data analysis revealed that about half (51%) of responses indicated that staff believes that the organization is ready to embark on EBP/Research, while the other half (49%) did not know or were uncertain. The majority of staff (90%) agreed that EBP leads to improved patient outcomes; however, the majority (60%) indicated that no EBP/Research had been conducted within the past 8 weeks. Conclusions indicated that half of the organization's staff is uncertain as to whether the organization is ready to implement EBP/Research. The majority of staff does believe that EBP/Research improves patient outcomes, however, the majority report that they are not implementing EBP. These findings support the need for an interdisciplinary EBP/Research fellowship program.

LIMITS A major limitation is the sample size.

CONCLUSIONS The study supported the need for an interdisciplinary Research/EBP fellowship program to improve patient outcomes in the organization. The 6-month grant funded program included provision of education and mentorship in Research and EBP. Further data will be analyzed by conducting a t-test to determine statistically significant differences between the pre and post tests. Descriptive data will be analyzed using percentages and frequency distributions. The program will be completed April 30, 2013 at which time a post test survey will be administered. The presentation in October will include an overview of the Fellows' projects. The studies in progress include: Education Aimed at Improved Safety Reporting; Implementation of Journal Clubs to Increase Knowledge and Implementation of EBP Among Allied Health Professionals in the Breast Health Research Center; Development and Implementation of Interventions Aimed at Reducing CLABSIs in CVICU; Development and Implementation of New Interventions to Reduce Patient Falls.

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3. DEVELOPING EVIDENCE-BASED CLINICAL PRACTICE GUIDELINES FOR PRIMARY CARE PHYSIOTHERAPY: A REGIONAL INITIATIVE

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BACKGROUND In primary care physiotherapy in Sweden, there is a lack of evidence-based clinical practice guidelines to support clinicians and patients in clinical decision making. A regional initiative to develop and implement evidence-based clinical practice guidelines for PTs in primary care was initiated by a regional health authority.

AIMS To develop evidence-based clinical practice guidelines for physiotherapy treatment of low back pain, neck pain, and subacromial pain, for use in primary care physiotherapy in Sweden.

METHODS The guideline development was performed by a project team of five primary care physiotherapists in a systematic process that was guided by a 7-step guideline development model by Grol et al. We performed systematic database searches, critical appraisal of the evidence base using GRADE, and formulated evidence-based practice recommendations.

RESULTS The guideline format follows recommendations from AGREE II. The guidelines consist of a brief summary on the first page; a brief introduction to the topic with up-to-date information on definition of the condition, prevalence and prognosis; recommendations on patient management according to strength of evidence; a discussion section, and a detailed reference list. Detailed search strategy and search results, summaries of the body of evidence, recommended outcome measures, and patient information were provided in appendices to the guidelines.

LIMITS There was no patient representative in the guideline development group. For 2 of the guidelines, summary of findings was not tabulated, but instead presented in narrative format. GRADE was used to appraise quality of the evidence but not to form recommendations. No monitoring or auditing criteria were presented.

CONCLUSIONS Rigorous guideline development methodology was considered important to get clinicians' attention and approval - a requisite for regular use. Clinicians welcomed the initiative. It is important for clinician acceptance that guidelines are brief, to the point and relevant.

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4. PROVISION OF METHODOLOGICAL KNOWLEDGE FOR THE QUALITY ASSESSMENT OF PRIMARY STUDIES

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BACKGROUND To build up a study population for the application of comparative assessment instruments for the quality of primary studies, 47 master students of the University of Duisburg-Essen were trained in the principles of evidence-based medicine (EbM). Three courses of a total number of five full hours were held in the context of lectures on health economics by the institute of health care management and research.

AIMS At the end of the sessions, the students should be able to critically reflect on the theme study quality and to assess the quality of primary studies autonomously.

METHODS The first session lasted 90 minutes and served for the theoretical provision of essential terms in a traditional teaching approach: internal and external validity, quality parameters like randomisation, concealment blinding, drop-out/loss to follow-up, intention-to-treat (ITT) analysis, hierarchy of study types, PICO-scheme and kinds of bias. In addition, the structure of scientific publications was explained and therein text passages were indicated, where the description or discussion of validity aspects is most likely to be found. After that a practical exercise had to be done during which the participants had to search individually in publications (printed version or as a pdf-file on a computer) for text passages with the quality criteria introduced before. As an aid a slide was shown containing terms for the description of quality criteria like sealed, opaque, envelope, phone for concealment, power, sample size, calculation for sample size calculation and further more. At the end of the session the results and difficulties of the assessments were discussed. The second session with a duration of 120 minutes started with a repetition and consolidation of the knowledge gained. For this purpose the participants were divided into groups of seven to eight and given a single quality parameter. The session leaders then spread strips of paper with key words on it, and the participants had to collect the strips matching to their allocated quality parameter. After a little time for discussion within the groups a kind of poster presentation on a flip-chart followed, during which the key words for a quality aspect had to be explained to the audition by the group members. For a further understanding of the meaning, a simulation of randomisation, blinding, concealment, stratification, drop-out/loss to follow-up and different types of analyses (e.g. ITT) was carried out thereafter. Then a break of 30 minutes was made and the students were offered water and juice, fruit, cakes and biscuits for regeneration and motivation. After the break five selected instruments for the quality assessment (QAI) of primary studies were introduced and the single items of the instruments were discussed. The QAI were component instruments, described by a German Health Technology Assessment of Dreier et al. 2010. The participants then exercised the application of the five assessment instruments with publications of randomised controlled trials (RCT), and the results were discussed thereafter. In the last session of 90 minutes the knowledge of the students was tested by the assessment of further currently published and randomly selected RCT about the most frequent chronic diseases defined by the WHO. Again the five instruments were used, and in addition data of the participants were collected for evaluation.

RESULTS --

LIMITS In general, time was too short. Especially for the first session containing the theoretical provision of essential terms and for the introduction of the assessment instruments as well as for the discussion of difficulties in their application in the third session, more time would have been desirable

CONCLUSIONS An evaluation of the lectures showed a great acceptance and confirmation of the knowledge increase by the EbM-sessions, but students also criticized the time pressure during single courses.

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5. USE OF THE COCHRANE LIBRARY IN TAIWAN: THE TECHNOLOGY ACCEPTANCE MODEL TO EXPLORE ATTITUDES AND BARRIERS OF HEALTH PROFESSIONALS

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BACKGROUND The Cochrane Library is an important online evidence-based resource provided the most up-to-date research finding in systematic reviews. In August, 2012, the Department of Health (DOH) in Taiwan has offered DOH affiliated regional hospitals free access to the Cochrane Library. This study investigated how the health professionals perception toward its utilization.

AIMS To investigate the acceptance of and intention in applying the Cochrane Library in health professionals.

METHODS Based on the Technology Acceptance Model (TAM), a web-based structured questionnaire was designed to identify the factors that affect healthcare professionals' experiences and behavioral intentions on using the Cochrane Library among regional and district hospitals in Taiwan. The relationship between the perceived ease of use, perceived usefulness, attitude toward to using, intention to use were assessed along with external influence factors such as informational richness of the Cochrane Library, professional specialty and experience. Content validity and the reliability of the questionnaire were examined. The survey was conducted from Dec, 2012 to Jan, 2013.

RESULTS A total of 105 participants completed the internet survey. Among them, 71 participants had experiences in using the Cochrane Library. The majority of respondents (86%) are health professionals working in public hospitals. Professional wise, over one-quarter of respondents were nurses (28%), followed by physicians (24%) and pharmacists (23%); other profession alliances accounted for the rest of 25% of the survey respondents. Over 83% of respondents possessed bachelor degree or higher. The results indicated moderated inter-relationship among TAM domains. Both perceived ease of use and usefulness have significant positive effects on attitude toward to using Cochrane database. The perceived usefulness and attitude to use together contribute to the intention to use the Library. Generally, the mean score among all domains of TAM survey were high with range from 3.8 to 4.3. The intention to use and perceived ease to use showed relatively low mean score, which indicates there is more room to improve in intention to use and the ease of use of the Cochrane Library.

LIMITS The study only recruited a limited number of subjects, to increase sample size is needed in future study. For the limitation of anonymous web-based survey, we can only explore few baseline characteristics.

CONCLUSIONS This study identified apparent priorities, such as ease of use for promoting electronic evidence-based resource in clinical setting. Future research should focus on enhancing the usability of the Cochrane Library via effective action strategies.

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6. SENSITIVITY AND SPECIFICITY OF FIVE TRIAL REGISTERS USED BY THE COCHRANE SKIN GROUP

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BACKGROUND Cochrane review authors are required to search trials registers for relevant trials to avoid missing unpublished evidence. The Cochrane Skin Group (CSG) advises review authors to search the metaRegister of controlled trials (mRCT), ClinicalTrials.gov (CT), the World Health Organization International Clinical Trials Registry Platform (ICTRP), the Australian New Zealand Clinical Trials Registry (ANZCTR), and the EU Clinical Trials Register (EUCTR). However, searching multiple trial registers is a tedious task.

AIMS To compare the sensitivity and specificity of the five trial registers used by the CSG in identifying relevant studies.

METHODS The five registers were searched for relevant studies for two Cochrane reviews that the author was involved. The sensitivity of a register was defined as the proportion of relevant trials identified in that register to all relevant trials. The specificity was defined as the proportion of relevant trials identified in a register to all trials identified in the register.

RESULTS For the first Cochrane review, the sensitivity for mRCT, CT, ICTRP, ANZCTR, and EUCTR was 0.57, 0.57, 0.86, 0 and 0.43, respectively. The corresponding specificity was 1.0, 0.8, 0.75, unavailable, and 0.75, respectively. A completed and published trial was mislabelled as 'recruiting' or 'unknown' in the mRCT, CT, and ICTRP. For the second Cochrane review, the sensitivity for mRCT, ClinicalTrials.gov, ICTRP, and ANZCTR was 0.40, 0.56, 0.81, 0.02, and 0.25, respectively. The corresponding specificity was 0.76, 0.79, 1.0, 0.03, and 1.0, respectively.

LIMITS The study result was based on the searching exercise for two CSG reviews.

CONCLUSIONS Overall, the ICTRP was the best, while the ANZCTR was the worst. Apparently, no single trial register encompasses all relevant trials and provide correct information about study status. Authors should keep current strategy of searching all trial registers, and recheck the status information provided by trial registers. There is room for improvement of the sensitivity and the accuracy of trial status information by frequent updating and collaboration between registers.

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7. EFFECTIVENESS OF THE TAILORED EBP TRAINING PROGRAM FOR FILIPINO PHYSIOTHERAPISTS: A RANDOMISED CONTROLLED TRIAL

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BACKGROUND Evidence-based practice (EBP) has been an integral component of health care. Strategies to ensure that health care is underpinned by the best evidence have been established in most developed countries. In developing countries however, EBP is still in its infancy. Furthermore, local contextual and cultural issues further constrain uptake of EBP in developing countries. Thus, a contextualized EBP training program was developed and implemented using the model of complex interventions, amongst physical therapists in a developing country, the Philippines.

AIMS The aim of this study was to evaluate the effectiveness of the EBP training program for Filipino physical therapists in terms of knowledge, skills, attitudes and behavior, which then could provide a tested model of teaching EBP to physical therapists and other health professionals in the Philippines.

METHODS A randomized controlled trial was designed to assess the effectiveness of the EBP training program. Fifty four physical therapists were included in the study and randomly allocated to the EBP training group and the control group. The EBP training group received the one day face to face training using theoretical, practical and locally relevant principles and strategies whilst the control group was waitlisted for the training. The EBP training program took the form of a complex intervention, composed of 'core/fixed' components (steps to EBP) and 'variable' components (online support and EBP checklist for recommending evidence based treatment to referring doctors and other health professionals). The online support and the EBP checklist were provided as active interventions of the EBP training group during the three month period of observation. Outcome measures used to evaluate the effectiveness of the program were: (1) the Adapted Fresno test for knowledge and skills in EBP, (2) Attitudes scale by Stevenson and colleagues for attitudes to EBP, and (3) Activity diaries based on usual and unique cases faced by the physical therapists requiring evidence based treatment were logged in the diaries for measures of behavior to EBP. Knowledge, skills and attitudes to EBP were assessed prior to the EBP training and immediately after the one day training. Knowledge, skills, attitudes and behavior to EBP were assessed after three months of active support and observation. Data analysis was by intention to treat.

RESULTS There were fifty four physical therapists included in the study. No statistical difference was obtained from the pre-training knowledge and skills scores between groups but there were slightly statistically significant difference in age. Knowledge, skills and attitudes to EBP (in terms of literature searching and critical appraisal) significantly improved in the EBP group and sustained over a period of three months (p

LIMITS This study was limited to only physical therapists and only for a period of three months due to funding and time constraints. Further studies are now being conducted by the primary researcher extending the EBP training program to other health professionals and for potentially longer time frames.

CONCLUSIONS This training program took the form of a complex intervention, by providing core and context-specific EBP training for Filipino physical therapists and capturing quantitative outcome data. It was shown to be an effective and acceptable model of implementing EBP and as a continuing education in improving all EBP domains of knowledge, skills, attitudes and behaviour in the short term period.

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8. USING ECONOMIC MODELLING TO INFORM EVIDENCE-BASED RECOMMENDATIONS IN THE NICE CLINICAL GUIDELINES

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BACKGROUND The National Clinical Guideline Centre (NCGC) is a leading centre in the UK for the development of evidence-based clinical practice guidelines. Economic analyses, including original models, are developed to inform guideline recommendations and are required by NICE in order to use NHS resources efficiently. Economic models are based on the systematic reviews of the clinical evidence conducted for the same guideline and are developed according to methodological criteria, known as the NICE reference case.

AIMS To describe, using examples from the Venous Thromboembolism (VTE) NICE Guideline and from the Glaucoma NICE Guideline, how economic models not only ensure that good value-for-money interventions are implemented but they also provide useful information for identifying the right treatment for the right patient.

METHODS A model was built for the VTE NICE Guideline to assess the cost-effectiveness of long-term treatment with vitamin K antagonist (VKA) in patients after a VTE. A subgroup analysis was performed to identify if having an initial pulmonary embolism (PE) or a deep vein thrombosis (DVT) made any difference in the results. Sensitivity analyses were conducted whereby the baseline risk of VTE recurrence and the baseline risk of major bleeding were varied simultaneously. A model was built for the Glaucoma NICE Guideline to identify the most cost-effective treatment strategy (no treatment, beta-blockers, or prostaglandin analogues) for people with ocular hypertension (OHT). The risk of developing glaucoma was incorporated as dependent from the main risk factors identified from a systematic review. In a series of sensitivity analyses we varied all those factors simultaneously to come up with the most cost-effective treatment strategy for patients with different combinations of risk factors.

RESULTS The VTE model showed that VKA treatment beyond the first three months is not cost-effective in patients with DVT (83,310/QALY gained) while it is cost-effective in patients with PE (9,981/QALY gained). However, results were sensitive to the baseline incidence of VTE recurrence and major bleeding. After a DVT, long-term treatment is cost-effective only if the risk of recurrence is elevated and the risk of major bleeding is not particularly elevated – a two-variable table was created to indicate the cost-effective strategy for each combination of the two risks. In patients with PE, long-term treatment is always cost-effective unless the risk of major bleeding is elevated. However, when the risk of VTE recurrences is twice the baseline, long-term treatment is cost-effective even if the risk of major bleeding is three times the baseline value. In the Glaucoma Guideline, three risk factors for the development of glaucoma were identified: age, intra-ocular pressure (IOP) and central corneal thickness (CCT). The model showed that the cost-effectiveness of treating OHT is strongly interconnected with the patient's risk factors. When the model was run using average data, treatment with beta-blockers was the most cost-effective strategy. However, when patients were categorised into risk groups on the basis of the possible combinations of risk factors, PGA and no treatment were cost-effective for subgroups of patients. The results of the sensitivity analyses were used to develop important recommendations for treating patients after a VTE and patients with OHT. The clinical reviews conducted for these guidelines were important for the development of the models but they alone would have never been able to inform detailed recommendations on patient treatment. Both recommendations coming from the two models were selected as key priorities for implementation and the models helped the guideline development group to be confident that changes in practice would improve outcomes for patients at a reasonable cost to the health service.

LIMITS Economic models are useful tools for identifying the most appropriate intervention for subgroups of patients. However, models are sometimes based on limited clinical evidence (e.g. parameters obtained from a meta-analysis of only a few trials, or from a slightly different population) and often rely on educated assumptions. Furthermore, identifying subgroups based on the risk is not useful if there is no tool to quantify the risk or to assess the risk factors.

CONCLUSIONS Economic models developed at the NCGC have proved to be valuable to allocate NHS resources efficiently by allowing targeted treatments to patients who are most likely to benefit from them. Benefits and harms of interventions are all combined in economic analyses together with costs and therefore these analyses are able to summarise a variety of data to give precise answers to clinicians' concerns about the balance between patient safety and benefit but also on costs.

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9. SUICIDE PREVENTION IN GENERAL PRACTICE 2013: WHAT KNOWLEDGE AND SKILLS DO NEED THE HEALTH PROFESSIONALS?

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BACKGROUND The CSO reports that there were 486 suicides registered in 2010 or 10.9 per 100,000 of the population¹. The opportunity for GPs to intervene may be limited, however as often the first point of contact the health and social services, there is an opportunity here for early diagnosis, prevention and treatment². One of the actions in the Reach Out strategy² was to "Agree, plan and deliver a programme of education and training on suicide prevention for all relevant members of primary care teams including GP trainees and community pharmacists in conjunction with the ICGP"• and while a programme was developed, the experience is that a two-day programme is not suitable and hence attendance by GPs is low. The key aim of this work is to adapt and advise on the content and delivery of the STORM-adapted two-hour course proposed by the National Suicide Office.

AIMS To conduct an educational needs assessment with regard to Irish GPs and other primary care service providers in respect of dealing with patients who present with suicidal ideation and deliberate self harm. This needs assessment will inform the training content and delivery of an ICGP course in conjunction with the regional HSE resource officers for suicide prevention.

METHODS Methodology Firstly a brainstorming group-decision discussion was held with representatives from relevant stakeholder groups in order to prioritise key course content and delivery items for inclusion in the questionnaire and using appreciative enquiry to identify how to build and improve on what already exists. This discussion group included at least one representative from each of the following stakeholder groups: general practitioners, practice nurses, patients, allied health professionals, psychiatrists, suicide resource officers, in addition to the ICGP Director of Research, ICGP Director of Mental Health Service, the ICGP Director of Education, the ICGP Head of Quality and Standards and a GP Trainee. Throughout the process three stakeholder advisory group meetings were held. Educational Needs Assessment on Suicide and Deliberate Self-Harm to Shape a Course in Primary Care. Based on the findings from the above and from the literature, a questionnaire (included in Appendix 1) for use in the first round of a two-round Delphi process was developed and was administered via an online facility. The Delphi process is a commonly used group decisionmaking technique that uses a series of structured questionnaires to explore the level of consensus among a group or panel of individuals.⁽¹⁵⁾ The questionnaire link was sent to available member email lists of the following: ICGP, Irish Practice Nurses Association, the Suicide or Survive patient organisation and members of the allied health professionals known to the advisory group. The aim was to attain 50 GPs respondents, 20 practice nurses, 30 allied health professionals and 20 service users/members of the general public. The service user/general public group were offered the option of completing a paper based form (of which four were received) and of obtaining assistance to complete the form (of which none availed). Two reminders were sent. All survey replies were anonymous. However, respondents were optionally asked to complete a separate form (online) or postcard (postal) with their name and contact details in order to participate in the second round of the Delphi process. Krueger's framework analysis approach was used to analyse the data from the discussion group.⁽¹⁶⁾ This thematic approach allows for themes to develop both from the research questions and the participants' narrative. The survey data was analysed using PASW (Version 18) using univariate and bi-variate analysis as appropriate. Ethical approval for the study was obtained from the ICGP Research Ethics Committee.

RESULTS A total of 117 questionnaires were returned – 54 GPs, 32 PNs, 12 allied health professionals (AHPs) and 15 service users/general public (three respondents did not specify a grouping). The gender of respondents was 73% female. Two thirds of all respondents were aged between 30 and 49 years. Overall 73% of the professional respondents had over five years experience in active practice with 26% having less than five years experience. Over half (57.6%) had a patient in their practice who ended their life by suicide and a majority of these (59.6%) felt this impacted on their practice and 25.5% felt that the suicide impacted on their Educational Needs Assessment on Suicide and Deliberate Self-Harm to Shape a Course in Primary Care relationship with the deceased's relatives. Table 1 highlights that practice nurses were more likely to feel that the suicide had impacted on the practice and GPs were more likely to report that it impacted on the relationship with the family but these differences were not statistically significant.

LIMITS N/A

CONCLUSIONS We have developed a eLearning programme and DVD for use by GPs and Practice staff.

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10. KNOWLEDGE TRANSFER AND ACCESSIBILITY: EQUITY FOR HEALTH PROFESSIONALS IN ETHIOPIA

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BACKGROUND In response to the Ethiopian Government's aim to train 5,000 specialist MDs and PhDs and 10,000 Masters graduates by 2018, the Toronto Addis Ababa Academic Collaboration (TAAAC) (taaac.com) was established to co-build capacity and sustainability in graduate programming at Addis Ababa University (AAU). In 2008 the TAAAC Library Science Program was established to support this training, with the first team of librarians travelling to Addis Ababa University in 2011 and the second team in 2012.

AIMS Enhancing Library Sciences at AAU's College of Health Sciences is essential to successfully support the expansion of graduate programming. The program for clinical medical librarians will build capacity in library literacy skills, including the accessing of up-to-date information, with foundational knowledge and appraising the evolving literature in evidence-based medicine (EBM) and critical thinking skills to support medical faculty and trainees. The Library Science Project has two objectives, the main one being a train-the-trainer program for clinical medical librarians to increase library literacy skills which can then be used to assist medical students and clinicians. The team also gives instruction directly to clinical residents, including the accessing of resources from the University of Toronto libraries.

METHODS Workshops are designed based on needs outlined by the Chief Medical Librarian at AAU. These consist of lectures and hands-on practice with online resources such as the World Health Organisation's HINARI, and databases such as PubMed, CINAHL, UpToDate, DynaMed, etc., as well as online books and journals. The 2012 program added sessions on customer service, marketing, and leadership for librarians. For the 2011 program, training manuals containing examples of EBM clinical queries were created by University of Toronto and Toronto hospital librarians for use by AAU librarians. Librarians and clinical residents are able to create accounts in the Ptolemy Project, which allows access to the resources from the University of Toronto. The residents are given lecture/demo sessions on the use of those resources. A two-day hands-on session on web design is also offered.

RESULTS The 2011 program had over 140 participants, including 16 librarians and 12 clinical residents. A survey three months later indicated that the 16 librarians had trained a further 140 new learners. The 2012 program reached over 250 participants, including 166 clinical residents from general surgery, orthopaedic surgery, physiology, emergency medicine, psychiatry, and radiology.

LIMITS Internet access was not available in every classroom where sessions were held, which resulted in lectures/PowerPoint demos only, rather than hands-on. The team is in Addis for only two weeks, which meant that they were unable to accommodate all requests from residents for training in 2012.

CONCLUSIONS The training sessions reinforce and sustain medical library skills for AAU librarians. The train-the-trainer aspect results in further outreach by the AAU librarians. Use of the Ptolemy Project by clinical residents and physicians has increased.

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11. ADVANCING EVIDENCE-BASED RESIDENCY TRAINING

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BACKGROUND Many clinicians have difficulty incorporating evidence-based medical (EBM) knowledge and advances into clinical practice. Some have provided optimistic lags of three to five years from publication to widespread changes in practices. Yet three major examples of hard evidence suggest a substantially worse, worrisome situation (1). First, use of beta-blockers after myocardial infarctions were reportedly only 62% fifteen years after the finding of efficacy (2). Second, measuring and intervening regarding cholesterol levels after myocardial infarction was similarly dismal 15 years after numerous studies were published (3). Third, aspirin use after myocardial infarction was approximately one-third approximately 13 years after publication of a major trial documented efficacy (4). Thus, incorporating EBM principles and procedures throughout residency training may be important to potentially accelerate this timeline as well as advancing quality clinical care. The Accreditation Council for Graduate Medical Education's (ACGME's) Milestones' project is designed to improve residency training, in part through tracking progress (5).

AIMS To address the ACGME's Milestones project with greater specificity regarding EBM through the development of specific tools. This includes the pilot testing of these assessment tools.

METHODS The primary EBM knowledge base used for this project was the American College of Occupational and Environmental Medicine's (ACOEM's) Evidence-based Practice Guidelines that include over 2,500 systematic reviews (6). The most widely read text on commercial driver medical examinations was the second source (7). Faculty knowledge and experiences from one of the USA's largest Occupational Medicine Residency Programs were also utilized. Faculty developed a series of checklists for guiding, assessing and supervising residents that include the ACGME's Milestones project's goals to evaluate and assess the implementation of evidence-based criteria into Occupational Medicine residency training. Residency faculty developed five checklists to pilot these methods.

RESULTS Five Milestones checklists have thus far been developed to address some of the most common occupational medicine problems. These include: 1) lateral epicondylalgia, 2) low back pain, 3) shoulder tendinosis, 4) firefighter annual examination protocols, and 5) commercial driver medical examinations. Domains detailed include: 1) medical knowledge specific to these diagnoses and/or evaluations, 2) physical examination, 3) diagnoses and differential diagnoses, 4) data synthesis, 5) selection of the highest quality evidence, and 6) counseling. These domains are in addition to domains addressing interpersonal/communication skills, professional conduct, and oral presentation skills. Pilot testing results have found residents showed improvements in evaluation, assessment and optimization of treatment selections for these common conditions.

LIMITS Other residency programs, medical school curricula and allied health professionals may have to modify these tools. It is possibly they are not precisely applicable in other residency training programs in other countries due to differences in training and clinical programs.

CONCLUSIONS A checklist targeting specific Milestones has proven successful in further incorporating EBM into residency training. The value added by these methods includes the attention to, and tracking of the critical elements of evaluation, diagnosis and evidence-based treatment of common occupational health conditions. These methods may be applicable for other training programs. 1. Lenfant, C. *New Engl J Med* 2003; 349:868. 2. The state of managed care quality. Washington, D.C.: National Committee for Quality Assurance, 1997. 3. The state of managed care quality. Washington, D.C.: National Committee for Quality Assurance, 1999. 4. Stafford RS. The underutilization of cardiac medications of proven benefit, 1990 to 2002. *J Am Coll Cardiol* 2003;41:56-61 5. Nasca TJ. The next GME Accreditation System-Rationale and Benefits. *N Engl J Med* 2012;366:1051-1056. 6. American College of Occupational and Environmental Medicine's Evidence-based Practice Guidelines. Hegmann KT (Ed). ACOEM:Arlington Heights, IL 2011. 7. The DOT Medical Examination. A Guide to Commercial Drivers' Medical Certification, 5th Ed. Hartenbaum, NP (Ed.). OEM Press: Beverly Farms, Massachusetts, 2010.

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12. THE EFFECTIVENESS OF A SELF-LEARNING MANUAL OF CONTINUOUS RENAL REPLACEMENT THERAPY ON CRITICAL CARE NURSES

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BACKGROUND Many nurses are having difficulty learning to use the complex, untraditional, and constantly-updated critical care equipments designed to save lives, a fact which can seriously compromise treatment. This situation calls for the development of new self-learning materials for novice nurses in need of advice and guidance as they try to tackle clinical issues during training. Such materials, if developed properly, can contribute to the making of capable critical care nurses and thereby improving the quality of critical care in general.

AIMS The purpose of this research was to develop the continuous renal replacement therapy(CRRT)-themed self-learning manual which is designed as an easy-to-carry self-learning manual applied to ICU nursing staff. The learning effectiveness of CRRT knowledge and technique will also be investigated in the study.

METHODS Designed as a quasi-experimental study with pretests and posttests, this study opted for purposive sampling which eventually produced a sample of 66 critical care nurses currently working at a certain hospital in Taipei City. Thirty-four nurse in the experimental group accepted 2 weeks CRRT self-learning manual. Thirty-two nurses in the control group did not. The cohorts in both groups adopted before and after introducing intervention manual. Data was analyzed by SPSS17.0 software package with deductive statistics, frequency distribution, percentage, mean value, standard deviation, t-test and paried t-test.

RESULTS Four major findings derived from the study: (1) The mean score of responses received from the test of knowledge taken after the intervention is 12.12 (standard deviation = 1.55) for the experimental group and 8.0 (standard deviation = 1.92) for the control group respectively, showing a significant difference. (2) The experimental group's mean posttest score after the intervention is 12.12 ± 1.55 , a significant increase by 4.03 ± 2.24 compared to the group's mean pretest score of 8.09 ± 1.73 . (3) The mean score of responses received from the test of technique taken after the intervention is 91.06 (standard deviation = 9.49) for the experimental group and 79.75 (standard deviation = 11.65) for the control group respectively, showing a significant difference. (4) The experimental group's mean posttest score after the intervention is 91.06 ± 9.49 , a significant increase by 10.35 ± 10.35 compared to the group's mean pretest score of 80.71 ± 11.82 . The experimental group further showed significant differences in CRRT self-assessment survey posttest.

LIMITS The duration of the self learning program was only 2 weeks, and a longer educational period might have enabled greater improvements in compliance with the quality indicators

CONCLUSIONS In the future, the strategy of self-learning manual could be applied to continous education for intensive care unit nursing staffs extensively to increase the learning effectiveness as well as to improve the quality of nursing care.

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13. CHANGES IN KNOWLEDGE AND CONFIDENCE OF POTENTIAL CLINICAL PRACTICE GUIDELINE DEVELOPERS IN PHYSICAL THERAPY

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BACKGROUND Clinical practice guidelines (CPGs) are developed by teams or working groups to address a particular clinical question or topic. Training manuals and articles are available to assist evidence based document developers in writing CPGs, but these manuals lack sufficient detail on strategies to execute each activity (Turner, 2008). The American Physical Therapy Association (APTA) has made the development of physical therapy (PT) evidence based documents, and specifically CPGs, part of their strategic plan. As part of this plan, an introductory interactive training workshop was held for potential guideline developers (GDs) on the structure and development of CPGs. In preparation for the workshop, no literature was found that reported on the short and long-term impact of training teams to write CPGs.

AIMS This study sought to measure short-term changes in a cohort of PTs who attended the interactive training workshop on their 1) knowledge about CPG development and 2) confidence to execute CPG development activities. Long-term follow-up is currently underway.

METHODS Teams of 2-3 PTs were invited to an expense paid training workshop on writing CPGs. Teams were required to have a potential topic, preferably focused as an answerable question, and the approval from a clinical specialty section within the APTA. Reading materials were sent in advance of the course. The comprehensive interactive 2.5-day workshop focused on the steps of development and practical strategies for executing each step. Short content presentations alternated with time for each team to complete sequential sections of an electronic workbook, resulting in a blueprint for post-workshop tasks. A Likert scale survey was developed to determine participants' knowledge of 26 CPG structures and processes before and after the workshop. Participants gave permission for anonymous use of the data for educational purposes.

RESULTS Twenty-nine PTs participated as members of 12 potential guideline teams. Likert scores were summed per individual to create an overall knowledge score and overall confidence score; lower scores indicate greater knowledge and confidence. The dependent t-test of pretest knowledge (M=74.21, SD=17.05) and post test knowledge (M=51.38, S.D.=11.39) demonstrates significant improvement ($t(28) = 9.980, p$

LIMITS This study used a small sample of convenience and a survey that had content validity, but no other psychometric property testing. The results only reflect short-term changes in knowledge and confidence of a highly motivated group; these changes may not necessarily translate to the ability to organize and complete the intended CPG.

CONCLUSIONS An interactive workshop appears to be an efficient method of clarifying the breadth and depth of the processes necessary for writing CPGs, as well as improving confidence in experienced clinicians who volunteer to undertake the process. Long-term follow-up is needed to determine the number of teams that successfully complete an evidence based CPG based on the training.

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14. A CLINICALLY INTEGRATED POST-GRADUATE TRAINING PROGRAMME IN EBM FOR IMPROVING DISABILITY EVALUATIONS: A CLUSTER RANDOMISED CLINICAL TRIAL AND A QUALITATIVE EVALUATION

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BACKGROUND Several studies have shown that teaching EBM is effective in improving knowledge. At present however, there is no convincing evidence that teaching EBM also changes professional behaviour in practice.

AIMS The primary aim of our study was to evaluate the effectiveness of a clinically integrated post-graduate training programme in EBM on evidence-based disability evaluation. Alongside this RCT we also did a qualitative evaluation into visions, experiences and beliefs of insurance physicians towards the (continued) use of their acquired EBM skills in clinical practice.

METHODS : In a cluster randomised controlled trial, fifty-four case-based learning groups consisting of 132 physicians and 1680 patients were randomly assigned to the intervention or control groups. A clinically integrated, post-graduate, 5-day training programme in evidence-based medicine, consisting of (home) assignments, peer teaching, interactive training in searching databases, lectures and brainstorming sessions was provided to the intervention group. The control group received no training. The primary outcome was evidence-based disability evaluation, as indicated by the frequency in use of evidence of sufficient quality in disability evaluation reports. There are no general EBM behaviour outcome measures available. Therefore, we followed general guidelines for constructing performance indicators and defined an a priori cut-off for determination of sufficient quality as recommended for evaluating EB training. Focus group like methodology was used to discuss the physicians perspectives and experiences regarding EBM. Nine groups consisted of on average five participants. Two questions were used for the group discussions: "How do I wish to see myself as an 'EBM applying' physician after 6 months?"• and "What do I need to accomplish this?"•. In advance the physicians had prepared themselves by writing a personal action plan at home, which served as a starting point for the group discussion.

RESULTS Physicians trained in EBM performed more evidence-based disability evaluations compared to physicians in the control group (difference in absolute proportion 9.7%, 95% CI 3.5 to 15.9). The primary outcome differences between groups remained significant after both cluster-adjusted analysis and additional sensitivity analyses accounting for subjects lost to follow-up.

LIMITS the participating physicians were probably the more enthusiastic colleagues for using EBM (pioneers). Therefore the generalization of this results to all (insurance) physicians working for the Dutch National Institute of Benefit Schemes, should be taken with caution. However we did include 1 out of 7 (insurance) physicians working for this institute, which is considerable enough to assume that not everyone was a pioneer in advance. Another limitation of our study is that no validated relevant general outcome measures were available; thus, our primary outcome had to be constructed for this study. However, we followed general guidelines for constructing performance indicators and defined an a priori cut-off for determination of sufficient quality as recommended by Shaneyfelt for evaluating EB training Therefore, we believe that the outcome is a valid and relevant indicator of physicians' behaviour in using evidence for disability evaluations. As a limitation we could further add that we are not able to differentiate which educational element was effective in effectuating the improved use of evidence in the disability reports.

CONCLUSIONS A EBM programme successfully improved the use of evidence in a non-hospital based medical specialty. Our findings support the general recommendations to use multiple educational methods to change physician behaviour. In addition, it appeared important that the professional context of the intervention was very supportive in the sense that searches in databases, using and applying guidelines and other forms of evidence are considered standard practice and are encouraged by colleagues and management. Visions, experiences and beliefs of insurance physicians towards the (continued) use of their acquired EBM skills in clinical practice are under research right now and will (also) be presented at the conference.

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15. PINET - PERSONALIZED INTEGRATED EBM TEACHING FOR TRAINEES IN GENERAL PRACTICE: A RANDOMIZED CONTROLLED TRIAL

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BACKGROUND Evidence-based medicine (EBM) is defined as the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. In the Netherlands, general practice trainees get multiple courses on EBM. This has not yet been optimally integrated in clinical practice, while evidence shows that an integrated training on EBM in clinical practice achieves better results.

AIMS To compare a standalone course on EBM to an integrated EBM-training.

METHODS In a prospective, cluster-randomised trial third-year general practice trainees from Utrecht University will receive either a standalone course on EBM or an integrated EBM-training. They will be followed until one year after graduation.

RESULTS Primary outcome will be EBM-behaviour. This will be measured by using a log and comparing the frequency of applying EBM by trainees. Secondary outcomes will be EBM-knowledge, -skills, and -attitude and will be measured using questionnaires. Participants will be asked to fill out these questionnaires three times. Every outcome will be analysed on an intention-to-treat basis.

LIMITS The increased focus on EBM education in vocational training and practice is a challenge for trainees, teachers and supervisors. Hence we have monitored to what extent the programme has been implemented, but differences are to be expected. Besides, as filling out the log and questionnaires is quite time consuming, we might expect some underreporting and loss to follow up.

CONCLUSIONS We expect integrated EBM-training to result in better results on knowledge, skills and attitude, but above all we expect it to have better results on behaviour. We expect this intervention to lead to more evidence-based (clinical) practice and thus to patient care that is better supported by scientific evidence.

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16. ESSENCIAL: ADDING VALUE TO HEALTHCARE THROUGH DISCONTINUATION OF LOW-VALUE PRACTICES

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BACKGROUND Discontinuation and disinvestment from ineffective, unsafe or inappropriately used clinical practices is a growing priority in healthcare systems worldwide for reasons of ethical imperatives, improved quality of care and sustainability of resource allocation. In Catalonia, ESSENCIAL Project was launched in March 2013 and is being implemented as a policy-based initiative which promotes and supports these processes. It has the support of the regional Department of Health and the Scientific Societies.

AIMS 1) To identify low-value practices in healthcare and to promote their discontinuation through the implementation of specific recommendations for the clinical practice. 2) To encourage healthcare professionals' involvement in the identification and in the process of change management within the system. 3) To foster general culture of overuse-, misuse- and waste-avoidance in healthcare, and to enhance patient understanding and knowledge of these processes.

METHODS The process is explicit and transparent, comprising 4 phases: a) Identification of low-value practices using a range of information sources: from scientific evidence (clinical practice guidelines, technology assessment reports and publications) to nominations from clinical and non-clinical stakeholder groups knowledgeable of the context and the local health system performance. b) Prioritization based on pre-established criteria and elaboration of recommendations. c) Active dissemination to key stakeholders (web, promotional videos, meetings and communications, social media) and implementation activities (training, decision support systems, provider-specific performance measures). d) Impact evaluation in terms of processes and outcomes via quantitative and qualitative methodologies. Involves three main areas: degree of knowledge of the recommendations among the target health professionals; direct impact on clinical practice, measured by the change in use rates of practices recommended as of "low-value"•; budgetary impact attributable to the integration of the recommendations.

RESULTS By now, 9 recommendations have been elaborated and disseminated: 5 on diagnosis (imaging), 2 on treatment (pharmacological), 1 on screening (breast cancer) and 1 on rehabilitation (post-ictus), with approximate savings potential of 15M euro (data partially available). Specific multichannel communication programs are ongoing and strategy for impact analysis is under definition.

LIMITS Such type of initiatives need to provide timely information, but are very time and resource consuming. On the other hand, the implementation process may be conditioned by a range of context-related (current payment system, professional incentives, etc) and professional-related (culture and mindset, predisposition towards change) factors which, not always are identified at the initial stages as barriers to recommendation uptake.

CONCLUSIONS Clear priorities, detailed planning and early involvement of target professionals are key to continuity and success of such type of initiatives. Multiple sources for identification of low-value practices and good knowledge of the context are needed to ensure the relevance of promoted recommendations. Total discontinuation is rarely recommended and an accurate definition of the conditions in which the practice is considered as 'low-value'• needs to be elaborated. The success of the implementation could be improved by a priori investigation of the potential barriers and facilitators and by a broad stakeholder commitment for collaboration.

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17. FREEDOM - FRONT-LINE EQUITABLE EVIDENCE-BASED DECISION MAKING IN MEDICINE: TRIAL PROTOCOL

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BACKGROUND Clinicians rarely use or access evidence from research. Barriers cited from a 2003 study in Melaka include lack of time and internet access. Instead, doctors used information sources such as family medicine specialists, clinical practice guidelines and textbooks. Only 7% of doctors reported doing a Medline search to solve a clinical problem. Another survey in 2005 showed that 15% of Malaysian clinicians had no access to a computer at the workplace and another 30% had access but without internet connection. Frequently used resources for health information found in that study were text books (54%), colleagues (32%), journals (24%) and resources from pharmaceutical companies (5%). Only half of those surveyed from Malaysia had heard of EBM.

AIMS To present a study protocol on the effectiveness of an electronic delivery system providing evidence based answers to clinical questions to improve the quality of health care in urban and rural clinics.

METHODS First phase: This will be a mixed methods study using interviews and other qualitative research methods as well as a quantitative survey to explore the barriers, facilitators and needs of health care practitioners, patients and other stakeholders when practising EBM. Second phase: Information from the first phase will be used to develop an eHealth tool called FrEEDoM. FrEEDoM is conceptualised as an electronic EBM support system that will connect health care practitioners with researchers with the aim of providing appraised evidence to questions that arise in practice in the clinics within 72 hours. Third phase: FrEEDoM will be assessed by two ways: a before/after study and a controlled trial conducted at clinics in Peninsular Malaysia. Outcomes to be measured in both studies will include: o Changes in management decisions made before and after the search o Number of questions answered satisfactorily according to the participant o Generation of clinical questions and access to information o Knowledge and implementation of EBM o Audit to determine practice changes in prescriptions and investigations

RESULTS We have identified clinics in two rural districts in Malaysia namely, Bentong and Maran. Recruitment is underway with data collection starting in March. Data analysis for the first phase is expected to be complete by October 2013.

LIMITS NA

CONCLUSIONS The main expected outcome is the development of an effective and sustainable evidence based information delivery tool that will assist and support decision making in primary care.

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18. HOME MODIFICATIONS AND MOBILITY DEVICE USE: EVIDENCE-BASED STRATEGIES AND LONG-TERM IMPLEMENTATION IN MUNICIPALITY PRACTICE

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BACKGROUND In Sweden, based on needs assessments by occupational therapists, the full costs for home modifications (defined as the removal of physical environmental barriers in the home) can be granted after application to the municipality. There are major differences among clients receiving home modifications in terms of age, functional capacity and use of mobility devices, standards of living, as well as types of modifications made. Previous research has confirmed that home modifications to a large extent are undertaken without structured assessments based on well-validated methodology and without careful needs assessment and client goal setting. Follow-ups are rarely conducted and communication barriers among those involved in the modification quite often affects the client negatively in terms of unnecessary delays. Based on the model for development and evaluation of complex interventions by the Medical Research Council (MRC) as well as on theory and current research evidence, a case management strategy for home modifications and mobility devices was therefore developed and is currently implemented and evaluated.

AIMS To present the design of an evidence-based case management strategy for interventions targeting home modifications and mobility devices, and evaluations targeting structures, processes and outcomes. An additional aim is to present the first baseline client level results from an ongoing controlled trial in two municipalities.

METHODS In the trial municipality, after a structured education and training program the occupational therapists follow the case management strategy, and collect all data. In the control municipality, ordinary practice remains unaffected and all data are collected by an external occupational therapist. In all, 170 occupational therapy clients above age 20 years, receiving home modifications grants are included in each municipality. In-depth interviews will be conducted with a stratified sample of clients (n=10) and their relatives in each municipality. The evaluation targets structures, processes and outcomes. The strategy comprises structured assessments of the client and the housing at certain times pre and post modification, including fixed times for follow-up home visits (prior to home modification and 3, 6, 12, 24 and 36 months thereafter). Client level outcomes include activity (ADL Staircase), self-reported difficulty in activities of daily life, usability of the home (Usability in My Home instrument), social participation, prevalence and locations of falls as well as fear of falling, functional limitations and use of mobility devices. Client goal achievement is an important aspect of evidence-based practice and is carefully included. Structural level outcomes encompass cost- effectiveness and cost-utility analyses, based on costs for technical devices, salaries for different staff, and travels, as well as repeated home modifications and other interventions conducted in parallel. A thorough process evaluation is conducted using staff diaries, documents related to each case, and reported deviations from the study protocol. In-depth case study analyses combining qualitative and quantitative data will be used to further inform the research process and to support interpretation of the results. From previous research we know that being involved in research project contributes to scientific awareness and both preparedness and motivation to change practice. Professional practice development among the occupational therapists in the trial municipality is therefore investigated by means of individual diaries, focus group interviews, case workshops and document analyses.

RESULTS Following the MRC model, we will report on the theoretical basis, development, design and feasibility testing of the intervention strategy outlined above, together with first baseline results on client level outcomes and findings from in-depth interviews with clients and relatives.

LIMITS This project is limited to a Swedish population receiving interventions conducted under Swedish legislation, dissimilar to most international contexts. However, we can assume that a Swedish sample of people receiving home modifications grant very well reflects the needs and situation in the whole population of clients in need of home modifications and mobility devices. Baseline recruitment is still on-going.

CONCLUSIONS The evidence based case management strategy is focusing on public funded home modifications and mobility devices, but much can be learnt from the results of the implementation process and can be generalized to other home based intervention.

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19. COPRODUCTION: USING ACTION RESEARCH TO TRANSLATE INTO PRACTICE THE EVIDENCE ON FALLS PREVENTION IN AN AREA WITH HIGH SOCIAL CAPITAL

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BACKGROUND Prevention of falls in older people has increasingly risen to prominence as a global health issue due to the growth in older populations across the world (WHO, 2008). Falls are the primary cause of death and disability in people over 75 (Gillespie et al., 2012) and cost the UK annually £2.3 annually. There is a well developed research evidence-base of effective interventions which prevent falls however this is poorly translated into practice (Close and McMurdo, 2003; Roen et al., 2006; WHO, 2007; RCP, 2007; Tinnetti, 2008; Goodwin et al., 2011; Scottish Executive 2011). As costs and harm caused by falls continue to rise at unprecedented rates, the failure of the translation of the research evidence of prevention of falls into practice is increasingly recognised internationally (WHO, 2007). Coproduction is one of the most talked about themes in public services and public policy around the world. Awareness needs to be raised not only with older people but with health professionals, families and communities (WHO, 2007). Collaborative approaches accelerate the benefits of global and local innovations and the exchange and application of knowledge by stakeholders strengthens health systems and improves health (WHO, 2012).

AIMS The aim of this research was to investigate the translation of the research evidence of falls prevention in older people into practice using coproduction in an area where high levels of social capital exist in the community.

METHODS This study investigates the use of action research as an approach to engender public participation in healthcare. Action research was the main methodology and quantitative and qualitative methods were utilised as part of the process.

RESULTS The Harmonised Question Set (HQS) for Social Capital from the Office of National Statistics was used to compare social capital levels in the over 65's on Islay against national social capital indicators. This original use of the HQS demonstrated levels of social capital were higher in the Islay sample. The main action research study demonstrates that the collaborative and participative ethos of action research is ideally suited to capture the effects of coproduction. Awareness was raised across the community, with health and social care professionals. The development of intergenerational work with younger people was a key feature.

LIMITS This small study is contextual and based on an island in Scotland where high levels of social capital are present. This study is culturally grounded in a remote island community however the study has advanced knowledge on public involvement in healthcare using the example of falls prevention. This small study led to intergenerational work on prevention of falls across Scotland with Age Scotland using a resource 'Walk in Our Shoes - Act on Our Issues'.

CONCLUSIONS Action research can be used in healthcare to translate the research evidence of prevention of falls into practice through coproduction in assets based community approaches. Intergenerational practice can strengthen community bonds and promotes active citizenship. The messages of falls prevention can be translated through the dense communication networks that exist where high levels of social capital are present. Intergenerational practice provides an opportunity to broaden health professionals perspectives on health and involvement of the community leads to the development of shared learning.

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20. ASSESSING PATIENT ACTIVATION: A PROXY MEASURE OF SERVICE PROVISION

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BACKGROUND Evidence-based medicine (EBM) is the best evidence gained from the scientific method and translated to medical decision making, however many people remain in poor control because the medical system is not structured to assist people in incorporating the advances of EBM into their lives. The Chronic Care Model (CCM) posits that when "informed activated patients"• interact with "prepared proactive team members" improved functional and clinical outcomes are achieved. An integral component of the CCM is "self-management support"• provided primarily through community programs and by health care professionals in their clinical interactions with patients. These self-management support and behavioral change strategies are used to enhance patients' knowledge, skills, management self-efficacy, and activation levels of patients. Higher levels of patient activation have been shown to be associated with improved patient outcomes and economic efficiency. Over the last decade provincial and non-governmental organizations have been training their staff to become efficient in using self-management support strategies in clinical interactions and have facilitated implementation of evidence-based community self-management programs for persons with chronic health conditions.

AIMS A provincial-level quality management initiative was initiated to assess whether patients with chronic health conditions had higher levels of "activation" at six months following initiation of treatment by health professionals and/or participation in community self-management programs.

METHODS Participants completed the PAM questionnaire before they participated in an intervention that incorporated self-management support and again at six months. Activation refers to people's ability and willingness to take on the role of managing their health and health care. The Patient Activation Measure (PAM) was designed to assess an individual's knowledge, skill and confidence in managing their health. It consists of a 13-item scale that asks people about their beliefs, knowledge and confidence for engaging in a wide range of health behaviors. Based on responses to the 13-item scale, each person is assigned an "activation score."• It was hypothesized that patient activation levels would be higher at six-months post treatment.

RESULTS During 2011-13 approximately 5,000 British Columbians participated in programs that had incorporated self-management support strategies. A one-group pre- and six-month post-program matched pair design was used to assess change (i.e., proportion of persons moving to higher levels of activation). Covariate variables (e.g., gender, age, # of chronic health conditions) will assist in the analysis. The initiative provided provincial-level information regarding patient level of activation before and after participating in self-management support interventions. It also stimulated further research and investigation to explain differences in patient activation level changes among service providers.

LIMITS The pre- and six-month post comparison of patient activation level was initiated primarily as a quality management activity but several organizations interpreted the project as program evaluation and were reluctant to participate citing concerns relating to program and service support if positive changes were not observed. As well, other service providers declined to participate as involvement would necessitate substantial changes to existing evaluation processes and service delivery. Lastly, the invitation to participate in the initiative was communicated to service providers as a voluntary project rather than as one of their conditions of ongoing funding. Participants in the current initiative therefore were those that voluntarily decided to use the PAM.

CONCLUSIONS The invitation to use the pre-and six-month post-program PAM surveys served as a catalyst for service providers to ensure staff were proficient with self-management support strategies and techniques. Change in service delivery requires substantial time and effort to accomplish and implementing the initiative as a pilot project enabled organizations to experiment and develop processes that coincided with current service delivery.

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21. USING QUALITATIVE METHODS TO DESIGN A STRATEGY FOR IMPLEMENTATION OF INTENSIVE COMBINATION TREATMENT STRATEGIES FOR RHEUMATOID ARTHRITIS: AN ILLUSTRATION

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BACKGROUND To treat rheumatoid arthritis (RA), the focus is set to achieve clinical remission as soon as possible with an early and intensive treatment. Despite the available evidence, a discrepancy seems to exist between theoretical acceptance and practical implementation in daily practice.

AIMS To explore the factors influencing the everyday prescription of ICTS for patients with RA and to illustrate how these data could be used to design an implementation strategy directed at all involved healthcare professionals.

METHODS Three qualitative research methods were used, including individual interviews, focus groups and direct observations at outpatient clinics. Each interview was recorded, transcribed literally and analyzed thematically using the constant comparison method. 26 rheumatologists, 6 nurses and 25 patients with RA participated in the study.

RESULTS Facilitators reported by rheumatologists and nurses included available scientific evidence, personal faith in treatment strategy, staff support and low treatment costs. For patients, trust in the caregiver was a facilitator, as well as faith in the treatment strategy. Some rheumatologists questioned the value of combination strategy, others the effectiveness or/and the dosage of individual compounds. Additional barriers for prescribing ICTS included the need for patient education, fear for patients' preconceptions, concerns about applicability to the individual patient, difficulties with breaking routine, interference with organizational structures and processes, time constraints and lack of financial support.

LIMITS -

CONCLUSIONS The heterogeneous set of factors highlights the complexity of prescribing ICTS for RA in daily clinical practice. The factors influencing the prescription of ICTS for RA will be included in a computer-based choice-based conjoint analysis survey. The survey will be administered in a convenience sample of rheumatologists to quantify the relative importance of the factors and thus to identify change targets. Subsequently, a systematic review will be conducted to estimate the effectiveness and efficiency of implementation strategies. Finally, a tailored implementation strategy will be developed using principles of intervention mapping and an expert panel to support healthcare professionals and facilitate the prescription of ICTS.

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22. REAL PATIENT CASES FOR TEACHING EVIDENCE-BASED PAEDIATRICS: LONG-TERM COURSE SUSTAINABILITY

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BACKGROUND A multi-professional team of authors including clinical teachers in paediatrics and medical librarians has long been collaborating to develop, innovate and deliver evidence based courses at a bench-to bedside learning platform. 5-year experience has shown that paediatric actual clinical cases are a suitable educational prescription to support practical uptake of EBM knowledge and skills. A blended learning model offers a good theoretical startup for students who can thus spend more time working under guidance of teachers to acquire practical skills. A PICO seminar has been one of the recent innovations to formulate a relevant patient-oriented clinical question and build a sophisticated search strategy. Students working in pairs are assigned a real case of a patient hospitalized in the paediatric department. Over the years it has become obvious that framing about 50 fresh clinical questions per academic year is a demanding job, particularly for the teachers..

AIMS The goal of the paper is to evaluate a proposed set of complex measures for sustainability of the case-based paediatric course in the general medicine curriculum of Palacky University Olomouc (Czech Republic).

METHODS SWOT analysis was used to reveal the weaknesses of the educational model. Innovative parameters were defined and new creative solutions were sought for with special focus on training of trainers, eg. evidence-based journal clubs.

RESULTS The innovative solutions to keep the course eligible and viable include: (1) a web list of the patient cases completed by students in the past 3 years (case – focused clinical question – at least one critically appraised journal article); (2) evidence-based journal club for teachers using online version of the journal AAP Grand Rounds; (3) a new undergraduate elective course Evidence based medicine (4-days of F2F training supported by web modules).

LIMITS Stability and personal commitment of the training staff, continuing inter-professional collaboration between clinical teachers and competent medical librarians, adequate portfolio of available information resources, student involvement.

CONCLUSIONS A set of supportive innovative steps seems to be robust enough to ensure long-term viability and eligibility of the existing case-based approach to teaching evidence-based undergraduate course in paediatrics.

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23. QUALITY OF UNIVERSAL NEWBORN HEARING SCREENING PROGRAMS VS GUIDELINES: A SYSTEMATIC REVIEW

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BACKGROUND Because congenital hearing loss is the most frequent birth defect, Universal Newborn Hearing Screening-UNHS programs have developed worldwide. The availability of internationally recognized process indicators and benchmarks (American Academy of Pediatrics-AAP, 1999, and Joint Committee on Infant Hearing-JCIH, 2000 and 2007), permit the exploration of quality issues.

AIMS To systematically review and assess the extent to which scientific literature reports enough data to calculate indicators and consequently verify compliance with AAP and JCIH benchmarks.

METHODS A search from four databases, supplemented by scanning reference lists of articles and experts' suggestions, was performed. Two independent reviewers assessed articles against criteria: primary studies on UNHS, in English, with a screening protocol description and performance data, with = 1,000 screened neonates. Articles were analyzed using seven process indicators classified into three dimensions: Recruitment and Adhesion (2 indicators), Clinical Effectiveness (2), Resource Consumption (3).

RESULTS 1,400 articles were included and 14 analyzed. Main findings: two compliant with 5% lost to follow-up (Recruitment and Adhesion); age at diagnosis critical as calculated rarely and following different methods (Clinical Effectiveness); referral rate at discharge calculable in 12 articles (Resource Consumption).

LIMITS Our criteria were based on standards established starting from February 1999, so some of the considered studies concluded their recruitment period before that date. Nonetheless, this review was not intended to formulate a full evaluation of the quality of screening programs but only to verify whether a standardized evaluation of UNHS program performances was possible, based on indicators and benchmarks suggested by the AAP and JCIH. A second limitation is the restriction to articles written in English.

CONCLUSIONS The analysis highlights the non-uniformity of UNHS programs' quality key-drivers: identification of newborns at risk, number of stages and steps, technique applicability, follow-up eligibility thresholds, competences, and surroundings. Program performance comparison, though potentially feasible through internationally recognized indicators and benchmarks, is hampered as all required information is rarely available. This hinders the work of clinical and regulatory practitioners wishing to gather indications for quality improvement from best practices.

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24. REVIEW OF EBP COMPETENCY IN THE CURRICULA OF ALLIED HEALTH CARE STUDIES

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BACKGROUND Education in evidence-based practice has become more integrated in the curriculum, as there is a movement from offering separate EBP courses towards integrating an EBP-attitude across all courses in a curriculum. At the starting point of implementing a more integrated approach, it can be useful to measure EBP performance and attitudes to benchmark the current level students already attain. Furthermore, lecturers are role models for students. The EBP competencies of lecturers should therefore be at a sufficient level in order to be able to educate students to be evidence-based practitioners. In this study, the effectiveness of the current curricula of allied health studies is measured across disciplines. Furthermore, performance levels and attitudes of students and lecturers are measured in order to identify possible gaps. The results will serve as input for upgrading and aligning the curricula towards a more integrated EBP approach and a common dialogue and terminology.

AIMS This study aims to identify two kinds of differences in EBP performance: differences between curricula of different allied health disciplines and differences between students and lecturers.

METHODS In order to test EBP knowledge and skills, the Dutch Modified Fresno test is used (Spek et al., 2012). Different versions are developed for testing students from different studies of allied health care and nursing degree programs. Subjects also completed a questionnaire on motivational beliefs of EBP (developed and validated by Spek et al., accepted 2013).

RESULTS At the time of the conference, results will be available of two allied health programs: speech-language therapy and occupational therapy. EBP performance and motivational beliefs of students and lecturers will be compared within and between programs.

LIMITS In this presentation, only the first step in our research project will be presented. In the future, more health care studies will be included and the first cohort will be followed up in order to re-evaluate the upgraded curricula.

CONCLUSIONS In order to review EBP in the curriculum, measuring EBP knowledge and skills as well as motivational beliefs is important. There are different ways in which EBP competencies are taught in the curriculum, but these don't necessarily lead to a different outcome. The Fresno test, combined with the questionnaire on motivational beliefs could be useful instruments to evaluate if an upgraded curriculum leads to competent evidence-based practitioners.

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25. MERGING HEALTH AND SCIENCE EDUCATION: A QUALITATIVE STUDY OF NORWEGIAN LOWER SECONDARY SCHOOL SCIENCE TEACHERS

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BACKGROUND Health is an important learning area in science education curricula for primary and secondary schools. The aim of science education is to provide students with the ability to use scientific knowledge and processes to draw evidence-based conclusions in different situations in everyday life, for example when choosing between various dietary alternatives. The Norwegian science curriculum states that knowledge and critical appraisal of information related to the human body, health, lifestyle and nutrition is imperative for students to take responsibility for their physical and mental health. Adolescents are frequent media users and access health information from numerous sources. Thus, science teachers should provide them with the necessary skills to handle health questions and evaluate health information in a critical and scientific manner. Little is however known about how topics relating to the human body and health are taught in the science classroom.

AIMS To explore Norwegian lower secondary science teachers' approaches to teaching the subject of the human body and health.

METHODS An interpretative description approach is used to collect and analyse data. Individual interviews and focus group interviews are conducted with purposively selected science teachers in lower secondary education. The interviews are consecutively transcribed and inductively coded. Each interview is analysed and compared to the previous interview combined with memo writing in a continuous process. Codes are grouped into broader, tractable categories. From these categories, more extensive, universal categories will be derived and further interviews will be undertaken until theoretical saturation is obtained.

RESULTS Currently, eight individual interviews and two focus group interviews have been conducted with a total of 17 science teachers. Preliminary findings indicate that science teachers' main concern is to lay the foundation to enable students to take care of their health and to make sound health decisions at present, and more importantly, later in life. To resolve this concern, teachers focus on developing students' generic health competencies by (1) emphasising theoretical knowledge, including scientific facts, theories and models of various health phenomena; (2) engaging students, first and foremost through practical exercises; and (3) creating students' self-awareness through discussion and reflection on issues concerning their body and personal health. Science teachers appear to be less concerned with building students' competencies in critical and scientific appraisal of health information. The aspect of understanding scientific principles and processes as a means to facilitate appraisal skills is hardly mentioned by any of the teachers. Teachers seem preoccupied with the 'doing' rather than the 'using' dimension of science. Practical, laboratory exercises are frequently mentioned as a tool to engage students and to increase their understanding of the theoretical health knowledge presented in class and textbooks. A few conditions that may influence the presence and absence of health topics in the science classroom, including that of evaluating health information critically, have thus far emerged from the data analysis. Conditions include teachers' awareness, personal engagement and knowledge; students' knowledge, skills, and attitudes to health and science; and educational policies at local and national level.

LIMITS Interviews are contrived, artificial situations which may affect interviewees' responses in a manner that reflects this. Thus, this study may not capture the complete picture of what science teachers actually do to build students' critical health competencies. Classroom observation and surveys among teachers and students would probably have elicited further details on teaching practices than merely interviewing science teachers.

CONCLUSIONS Science teachers concentrate their teaching on developing students' generic health competencies, where communicating established scientific knowledge plays a prominent role. Generic competencies form a necessary, yet not sufficient basis, for drawing evidence-based conclusions on health issues in daily life. Additionally, students should learn to evaluate and use sources of health knowledge in a critical and scientific manner. Science teachers appear to neglect this aspect of health education in science.

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26. EBP INTEGRATION IN PHYSIOTHERAPY EDUCATION: A SURVEY AMONG STUDENTS IN CLINICAL PLACEMENTS

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BACKGROUND Evidence-based practice (EBP) should be incorporated into health care students' curriculum and training. The aim of teaching EBP is that students, in both academic and clinical settings, are able to use the five EBP steps: translation of uncertainty into an answerable question (step 1), search for the best research evidence available (step 2), critically appraise that evidence (step 3), apply appraised evidence (step 4) and evaluate the performance of step 1-4 (step 5). Using these steps in real patient situations is an essential element of EBP behaviour.

AIMS To investigate if there was an association between the degree of EBP implementation in a bachelor program and self-reported EBP behaviour, EBP-related abilities and barriers towards EBP during clinical placements among 3rd year physiotherapy students.

METHODS A cross-sectional descriptive study was conducted among third year physiotherapy students at a University College in Norway, between 2006 and 2010. In this period, an increasing degree of EBP was implemented into the curriculum. In 2006, a small amount of EBP-related lectures (3-4 hours) were provided. By 2010, an increasing amount of EBP lectures (30 hours) were provided and EBP was implemented into several learning activities across the three-year programme. In total, 246 students were eligible for this study. We used a questionnaire related to students' EBP behaviour, EBP-related abilities and barriers towards EBP during their final 10-week clinical placement. Spearman's rho (r) was used to assess associations between these variables and degree of EBP implementation. In addition, background data such as sex, age and access to Internet were collected.

RESULTS In total, 180 out of 246 third year physiotherapy students, who recently had completed their final clinical placement, filled out the questionnaire (73 %). The association between the degree of EBP implementation and students' EBP behaviour, EBP-related abilities and barriers towards EBP was low for most items in the questionnaire. A statistical significant correlation was found for items related to formulating questions, searching for research evidence, perceived ability to search for research evidence and to critically appraise evidence. The strongest correlation was found between the degree of implementation of EBP and perceived ability to critically appraise research evidence ($r=0.41$, $p<0.001$).

LIMITS This study was limited by its single-institution sample, and the use of a questionnaire that has not been validated.

CONCLUSIONS An association was found between the degree of EBP implementation and self-reported EBP behaviour and abilities related to question formulation, searching and critical appraisal. Further research is needed to explore how to best promote use of all EBP steps among future health care students in clinical settings.

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27. PLOT-IT: PUBLIC-LED ONLINE TRIALS-INFRASTRUCTURE AND TECHNOLOGY FOR CROWDSOURCING HEALTH DATA

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ThinkWell

BACKGROUND PLOT-IT turns the current model of health research on its head by crowdsourcing research ideas and health data (with academic health researchers providing a support service to ensure that the research is ethical, methodologically sound, clinically safe and that personal data is protected). Research trials conducted over the internet are experiencing exponential growth with little methodological research to inform their conduct. During 2012, 83% of the population used the internet at least once to search for health information. Responsible shared decision-making requires access to accurate shared knowledge. To contribute effectively the public needs help to increase their active knowledge about how to apply reliable information about randomized controlled trials and the effects of treatments. PLOT-IT adds to this knowledge by providing a platform and infrastructure where the public can conduct their own clinical trials using hands on interactive learning. PLOT-IT facilitates Communities of Interest to form around interventions or conditions to crowd-source data, generate research questions around uncertainties, initiate discussion and conduct collaborative randomized controlled trials to address these questions.

AIMS To provide an infrastructure where the public can become informed and responsible shared decision makers who help prioritize, initiate, design, organize and participate in health research through online randomized controlled trials about health and well-being.

METHODS PLOT-IT collaborates with Zooniverse Citizen Science projects to create an infrastructure for generating and running public-led online trials. DUETs methodology for harvesting questions of importance to patients will be used and further developed as an integral part of the infrastructure. PLOT-IT includes randomization algorithms and the use of validated Patient-Reported Outcome Measures. PLOT-IT supplies interactive research methodological training. The public will access real-time data from which they will be trained and equipped to do their own hypothesis generating and testing. Participants have full access to their own data and will be able to choose to share it. Shared data will be de-identified and put into the public domain for discussion and analysis. PLOT-IT supports the inclusion and formation of Communities of Interest and will provide moderated discussion forums and engagement with social media. Initially PLOT-IT will be piloted with two communities - adults interested in health promotion and patients with rheumatoid arthritis interested in dietary interventions. This will ensure that the infrastructure is scalable and adaptable to different conditions and communities.

RESULTS Embedded methodological studies will enable us to report methods of informed consent, demographics, outcome measures, recruitment barriers/facilitators, reduction of inequalities and attrition along with participant's site use patterns and recommendations for improvement.

LIMITS Early PLOT-IT data will be exploratory and pragmatic rather than explanatory. We welcome the expertise and input of the ISEHECON group to inform future implementation.

CONCLUSIONS PLOT-IT is an effective resource to promote research understanding and public participation in health research.

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28. RECENT MEDICAL GRADUATE'S OPINION ON EBHC IN STELLENBOSCH UNIVERSITY'S MEDICAL CURRICULUM

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BACKGROUND Stellenbosch University (SU) has obtained funding for the Stellenbosch University Rural Medical Educational Partnership Initiative (SURMEPI), aiming to enhance the skills of medical professionals in HIV/AIDS and TB care, as well as increasing the research capacity in this field. Strengthening Evidence Based Health Care (EBHC) knowledge and skills at an undergraduate level is particularly important within this context. To strengthen the MB,ChB curriculum, a situational analysis of the current approach and level of EBHC teaching is the first step. This consists of a document review of the curriculum, a survey of recent medical graduates and interviews with lecturers. Results of the document review indicated that there is fragmented EBHC teaching concentrated in the first and the last phase of the 6 year MB,ChB programme. This survey is the second part of the situational analysis.

AIMS To gather perspectives of recently qualified doctors regarding the appropriateness of EBHC teaching throughout their undergraduate education.

METHODS We identified key and enabling EBHC competencies and designed an electronic questionnaire, comprising both quantitative and qualitative questions. We obtained email addresses of recent graduates and set up the survey using SUN Surveys software. We invited doctors to participate by sending bi-weekly emails. A financial incentive was added after our response rate was lower than expected. We analysed quantitative data using SPSS statistical software. Qualitative data was managed and coded with Atlas.ti software. We grouped codes into emerging themes for each question. Ethics approval was obtained from the SU Ethics Committee.

RESULTS Three hundred and seventy five (38%) graduates responded. Most of them indicated that it was important to learn EBHC at undergraduate level. They rated that EBHC teaching at SU was adequate to prepare them for practicing EBHC in the South African Health system. They also felt that EBHC competencies were covered to a basic or adequate extent and few thought it was covered comprehensively. However, in contrast to rating EBHC teaching as adequate, responses to the open-ended questions showed that newly qualified doctors found that they lacked EBHC skills. They also felt that EBHC teaching should be integrated into clinical rotations, making use of relevant examples in different disciplines. They recommended that interactive teaching methods, as well as online learning platforms and social media could be used. Access to information when working in the clinical field emerged as the most important challenge when practicing EBHC. Time constraints, work-overload, lack of EBHC skills, lack of self-motivation, difficulty of applying evidence in practice and the work environment were also mentioned as being potential barriers to practicing EBHC.

LIMITS One of the limitations of this study is that we were not able to assess the graduates' EBHC knowledge and skills with a validated test. Results from such a test would have given us an objective picture of the level of EBHC knowledge and skills of recent graduates, but would have increased the length of the questionnaire considerably. In addition, qualitative questions rendered information contradictory to the Likert-scale question responses. It would be worthwhile considering using mainly qualitative questions to explore perspectives, since these give richer information.

CONCLUSIONS Quantitative and qualitative results regarding EBHC teaching within the medical curriculum were contradictory. Lack of EBHC knowledge and skills was a theme that emerged strongly, leading us to conclude that current EBHC teaching at SU is actually less than adequate. Recommendations by respondents to integrate EBHC teaching into clinical rotations and to use more interactive teaching methods, resonates with international literature. Recently graduated doctors experience numerous challenges when applying EBHC principles in the clinical field. Inadequate access to medical literature appears to be the biggest barrier. Challenges caused due to external factors are difficult to influence, although sound EBHC knowledge and skills could help overcome some of these. Our results echo the results of the document review. Although there is evidence of EBHC teaching at undergraduate level, graduates feel that they are not well equipped to practice EBHC once they graduate. There is a need to enhance EBHC teaching at an undergraduate level by integrating it into a variety of disciplines. SU should consider granting their alumni access to their online library.

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29. IMPLEMENTING EVIDENCE-BASED PRACTICE THROUGH EBP CHAMPIONS

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BACKGROUND Evidence-based practice (EBP) is a problem-solving approach that integrates the best available evidence from well-designed studies with clinical expertise, patient assessment, and patients' preference. Evidence-based practice has been accepted as a process that reduces practice variation and be consistent regardless of the clinician, hospital or geographical location (Davis and Cordiner 2008). It is fundamentally about reducing the uncertainty in clinical care, in order to achieve efficient and effective service delivery (Courtney and McCutcheon 2010). Major healthcare organizations are emphasizing the importance of EBP in developing countries. It is an area that needs to be strengthened in developing countries. To date there are many practices that are based on past experience, tradition, trial and error and untested theories in the Maldives.

AIMS Broadly, the aim of this study is to explore the implementation of EBP into clinical practice in the Maldives health care system, using Evidence-Based Champions. The specific aim for this study is to develop nurses as EBP champions and investigate the usefulness of EBP champions in implementing evidence-based practice.

METHODS This study explores the phenomena of Evidence-based champion model which aims to produce clinical leaders from variety of backgrounds who could implement of evidence-based practice in the Maldives through an action research. It discusses the process that was undertaken to prepare EBP champions and their roles in implementing evidence based practice. Clinicians working in five public healthcare facilities (hospitals and clinics) were invited to participate in this study. Flyers and information sheets outlining the project was distributed with the wards. Fourteen clinicians volunteered to become EBP champions in their clinical areas. The training for EBP champions involved attendance of 2 days introductory workshop that focused on the concepts and principles of evidence based practice. The main aim of this training was to enhance the EBP champions' competencies for EBP process, knowledge, skills and attitude towards evidence based practice. The training consists of the following components: history of evidence based practice; the steps involved in EBP; understand the challenges and barriers to the uptake of EBP; classifying and formulating EBP questions; identifying levels of evidence and different study designs; roles of EBP champion and how they can facilitate evidence based practice; importance of critical appraisal; and developing skills for database searching. During the training EBP champions were paired up and instructed to conduct an EBP project. All EBP champions were provided with a list of websites and databases that supports EBP. EBP champions' activities were monitored over a year to investigate the role of EBP champion and how it has contributed to effective implementation of evidence-based practice. The following things were examined; o the types of work that was carried out o any practice changes o identifying the facilitators and barriers faced by the champions. Data were obtained through semi-structured focus group interviews and from web-based activities where the champions shared their experiences, problem . Content analysis was used to analyse discussions with focus groups and web based data as content analysis is flexible and allows clear identification of prominent themes This analysis was informed by the framework of Krippendorff (1980) and was processed using qualitative analysis software NVivo9.

RESULTS Analysis revealed that the EBP champions engaged in seven core activities. This includes health education to the general public, nursing education and knowledge dissemination, implementing projects, auditing, developing guidelines, facilitating practice change and leadership activities. sixteen guidelines and four major practices, have been changed over a year

LIMITS Limitations occur for all studies and for this study they includes researcher being away from the research site which affects the communication. However to overcome this online communication was used. The other limitation include that the research cannot be generalised. Action research does not require generalization however it can be adapted to a research setting

CONCLUSIONS This study aimed to achieve a better understanding of the role of EBP champions on the implementation of evidence-based practice. Implementation of EBP champions in the Maldives healthcare system has been an additional boost to its implementation of evidence-based practice in the country. It provided an opportunity for clinicians to gain an understanding of evidence-based practice and identify areas of concern. It attempts to offer new insights of EBP champions and implementation of evidence-based practice. This study might serve as a model for similar healthcare organisations interested in implementing EBP through champions.

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30. DO MINIMUM VOLUME REGULATIONS FOR HEALTH CARE INTERVENTIONS IMPROVE THE QUALITY OF CARE? A SYSTEMATIC REVIEW

Siering Ulrich, Ernsting Corinna, Hoffmann-eàer Wiebke, Ein Waldt Susanne, Grouven Ulrich, Schulz Anke, Waffenschmidt Siw, Rùther Alric

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BACKGROUND The association between the volume of health care interventions and health care outcomes is discussed controversially in the literature. Minimum volume regulations aim to achieve an improvement in the quality of health care by specifying minimum volumes for certain interventions.

AIMS To systematically review the literature on the effects of minimum volume regulations on health care outcomes.

METHODS We conducted a systematic search in MEDLINE, EMBASE and the Cochrane Library for studies investigating the quality-assuring or quality-increasing effects of minimum volume regulations on health care outcomes, focussing on patient-relevant outcomes such as mortality, morbidity and health-related quality of life. We also searched via the "Related Citations"• function in MEDLINE and screened reference lists of study publications classified as relevant. Further inclusion criteria were English or German-language articles published from the year 2000 onwards. The study results were extracted into standardized tables, summarized descriptively and analysed.

RESULTS Overall, 10 retrospective observational studies were included in the report. All studies investigated the introduction of minimum volume regulations in the inpatient sector, mainly for knee total endoprosthesis, organ transplantations, as well as surgery of the oesophagus and pancreas. 7 of the 10 studies reported results from Germany. The methodological quality of the studies was mostly low. The studies showed inconsistent effects for mortality and morbidity outcomes so no clear trend could be inferred. No results on quality of life were available. Inconsistent effects were also reported for the outcomes "re-intervention required"• and "change in distance from home to hospital"•. No relevant changes were reported for the length of hospital stay. In addition, after introduction of a minimum volume regulation there was a tendency towards an increase in case numbers, while the number of hospitals remained stable or decreased.

LIMITS Our findings are of limited informative value due to the mostly low methodological quality of the studies analysed. Moreover, minimum volume regulations were sometimes introduced together with other quality assurance measures, so that a clear allocation of an effect to a minimum volume regulation was not always possible.

CONCLUSIONS The regulation of minimum volumes of health care interventions is discussed as an option to improve health care outcomes. However, it has been insufficiently investigated whether such regulations actually lead to an improvement in the quality of health care. Further research is needed to be able to draw robust conclusions on the quality-assuring or quality-increasing effects of minimum volume regulations.

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31. ASSESSING DIFFUSION AND IMPLEMENTATION OF CLINICAL PRACTICE GUIDELINES IN MEXICO

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BACKGROUND The clinical practice guidelines (CPGs) of the National Health System of Mexico (NHSM) aim to improve the quality and to reduce the heterogeneity of medical care.

AIMS To assess the success of the implementation of the CPGs in medical units of the NHSM.

METHODS 480 health units were randomly sampled. In each one, the following items were applied: a checklist in order to verify the existence of CPGs, a questionnaire for physicians to document their knowledge, training and awareness on CPGs, and another one to those in charge of the dissemination and implementation process. Clinical records were reviewed to document the use of CPGs.

RESULTS The diffusion of the CPGs is conducted via internet through the Master Catalog (MC). The MC was identified in 80% of the sample. The overall level of training on CPGs was 56% (45% -100%). 88% of doctors are aware of the existence of CPGs and 71% reported the utilization of a CPG during the last month. 30% of the people in charge of dissemination do not have the necessary resources for the dissemination and implementation. The adherence level falls below 50%.

LIMITS One limitation to the dissemination of the CPG is internet access, along with training variability among institutions. The main barrier to the use of CPGs, is the lack of resources (physical material, human and time) for the dissemination and implementation.

CONCLUSIONS The knowledge of CPGs is high, however there are barriers that limit their implementation we need to change as good practice for the benefit our patients.

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32. EMBEDDING HIGH QUALITY EBP EDUCATION INTO AUSTRALASIAN OPTOMETRY CURRICULA

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BACKGROUND In 2005 the Sicily statement highlighted the need for teaching and assessment methods that support evidence-based practice (EBP) in allied health. In optometry, undergraduate education is responsible for ensuring that graduates have the skills, knowledge and attitude needed for EBP. These attributes are vital for optometrists in Australasia since they are responsible for the diagnosis, appropriate referral and management of sight-threatening (e.g. glaucoma, macular degeneration) and sometimes life-threatening (e.g. diabetes, hypertension) conditions. However, our prior research suggests that better teaching and assessment methods are needed to prepare optometrists for EBP.

AIMS This project aimed to: - Develop a resource providing high quality EBP teaching and assessment methods for shared use by optometry educators. - Develop and validate a modified 'Fresno' test for the assessment of EBP skills, knowledge and attitude for use by optometry educators. - Embed high quality EBP education into optometry programs by ensuring that EBP is specified in Australasian optometry professional competencies.

METHODS Resource development: EBP teaching strategies were identified by interviewing Optometry course convenors at the University of New South Wales (UNSW). Each of the teaching and assessment methods was graded based on the educational outcomes and examples in the 2005 Sicily Statement. Highly graded EBP teaching and assessment methods were made available for shared use by optometry educators via an open access dedicated web site intended to support EBP learning and teaching. Modified Fresno test development: The Fresno test for physical therapy and its scoring rubric were modified for application in optometry. Modification consisted of optometry-specific clinical scenarios on which 13 appropriately worded questions were based. Content validity was established by feedback from two EBP experts (authors RT and LT). The test was validated using Rasch analysis on responses from 92 optometrists, 81 without and 11 with EBP expertise. Embedding: To embed EBP teaching and assessment in Australasian Optometry education we: o Devised a strategy for review of professional competencies to specifically require EBP education consistent with the 2005 Sicily statement; o Designed and piloted an EBP teacher training workshop as a basis for ongoing teacher training in evidence-based optometric education.

RESULTS 58 EBP teaching and assessment strategies (of these, 32 were assessment tasks) were identified and graded according to the 2005 Sicily statement. A free, open access web site was developed for teachers, students and professional optometrists housing a collection of EBP resources specific to optometry. Resources include descriptions of three of the most highly graded teaching and assessment strategies, with appropriate permission and acknowledgement, and a range of optometry-specific case studies as a basis for EBP teaching. The resources are currently being embedded into curricula as part of optometry program review. The modified Fresno test for optometry was able to clearly distinguish between optometrists with and without EBP expertise, indicating that the test may be used to gauge EBP knowledge and skills in students and practitioners of optometry. Bespoke workshops have been developed and piloted with the aim of ensuring that clinical and academic teachers of optometry teach EBP effectively. The workshops were facilitated by authors with extensive experience of EBP teaching in the health areas of medicine (RT), speech pathology (LT), ophthalmology (KP) and optometry (KP and FS). Participant and facilitator feedback will form the basis of further development of the workshop format for future application in optometry. Consultations with professional bodies responsible for competencies in Australasian optometry have begun, with the intention of ensuring that high quality EBP teaching and assessment methods are embedded firmly into Australasian optometry educational programs.

LIMITS To date, the project has evaluated EBP teaching and assessment methods at one Australasian school. Further work will identify high quality teaching and assessment methods at other schools where appropriate.

CONCLUSIONS This project has produced the first free, open access website for teachers, students and professional optometrists housing a collection of EBP resources specific to optometry collected in the framework of the Sicily Statement's educational outcomes. The project has also developed and piloted the first workshop targeting EBP teaching in optometry. We anticipate that teaching and assessment of EBP in optometry will benefit from the online resources, the modified Fresno test for optometry and by workshops for EBP educators, and that the use of high quality EBP teaching and assessment methods will be embedded into Australasian optometry education programs via professional competencies.

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33. EVIDENCE-BASED MEDICINE INTERACTIVE EBOOK LEARNING EFFECT

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BACKGROUND Students often feel bored and cannot grasp the main points of learning "evidence-based medicine".

AIMS This study is initiated to help students formulate practical clinical questions.

METHODS E-book was designed via adobe flash professional CS6. It includes an introduction to the basic concepts of evidence-based medicine, EBM databases, database literature search skills, critical appraisal methods, clinical application and effectiveness evaluation. At the outpatient clinic, "e-book" and the skills of evidence-based medicine are presented to the students to formulate a question from a real life patient. Students then practice the five steps of evidence-based medicine to search and analyze the level of evidence of the article that they find and apply it clinically. Their skill is assessed by questionnaires, a five-point Likert item, both before and after class. Searched answers for the questions were later discussed based on the video-recorded at the out-patient clinic.

RESULTS A total of 30 students completed the questionnaire with video recording. Average satisfaction score of the students was 95.1 points (on a scale of 100). With the interaction of e-books, students feel that learning is improved. Database literature search skills scored from 2.5 to 4.1 (out of a possible five-point Likert item), critical appraisal from 2.3 to 4.2 and level of evidence 2.7 to 4.4.

LIMITS Too complex or too difficult cases are not suitable in the limited time teaching.

CONCLUSIONS The integration of e-books interactive mode into clinical cases can improve the skills of the students, raise interest in learning, and is clinically useful.

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34. INTERVENTIONS TO ENHANCE THE UPTAKE OF SYSTEMATIC REVIEWS AND META-ANALYSES

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BACKGROUND The increased uptake of evidence from systematic reviews is advocated because of their potential to improve the quality of patient care by quickly expediting the application of current, effective advances to everyday practice. However, evidence from systematic reviews has not been widely adopted by health professionals. Little is known about the strategies that enhance uptake of evidence specifically in response to systematic reviews. A recent study by Kuo and colleagues in Taiwan identified several helpful strategies used by Taiwan's hospitals to enhance dissemination of The Cochrane Library. These included awareness raising, active delivery of information, mentoring relationships, and also educational training. Knowledge translation strategies, of course, can fail. They can be ineffective, function poorly, and result in medical or technology-induced errors if rushed prematurely into a healthcare system. Consequently, the science of developing effective knowledge translation interventions, especially with regard to systematic review uptake, is challenging.

AIMS We set out to determine the effectiveness of different types of interventions in improving the uptake of systematic reviews. This researcher searched 19 databases covering the full range of publication years, utilised three search engines, and also searched reference lists.

METHODS Studies of systematic review uptake strategies were selected and evaluated according to the Effective Practice and Organisation of Care criteria, with all decision makers included. Two reviewers independently assessed quality and extracted data from each trial.

RESULTS We found 10 studies from 11 countries, containing 12 interventions that met our criteria. In general, 1 strategy was rated as ineffective, 11 were moderately effective and none were highly effective. Only 3 interventions had a statistically significant effect on some outcome measure. Most interventions tended to have a positive impact under some circumstances; none were effective under all circumstances.

LIMITS Few intervention outcome studies were detected on which to base conclusions. Few of these outcome studies were of high quality.

CONCLUSIONS Strategies such as targeted, tailored messaging, educational visits, and summaries had a statistically significant effect on at least one outcome measure. Promising interventions included e-learning, computer (CD-ROM) based learning, inactive workshops, the use of knowledge brokers, together with use of an e-registry of systematic reviews and meta-analyses. This review points the direction towards enhanced uptake of a very important source of evidence.

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35. IMPLEMENTATION OF EBP ACROSS MEDICAL, NURSING, PHARMACOLOGICAL AND ALLIED HEALTH PROFESSIONALS IN A NATIONWIDE HOSPITAL SETTING

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BACKGROUND The backgrounds of physicians, nurses, pharmacists and allied health professionals are naturally different. Little research has focused on comparing the implementation of evidence-based practice (EBP) among different professions.

AIMS The current study systematically investigates how EBP is perceived among all groups of health professionals.

METHODS A postal structured questionnaire survey was conducted in 2011 in regional hospitals throughout Taiwan. Questionnaires were mailed to all health workers of 11 randomly selected hospitals. Linear and logistic regression models were used to examine predictors.

RESULTS A total of 6160 returns – including 645 physicians, 4206 nurses, 430 pharmacists, 179 physical therapists, 537 technicians, and 163 other allied health professionals – were valid for analysis. Physicians and pharmacists were more aware of EBP than the other professional groups (p

LIMITS This is a self-administered survey, not an audit of actual practice.

CONCLUSIONS This nationwide study allowed us to compare and contrast various levels of awareness, belief, attitude, knowledge, skill, barriers, and implementation among medical, nursing, pharmacological and allied health personnel. There are significant differences in their implementation of EBP. We have observed the factors associated with EBP implementation. Our data provide critical evidence that can be used to guide strategies for improving the effectiveness of EBP dissemination.

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36. EVALUATING THE IMPACT OF AN INTENSIVE EDUCATION WORKSHOP ON EVIDENCE-INFORMED DECISION MAKING KNOWLEDGE, SKILLS AND BEHAVIOURS: A MIXED METHODS STUDY

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BACKGROUND Health professionals require a unique set of knowledge and skills in order to meet increasing expectations to use research evidence to inform practice and policy decisions. They need to be able to find, access, and interpret the best available research and apply the evidence, along with information about patient preferences, clinical expertise, and the clinical context and resources, to such decisions.

AIMS This study evaluated the impact of five-day intensive educational workshop on evidence informed decision making (EIDM) knowledge, skills, and behaviours.

METHODS An explanatory mixed methods, longitudinal study design was implemented among a convenience sample of various health care professionals attending the workshop (N = 51). EIDM knowledge, skills, and behaviours were quantitatively measured at baseline and six month follow-up, with EIDM knowledge and skills measured additionally immediately following the educational workshop (post-test measurement). EIDM knowledge and skills were measured using a researcher developed questionnaire consisting of 18 open-ended and multiple-choice format questions. EIDM behaviours were measured using the EBP Implementation Scale (developed by Bernadette Melnyk and Ellen Fineout-Overholt) which asks 18 scaled items about how often in the past eight weeks a range of EIDM behaviours were performed. Change in EIDM knowledge and skills was determined using repeated measures analysis of variance (ANOVA) and paired t tests were performed to determine change in EIDM behaviours. The relationships between EIDM knowledge and skills and EIDM behaviours was explored using Pearson correlation. To determine participants preferences for continuing education, data were collected using quantitative survey (post-test measurement) and qualitative (individual telephone interviews after six-month follow-up) methods.

RESULTS EIDM knowledge and skills increased significantly from baseline to immediately following the intervention [5.6, 95% CI (3.7, 7.4), P 0.000] and from baseline to six-month follow-up [3.7, 95% CI (2.1, 5.3), P 0.000], with a significant decrease from immediately following the intervention to six-month follow-up [-1.9, 95% CI (-3.5, -0.3), P 0.018]. EIDM behaviours increased, but not significantly, from baseline to six-month follow-up [1.7, 95% CI (-0.3, 3.8), P 0.095]. At baseline and six-month follow-up there was a weak, non-significant positive correlation between EIDM knowledge and skills and EIDM behaviours ($r = 0.29$, P 0.069 and $r = 0.24$, P 0.136, respectively). Participants indicated a willingness to participate in continuing education that was evident immediately following the week-long workshop and after six-months following the workshop, preferences for the time and frequency of online continuing education strategies, however, appeared to shift during this timeframe.

LIMITS Participants represent a small convenience sample of health care professionals that were largely motivated and supported by their institution. Given that the researchers were unable to use possible workshop attendees who were wait-listed as a control group, it is possible that the significant increase in knowledge and skills from baseline to six-month follow-up could have been due to factors other than the EIDM workshop. In addition, participants could have received additional support following the EIDM workshop to promote EIDM knowledge and skills. Lastly, EIDM knowledge and skills were measured objectively but with a tool with undemonstrated reliability while EIDM behaviours were measured using a tool with documented validity and reliability, but were self-reported and not objectively measured.

CONCLUSIONS An intensive educational workshop shows promise for increasing EIDM knowledge and skills. Increasing EIDM knowledge and skills may promote the capacity of health professionals to use research evidence when making practice and policy decisions and, in turn, lead to positive patient outcomes.

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37. CRITICAL APPRAISAL CRITERIA FOR RANDOMIZED CROSSOVER TRIALS

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¹DynaMed

BACKGROUND Criteria for assessment of methodological quality of randomized trials is a foundational concept for systematic reviews and other evidence translation efforts. Criteria used to date have been based on parallel trials and do not fit well for evaluation and reporting of randomized crossover trials. The CONSORT statement was updated in 2010 and has numerous extensions but does not have an extension for crossover trials. The Cochrane Handbook for Systematic Reviews of Interventions (version 5.1.0) includes risk of bias assessment criteria for cross-over trials for the first time with its March 2011 update.

AIMS We will define explicit criteria to be met for critical appraisal of randomized crossover trials to define the necessary criteria to report high-quality evidence (level 1 evidence).

METHODS Criteria were derived from critical appraisal criteria used for randomized trials in DynaMed and risk of bias criteria for cross-over trials in the Cochrane Handbook version 5.1.0 (section 16.4.3). We will share our proposed criteria for high-quality evidence from a randomized crossover trial with the International Society for Evidence-based Health Care listserv for feedback.

RESULTS Our derived criteria for high-quality evidence from a randomized crossover trial include: 1) Conducted in patients with condition not expected to change spontaneously during course of trial 2) Random allocation method for order of assignment (i.e. not assigned by nonrandom approach such as alternation, date of birth, practice protocol) 3) Washout period between interventions long enough to avoid carryover effects between interventions 4) Adequate duration of intervention and assessment period to represent outcome being measured 5) Blinding of all persons (patient, treating clinician, outcome assessor) if possible 6) Follow-up (endpoint assessment) of at least 80% of trial participants AND adequate such that losses to follow-up could not materially change results 7) Accounting for dropouts (even if not included in analysis) 8) Analysis of paired data 9) Analysis not suggesting period effect (ie, effect resulting for order of intervention), or period effect if present not materially changing results 10) Adequate statistical power Before the 2013 conference we will share these criteria for feedback and report any changes made.

LIMITS These criteria do not address additional factors which may complicate randomized trial assessment including crossover trials with more than two interventions being compared, cluster-randomized trials, and trials with early termination.

CONCLUSIONS Formalizing criteria for critical appraisal of randomized crossover trials will improve consistency of evidence analysis for systematic reviewers and guideline developers.

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38. PERCEPTIVE ANALYSIS OF THE NEEDS IN CARERS OF PATIENTS WITH EATING DISORDERS: AN ITALIAN MULTICENTRE SURVEY

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BACKGROUND To provide information for caregivers of patients suffering from eating disorders and the consolidation of an approach to family are fundamental and essential elements for ensuring effective, efficient, appropriate and safe care. The use of tools for the evaluation of needs and information of family and caregivers is a valuable aid for defining effective communication model

AIMS To investigate the perception of the needs of carers of patients with eating disorders

METHODS The study is divided into four phases: 1) the review of national and international scientific literature to find a proper instrument; 2) survey on needs of caregivers of specialist rehabilitation centres relating to 4 Cities (Genoa, Savona, Todi and Varese) through the administration of the questionnaire; 2) data processing and statistical analysis 4) identification of a care model.

RESULTS The questionnaire was administered to 360 carers. The response rate is 89% (N°318). There are no significant differences between the 4 centres involved in the survey, the values obtained and the average scores are similar. The information need was considered the most important, obtaining a score of 100%. The 99.3% replied favorably to be contact by telephone from health professionals if patients ' conditions change. Carers consider important the communication of any transfer of the patient (94.7%). Relatives needs to discuss their feelings and moods about what happens (96.9%). Finally they consider important to talk about the possible risk of death of their relatives (94.6%).

LIMITS We used a sample of convenience. It may be useful to expand the survey to the national territory

CONCLUSIONS To deal with carers of patients with eating disorders can no longer be considered a secondary factor of psychiatric and nursing care, but one of the fundamental perspectives from which to understand and treat the patient with eating disorders. The results from this study have certainly stressed the importance to assess the needs of carers and have provided evidence to meet those needs.

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39. PROMOTING EARLY DISCHARGE AND FOLLOW-UP IN AN ITALIAN EMERGENCY DEPARTMENT: THE DESIGN OF AN OUTPATIENT SERVICE

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BACKGROUND The outpatient population using the emergency department (ED) is increasing and so is the risk of not admitting people who need it. Use of the emergency department for nonemergency care is frequent and costly. Reductions in the appropriate use of services are of particular concern in the emergency department, where even brief delays may be harmful. Early supported discharge (ESD) has been shown to yield outcomes similar to or better than those of conventional care. To be eligible for ESD, the patient must not have cognitive impairment and guarantee a high degree of self-care. If the patient has a low level of self-care, his own caregiver must be assessed.

AIMS Designing an outpatient service, according to the principle of ESD, to which refer patients who have a good degree of self-care or who are followed by prepared carers, to facilitate the continuity of care, to reduce the inappropriate re-admissions and increase the patient safety.

METHODS After conducting a literature review to identify similar services which are already active and after performing the context analysis, we decided to design the service according to the users needs. We discussed the intent to design the new service both with patients and with health care professionals. We administered a questionnaire, validated by the Azienda Sanitaria Regionale dell'Emilia Romagna, to assess the perceived quality of diagnostic services and outpatient, integrating it with a brief description of the project. Through focus groups, we investigated the views of health care professionals and the expectations regarding the hypothetical design of an outpatient service.

RESULTS Patients (N°50) who returned the questionnaire have shown interest in the activation of this service, saying it would be helpful in terms of quality and continuity of care. With regard to healthcare professionals (N°9), they demonstrate a strong interest in the project. Based on the information and recommendations that came out from focus groups carried out by health professionals, we proceeded to design the service in terms of: 1) Structural change 2) Human resources and responsibilities 3) Timing 4) Computer system 5) Clinical care pathways 6) Indicators of process and outcome.

LIMITS This study is only the first stage of a larger project and, as such, we are not able, for now, to demonstrate the effectiveness of the new outpatient service.

CONCLUSIONS Thanks to our results, managers of the hospital decided to implement the project. To involve health professionals in the design of a new service can increase the degree of consensus among them. In the future we would like to conduct a further study to investigate the effects of ESD on patient outcomes.

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40. THE DEVELOPMENT OF AN EDUCATIONAL DIAGNOSIS CHART ON THE "MOTIVATION OF THE ENTEROSTOMA PATIENTS' NEEDS"

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BACKGROUND In Italy, there are 60,000 stoma patients, and the number is growing. Patient education can reduce the length of stay in hospital, the frequency of post-operative complications and hospital complications. In literature, it is reported that the quality of life is negatively influenced by stomas, and the patients' positive adjustment of their perception is possible only through its acceptance. There is evidence that nursing documentation is often weak, and in particular it lacks of a consistent and standardized approach towards educational diagnosis. The documentation of the educational process, and in particular educational diagnosis needs to be structured using appropriate methods and tools. Disease management policies consider patient education as an integral part of the healthcare process, to ensure a higher level of patient involvement in the therapeutic process and reduce stoma care costs. In literature, six factors have been identified to be a risk for enterostoma patients if not properly managed. It is reported that 80% of the stoma population suffer from peristomal skin maceration and lesions; stoma patients require a special diet to achieve and/or maintain good health; and the choice of an inadequate stoma device can be a serious risk.

AIMS The development of an educational diagnosis chart on the 'Motivation' of the enterostoma patients' needs.

METHODS The indicators were identified through the literature, and then categorized and assembled together to develop an educational diagnosis chart on the "Motivation of the enterostoma patients "needs"•. This educational diagnosis chart was developed using the Focus Group method, involving a panel of experts from across Italy (350 professionals). Subsequently, a format was developed to identify the educational needs on the grounds of the indicators identified by the experts. We calculated the level of agreement between the patients" and the caregivers" answers. With regard to the validation of the tool, the hospitals involved within the urban district of Rome were: the "S. Andrea" Hospital, the "S. Camillo Forlanini"• Hospital, and "S. Eugenio Hospital". Factor analysis was used to measure the construct validity of the chart on "Motivation"•.

RESULTS We developed an educational diagnosis tool for enterostoma patients and their caregivers (n=104). The level of agreement between patients and caregivers was high in relation to the choice of the stoma device (K= .717), and fair in relation to appropriate behaviour in managing inflammation (K= .549). The analysis of the main items of the first part of the questionnaire focusing on 'the motivation of patients' needs'•, reduced the 17 variables into three factors: autonomy; social-relational; and patient empowerment.

LIMITS The lack of personal information about occupational and socio-economic aspects, which could have a confounding role during data interpretation. The small size of the sample.

CONCLUSIONS The validation of this new educational diagnosis chart will encourage nurses to adopt a consistent and standardized approach in the assessment of patients' stoma care educational needs.

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41. AWAY FROM BASE — CHALLENGES FOR PROVIDING MIDWIFERY EDUCATION TO INDIGENOUS STUDENTS IN REMOTE AUSTRALIA

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BACKGROUND The Bachelor of Midwifery (Indigenous) was designed to address the workforce shortage of Indigenous midwives needed to assist in closing the gap between health outcomes for Indigenous and non-Indigenous families in Australia. Babies born to Indigenous women in Australia are more likely to die in their first year than those born to non-Indigenous women. Factors that can exacerbate child mortality rates include poor antenatal care, smoking during pregnancy, alcohol consumption, teenage pregnancy, poor nutrition and low birth weight. Babies born to Indigenous women on average weigh 200 grams less than those born to non-Indigenous women and babies born to Indigenous women are twice as likely to be of low birthweight (less than 2,500 grams) than were those born to non-Indigenous women. Low birthweight can increase the risk of health problems. The program addresses the problem of isolation/ remoteness experienced by various Indigenous students by designing the course in a flexible delivery mode. These students work within a traditional cultural setting therefore integrating evidenced based practice with clinical based expertise must be implemented within the context of the women's values and circumstances.

AIMS The midwifery program's overarching aim is to educate an individual to work as a competent midwife at a beginning level in any maternity setting. Embedded in the program are focus areas such as evidence based practice, critical thinking, reflective practice and problem based learning.

METHODS Students attend four intensives per year during which time they attend clinical skills laboratories using simulation to practice interventions grounded in evidence. Workshops are held to instruct students in the skill of conducting searches and to critically appraise the evidence equipping them with the capacity to reconceptualise the theory of best culturally sensitive midwifery care in the various clinical settings in which they work. Students undertake clinical practice in a variety of settings to enable them to integrate professional attitudes and ethical conduct, demonstrating an inquiring, evidenced based reflective approach to midwifery practice.

RESULTS The program is now in its fourth year with the first graduating cohort of students being offered jobs in a climate where graduate midwifery positions are extremely limited. Clinical reports and student reflections indicate that student midwives are interpreting evidence as a basis of informing their practice and decision making.

LIMITS The multiple obligations fulfilled by Indigenous women within their extended families impacts upon their capacity to prioritise university demands. This leads to part time, deferred and interrupted study patterns. Australia's geography with vast distances between towns and remote communities results in student's isolation and lack of communication resources, and therefore inability to access university resources and support.

CONCLUSIONS To address the shortage of Indigenous midwives in Australia, we have designed a program of study that is flexible, creative and resource intensive with the aim of producing midwives who are critical and reflective thinkers with strong research skills. This programme of study will produce midwives who will work in inter-cultural partnership to improve the vitally important issue of Aboriginal mothers' and babies' health in rural and remote Australia. Development of the course took commitment and time to ensure initial issues were resolved to ensure students complete the programme and register as midwives in Australia. The course is made possible by partnership between university and clinical placement models throughout Australian maternity units and ensures that culturally safe midwifery care will be available for Indigenous mothers and their babies in the future. Future programs need to factor in the time required to build and sustain these clinical partnerships to ensure the longevity of the programme and improved outcomes for these vulnerable Australians.

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42. MILITARY MOTHERS' DECISION-MAKING DURING TIMES OF STRESS AS A LONE PARENT

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BACKGROUND Army families are highly mobile, often relocating up to every 15 months within the UK or to deployments overseas (Vincenti 1990, Giles 2005). Such frequent mobility makes accessing health services difficult (Dandeker et al 2006). To mitigate the impact of this, the Army as an organisation, emphasizes its 'duty of care' and moral responsibility to support the soldier's family, as well as the soldier himself (Ministry of Defence 2008, p 8). Army personnel typically have little control over where and when they relocate and are often geographically separated from their extended family (Clifton 2007). Consequently, Army mothers experience isolation and loneliness, alongside anxiety that their partner might be killed or injured (Dandeker et al 2006). As a result, they develop a resilience to cope with the impact of military life (Fitzsimons and Krause-Parello 2009, Davis et al 2011). Raphael et al (2010) recognised that mothers engage in a complex decision-making process when their children are unwell which is influenced by the mother's psychological state. Mothers' perceptions of the health services available to them will have a major impact on the decisions that they make (Wensing and Elwyn 2003; Philips et al 2010). Multiple factors influence whether a mother perceives that she can manage her child's illness during the out-of-hours period. These factors include whether she is a lone parent or supported by a partner (Shipman et al 1997a), the child's presenting symptoms (Kai 1996; Shipman et al 1997b) and the subtle changes in her child's behaviour (Callery 1997; Neill 2000). Shipman and Dale (1999) concluded that lone parents, without family or friends nearby to support them, were more likely to seek medical aid during the out-of-hours period when their child was unwell than if they were well supported by family and friends with whom they could share the decision-making. However, there is little evidence focused on the impact that being a lone parent has on a mother's decision-making. Many military mothers have children under five and frequently have to make decisions about their child when unwell, such decisions are often made at a time of emotional vulnerability, when they are fearful for the safety of their absent husbands. There was little evidence regarding how a mother's emotional state affects her decision-making and the coping strategies that Army mothers use, or whether the impact of Army life causes Army mothers to require additional or different support to their civilian counterparts. Also, the literature lacked detail whether being part of a Corps or a Regiment affects an Army mother's sense of belonging, identity and sense of isolation which increases her emotional vulnerability. This study gives insight into how the decisions that Army mothers make when their children are unwell during the out-of-hours period are influenced by their ability to cope as a lone parent during a time of stress and anxiety. It adds to the existing evidence by describing the experiences of Army parents living and working within an Army garrison and Army life means in reality. In order to do so, it captures the unpredictability of Army life, the impact of military enforced separation, the fear deployment generates and the disruption caused by frequent mobility and a difficulty to plan. It identifies the coping strategies that are employed by Army parents to combat the challenges they face. Therefore, this study builds on existing knowledge of a lone civilian parent's decision-making by its exploration of the experience and reality of living as an Army parent within in a garrison during a period of intense and dangerous military deployment.

AIMS The aim of this qualitative case study was to explore the impact that Army life has on the decisions that mothers make when their child is unwell during the out-of-hours period.

METHODS Qualitative case study using four focus groups for Phase 1 that took place during 2008, seven interviews took place for Phases 2 and a further seven for Phase 3 both during 2010.

RESULTS The findings provided a detailed picture of the reality of being an Army parent and how it influenced a mother's decision when her child was unwell, particularly during times of military enforced separation. The mothers' viewpoints dominated the findings as 27 of the 31 parents were mothers, the fathers gave their own view as well as those of their spouse. Six main themes were generated: coping strategies, impact of frequent relocation, impact of military enforced separation, mother as protector, use of out-of-hours services and the impact of husband's presence or absence. The findings are reported in terms of the themes that emerged, rather than by phase or according to the research questions as Army life was so integral to the decisions that mothers made when their child was unwell.

LIMITS This study was undertaken in a specific context of being a lone parent, within an Army family during a time of military enforced separation due to an intense conflict in Afghanistan. Participants were mainly non-serving Army mothers who did not work full-time, so the findings were primarily from their viewpoint.

CONCLUSIONS This study has generated new knowledge concerning what Army life is like for Army parents and its impact on the help-seeking behaviour of Army mothers when their child is unwell, irrespective of the coping strategies that mothers used. It has demonstrated that there is an inextricable link between the impact of Army life and mothers' decision-making and that the husband's presence or absence has a major impact on the decisions that Army mothers make when their child is unwell during the out-of-hours period. In particular, it is theorised that the anxiety and fear experienced during military enforced separation challenges a mother's fundamental need for safety and belonging. Her increased emotional vulnerability intensifies her need for reassurance and affects her decision-making ability when her child is unwell during the out-of-hours period. The anxiety and fear generated during military enforced separation increased these mothers sense of emotional vulnerability to such an extent that they influenced whether they sought the advice of a health professional as a first or last resort. Thus, this study has filled an important gap to the development of both civilian and military knowledge regarding a mother's decision-making behaviour and her expectations for care when her child is unwell, particularly when she is a lone parent during a time of stress.

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43. A CRITICAL INCIDENT REFLECTIVE PRACTICE FRAMEWORK FOR PAEDIATRIC EMERGENCY NURSES

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BACKGROUND Our paediatric emergency department is experiencing an increase in patient acuity and occasions of service. Staff who are involved paediatric resuscitation and similar critical events are not always provided opportunity for formal debrief. This can have a detrimental effect on staff emotionally and professionally. A formal facilitated debrief allows staff to explore, process, clarify and learn from the incident.

AIMS The aim of this project was to create a Critical incident reflective practice framework to assist staff to debrief following a critical incident or resuscitation. This tool is to be utilised when a formal debrief opportunity is unavailable due to high workload or can be utilised as a preparatory tool for a formal debrief.

METHODS Pre-post questionnaires to staff will be collect qualitative data. Education regarding the benefits of reflective practice and debrief will be presented to staff. The reflective practice framework as an alternative or adjunct to formal debrief will be introduced to all paediatric emergency department staff nursing staff (n=65).

RESULTS No available results to date.

LIMITS This tool has not yet been implemented. The framework is complete. Development of the qualitative data collection tool is in progress.

CONCLUSIONS It is anticipated that this framework will augment what is currently acknowledged about the benefits of reflective practice and the importance and educational value of debriefing. The study hypothesis is that nursing staff completing the critical incident reflective practice tool following paediatric resuscitation will experience benefits and increased knowledge, skills and attitudes towards paediatric resuscitation.

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44. OPT-IN: THE JOURNEY BEGINS

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BACKGROUND As the Pulmonary Rehabilitation Service has developed, demand on resources has increased, with time for assessment often restricted due to venue availability. With new patient assessment appointments taking 90 minutes a significant amount of clinical time is wasted when patients fail to attend.

AIMS In August 2011 it was decided to introduce patient 'opt-in' sessions aimed at increasing service efficiency by reducing the new patient assessment Did Not Attend (DNA) rate. It was also hoped that facilitating informed patient choice would increase programme completion rates.

METHODS Since October 2011, 'opt-in' sessions - 30 minute education sessions involving 'expert patients' explaining the specifics of Pulmonary Rehabilitation and highlighting the need for longer-term maintenance behaviours - have been held at Leith Community Treatment Centre and Sighthill Health Centre. Expert patients are a group of patients who have successfully completed the Pulmonary Rehabilitation Programme and have shown evidence of fully engaging with the concepts of self-management and the associated maintenance behaviours, and are able to encourage others based on their own lived experiences. Data for new patient assessment DNAs and class completion rates was collected and analysed.

RESULTS New patient assessment DNA rates: - Clear trend showing a marked decrease in new patient DNA rates with the introduction of opt-in sessions - Fewer wasted appointments increases service efficiency. Completion rates: - Introducing opt-in sessions has led to a marked increase in the programme completion rate - Fewer drop-outs from the programme increases service effectiveness and efficiency.

LIMITS Not applicable

CONCLUSIONS Results show significant benefits for patients and service provision. Feedback from patients 'opting-in' to the programme has been extremely positive, particularly regarding the invaluable role played by the 'expert patients'. 'Opt-in' sessions are now an essential beginning for the Pulmonary Rehabilitation Journey.

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45. HOW TO ASSESS EVIDENCE-BASED PRACTICE KNOWLEDGE AND SKILLS IN LATIN AMERICAN COUNTRIES?: VALIDATION OF SPANISH TRANSLATION OF THE BERLIN QUESTIONNAIRE

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BACKGROUND To evaluate the effectiveness of Evidence-Based Practice (EBP) education, validated and practical tools are needed. According to the 2009 Sicily Statement, only two validated tools assess a combination of EBP knowledge and skills: the Fresno Test and Berlin Questionnaire. Of these tools, only one has been previously validated into Spanish: the Fresno Test (in Spain). However, there is no validated Spanish version of the Berlin Questionnaire, let alone to be used in a Latin American country. The Berlin instrument consists of two similar sets (A and B) of 15 multiple-choice questions with five-answer options.

AIMS To validate a Spanish translation of the Berlin Questionnaire to: measure EBP knowledge and skills and assess EBP learning after a two-day workshop on medical students, in a Latin American country.

METHODS Before and after study: forward-backward translation and subsequent validation. Participants: medical students with no previous exposure to EBP formal training (novice group) and medicine professors with formal methodological training in EBP (expert group), from Peru. The main outcome measures were: construct validity (responsiveness), discriminant validity, internal consistency, item analysis, feasibility of administration, difficulty of questions and normal score distribution. **TRANSLATION** Permission was obtained from the author and translation into Spanish was performed independently by two bilingual translators. Twelve EBP experts, two bilingual physicians and the research team reviewed these translations and obtained a first agreed Spanish version (sets A and B). A third translator did the back-translation into English and then, the research team -with assistance of translators- compared the back translation with the original version to identify issues that were not conceptually equivalent. A second agreed Spanish version was obtained. Subsequently, ten general practitioners were on-line surveyed to assess the degree of understanding of the test (restating in their own words the most difficult items). Finally, the research team evaluated the results of comprehension surveys and obtained the final Spanish version. **VALIDATION** The EBP workshop included two intensive and interactive half-day sessions. The novice participants (fourth and fifth year medical students from five schools of medicine) were on-line recruited through invitations sent from the course page on facebook. The expert participants (different from EBP experts of translation stage) were enrolled by personal invitation from study author. They did not attend the course but were used to assess discriminant validity. All participants were informed that participation was voluntary and both sets of Berlin were randomly administered to the novice (pre-test and post-test) and expert group. Participants who completed only the pre-test were excluded from responsiveness statistical analysis.

RESULTS No major changes were required to original translation and the participants found that Spanish version was clear, understandable and unambiguous. 65 participants were recruited: 59 medical students and 6 experts in EBP. Pre-test and post-test was completed by 33 students (55.9%), while 26 (44.1%) only took the pre-test. Average age of course participants: 21 years. Responsiveness: mean total score increased from 6.0 +/- 1.6 (pre-test) to 9.3 +/- 2.2 (post-test), mean difference: 3.3 (95% CI: 2.7 - 3.9). Discriminant validity: 7.0 points (95% CI: 6.3 - 7.7) of difference between pre-test and expert scores. Internal consistency: moderate to high (with regard to accepted value of 0.70): Set A alpha coefficient = 0.54; Set B = 0.72. Item analysis: item-to-total correlation coefficients below 0.2 in five questions (set A: 2, 6 and 15; set B: 7 and 9). Feasibility: mean time needed to fill-in the test by course participants was 52.1 minutes (95% CI: 45.2 - 59). Difficulty of questions: ranges of correct answers per question were 18.8-75.0% (set A) and 11.8-76.5% (set B), with regard to acceptable result of 10-90%. Finally, total scores were normally distributed: no participant -including experts- with highest (15) or lowest (0) total score, for both sets.

LIMITS Some limitations are the number of participants (65) and the percentage who did not complete the post-test (44.1%), which may have affected the statistical power of the study. Also, most of participants were novice and a different structure of the sample might have led to different psychometric values. However, percentage of the post-test was expected due to the nature of the course (not mandatory) and the study included a novice group because there are very few validation studies in this population.

CONCLUSIONS Based on study findings, the Spanish version of Berlin Questionnaire is a very important contribution, as a suitable tool to measure (change in) EBP knowledge and skills. Before this research, there was no previous validation study in Latin America of the Spanish translation of a globally recommended EBP assessment tool.

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46. WELFARE CONTINUITY TO THE PATIENT AFTER THE IMPLANTATION OF A CARDIAC ELECTRONIC DEVICE

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BACKGROUND The electronic implantable cardiac devices are used for the treatment of diseases such as bradycardia, tachycardia, heart failure (HF) as well as for the tracking of arrhythmias. The monitoring of the patient, of the disease, and of the device is crucial for the detection of any clinical problem or any problem related to the device itself. In order to verify the correct functioning of the devices, a periodic follow-up is generally carried on with outpatient monitoring at intervals of 3-12 months. The increase in the number of implanting procedures and the proportional increment in the number of controls are intended to impose to the cardiac health facilities an increasingly higher amount of work. Furthermore, outpatient controls of the device carried on after the implantation constitute a condition of discomfort for the patient due to both the psycho-physical stress (considering the high average age of the patients) and the anxiety that may rise from the lack of monitoring in the time windows between a control and the next. Important multicenter randomized clinical trials have demonstrated the superiority of remote control rather than the traditional method in managing the patient in terms of: - Reduction of scheduled visits. - Reduction of unscheduled visits. - Reduced access to the emergency room. - Reduction in the average duration of hospital stays for cardiac causes. - Increased detection of clinically relevant events. - Time reduction between the adverse event and the consequent clinical treatment. As of today in Italy there is a lack of experience with respect to a 24 hours on 24 monitoring service. Observational records prove that a remote control of the patient is associated with a reduced risk of mortality. Moreover, the adoption of such kind of control allows a more efficient use of resources, providing savings in terms of hospital reception capacity and reduction of time spent by hospital staff.

AIMS Setting-up of a centralized corporate service dedicated to the 24/7 remote control of the patient, including the following activities: - Monitoring and remote control of the device - Remote clinical control of the patient - Phone assistance (in case of minor clinical complications) - Improving patient's life quality standard - Improving clinic's efficiency - Reduction of corporate expenses

METHODS Thanks to the dedicated device, the patient has the possibility to transmit from his residence through the analogical phone line his electrocardiographic data in case of: - Scheduled follow-up visits: data related to the cardiac implant and the electro catheter - Symptomatic or post-shock events - Alarms related to the defibrillator's status The organizational set-up will be structured to ensure a 24 hours a day functioning A proper organization for the correct system functioning implies a rigorous and precise definition of tasks and responsibilities of the professionals involved. The process is composed of 5 operational phases: Phase 1. Patient registration Phase 2. Educational training of the patient Phase 3. Phone assistance (24/24H): analysis of the transmitted data following patient signaling Phase 4. Analysis of the transmitted data and alert check Phase 5. Outpatient follow-up and remote control

RESULTS The introduction of a centralized monitoring system of the patient undergoing implantation of cardiac electronic device determines benefits for both the patient (decreased anxiety, increased satisfaction, etc.) and the efficiency for the organization.

LIMITS - Cultural opposition versus technology - Difficulties in using the supplied equipment - Network coverage and phone inaccessibility for the transmission of data while the patient is moving

CONCLUSIONS It has been widely reported in the literature that the remote monitoring of implantable cardiac devices is now a reliable and secure technology which brings considerable advantages in terms of benefits to the patient and to the healthcare facility. This project aims to ensure the continuity in the assistance of patients with cardiac device after their discharge from the hospital, by creating a 24 hours a day channel of communication and interaction between the patient and hospital.

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47. TRANSLATE KNOWLEDGE TO ACTION: AN EXPERIENCE OF EVIDENCE-BASED BUNDLE CARE FOR PREVENTING VENTILATOR-ASSOCIATED PNEUMONIA IN TAIWAN

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BACKGROUND Ventilator-associated pneumonia (VAP) is one of the most common nosocomial infections in intensive care units (ICUs). The incidence of VAP in the hospital increased as high as 1.3% during 2009 at the time when there was a lack of standard interventional care of those patients with ventilator. We then organized a multidisciplinary team to develop evidence-based recommendations for VAP bundle care in 2009. In addition, we integrated these interventions into clinical informatics system for reminding health care personnel in order to promote the application of research evidence.

AIMS The aim of this article was to share the experience and workability of knowledge translation to prevent VAP in a hospital.

METHODS We used 'knowledge-to-action conceptual framework'• (Graham et al., 2006) to design the study. There were two phases in the process: (1) Knowledge Creation, and (2) The Action Cycle (application). It has been adopted by the Canadian Institutes of Health Research (CIHR) for promoting the application of research.

RESULTS (I) Knowledge Creation 1. Knowledge Inquiry: Main key words (intensive care unit, care bundle and ventilator-associated pneumonia) searches were conducted using Cochrane Library, Medline, PubMed, CINAHL, the CDC websites (Taiwan and USA) and Scottish Intensive Care Society Audit Group for clinical practice guidelines (2000 to 2009). 2. Knowledge Synthesis: The main strategies were summarized: adhere to hand-hygiene guidelines [Level of Evidence: 1], avoid unplanned extubation and reintubation [2-], minimize the duration of ventilation [1], orotracheal intubation is preferable [1-], use weaning protocols [1-], maintain patients in a semirecumbent position [2], avoid gastric over-distention [2], use a cuffed (pressure > 20 cm H₂O) endotracheal tube or subglottic suctioning [2], use Sucralfate for high risk stress ulcer patients [2-], and Perform regular mouth care with an antiseptic solution [1]. 3. Knowledge Tools/ Products: Based on the SIGN methodology, we completed the evidence-based VAP bundle care by January 2010. Overall, 15 small groups of interventions related to prevent VAP were proposed. (II) The Action Cycle 1. Identify problem; Identify, review, select knowledge: The incidence of VAP increased as high as 1.3% in 2009. Lack of standard of interventions caring illness patients with ventilator. 2. Adapt knowledge to local context: Taking into consideration of patient's condition, experts experience and national regulation, final components of the VAP bundle included: hand washing, wear N95 mask, gown and protective glasses during intubation [Grade of Recommendation: A], elevation of the head 30° to 45° [B], daily interruption of sedation [B], oral care with 0.2% chlorhexidine every shift [A], daily assessment of readiness for extubation [B], daily evaluation the pressure of endo-tracheal tube cuff (20~30 cmH₂O) [B], sedatives usage [B], and prophylaxis (such as Sucralfa) for peptic ulcer disease [C]. 3. Assess barriers to knowledge use: the accessibility of the supraglottic secretion drainage and antiseptic-impregnated endotracheal tubes are not paid by the National Health Insurance, physician/Nurse - patient ratio was low for better attention and remembering all the evidence-based interventions. The applications of knowledge are limited. 4. Select, tailor, and implement interventions: VAP bundle care interventions were integrated into Health informatics system (HIS) and Nursing informatics system (NIS) in order to promote the application of research evidence. If patients still intubated, HIS can remind physicians to interrupt of sedation and assess readiness for extubation, NIS will inform nurses to do the VAP prevention interventions every shift...etc. 5. Monitor knowledge use: The VAP bundle care interventions were monitored by clinical staff and infection management committees. 6. Evaluate outcomes: The incidence of VAP decreased from 0.4% to 0% in ICUs. Overall, the average cases of ventilator-days were decreased from 1301 to 1213 person-days per month in hospital, from 647.2 to 646.2 person-days per month in ICUs. 7. Sustain knowledge use: The outcome indicators were presented to the infection control center and quality control department for preparing SOP documents and auditing the performance of clinical staff. The multidisciplinary team members discuss every three months and update new evidence at least every 2 years.

LIMITS First, it was a preliminary research and implemented in a single hospital. A multiple center trial may provide stronger evidence. Second, it is difficult to have a control group because of ethical concern.

CONCLUSIONS We developed the VAP bundle care and embedded VAP bundle care interventions into clinical informatics system to facilitate multidisciplinary team in preventing the VAP among patients using ventilators. Based on our experience, the success knowledge translation process help to decrease cases of ventilator-days, the incidence of VAP and improve the quality of care.

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48. THE EFFECTIVENESS OF EVIDENCE-BASED BUNDLE CARE OF NON-PHARMACOLOGICAL INTERVENTIONS FOR CHEMOTHERAPY INDUCED NAUSEA AND VOMITING

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BACKGROUND Nausea and vomiting are common side effects of chemotherapy. Reviews were found evidence-based effects of clinical guidelines on non-pharmacological interventions chemotherapy-induced nausea and vomiting (CINV), but lack of evidence of bundle care for clinical practices.

AIMS To compare differences in CINV among two groups of patients (bundle care, clinical guidelines) undergoing chemotherapy for cancer.

METHODS This study was divided into three phases, the first phase provide a 4 hours training program of clinical care guidelines for all oncology nurses. The second stage collected the bundle care from 31 items of clinical guidelines. Data were collected from working more than six months of oncology nurses. There were found 8 items of bundle care can be accepted by nurses applying in the clinical practices. The third stage, subjects were randomized to one of two groups: bundle care, clinical guidelines. Subjects in the bundle care group provide to apply 8 items of guidelines in clinical practices. All subjects were completed a daily log for 7 days containing measures of nausea and vomiting and recording antiemetics medications used to control these symptoms. Total were 179 person times, included bundle care group 59 and clinical guidelines group 120.

RESULTS There were significant differences existed in characteristics variables of among two groups. The results showed no significant differences between bundle care group and clinical care guidelines group to reduce the incidence of nausea and vomiting by control gender, diagnosis, and ECOG in Generalized Estimating Equation (GEE). The study found at the peak period of nausea and vomiting in the fourth and fifth day among two groups. There were also found no statistics significant In distress thermometer (DT) between two groups by GEE test.

LIMITS The research methods did not a case control study designed. There were no invited patients to join in this study, and not include their opinions in the bundle care.

CONCLUSIONS The Bundle care strategies are valued interventions in addition pharmaceutical management for patients undergoing treatment for cancer to reduce the amount and intensity of CINV. The study results recommended that the future should be evidence-based practice to routine care policy, and to improve the quality of care for cancer patients.

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49. ESTABLISHMENT AND EVALUATION THE EFFECTIVENESS OF NAVIGATION SERVICE MODEL ON BREAST CANCER PATIENT

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BACKGROUND Breast cancer is the most common cancer in women and the fourth leading cause of cancer deaths in women in Taiwan. Breast cancer screening mammography is believed to contribute to improving breast cancer survival rates through early detection and treatment. Most women perceive the screening, diagnosis and treatment process of breast cancer as a stressful event that threatens all aspects of their lives. Studies results revealed that during the diagnostic period, the women need the most were emotional and social support, breast cancer related information, appropriate health care by healthcare providers and as soon as possible to confirm the diagnosis.

AIMS The purpose of this study is to develop and implement a navigation care model and to evaluate its effects on breast cancer patients.

METHODS There are two stages in the study process: the first stage is to integrate an evidence-based breast care clinical guideline to establish cancer patient navigator service model and care processes into clinical breast care services. The second stage is to use a quasi-experimental design to examine the effectiveness of patient navigation in clinical setting on time to diagnosis, uncertainty in illness, anxiety and depression, quality of life and satisfaction in breast cancer women during diagnostic period. Participants were divided into control group from the general outpatient diagnosis, or into the experimental group from cherished outpatient diagnosis, the control group received usual care, the experimental group received a breast cancer patient navigator services. Data collate at after initial outpatient and after three months.

RESULTS The results are as follows: there are no significant differences in demographic data between the two groups except age. There are significant The study received the case number, the completion of the first data collect, control group was 42 cases, and the experimental were 64 cases. The complete the second data collection, the experimental group were 34, control group were 19 cases. The results are as follows: there are no significant differences in demographic data between the two groups except age. There are significant differences of uncertainty and anxiety in both groups prior to the first times (p

LIMITS Limited by ethical considerations, control group patients will continue to accept the case manager provide services care, may interfere with the second data collected after three months

CONCLUSIONS The expecting results of this study is to provide breast cancer women a patient-focused, fast, convenient, human-based care with a seamless service network, from physician visits, examination, diagnosis, treatment to five years follow-up.

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50. PROFILE OF EVIDENCE-BASED PRACTICE AMONG RESPIRATORY THERAPISTS IN TAIWAN

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BACKGROUND The profile of evidence-based practice (EBP) among respiratory therapists (RTs) has not been explored yet.

AIMS The current study was to investigate how RTs perceived the implementation of EBP.

METHODS A postal questionnaire survey was conducted of the RTs in Taiwan's regional hospitals during a four-month period in 2011.

RESULTS A majority of RTs were aware of EBP (88.0%). Although most RTs hold a favorable impression of EBP, their knowledge of and skill in EBP implementation were deficient. Only half of RTs have implemented EBP for clinical service. Insufficient convenient kits (59.1%), deficient designated personnel (50.0%), and lack of time (45.5%) were major barriers to implementing EBP. RTs rated MEDLINE as the most commonly used evidence-based retrieval database, followed by UpToDate, the Cochrane Library, MD Consult, ProQuest, CINAHL, DynaMed, and Micromedex. Multivariate regression analyses demonstrated sufficient skill in EBP and usage of online database as favorable factors for implementing EBP. In contrast, barriers of time constraint and insufficient knowledge were unfavorable factors for the implementation of EBP.

LIMITS This is a self-administered survey, not an audit of actual practice.

CONCLUSIONS Our findings indicate that EBP is not widespread among RTs. We have identified important factors in relation to the implementation of EBP. The data provide valuable evidence in plotting strategies for disseminating EBP implementation.

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51. INCREASING UTILIZATION OF INTERNET-BASED RESOURCES FOLLOWING EFFORTS TO PROMOTE EVIDENCE-BASED MEDICINE: A NATIONAL STUDY IN TAIWAN

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BACKGROUND Since the beginning of 2007, the National Health Research Institutes has been promoting the dissemination of evidence-based medicine (EBM).

AIMS The current study examined longitudinal trends of behaviors in how hospital-based physicians and nurses have searched for medical information during the spread of EBM.

METHODS Cross-sectional postal questionnaire surveys were conducted in nationally representative regional hospitals of Taiwan thrice in 2007, 2009, and 2011. Demographic data were gathered concerning gender, age, working experience, teaching appointment, academic degree, and administrative position. Linear and logistic regression models were used to examine predictors and changes over time.

RESULTS Data from physicians and nurses were collected in 2007 (n=1156), 2009 (n=2975), and 2011 (n=3999). There were significant increases in the use of four Internet-based resources – Web portals, online databases, electronic journals, and electronic books – across the three survey years among physicians and nurses (p<0.05). Before the experimental period started, a one hour education session was held twice for ICU nurses. Study instruments were demographic data sheet, HOBE daily assessment sheet, and head of bed angle monitoring system (through bedside monitor). The primary outcome was VAP incidence; the infection control team was in charged to identify VAP cases based on the hospital infection control policy. Secondary outcomes were skin breakdown rate, ventilator day, length of stay in ICU and mortality, the data were collected from hospital administrative datasets.

RESULTS Baseline characteristics were comparable for both groups. 609 patient days were observed; 298 patient days in control and 311 patient days in experimental group. Average HOBE were 11.3 (±3.4) degrees in control group and 22.9(±4.8) degrees in experimental group. The target HOBE of 30 degrees above was achieved only for 19.4% of the study time in experimental group, and the average HOBE degree were 23.5 in day time (08:00~23:59) and 21.3 in night time (0:00~07:59). HOBE daily assessment data showed the top three reasons that patients' HOBE less than 30 degree were: nurses forgotten (54.7%), blood pressure too low (24.7%), and patients were in agitated status (7.8%). The outcome results revealed that the experimental group had a significant lower rate of VAP than control group (3/51 and 9/38, p =.035). However, there were no significant differences between two groups in skin breakdown, ventilator day, length of stay in ICU and mortality.

LIMITS The nurses' compliance rate were less than 50% in current study, due to the heavy workload and forgot to put patients back to HOBE greater than 30 degree after procedures or measuring data.

CONCLUSIONS The patients in the average of HOBE greater than 22.9 degree had less chance to have VAP episode. However, the ICU nurses' compliance rate of intervention HOBE greater than 30 degree in ICU needed to be improved.

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52. USING THE CKD-EPI FORMULA IN A LONGITUDINAL OBSERVATIONAL STUDY TO ASSESS RENAL SAFETY OF DRUG THERAPY: THE EFFECT OF LITHIUM MAINTENANCE THERAPY FOR AFFECTIVE DISORDERS ON ESTIMATED GLOMERULAR FILTRATION RATE (EGFR) - A POPULATION COHORT (2000-2011)

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BACKGROUND Lithium is an evidence based treatment and the gold standard in the maintenance therapy of Bipolar Disorders. Since Hestbech (1977) reported 'chronic renal lesions following long-term treatment with lithium' there has been an ongoing debate about the effect of Lithium on renal function and whether it leads to chronic kidney disease (CKD) or even end-stage renal disease (ESRD). Two meta-analyses [Paul 2010; McKnight 2012] point out the poor quality of available data and the need for large scale epidemiological studies that control for confounders. Until recently there was no simple tool available to estimate GFR reliably above 60 ml/min/1.73m², as the widely used MDRD formula is associated with negative bias.

AIMS The aim was to examine the effect of lithium therapy on renal function via the CKD-EPI formula. We used record linkage of population based datasets available via the University of Dundee's Health Informatics Centre (HIC; <https://medicine.dundee.ac.uk/health-informatics-centre>).

METHODS The design was a cohort study of patients newly commenced on lithium maintenance therapy in Tayside, Scotland, between 01.01.2000 and 31.12.2011. Patients with incidence exposure to other first line drugs provided a natural comparator group. The HIC longitudinal datasets allowed exposures to be precisely calculated via records of dispensed prescriptions. Patients with a previous diagnosis of glomerular or tubulo-interstitial disease or CKD stages 4/5 at baseline were excluded. Primary outcome was the eGFR using the CKD-EPI equation [Levey2009]. The analysis of choice was a random coefficient model (PROC MIXED; SAS 9.2). A propensity score (to remain on lithium for at least six months) was calculated for each patient to balance covariates and adjust for confounding. First, a basic model with an unstructured covariance structure was fitted, adjusting for baseline eGFR, age and sex. Normality was checked via a residual plot of scaled residuals. Variables to be retained as fixed effects in the (stepwise forward) modelling process were chosen acc. to statistical significance and collinearity diagnostics. The model fit was checked via Akaike's Information Criterion (AIC).

RESULTS 1,120 patients (305 Lithium exposed, 815 exposed to comparator drugs) aged between 18 and 65 years qualified for analysis, having a baseline eGFR and at least one further eGFR value at least 6 months after start of exposure. This resulted in 13,963 eGFR values for analysis. The mean exposure length to lithium was 55 months (SD 42 months, min 6, max 144). The basic model estimated a mean decline in eGFR per year of 1.5 ml/min/1.73m²(standard error [SE]4.2 ml/min/1.73m²) as a fixed effect for the combined groups, which was more pronounced in the subgroup with baseline CKD stage 2 (164 lithium, 328 comparator drugs exposed), at 5.5 ml/min/1.73m²per year (SE 5.3 ml/min/1.73m²) and most severe in patients with baseline CKD stage 3 a rate of 12.0 mmol/min/1.73m² per year (large SE of 21.6 ml/min/1.73m² due to sample size of only n=22). Magnitude of the exposure*time interaction and its level of significance suggest no effect of lithium exposure on the rate of eGFR decline. The final model identified statistically significant predictors for a reduced eGFR as age, baseline eGFR, co-morbidities, co-prescriptions and a categorical lithium toxicity marker. As an alternative exposure parameter mean lithium serum level (with associated poorer model fit), but not exposure length was significant.

LIMITS Prevalences of diseases are based on hospital admissions and the model will underestimate their effect (and overestimate the effect of co-prescribed drugs). No data were available on race to adjust the CKD-EPI formula for this. The model remains to be tested on datasets other than the derivation data.

CONCLUSIONS The CKD-EPI formula proved a useful tool in a random coefficient model to assess renal function in a cohort at increased risk of diabetes and cardiovascular disease. The analysis suggests no difference between lithium and comparator group with respect to the effect of Lithium on the rate of change in eGFR over time. The (adjusted) estimated mean decline in eGFR/year is 1.5 ml/min/1.73m² (SE 4.2 ml/min/1.73m²) for the combined groups. These results are in keeping with Paul's estimates [Paul2010] in patients already established on long-term lithium therapy. Patients with already impaired renal function at baseline show a more pronounced decline in eGFR over time, with no difference between the treatment groups. Our results therefore shed doubt on the concept that 'long-term lithium therapy is associated with nephrotoxicity in the absence of episodes of acute intoxication, and that the duration of therapy and the cumulative dose are the major determinants of toxicity' (Nolin & Himmelfarb in J. Uetrecht 2010). Our approach of using the CKD-EPI formula in an observational longitudinal dataset may be applicable to other research questions in renal drug safety.

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53. RECONNECTING WITH STAFF AND SERVICE USERS: DEVELOPING ORGANISATIONAL VALUES FROM THE POINT OF CARE

Cole Mark

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BACKGROUND Camden & Islington NHS Foundation Trust provides mental health services to diverse and complex populations in two major inner-city boroughs in London. It undertook a recent review of both its inpatient and community services, which resulted in significant reorganisation in both areas. It was apparent in the midst of this that there was a need for the organisation to capture a rich picture of both staff and service user experience. In light of this, it established a project entitled Reconnect, which sought to encourage active feedback from both groups.

AIMS Reconnecting as a project sought to capture a range of data around staff and patient experience of the Trust. The material from this work was to be used in the following ways: first, it provided a snapshot of how people felt about the organisation - and where the Trust needed to concentrate its efforts on improvement; second, it filtered into a wider exercise around the codification of a set of organisational values.

METHODS The initial phase of the work involved seeking out compliments that the organisation had received over time. A "graffitti board" exercise followed, which invited staff to identify issues against four questions. Key to the work was a number of "In Our Shoes" and "In Your Shoes" workshops for staff and service users respectively that gathered additional material on practical experience of the Trust. All of this material was collated and eventually supported the development of an action log and a set of six new Trust values.

RESULTS Over 500 staff and service users were involved in the Reconnecting project. Material from the compliments element of the work was combined into a "wordle" which helpfully codified what service users and staff most valued about the organisation. The "graffitti boards" exercise helped to specify what staff and service users wished to see more or and less of in the Trust - and this was explored further at the "In Our Shoes" and "In Your Shoes" workshops, of which 12 were run. Ultimately, this project generated an action log of things that needed to be addressed in the organisation along with a set of six Trust values, against each of which sit comprehensive detail of behaviours that everyone would "Love To See", "Want To See" and "Don't Want To See."

LIMITS This work was extremely qualitative yet nevertheless generated a wealth of data - a great deal of it narrative in nature - which has helped the organisation to adjust the way it thinks about itself and the way it plans to do things in the future. Uptake of places on the staff workshops far exceeded those on the service user ones, after an initially very positive start. While work was undertaken to ensure that we engaged with traditionally hard to reach groups, there was a sense that the penetration - in terms of breadth and depth of our service user population - was not as good as it might have been.

CONCLUSIONS Over the coming 12 months, the "Changing Lives" initiative - which flows directly from our Reconnecting project - will begin in earnest. There is a strong commitment to address all of the significant issues raised throughout this listening exercise. Similarly, there will be work undertaken to ensure that the values that have been democratically generated and that have percolated through the organisation and usefully consensed into a usable code become meaningful for everyone who has contact with the Trust. Perhaps most significantly, the Trust is committed to adopt the methodology that underpinned Reconnect as part of business as usual, primarily to ensure that we are having genuine and authentic dialogue with both the workforce and those that use our services.

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54. USING THE CLINICAL LEARNING ENVIRONMENT SCALE CLES T (TEACHER) AS EVIDENCE FROM THE STUDENT PERSPECTIVE TO INFORM CLINICAL NURSE SPECIALISTS REGARDING QUALITY ISSUES AND EVALUATE PERFORMANCE OF THE HEALTH CARE TEAM

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BACKGROUND To systematically evaluate the quality of education in our teaching hospital we translated and revalidated a Finnish instrument (CLES+T) for the Swiss practice environment. During the expert discussion on content validity we realized the potential of this instrument not only in monitoring educational quality but also pinpointing quality issues in nursing care performance. The close collaboration in the validation process between the clinical nursing scientist and the heads of practical education was key in close collaboration in the further steps. Students are closely working together in the nursing team and therefore an interesting source of evidence on ward-level leadership style, team atmosphere, homogeneity in nursing values and information flow.

AIMS We aimed at introducing a systematic feedback circle based on selected CLES+T information to institutionalize the performance review and connect the educational and clinical nursing experts to encourage mutual learning and reflecting on quality issues.

METHODS We consecutively invited all students working in our hospital between August and December 2011. The CLES+T was answered during or at the end of the practice period. The participation was voluntary. We summarized and presented the results of this evaluation of the clinical learning environment to the vocational trainers and the clinical nurse specialists.

RESULTS We presented results of the CLES+T from 125 students (vocational training, nursing college, bachelor and midwives) from the 2nd to the last semester. The age ranged between 16-44 years, students were predominantly female (88%). The atmosphere on the ward was rated median 4.6, the leadership median 4.5, the care 4.7 and the teaching 4.7 (1=worst, 5=best) showing a general high satisfaction. Nevertheless some issues were evaluated more critical like communication in staff meetings, feedback from the ward manager as source of learning for the team, not having a clearly defined nursing philosophy, problems in the information flow related to patients' care and documentation of nursing. All clinical nursing specialists contributed to the discussion of these quality of care and leadership issues.

LIMITS Our experience is based on one teaching hospital of Switzerland and may be specific for our cultural and institutional setting. We are in the starting phase of a continuous process not yet strongly implemented or sustained for a longer period of time.

CONCLUSIONS We consider the clinical learning environment as an important proxy for nursing quality performance in the practice setting. The discussion and interaction of the different stakeholders who are all very motivated and interested in maintaining or increasing quality on the ward are very valuable. In systematically combining information which is already gathered for educational controlling with the responsibilities of the clinical care a culture of learning organization is supported. This kind of reflection together and including the students' perspectives enables new insights and encourages development to better performance.

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55. COMPARING THE EFFECTIVENESS OF INTENSIVE RESIDENTIAL REHABILITATION IN TRAUMATIC BRAIN INJURY (TBI) AND CEREBROVASCULAR ACCIDENT (CVA) USING THE MAYO-PORTLAND ADAPTABILITY INVENTORY

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BACKGROUND In general it has been reported that stroke unit care, compared to general ward care, improves long-term survival and functional state, as well as increasing the proportion of patients who are living at home 5 years post-stroke (Indredavik et al., 1997; Candelise et al., 2007). This has been used as evidence to suggest that stroke services should be separated from other forms of acquired brain injury (ABI) services; but is this really necessary? No studies appear to have addressed the question as to whether an acquired brain injury service (designed primarily for TBI) can provide similar benefits to those with CVA and TBI. The efficacy of intensive residential rehabilitation in helping individuals with ABI to achieve mood and behavioural stability, improve cognitive skills and develop a consistent activity plan that enables increased participation in society has been well established (e. g. Altman et al., 2010). However, these studies have involved samples of individuals with mixed ABI aetiologies (e. g. TBI, CVA, hypoxia, etc.). What has not been explored is whether those with CVA would benefit equally to those with TBI from admission to a holistic neurorehabilitation setting.

AIMS The aim of the present study was to investigate the effectiveness of an intensive residential rehabilitation programme for both those with TBI and those with CVA. Using outcome data we will attempt to establish whether different services are needed for CVA and TBI or whether those with CVA can show similar benefit to those with TBI from the treatment provided in a neurobehavioural unit.

METHODS A retrospective analysis design of program evaluation data for TBI and CVA was used. Individuals with TBI (N = 244) and CVA (N=105) were included. The intervention was an intensive residential rehabilitation programme following the principles described by Malec and Basford (1996). The main outcome measure was the MPAI-4 completed by members of a multi-disciplinary clinical team on admission and discharge.

RESULTS Paired samples t-tests showed that all MPAI-4 scores at discharge were significantly better than those observed at admission for TBI and CVA (all $p < .01$). Differences in progress between groups were investigated with analyses of covariance. Potential covariates were evaluated including age, sex, length of stay in the programme, time since injury and MPAI-4 scores at admission. Age, length of stay and MPAI-4 at admission correlated significantly with MPAI-4 scores at discharge and were included as covariates in subsequent analyses. No differences between groups were found for Abilities (CVA = 53, TBI = 55), Participation (CVA = 53, TBI = 58), Adjustment (CVA = 53, TBI = 55), or MPAI-4 Total scores at discharge (with age and length of stay as covariates) (CVA = 52, TBI = 58).

LIMITS The findings of this study are limited by the lack of a treatment control group and a possible underestimation of change inherent to the use of the MPAI-4 at different stages of the rehabilitation process.

CONCLUSIONS These results suggest that an intensive residential rehabilitation programme is equally effective for TBI and CVA. In times of economic constraint it is hard to justify two separate units if one service can serve both groups satisfactorily.

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56. THE IMPACT OF INDIVIDUALIZED ATTENTION ON QUALITY OF LIFE OF ELDERLY RESIDENTS LIVING WITH END-STAGE DEMENTIA

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BACKGROUND Elderly residents living with end-stage dementia are sometimes described as being in a vegetative state. They often are not involved in activities that are offered to residents in earlier stages of dementia. However, elderly residents living with end-stage dementia need to interact with other people, in a way that matches their needs and capabilities, to cope with their fears and isolation. Enabling regular contact with these residents can enhance their quality of life.

AIMS To assess the impact of 30 minutes of individualized attention per day on quality of life of elderly residents living with end stage dementia in a nursing home.

METHODS A quasi-experimental design was used with a single intervention group being assessed at three points in time: before the start of the intervention (t0) and during the intervention period: t1 (two months after t0) and t2 (two months after t1). Auxiliary nurses (n = 18) were trained to offer individualized attention for half an hour per day on a one-to-one basis to residents living with end-stage dementia (n = 15; average age 88,8 / range 75 – 101). The intervention was tailored to the preferences of individual residents (e.g. sensory stimulation, singing, massage, rocking). Individual preferences were initially established based on interviews with relatives and subsequently refined on the basis of a logbook kept for each resident from the start of the intervention period. The goal of these interventions was to elicit interactive behaviour demonstrating human connectedness. The assessment at t0, t1 and t2 consisted of: - video observation of each resident during the intervention (at t0 a routine interaction with an auxiliary nurse was recorded; at t1 and t2 the intervention based on offering attention tailored to individual preferences was recorded; average recording time 20 minutes per resident); - semi-structured interviews with staff and relatives (total number of interviews = 25); - surveys regarding quality of life (Qualidem) and agitation (CMAI-D), completed for each resident by the primary care nurses of the residents. Video recordings were analysed systematically using the 'Observer XT' software program. Coding was based on descriptions of 12 mutually exclusive interactive behaviour categories. Two researchers independently coded all video recordings; inter-rater reliability > 90%. Statistical analysis based on the Wilcoxon test compared interactive behaviour at t0, t1 and t2. Interviews were analysed using a thematic approach. The Wilcoxon test was used to analyse the surveys comparing results at t0, t1 and t2.

RESULTS Based on systematically coded video observations, we found significant positive effects ($p < 0,05$) on interactive behaviour from the residents living with end-state dementia. The following behaviours were observed more frequently during the intervention: held eye contact appropriately; touching; responded to speech; tracked observable stimuli / focused on activity; asked questions about activity. These findings were supported by the interviews with the auxiliary nurses who vividly described examples of making human-to human contact with these residents. The group-level analysis of the surveys (reflecting residents' behaviour on a 24 hour per day basis) revealed no overall effect of the interventions on quality of life or agitation. However, during the interviews some of the staff and relatives did report effects beyond the 30-minute intervention for some of the residents.

LIMITS The golden standard to assess quality of life is to ask participants to report on this. The end-stage dementia that the residents in this study were living with excluded this option. Therefore, the effect of the intervention on quality of life was assessed based on interactive behaviours linked to quality of life of residents with end-state dementia.

CONCLUSIONS Analysis of video recordings demonstrated that attention offered on a one-to-one basis, tailored to individual preferences, significantly improved quality of life of elderly residents living with end-stage dementia during the intervention. Surveys revealed no significant overall effect (reflecting residents' behaviour on a 24 hour per day basis). Findings from the interviews indicated there might be effects beyond the intervention for some residents. Elderly residents living with end-stage dementia should not be perceived as being in a vegetative state. The effects of the intervention in this study showed that, when approached in a way that matches their capabilities, they do respond positively to human contact offered, meeting their need for human connectedness.

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57. DEVELOPING HEALTH CARE PROFESSIONALS THROUGH A COMPETENCY BASED TRAINING PROGRAMME AT AHMADI HOSPITAL, KUWAIT OIL COMPANY

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BACKGROUND Competency-Based training is a framework for designing & implementing education that focuses on the desired performance characteristics of healthcare professionals. Professional competence is the habitual & judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, & reflection in daily practice for the benefit of the individual & community being served. The healthcare worker is one of the most important factors in the healthcare system. Healthcare providers are instrumental in stimulating, creating & maintaining healthcare improvement.

AIMS The purpose of this case report is to share the success story accomplished by Ahmadi Hospital related to Competency-based training, including all faced challenges, over the last six years, between 2008-2013; where competencies modules are reviewed, analyzed & updated every two years according to Kuwait Oil Company relevant training policies.

METHODS Medical Focus Groups are formulated from all various clinical, allied health staff, pharmacy, health informatics, multidisciplinary staff, who carries their organized competency literature review, comparative studies data analyses through small circle meetings, by subject matter experts who are approached to provide depth & content validity selecting the most suitable recommended competency modules, defining competencies, selecting the suitable diversified learning tools; followed by online staff assessments; finalized by online generated personal development plans; valid for two years.

RESULTS Competency-based training findings & outcomes are linked & measured against pre-set Key Performance Measures on quarterly & yearly basis, where all managerial staff are directly held accountable; reflecting on Staff Performance Appraisal, all through.

LIMITS -

CONCLUSIONS Ahmadi Hospital Professional Development Achievements for last training cycle scored 92% for 2011-2012 vs 97% for 2010-2011; based on Competence Module.

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58. PIOGLITAZONE AND RISK OF BLADDER CANCER: A METAANALYSIS OF CONTROLLED STUDIES

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BACKGROUND Pioglitazone, a thiazolidinedione, was approved for treatment of Type 2 diabetes. However, several observational studies suggest an association of pioglitazone with an increased risk of bladder cancer in patients with diabetes.

AIMS to evaluate the magnitude of the association between use of pioglitazone and risk of bladder cancer and the quality of the supporting evidence.

METHODS Electronic databases were queried to identify controlled studies of pioglitazone that measured the risk of bladder cancer. Study selection, abstraction and assessment of risk of bias were done by 2 authors

RESULTS Six studies involving 215 142 patients using pioglitazone were included, with a median period of follow-up of 44 months. The hazard of developing bladder cancer was significantly higher in patients using pioglitazone (hazard ratio 1.23; 95% CI 1.09–1.39; I² = 0%) compared with control groups. The risk of bias was moderate across the six studies. Considering an incidence rate of 20.8 per 100 000 person years, the number needed to harm was five additional cases of bladder cancer per 100 000 person years.

LIMITS Most studies were observational

CONCLUSIONS Pioglitazone use is associated with an increased risk of bladder cancer. Clinicians must consider this increased risk in the context of the baseline risk for bladder cancer of their patients, other adverse features of this medicine (e.g. weight gain, cost) and its potential anti-hyperglycaemic benefits.

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59. EMBEDDING THE EVIDENCE BASE AROUND QUALITY IMPROVEMENT METHODOLOGIES & PATIENT SAFETY INTO HEALTH, NURSING & MIDWIFERY PROGRAMMES

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BACKGROUND With an increased focus on financial and process efficiency, a local NHS and wider agency partnership and collaboration has led to the development and implementation of Quality Improvement and Patient Safety modules. Although these themes are also embedded throughout the undergraduate curricula, there has been a marked focus by the School to implement this at Degree and Masters Level within Scotland's largest School of Health, Nursing & Midwifery – The University of The West of Scotland.

AIMS The modules seek to enable healthcare professionals from different backgrounds and settings to critically appraise the evidence base around current quality improvement approaches. Whilst responding to local or national challenges, they will have the confidence to use this evidence and data to bring about changes in practice which will benefit patient care and ultimately the patient experience.

METHODS As the industry surrounding improvement methods and techniques evolves, it is essential that healthcare professionals are aware of the strengths and limitations of these approaches. Hence, the most common quality improvement methodologies are explored alongside the evidence base which underpins their use within healthcare. Students will then, under guidance, undertake a project of continuous quality improvement within their work setting. The effectiveness of their project is measured in relation to safety outcomes, performance, and productivity.

RESULTS Over 100 healthcare professionals have already driven forward a quality improvement/patient safety project within their work setting. By adopting the current evidence around quality improvement methodologies and evaluation strategies, real improvements have been made in areas such as Safety, Efficiency (using Lean methodology), and increased compliance with Clinical Quality Indicators and local/national guidelines.

LIMITS Students need to be actively encouraged to publish their work following successful completion of these modules in order to increase the evidence base around this very important and topical subject area.

CONCLUSIONS The emerging evidence around the actual impact of quality improvement programmes within healthcare is still in its infancy. With much of the literature driven from a medical perspective and focused on large scale change, it is essential to recognise the important contribution that other healthcare professionals, can, in collaboration, have a real impact on improving the quality and safety of healthcare through small scale changes.

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60. A POPULATION-BASED COHORT STUDY OF POST-STROKE DEPRESSION IN PATIENTS WITH STROKE REHABILITATION

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BACKGROUND Depression is common in stroke survivors. Many studies have explored ways to effectively treat PSD. Some investigated whether pharmacological therapy or psychotherapy showed evidence that PSD is preventable. Presently, little is known concerning the effectiveness of stroke rehabilitation in preventing incidence of depression in stroke survivors.

AIMS The purpose of this study was to conduct a population-based cohort study to investigate the association between stroke rehabilitation and the risk of PSD onset among first-time stroke patients. We also aimed to explore the age and sex-specific relationships between stroke rehabilitation and risk of depression onset in patients with stroke.

METHODS This population-based cohort study examined claim data of a random sample of 1 million insurers registered in 2000 in Taiwan. Between 2000 and 2005, there were 7,677 patients were admitted as the first-time stroke patients. Of them, 1,285 (16.7%) received the rehabilitation regimen within the first 3 months of stroke admission. The other 83.3% of patients belonged to the control group. All study subjects were followed to the end of 2009 to observe any possible episodes of depression onset. The incidence density (ID) of PSD was calculated assuming a Poisson process. A Cox proportional hazard model was used to estimate the relative risk of PSD in relation to the receipt of rehabilitation.

RESULTS Over a 10-year follow-up, 75 (5.8%) patients with rehabilitation and 566 (8.7%) controls developed PSD, representing an ID of 11.3 and 18.5 per 1,000 person-years, respectively. After controlling for potential confounders, the rehabilitation was found to significantly reduce the risk of PSD with a hazard ratio (HR) of 0.57 (95% confidence interval (CI)=0.45-0.73). The effect was greater for men (HR=0.52, 95% CI=0.37-0.71), especially for the elderly men (HR=0.45), than for women (HR=0.69, 95% CI=0.47-1.02).

LIMITS First, exclusive reliance on the claim data might have resulted in potential disease misclassification bias. Second, we were unable to take into account a comprehensive list of potential confounders in the analysis, which might have also resulted in residual confounding in our study. At last, because we retrieved all patients who had ever visited rehabilitation within the 3-month period following the stroke attack from the NHI claim data, there was a great diversity of stroke rehabilitation techniques, protocols, durations, frequency, and periods between different therapists, clinics or hospitals, which led to heterogeneous effects of stroke rehabilitation.

CONCLUSIONS Stroke rehabilitation intervened in the first 3 months of stroke admission

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61. OUTCOMES OF SHORT-TERM COMPRESSION THERAPY FOLLOWING VARICOSE VEIN SURGERY: APPLICATION OF THE META-ANALYSIS RESULTS IN 35 PATIENTS

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BACKGROUND A common surgical procedure for treatment of primary varicose veins is ligation and stripping of the great saphenous vein (GSV). After GSV stripping, the prescription of compression stockings is for 3-6 weeks to reduce hemorrhage, edema, and pain in standard practice. However, patients frequently report difficulty in applying the compression stockings and discomfort during warm weather.

AIMS We conducted a systematic review and meta-analysis of randomized controlled trials (RCTs) to evaluate the optimal duration of compression therapy after surgery for varicose veins. Then we applied the results clinically to patients and evaluate their outcomes.

METHODS RCTs were identified by computerized searching in PubMed, EMBASE, SCOPUS, and Cochrane databases. Outcomes of short-duration (3-10 d) and long-duration (3-6 wk) compression therapy after GSV stripping and phlebectomies were evaluated. Pain was assessed postoperatively using a visual analog scale. Secondary outcomes included leg volume, complications, and the duration of absenteeism from work.

RESULTS We identified 4 RCTs published between 1991 and 2009 that evaluated 686 patients. We observed non-significant differences in postoperative pain scores between the long-duration and short-duration groups, with a weighted mean difference of -0.03 (95% confidence interval (CI): -0.53 to 0.47) at 4 weeks, and -0.01 (95% CI: -0.31 to 0.33) at 6 weeks, postoperatively. We also observed non-significant differences in the incidences of postoperative complications and changes in leg volume 4 weeks postoperatively between the groups. According to the above results, we applied 1-wk compression therapy to 35 patients following varicose vein surgery between Jan. 2012 and March 2013, no hemorrhage was found, and the intensity of pain was satisfied postoperatively.

LIMITS Our findings on a small body of evidence in which the methodological quality was not high.

CONCLUSIONS Meta-analyses synthesize evidence on the effects of interventions and support evidence-based practice. Our study indicated that there are no benefits to long-term compression therapy after varicose vein surgery of the GSV regarding postoperative pain, leg volume, incidence of complications, and duration of absenteeism from work. We therefore recommend the prescription of short-duration compression after varicose vein surgery in routine practice.

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62. REDUCING WAITING TIME IN ACCIDENT AND EMERGENCY FOR CHILDREN-THE LEAN WAY

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BACKGROUND Unplanned nature of patient attendance in A&E leads to unnecessary waiting time for children. This process has a clinical and operational part to it. While doing my course, I realised lean strategies could be utilised to reduce waiting time in A&E.

AIMS This project is to identify and reduce the number of non-value added steps along the patients' journey (Children of 0-14 years of age) attending emergency department at Mayo General Hospital. This is aimed to reduce the waiting time, reduce the overall time, and thus, improve the patient experience and render better patient care attending emergency department at Mayo General Hospital.

METHODS I have formed a team, which was duly approved by hospital management. The team has hardworking, experienced, dedicated and committed hospital staff. The team consisted of: - Paediatric Consultant, Registrar, Senior house officer (NCHDS) - PROJECT MANAGER: Myself - Clinical Nurse Manager III- Paediatrics, A&E. - Assistant Staff Officer. - Staff nurses-Paediatric, A&E. - Other members will be co-opted as necessary - And last but the most important- the patient, children. The team has been established and is already undertaking a number of activities and weekly meetings. The main steps included: - Establish clearly existing waiting times for paediatric patient. - Establish clearly the existing patient journey - Identify stakeholders to involve in the process mapping session. - Identify issues/ solutions/bottlenecks/ decision points. - Identify where value added and non-value added activity exists. - Explore options to improve the position. This should ideally include: 1. Implementation of improvement plans 2. Re-evaluation of the effectiveness of improvement plans. - And last but the most important- the patient, children. To further my lean project I formulated a document to record time taken for children in accident and emergency in the various stages of their waiting period-current visual map. This format mapped the time taken for paediatric patients at various stages that a patient generally has to undergo i.e. in medical terms, history & examination, differential diagnosis, investigation, interpret results, definitive diagnosis, determine care plan, implement and follow up review.

RESULTS Future VSM was formulated taking care of the variations /delays seen. Discussions were made with paediatric consultants, senior staff nurses, senior house officers, registrars and their observations and opinions were taken into account. We have a system already in place. To introduce improvement into it, the following current recommendations were suggested, based on current value stream map analysis. **VARIABLES SUGGESTIONS** 1. >3 children waiting to be seen in A&E in Monday mornings, Friday afternoon, Bronchiolites, Gastroenteritis season. The Paediatric registrar be called to assist. Team on call to use the 5S principals to organize the work and instilling the discipline. Visual display: On call team takes a look at the board- (e.g. 5 children waiting): and gets into action. 2. Interdepartmental transfer e.g. transfer between surgeons and orthopaedics Better communication and better team play will lessen waiting period. 3. Children may be kept waiting for bed once admitted- thus increasing the total waiting time. Liaison of A&E with Paediatric Ward for quicker transfer to ward. 4. One ED cubicle-causes delay if more than three children need to be seen. There should be provision for second cubicle which if not in use can be used by the Emergency department. 5. Lab, X-ray department Should be contacted at appropriate time to avoid unnecessary delay, thus leading to better time management. The main idea is to holistically assess, diagnose, treat, discharge/ refer, and evaluate child care in a safe and co-ordinate way in line with the best practice, incorporating health promotion, education, and risk reduction, in the run. Thus, application of these measures : (a) Registrar led On-call Team (b) Visual display of number of waiting children, (c) Discussion and application of Lean Tools with the NCHD Team (d) Better communication with surgical and orthopaedic teams (e) Constant Consultant supervision (f) Making the new team aware of the issue of reducing waiting time in A&E during the induction meeting itself,

LIMITS Old staff resisting change, some NCHDs non-compliant.

CONCLUSIONS Reducing waiting for children in ED. Lean thinking is about team involvement. Lean thinking is about team involvement. It focuses on the process, not on individuals. This is because teams are superior to individuals at identifying and implementing improvement opportunities. I have had meetings with the medical, the surgical and the obstetric team and have persuaded them to have projects on similar lines, to discuss and be familiarised with Lean Tools (5S, Value Stream Map, Kanbans, Kaizen events, Visual Display), and formulate a Current Value Stream map. Formulating Current Value Stream Map for each individual Team will help them to 'go and see' and give them their 'waste goggles'. This will help the above team doctors to redesign care accordingly and reduce waiting time in accident & emergency for the adult patients as well, thus delivering best possible care. Our aim is to deliver the best for patients, for staff, for our community and for the taxpayer.

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63. COMPARISON OF PHLEBITIS OF TWO PERIPHERAL INTRAVENOUS CATHETER REPLACEMENT MODEL ON ADULTS: A QUASI-EXPERIMENTAL STUDY IN NORTHERN TAIWAN

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BACKGROUND Peripheral intravenous therapy is a common intervention for inpatients all over the world. According to the Guidelines for the Prevention of Intravascular Catheter -Related Infections (2011), it was still suggested that to replace peripheral intravenous catheters (PIC) by 72-96 hours for reducing cases of phlebitis and catheter-related infections, but except children and patients with poor veins. Studies indicated that routine replacement was not necessary because of the catheter design and texture were constantly improved.

AIMS The aim of this study was to compare the incidence of phlebitis of PIC routine replacement and PIC clinically indicated replacement on a northern medical center in Taiwan.

METHODS We used quasi-experimental design, the inclusion criteria were the medical or surgical inpatient adults and the exclusion criteria were patients who were immunosuppressive, chemotherapy or patients under partial parenteral nutrition. There were total 181 patients were recruited, they were purposive assigned (by patients' choice) to PICs clinical indicated replacement (experimental group) and PICs routine replace every 4 days (control group). Finally, there were 79 patients (1188 patient-times) included in experimental group and 102 patients (1772 patient-times) within control group. The visual infusion phlebitis scale was used to differentiate if there were phlebitis. The researchers inspected the PIC puncture site every day till the end of treatment of PIC or discharge. The indicators of outcome were the morbidity of phlebitis and catheter-related bloodstream infection rate between routine replacement and clinically indicated replacement.

RESULTS There were no PIC-related bloodstream infections in either group. The incidence of phlebitis was analyzed by generalized estimating equations(GEE). The phlebitis rate from day1 to day5 in per patient-times did not differ between groups ($p > .05$).

LIMITS The study was implemented in a medical center northern Taiwan without funding. It is difficult to infer to all inpatients in Taiwan. We suggested that larger sample size study will be conducted to prove that clinically indicated replacement of PICs did not increase the phlebitis rate. Eventually, clinically indicated replacement of PICs could be the routine of PIC treatment.

CONCLUSIONS The incidence of phlebitis between clinically indicated replacement and routine replacement appear similar. Clinically indicated replacement was suggested over routine replacement because clinically indicated replacement would not only decrease patient discomfort, but also save equipment and staff time.

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64. MEDICAL INCIDENT EVENTS OF A MEDICAL CENTER IN TAIWAN – A RETROSPECTIVE DATA ANALYSIS

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BACKGROUND The purpose of patient safety is 'Preventing any accidents and avoiding unnecessary injuries of the patients during medical care'. IOM (Institute of Medicine) introduced 'To Err is Human'• to increase the awareness of medical error. Medical incident refers to any unplanned events, professional standard of patient care, and inconsistent of practices or organizational policies and procedures, which can result in medical errors, medical adverse event and shift differential that could lead to patient's injury.

AIMS The purpose of this study is based on medical analysis of a medical center in Taiwan as basis to improve strategies.

METHODS The sources of data come from a Taiwanese medical center online reporting system from 2011 to 2012 regarding medical incidents and near miss. Variable analysis comprises the patients' gender and age, numbers of incidents per month, degree of injury, units and teams, work shifts, classifications, after treatment, and cause analysis. Statistical analysis methods include the use of descriptive, chi square, and independent t-test to determine the variable between significant differences.

RESULTS There are total of 3880 incidents (both medical incidents and near miss) reported between 2011 and 2012, in which 42% are female patients at the age of 56 /-25. (1) Medical incidents: There are total of 2616 incidents reported between 2011 and 2012, in the region of 278-387 incidents per month. The incidents are divided into fall and others (ie, medication error, tube slipping) categories. There are total of 616 incidents of falling, which 38% resulting in injury. In 'others'• category, the event of medication error accounts for 36.7%. Occurrence of surgical units accounts for 27.4%. Occurrence on second shift has the highest rate of 38.4%; however, the total of incidents do not have significant difference among all shifts (P<.001).

LIMITS The current study used secondary data analysis that relies on an accurate and complete database. The study findings were limited to variables contained within the database.

CONCLUSIONS Medical error is the most common occurrence in both medical incidents and near miss. Proposed data analysis results should be further reviewed to develop strategies for improvement.

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65. THE EFFECTIVENESS OF ABDOMINAL MASSAGE AT RELIEVING CONSTIPATION IN NURSING HOME

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BACKGROUND Constipation is a common health problem in older patients and is associated with decrease in quality of life. Medicine and enema are commonly used methods for constipation relief. Abdominal massage therapy is one of the non-pharmacological therapies. From evidence-based literature, abdomen massage also has benefits to patients.

AIMS The purpose of this study was to compare abdomen massage group and usual-care control group in nursing home constipation residents.

METHODS This is a randomized controlled trial study. A sample of 60 people with constipation is included in two groups. Abdomen massage group is massage 15~20 minutes every day for 4 weeks. Control group is usual care. Demographic characteristics and constipation symptoms scale for the analysis of constipation patients.

RESULTS Subjects are select through sampling of 60 constipation patients. We expect the result will showed abdominal massage decreased severity of gastrointestinal symptoms, a result that indicates that abdominal massage could be the effectiveness of abdominal massage in relieving constipation.

LIMITS It would be spend a lot of costs.

CONCLUSIONS Abdominal massage can effectively relieve constipation. Nursing care standards have to be developed and applied in nursing care to improve the quality of nursing care while reducing the needs for medication and symptoms.

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66. THE EFFECTIVENESS OF CONTINUOUS PASSIVE MOTION AND ACTIVE MOTION FOLLOWING TOTAL KNEE: A SYSTEMIC REVIEW

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BACKGROUND The total Knee Arthroplasty often involves periods of postoperative immobilization which can lead to joint stiffness. Animal studies have demonstrated that early movement improves range of motion. Continuous passive motion (CPM) has been used as part of postoperative care following TKA in some hospitals. However, some also claim that it reduces pain and the length of hospital stay..

AIMS In this systemic review, determination of the effectiveness of CPM and active motion compared to similar postoperative care of additional knee exercises on knee ROM assessment was made through the process of the complete literature search

METHODS This study utilized the five-hierarchy evidence-based nursing steps of systematic literature investigation of studies concerning the application of TKA, the effectiveness of CPM, active motion and knee exercises on knee ROM relief conducted by Ciliska in 2001. Computerized literature search was carried out to retrieve all controlled clinical trials. Strategies of using keywords and MESH terms were applied in each database. Searches have been made through CENTRAL on Cochrane Library (2011), MEDLINE (2002-2011), CINAHL (2002-2012), with no language restrictions applied. Two of the research teams independently assessed the study quality and extracted data. Myelnyk & Fineout-Overholt's (2010) critical appraisal was made to assess trials hierarchy level and recommended level.

RESULTS Two randomized control trials and one systematic review met the inclusion. There is high-quality evidence that CPM increases knee range of motion (mean difference 2 degrees, 95% CI 0 to 5) and Active motion increases knee flexion range of motion (mean difference 2 degrees, 95% CI 0 to 5) and Active motion increases knee range of motion (mean difference 3 degrees, 95% CI 0 to 5) and Active motion

LIMITS We spent a lot of time, to interpret literature and to find the effectiveness of the CPM and active motion compared to similar postoperative care of additional knee exercises on knee ROM assessment was made through the process of the complete literature search.

CONCLUSIONS The effects of CPM on knee range of motion are too small to justify its use. The implementation of the CPM, postoperative knee flexion only slightly remarkable, and raised the need to consider human cost and material consuming factors. The results show that the patients must be taught to execute and perform active movement.

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67. TOWARDS EVIDENCE-BASED PHYSIOTHERAPY - BARRIERS, FACILITATORS AND INTERVENTIONS

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BACKGROUND The importance of attaining a more evidence-based practice (EBP) in physiotherapy has gained ground steadily over the past decade. This paper reviews research concerning EBP barriers, facilitators, and interventions to achieve a more evidence-based physiotherapy practice.

AIMS To describe and discuss characteristics and key findings of the research conducted on EBP in physiotherapy thus far, and to highlight important research challenges and needs for improved understanding of how evidence-based physiotherapy practice can be further enhanced.

METHODS A narrative review was undertaken of physiotherapy research on EBP barriers, facilitators, and implementation interventions. Research challenges and future needs were identified.

RESULTS Research on EBP in physiotherapy has largely been cross-sectional and observational, and predominantly quantitative. Numerous barriers to developing a more evidence-based physiotherapy practice, such as time restrictions, limited access to research, poor confidence in EBP skills, and inadequate support from managers, have been established. Some facilitators have also been identified, notably post-graduate education, continued education, and online access to research summaries. Barriers and facilitators have predominantly been identified in quantitative surveys of a finite set of pre-determined barriers and there is a risk that these fail to capture the range or depth of the phenomenon under study. There might be factors that independently affect EBP outcomes as well as synergies that might emerge from interaction between various factors. Further, it is not clear whether the barriers that have been reported by physiotherapists are the actual barriers as perceived importance may not correspond with actual importance. Barriers to EBP in physiotherapy exist at different levels, from the individual to the organisation. Research on organisational barriers is very limited. Implementation interventions to achieve increased EBP in physiotherapy have targeted individual physiotherapists primarily by means of educational measures or clinical guidelines. Few studies on implementation of EBP in physiotherapy exist and effects have generally been modest. Using theory in implementation is recommended but is rare in physiotherapy research.

LIMITS The review was not systematic and does not claim to have identified all relevant research. No quantitative or qualitative synthesis of research findings was made.

CONCLUSIONS Future research on EBP in physiotherapy should expand beyond its current parameters and address several issues to improve understanding of how a more evidence-based physiotherapy practice can be attained. More qualitative research is needed. Future studies need to investigate the relevance of factors that can facilitate clinical practice change and contribute to a more research-informed physiotherapy practice. In addition to measuring process outcomes, patient outcomes and costs must be examined. There is also a need to broaden the current focus on individually-oriented educational interventions and clinical guidelines, and to address organizational barriers.

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68. IMPLEMENTATION OF HEALTH EDUCATION TO THE PATIENT AFFECTED WITH HEART FAILURE

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BACKGROUND Heart failure (HF) is a complex clinical syndrome that can result from any structural or functional cardiac or non-cardiac disorder that impairs the ability of the heart to respond to physiological demands for increased cardiac output. Over 65 years heart failure is the leading cause of hospitalization, and for this it is considered a public health problem of enormous importance. Suffering from heart failure in Italy there are about 600,000 people and it is estimated that the frequency doubling with each decade of age (after age 65 up to 10% approximately). The international heart failure guidelines are agree to consider patient education as a essential component of nursing care. The goals are to reduce the occurrence of heart failure symptoms and complication, to reduce recovery and improve the quality of life. Problem: patient's education by nurses of Heart Failure Unit in Centro Cardiologico Monzino is not done routinely but carried out in spare moments during the hospitalization. We identifies the need to educate the patient with heart failure systematically.

AIMS The aims of the current work is to present the preliminary result about the knowledges of the patient with heart failure after implementation of systematic health education: to understand heart failure, recognition and response to signs and symptoms; to proper management of drug therapy; to promote self-care strategies that include: lifestyle and behaviours like diet and physical activities; to achieve of knowledge about management of fluid intake, monitoring diuresis, body weight and oedema.

METHODS Descriptive-correlational prospective study. Population were patients treated in the HFUnit (June 2012/ March 2013). Patients had a diagnosis of HF or had HF symptoms during the hospitalization (regardless of the main diagnosis); cognitive status intact, consciousness is not altered and they consent to participate. Education program consist in 1 group meeting, (conducted by a nurse with 1 year of work experience in HF Unit) supported by use of slide and a little book. To evaluate patients' knowledge about HF we use a self-administered questionnaire developed by ourselves (based on 'The Dutch Heart Failure Knowledge Scale' developed by van der Wal et al.) modified . The questionnaire was tested in a pilot study (49 patients from 5 April to 7 June 2012) at the end of which was changed in the final version. The questionnaire consist of a 26 multiple-choice items measuring knowledge about the HF, signs and symptoms; management of drug therapy, lifestyle, diet and physical activities; management of fluid intake, monitoring diuresis, body weight, oedema. Patient fill out the questionnaire before the meeting and at discharge. The project ends with the follow-up to a month away, (telephone interview by the nurses).

RESULTS A convenience sample of 126 adults being inclusion criterion was recruited, 85 patients participate (67,5 %), 23 patients consent to participate but they are unable to attend as discharged before (5%) or undergoing diagnostic procedures (13,5%). 64 patients were male (75%), mean age was 68 ± 11.5 , The most were married (70,6%), 49 pz was retired (57,6%) For 43 patients (50,6%) was the first hospitalization in the HF Unit. Results are only preliminary; statistical analysis of the data is in progress. Final results will be presented at the conference. But after first analysis of the data, we can consider that knowledge are better after patient's education: about heart failure in general recognition and response to signs and symptoms, (~ 5% correct), about lifestyle and behaviours like diet and physical activities, about management of fluid intake (~ 25% correct), monitoring diuresis (~ 20% correct), body weight (~ 30% correct) and oedema (~ 40% correct) Knowledge about management

LIMITS The questionnaire is not validated, bias related to data entry made by the researchers.

CONCLUSIONS Preliminary results show that interventions of HF education are more likely to improve HF knowledge but not about management of drug therapy. Preliminary results about telephone follow up are unable now.

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69. KNOWLEDGE TRANSFER OF EVIDENCE BASED HEALTH CARE CONCEPTS TO THE EDUCATIONAL SCIENCES FIELD: AN EXPERIENCE IN A MIDDLE INCOME COUNTRY

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BACKGROUND Evidence Based Health Care (EBHC) principles and methods have been successfully transferred to different health disciplines such as nursing, dentistry, physical therapy, among others. The same concepts have also been transferred to social sciences with different rate of success around the world. However, this transfer has been slow or almost inexistent in low- and middle-income countries. This abstract presents the experience of a group created to transfer knowledge from an EBHC group to a research group in Educational sciences, and to build capacity to interpreting and conducting systematic reviews in this area.

AIMS To communicate an experience of knowledge transfer of the concepts of EBHC and systematic reviews to the Educational field in a middle-income country.

METHODS In the context of an interdisciplinary meeting promoted by university authorities, faculties of the EBHC Program and the Faculty of Education had the opportunity to discuss about research approaches. They discussed about the merits of EBHC, and how these concepts had been extrapolated to the educational field, in initiatives like Campbell Collaboration, EPPI-Centre, among others. This initial conversation motivated a round of meetings between both groups, in order to address the merits of this methodology in both teaching and research, and potential barriers and facilitators. Methods used in EBHC were almost unknown in the educational field and the application in teaching and research, especially with postgraduate students, appeared promising. The new interdisciplinary group was formed by 2 academics of the Faculty of Education and 6 from the Faculty of Medicine. They started to meet weekly to discuss about a specific project as a way of starting the transfer process. The group decided to conduct a systematic review (SR) in a topic of interest for both groups generating a concrete opportunity to introduce evidence-based methods, and to recruit postgraduate students of Educational science

RESULTS The collaborative group accomplished to win a small grant to do a systematic review on a topic of interest for both groups. Actually the group has registered the title "Single-sex schooling for improving educational and health outcomes of elementary and secondary school students" • in both Cochrane and Campbell Collaboration. By the moment, the protocol of the review is being subjected to peer-review process in both collaborations. Furthermore, education academics have also been able to start the knowledge transference to other members of their Faculty: including this tool as part of the decision making process (Evidence Based Education); recently a new group has started to work on another systematic review on pre-schooling teaching. Additionally, another academic of the Faculty is working with the EBHC group providing support on qualitative methodologies. This methodology has also been introduced to postgraduate students and currently it is offered as an option for master thesis. Finally, there has been transfer from the Medical School librarians to the Education School librarians, through training on and support for the bibliographic searches required in SR. Barriers and facilitators For members of EBHC group: Working on a less familiar topic has forced the team into acquiring new skills in designing and running a systematic review: search process in social science and education databases, learning to apply critical appraisal tools for different study designs (e.g. regression discontinuity design and nonequivalent comparison group trials), and exploring new analysis and synthesis methods. For the Education Faculties: The main difficulties have been related with the lack of training in systematic review methods in a Faculty where there was no previous experience in systematic review methods. Indeed, the whole concept of appraising experimental designs in the educational field was mostly unknown for them. This lack of knowledge has also implied lack of interest in engaging in the project from academics and postgraduate students. Moreover, interested students have been limited by the time required for carrying on the review, which exceeds the allocated time for completing a master thesis.

LIMITS Lack of systematic assessment of barriers and facilitators

CONCLUSIONS This interdisciplinary collaboration has proved to be very successful building capacities in the educational science field. We are now planning to develop a formal assessment of barriers and facilitators using qualitative and quantitative methodologies in order to improve this knowledge translation process.

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70. GLUG WATER: DRINKING EXTRA WATER WEIGHT REDUCTION AND WELLNESS BENEFITS, AN ONLINE RANDOMIZED CONTROLLED TRIAL

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¹ThinkWell

BACKGROUND Direct to consumer marketing leads the public to believe that drinking extra water is beneficial for weight loss and health. There are studies that support this assumption but they are small and done only with special populations. On the other hand obesity rates continue to rise and water sales are a multi billion-dollar industry. The public wants to know if convincing them to drink extra water is a moneymaking scheme or if drinking more water can help them to lose weight. They also want to know if it will help them think clearly and feel good. This study asks the public to drink extra water in the course of their everyday lives. Glug water is a practical rather than an explanatory study sponsored by ThinkWell using the public-led online trials infrastructure technology (PLOT-IT). Glug water aims to answer the question: Does drinking extra water help people lose weight? Thinking ability and wellbeing will also be assessed as the public, media, and marketers list these attributes as enhanced by extra water drinking.

AIMS The aims of Glug water is to run a public-led expert guided feasibility study based on a simple web-based self-recruited fully online randomized trial to investigate whether drinking extra water can be positively correlated with weight loss. Thinking skills and wellbeing will be assessed as secondary measures of the benefits of drinking extra water.

METHODS PLOT-IT infrastructure will be implemented to conduct the Glug Water trial. An initial one week feasibility study will be followed by a six month randomized controlled trial. Potential participants will be made aware of the trial via patient groups, advertisements on websites (e.g. iThinkWell.org, Zooniverse, and NHS Choices), social media posting, emails and snowball methods. Participants will be self-recruited online. **POPULATION:** Participants are adults with no pre-existing medical conditions that could result in harm from drinking extra water **INTERVENTIONS:** Groups will be randomized to drink extra water before meals 3x per day, (Group one drinks 500ml before meals and group two drinks 750ml of water before meals. **CONTROL:** Drink 250ml before meals **PRIMARY OUTCOMES:** Weightloss **SECONDARY OUTCOMES:** Wellbeing, Cognitive function Participants who give consent and complete baseline characteristics will be randomized. They will be randomized to one of three dosages of drinking extra water before meals. The study will take place in a secure online environment (hosted by Zooniverse). Primary outcomes will be patient-reported outcomes over the Internet. Secondary outcomes will use validated online cognition testing from Cambridge Brain Science and PROMIS. Embedded methodological studies will report methods of informed consent, demographics, outcome measures, recruitment barriers/facilitators, reduction of inequalities and attrition along with participant's site use patterns and recommendations for improvement.

RESULTS Preliminary data to support or refute feasibility will be shared at the ISHECON conference. Feasibility stage participants will be invited to 'improve' the study and contribute to the final design. The results of these communications will be reported. Embedded methodological studies will report methods of informed consent, demographics, outcome measures, recruitment barriers/facilitators, reduction of inequalities and attrition along with participant's site use patterns and recommendations for improvement.

LIMITS Preliminary data will be exploratory rather than explanatory or definitive. We welcome the expertise and input of the ISEHECON group to inform future implementation.

CONCLUSIONS Reporting will discuss feasibility and proposed changes/improvements to chosen methodology. It is unlikely there will be sufficient time lapse to explore results of whether drinking extra water does/does not promote weight-loss, well being and improved cognitive function.

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71. RADAR RHEUMATOID ARTHRITIS EXCLUSION DIET: AN ONLINE RANDOMIZED CONTROLLED TRIAL

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BACKGROUND Patients with rheumatoid arthritis often make dietary changes to see if these help their symptoms, such as eating green-lipped mussels or taking supplements. However up-to-date systematic reviews show that evidence to support these choices is of low quality and that studies are usually too small to draw firm conclusions. They conclude that more research is needed. Cutting out wheat or eating a gluten-free diet is an intervention which patients often try but for which there is a lack of evidence of effectiveness. This study aims to answer the question: Does eating a gluten-free diet improve the symptoms of RA?

AIMS The objective of this study is to run a self-recruited randomized fully online patient preference comprehensive cohort trial to investigate whether a gluten-free diet improves the symptoms of active rheumatoid arthritis (RA) compared to a normal or reduced calorie diet.

METHODS PLOT-IT infrastructure will be implemented to conduct RADAR. An initial one week feasibility study will be followed by a six month comprehensive cohort randomized controlled trial. Potential participants will be made aware of the trial via patient groups, social media, advertisements on websites (e.g. iThinkWell.org, Zooniverse, and NHS Choices), social media posting, emails and snowball methods. Participants will be self-recruited online. **POPULATION:** Adults with active rheumatoid arthritis who speak English or Spanish **INTERVENTIONS:** Gluten free diet (GF) ; Calorie reduced diet (CR) **CONTROL:** Normal diet (ND) **OUTCOMES:** improvement in fatigue; improvement in RA symptoms; activities of daily living; well-being; quality of life; **METHODS:** Potential participants will be made aware of the trial via patient groups, advertisements on websites (e.g. www.iThinkWell.org and NHS Choices), emails and snowball methods. Participants will be self-recruited online and stratified into two groups: (i) BMI >25 and (ii) BMI ≤ 25. Two separate trials will be run in these groups. The trial in group (i) will have a 2x2 factorial randomized design of GF versus CR diet. The trial in group (ii) will have two arms: GF versus ND. Participants who give consent and complete baseline characteristics will be randomized. The study will take place in a secure online environment (hosted by Zooniverse). All outcomes will be patient-reported outcomes over the internet.

RESULTS Preliminary data to support or refute feasibility will be shared at the ISHECON conference. Embedded methodological studies will report methods of informed consent, demographics, outcome measures, recruitment barriers/facilitators, reduction of inequalities and attrition along with participant's site use patterns and recommendations for improvement.

LIMITS Preliminary data will be exploratory and pragmatic rather than explanatory. The research conditions will be similar to what participants experience in daily life on a diet. We will log participant experiences concerning compliance as often only the successful dieters are followed up and there is little information on why diets might not be successful from the participant experience viewpoint. We welcome the expertise and input of the ISEHECON group to inform future implementation.

CONCLUSIONS Reporting will discuss feasibility and proposed changes/improvements to chosen methodology. It is unlikely there will be sufficient time lapse to explore conclusive results of whether a gluten free or low calorie diets does/does not promote wellness and weight loss as measured by the chosen outcomes.

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72. THE FUNDING PRESSURES FACING THE NHS FROM 2010/11 TO 2021/22

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BACKGROUND Spending on the UK National Health Service (NHS) has more than doubled since its introduction in 1948, during which time it has risen by an average of 4% a year in real terms. This growth has now halted due to reductions in public spending. The NHS in England is therefore targeting efficiency savings of £15-20 billion (€18-24 billion) by 2014-15 to meet rising demographic pressure combined with increasing prevalence of chronic conditions.

AIMS This research looks beyond 2014-15 to estimate the financial challenge facing the NHS in England in 2021-22, examining the potential impact of various policies in managing these pressures.

METHODS To estimate funding pressures facing the NHS, healthcare activity was broken down by type: acute (hospital), maternity, mental illness, general practice, and prescribing. A least-squares approach was used to model determinants of use and spend for each type of activity in the base year. Results of these models were applied to population projections for England, with forward projections based on observed activity patterns continuing, and the estimated activity costed. The effect of chronic conditions on hospital use was modelled to explore of how continuation of trends might increase pressure on hospitals above the effect of population change alone. The cost of projected healthcare activity was compared to potential scenarios for government funding of the English NHS, with the gap representing the required efficiency gain by 2021-22. The effect of three key factors on closing this gap was examined: pay restraint, management of chronic conditions demand, and increased acute sector productivity.

RESULTS Funding pressures on acute NHS services in England are estimated to rise by 3% a year due to combined effects of population change and rising hospital admissions for chronic conditions (population change alone accounts for just over 1% a year). If pay rises with recent trend, total acute sector pressure will rise by 4% a year. If spending remains flat in real terms, the funding gap will reach £44-54 (€52-64) billion in 2021-22. If the current efficiency challenge is met in 2014-15, this reduces to £28-34 (€33-41) billion. Closing this gap will require a combination of measures: releasing all savings related to productivity gains made prior to 2015-16 (£6bn), preventing increases in the probability of being admitted to hospital with a chronic condition (£6bn), and restricting pay growth to rising with inflation (£8bn). The remaining £8bn gap will require further productivity gains of 1% a year between 2015-16 and 2021-22.

LIMITS The projections for rate of chronic conditions are based on diagnosis codes recorded in inpatient records. Over time the number of diagnoses recorded for a hospital attendance has risen. This may account for some of the increase in treatment for chronic conditions. However, our projections were similar to other national projections, so we don't believe the effect to be too great. Our projections for future probability of admission for each chronic condition, by age and sex, are based on a linear trend continuing over the next decade. Due to the high number of combinations (570) of chronic condition, sex and age group, it was not feasible to individually optimise each model. A number of trends may not be linear, which may maginally alter the outcome. Our projections are highly influenced by the ONS population estimates from 2008 and are therefore limited by the accuracy of these projections.

CONCLUSIONS The current austerity experienced by the English NHS is likely to extend beyond 2014-15 that is currently the focus of planned efficiency savings. If funding pressures increase with recent trends, further savings of 4% a year will be needed between 2015-16 and 2021-22 to meet rising demands on healthcare. This will require unprecedented sustained increases in health service productivity to avoid cuts to services or falls in quality. A combination of measures will be needed, including avoidance of catch-up pay growth to compensate for the current pay freeze, effective management of rising demand for hospital care for chronic conditions, and translation of productivity gains into ongoing cash savings for reinvestment in services. Further productivity gains of 1% a year will be required on top of these measures without a real-terms increase in funding. NHS organisations must therefore plan beyond 2014-15 to consider the longer-term funding challenge.

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73. ENHANCING EVIDENCE-BASED HEALTH CARE (EBHC) KNOWLEDGE AND SKILLS OF MEDICAL STUDENT INTERNS AT STELLENBOSCH UNIVERSITY'S RURAL CLINICAL SCHOOL IN WORCESTER

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BACKGROUND Since the beginning of 2011, the Faculty of Medicine and Health Sciences (FMHS) at Stellenbosch University has been giving medical students in their final year of undergraduate training the opportunity to do their student internship at the Rural Clinical School in Worcester, about 100km from the Tygerberg academic hospital in Cape Town, South Africa. As part of the Stellenbosch University Rural Medical Education Partnership Initiative (SURMEPI) project, which aims to increase the number and capacity of medical doctors working in rural areas and to increase regionally relevant research, our team at the Centre for Evidence-based Health Care at FMHS developed a tutorial series on evidence-based health care (EBHC) and delivered these over the course of a year to the student interns working in the rural area.

AIMS To reinforce student interns' knowledge and skills related to the basic principles of EBHC and the application thereof.

METHODS We developed five two-hour EBHC tutorials which were presented to 21 student interns (students in their 6th/final year of medical training) at the rural clinical school. The aim of these tutorials was to familiarise students with the basic principles of EBHC and the application thereof. The following topics were covered: Introduction to EBHC and formulating questions; searching databases for relevant studies; reading a randomised controlled trial (RCT); reading a systematic review; and reading a clinical guideline. We developed a structured learning plan and teaching resources for the tutorials. Each two-hour tutorial consisted of didactic input followed by hands-on class exercises and discussions. Students were supplied with a folder containing relevant reading material and worksheets for exercises at the first session. Before the first, and after the last tutorials, students were asked to rate their confidence in practicing EBHC principles by completing a questionnaire based on the EPIC scale; and to assess their attitude towards EBHC using a second set of questions based on a Likert-scale. During all tutorials we made use of interactive teaching techniques to revise content and to encourage students' participation in the session. One such technique was the use of a set of five differently coloured cards. Each student received a set of these cards and then answered multiple choice-type questions with colour-coded answers, displayed on PowerPoint slides, by holding up the coloured card of the appropriate answer that best fit the question. We set up an email list and created an online learning site where we made key EBHC readings, PowerPoint slides and screencasts available on this site. It also provided a platform for discussions and enabled sharing of current events and useful links to other websites.

RESULTS The series of tutorials was very well received as was demonstrated by the positive feedback after every session. In our experience, having numerous two-hour sessions spread throughout the year was a very effective way of teaching EBHC to undergraduate students. The online learning site and email list worked well to maintain contact with students between tutorials. Results of the pre- and post-course questionnaires administered during the first and last tutorial session respectively, showed an overall increase in students' self-perceived confidence in their ability to apply the various steps of the EBHC process. Although students mostly had a positive attitude towards EBHC at the beginning of the year already, results indicated that students' attitudes shifted to an even more positive attitude after the tutorial sessions. A challenge that was raised by students was the issue of access to information when working in the clinical field. Once students graduate, they no longer have access to Stellenbosch University's Library. This makes it very difficult for them to actually practice EBHC, because without access to best evidence they cannot use it in their decision-making process and thus cannot apply what they have learnt. There is a need to address this barrier if we want our graduates to practice EBHC.

LIMITS Due to the limited number of tutorial sessions, we only managed to cover critical appraisal of RCT's, systematic reviews and clinical guidelines. Ideally students also need to learn how to read studies that answer questions on risk factors, diagnostic test accuracy, harm and prevalence. It will be ideal to integrate the teaching of EBHC on the rural platform with clinical mentors leading the teaching.

CONCLUSIONS EBHC tutorials were effective to teach EBHC to undergraduate students. It is essential that undergraduate medical students have EBHC competencies when they graduate so that they can deal with the information overload and make more informed decisions about health care. Further sessions could be incorporated to expand the scope of principles taught and all final year MB,ChB students should be exposed to the programme. Mentors play a key role in integrating teaching in the clinical setting.

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74. ANTIMICROBIAL RESISTANCE. PERIODONTOPATHOGENIC PORPHYROMONAS GINGIVALIS IN A URUGUAYAN POPULATION

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BACKGROUND Periodontal disease is one of the most prevalent odontological diseases and can be considered a chronic bacterial infection process with polymicrobial etiology. Its complex pathological mechanisms implies that the treatment of this disease is a constant challenge, involving multiple therapeutic measures, including the use of antibiotics. The prevalence of periodontal disease is not fairly distributed among different ethnic group and social-economic groups. The development of microbiological tests for identifying periodontal bacteria contributes to establish an accurate diagnosis and an appropriate antimicrobial therapy. The periodontal microbiota and their resistance mechanisms may vary with diet, habits, access to drugs of different qualities, mouthrinse use, water quality, type of prescription, self-medication and lack of adherence to treatment . There have been several surveys of periodontal disease-causing microorganisms and resistance to some antimicrobials, however no documented data was found for the Uruguayan population. The Porphyromonas gingivalis is a Gram negative anaerobic part of the group of microorganisms with strong evidence of periodontal pathogenic. The main objective of this study is to determine the antimicrobial resistance of these microorganisms in periodontal pathogenic microbiota of the population treated at the Surgical Clinic of the Faculty of Dentistry in the University of the Republic.

AIMS The specific objectives of this master project are: a) isolate and identify phenotypically the Porphyromonas gingivalis, b) establish their in vitro sensitivity to conventional antimicrobials used in the treatment of periodontal disease, c) identify mechanisms of resistance, in a Uruguayan population.

METHODS In order to meet the objectives proposed in this study, microbiota samples of the gingival sulcus will be taken, with sterile paper cones, from patients who meet the inclusion criteria and sign an informed consentment. The samples will be incubated in different specific microbiological media, to identify phenotypically the target microorganisms and determine their sensitivity.

RESULTS This projects results will be still in reasearch until august 2013.

LIMITS Limited to Uruguayan population

CONCLUSIONS The knowledge of characteristics attributable to regional factors, cultural and socioeconomic in periodontal microbiota just as their resistance will contribute to the implementation of more specific treatments for periodontal disease according to populations characteristics by reducing the use of ineffective antibiotics and stimulating application of appropriate protocols for each geographic region.

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75. INTRODUCTION OF STANDARDISED PRACTICE AS THE THIRD NURSE IN THEATRES

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BACKGROUND Each Theatre at Sir Charles Gairdner Hospital is allocated 4 staff members; 3 Nurses & 1 Anaesthetic Technician. This establishes a safe working environment for patients & staff and is conducive to education & training. The roles of both the Instrument Nurse & Circulating Nurse are recognised as following best practice guidelines (ACORN) (1). The Third Nurse, whilst assuming some of the Circulating Nurse duties would benefit from assisting with the Patient's needs in the first instance & supporting the Anaesthetic team. Patient Safety issues, which impact on PACU (2) are often not communicated in a timely manner if at all. Breakdowns in the transfer of information has been identified as a contributing factor in serious adverse event occurring. 'As human beings we cannot usually operate at 100 percent capacity 100 percent of the time.' (3)

AIMS To enhance Patient Safety & improve Communications within the Operating Theatre Suite and to develop the dynamics of the multidisciplinary team.

METHODS A Pocket Guide was designed using a similar format for the Circulating Nurse role pocket guide already in use to formalise the concept of the Third Nurse Role in Theatres. The design & content were developed to include best practice guidelines as per ACORN (1) standards & further enhanced by NSQHS4 Standards. An Education session was presented to the Nursing Staff prior to the launch of the trial to provide clarification. The Pocket Guide for both the first & second trials were displayed in each Theatre and a copy given to each Team Leader for the specialty, with an explanation for the trial guidelines. Evaluation forms were distributed to each staff member at this time and again at the end of the month attached to each staff members payslip to ensure all staff had the opportunity to provide feedback. 94 evaluations were handed out in total. Questions were used in a quantitative & qualitative evaluation form, utilising purposeful sampling, as Theatre Nurses are experts in their field as Perioperative Practitioners. The forms included both positive & negative questions with a descriptive as well as a numerical scale from excellent (5) to unsatisfactory (1). Space was provided for participants to comment on any changes or additions they felt would improve the guide. Both sets of results were collected & collated & presented to staff at a Nurses Forum & displayed on the Patient Safety Team notice board for staff to view.

RESULTS PDSA cycles⁴ were used to progress this quality improvement initiative evolving to 3 cycles at this stage. The first two stages were evaluated & displayed for staff to view. Staff indicated on the evaluation forms if they were; experienced, competent, novice or nil (e.g.: New graduates with no experience). National Standards were included on the graphs embracing the NSQHS5 Standards namely National Standard 1: Governance for Safety & Quality in Health Service Organisations. The first trial returned 21/94 evaluation forms (22.34%) and the second trial returned 37/39 evaluation forms (94.87%) utilising purposeful sampling. The overall result has demonstrated that the pocket guide is a good & a useful tool for staff to use in the role of the third Nurse. Staff have been identified that colleagues are utilising the pocket guide to enhance patient care, however it has also highlighted the necessity for proactive communication skills across the multidisciplinary team. The role needs to be reinforced by the Team Leader / Circulating Nurse & the overlap of patient care addressed by the whole perioperative team. Prineas et al 2004 say of the Patient 'it relies exclusively on the skill and motivation of healthcare workers to prevent patient harm.' (6)

LIMITS There were no limits

CONCLUSIONS Florence Nightingale's dictum- first do no harm, so creating a safe process, a safe system, a safe environment to ensure Patient Safety starts with safe and competent staff. Developing a tool such as a pocket guideline to educate & support learners while refreshing more experienced staff is essential to professional maturity. The adoption of this guideline of the role of the third Nurse is fundamental to Sir Charles Gairdner Hospital's Patient Safety Team in the Perioperative Department and as a Magnet Hospital actively encourages the multidisciplinary team in providing evidenced based holistic health care to our patients that is safe. For the future as new staff join our Perioperative team, whether as a novice or experienced clinical practitioner, they will be orientated using the guide for the role of the third Nurse. Ensuring continuity of patient care, while providing evidence of competence as a Perioperative practitioners. This in turn will be evaluated & reviewed to validate learning & competence and complete the PDSA cycle.

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76. SYSTEMATIC ANALYSIS OF CLINICAL PRACTICE GUIDELINES FOR DECISIONS IN HEALTH CARE: A SUCCESS STORY

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BACKGROUND International clinical practice guidelines (CPGs) can often not be applied to decision-making in health care because of their methodological uncertainty, complexity or sheer number. A systematic, sound analysis of CPGs could help.

AIMS Using the report type for "disease management programme (DMP) updating"•, we present IQWiG's methods for developing systematic CPG analyses and show how the reports are used to assist in health policy decisions.

METHODS CPG analysis is based on a systematic search for evidence-based CPGs. Their methodological quality is assessed and recommendations extracted using a standardized procedure. By comparing recommendations, health care standards are identified and summarized. For DMP updating, the identified standards were compared with DMP recommendations.

RESULTS It was possible to systematically identify aspects of the DMP that were in need of updating or supplementation. Recommended changes were discussed by the health policy decision-makers and partly adopted.

LIMITS Methodological challenges exist, for instance, regarding the transferability of international CPG recommendations and the appraisal of content quality of CPG recommendations.

CONCLUSIONS CPG analyses are a viable way of assisting health policy decision-makers. Already when developing CPGs, authors should consider that they are also used to support health policy decisions.

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77. COMBINED EVIDENCE-BASED PRACTICE TEAM AND HOSPITAL SEMINAR: A MODEL FOR TRANSLATION OF KNOWLEDGE INTO CLINICAL PRACTICE

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BACKGROUND Evidence-based medicine (EBM) aims to provide clinicians with choices about the most effective care based on the best available research evidence. However, there are substantial gaps between the best evidence and clinical practice. Clinicians frequently have questions about the medical care of their patients, but collecting and managing data for clinical research presents significant challenges for them. Despite having convincing evidence, physicians often neglect to apply them clinically; especially if local standard or doctrines have been established already.

AIMS We set up an evidence-based practice team (EBPT), to provide support for clinical research review and management, and incorporate with hospital seminar to promote its clinical value and usage.

METHODS EBPT was composed by the director of EBM center, and with physicians of overlapping clinical fields. The goal of the EBPT is to provide support for clinical and translational research data management. Once a clinical issue has been brought to attention, the EBPT will extract available data banks, in attempt to provide the best evidence for current opinion and guidelines. Once the EBPT has concurred with the best evidence, a health care quality improvement team will be formed, and based on the principles of plan-do-check-act cycle, to promote and apply the evidence in clinical practice. The final recommendations will then be presented in the hospital seminar in our institution. After the presentation, participants then decide if the rationales could be applied in their own practice.

RESULTS EBPT was established on 1 Dec 2013. The first clinical issue brought to the EBPT is the posture and optimal duration of bed rest in patients after spinal anesthesia. Two systematic reviews published in 2001 indicated that there was no good evidence to suggest that routine bed rest after lumbar puncture is beneficial to prevent headache. According to the evidence and clinical experiences, anesthesiologists reset the policy concerning of patient' posture after spinal anesthesia. The new recommendation was presented and discussed during hospital seminar.

LIMITS Need more successful experiences to confirm this model is feasible.

CONCLUSIONS EBPT, combined with hospital seminar, may provide support for clinical research management, improve health care quality, and shorten the gaps between the best evidence and current clinical practice.

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78. BESPOKE FUSION OF ESSENTIAL GOVERNANCE, 21ST CENTURY INFORMATION TECHNOLOGY AND COMMON SENSE QUALITY AND SAFETY IN HEALTH CARE

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BACKGROUND After commissioning an independent review of its own clinical incidents John Taylor Hospice Community Interest Company UK, implemented and integrated data-based systems for patient records, staff leave and shift planning and risks and untoward incidents. These systems provide reliable and secure information for intelligent clinical governance as the partner for evidence based clinical practice.

AIMS The key aims of the intelligence systems include providing assurance to the Hospice patients, management and regulators of: 1. Delivering management actions with the same level of real-time evidence, research basis and ethical purpose as is expected of evidence based clinical practice. 2. Ensuring that the quality of care is positively managed and recorded whilst protected from potential adverse effects of resource or cost management pressures. 3. Maximising the value: cost ratio of evidence by making the administrative, inputting and maintenance processes highly efficient whilst programming analyses into the data systems for clinical, management and business reports.

METHODS Underpinning our methods are the beliefs that: • The actions of clinical governance and performance management must be as evidence based and accountable as evidence based clinical practice. • Data is evidence and must be high quality, recorded and protected. • All data across the different disciplines and departments are integrated to create meaningful intelligence across the whole “system of care” ranging from patient care to business contracts. • Electronic and administrative data systems are the servants, not the masters of evidence based management and high quality care. People are at the heart of the governance and performance management of care services. Based on information management principles, essential standards of the Care Quality Commission, National Institute for Clinical Excellence and recent inquiries into untoward incidents in the UK, we have designed a wide set of management reports to provide the intelligence needed for governance and performance management. These specify the underlying analyses, calculations and the source data required. This evidence is managed by a bespoke database that validates all information to ensure data quality from the moment it is recorded. As further security all data are saved with the unique staff details, date and time that they were recorded, or subsequently modified. No data are ever deleted and protocols for security and backups ensure that no evidence can be tampered with without leaving a legacy version and an auditable trail of modification. Disaster recovery protocols provide ways of retrieving legacy data whilst protecting against loss of evidence. Improved evidence based management is not seen as a fixed term process and improvements in the quality and availability of evidence has led to further developments in intelligence, that is, the meaningful analysis and interpretation of evidence applied to actual governance and performance management. For example: The management reports are constantly being improved in both content and presentation, whilst the pre-programming of the underlying analyses and formatting of reports keeps the cost of the evidence low and the value high. Also: By making the conceptual and data link between workload activity and workforce costs then better decisions have been made around the effective use of staff time, particularly amongst high cost staff, and in planning workforce capacity to deliver good quality care. Further process mapping of how management actions are carried out in accordance with evidence has also led to the revision of protocols and policies around workforce planning and specific requirements for incident reporting. It has also helped improve ways of maximising organisational learning.

RESULTS The operational staff and management of the organisation has a clearer view of its information needs for ensuring governance and performance and have a deeper understanding of what is required of data systems and thus greater control of those systems. This gives governance and performance management a transparently rational basis that the patients and staff expect of a care service which translates into quality of care. New equipment is in place for electronic patient record that is efficient, safe and portable and that staff are fully engaged with. A data system has been implemented that integrates evidence across multiple departments that are all necessary to collaborate as an effective care system. This data system carries out a number of real time checks including: • Checking planned shifts to ensure sufficient staffing levels for good care and safety • Correct classification and risk rating of incidents and leading to more appropriate New policies now have a transparent basis in evidence based management and governance.

LIMITS No data system has innate decision making ability, it can only support people who interpret evidence and take actions and so the value a data system is entirely dependent upon the ability of the managers to use such results. Similarly data systems are efficient machines and if programmed to do a “wrong thing”, will efficiently do a “wrong thing”, therefore their programming should be fully informed those managers who ensure good governance and optimum performance. This is a complex exercise in people and IT system design.

CONCLUSIONS Evidence is as fundamental and essential a component of governance and performance management as it is of clinical practice and the separation of management and clinical evidence should be considered as artificial and contrary to the delivery of good care to patients.

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79. DO AS I SAY, NOT AS I DO

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BACKGROUND This paper will explore the transformation of attitude and behaviour influencing administration of medication within a paediatric setting. Lessons learnt from the experience will be presented from the perspective of the nurse educator. Medication incidents are the most common type of medical error. Despite established nursing education programs and hospital policy, there are consistent medication errors. Specifically independent double check policy did not ensure nursing behaviour consistent with safety recommendations. The implications of non-compliance with safe medication checking practice can result in significant patient harm or even death. Furthermore the paediatric population are a particularly vulnerable group, due to individualised patient dosage requirements and pharmacokinetic issues. This is compounded by the complexity of the health care environment.

AIMS A project was undertaken to address the issues in medication administration using a pre-post interventional design. A survey was utilised to explore behaviours and attitudes relating to medication safety and adherence to policy. Results identified non-compliance to the independent double check and highlighted the influence of senior nurse medication checking behaviour on less senior nurses. These findings informed the content of facilitated discussion groups centred on a video demonstrating a medication checking episode. The video was intentionally structured to consolidate knowledge of independent double check whilst raising awareness of the risks. The groups critiqued the video, discussing safety concerns and personal views on medication safety strategies.

METHODS Focus group discussion to incorporate a multimodal approach to sharing nurses perceptions of medication safety safety and related behaviours.

RESULTS The post education session survey results show a significant increase in compliance with the independent double check, from 49% – 71%. The discussion groups identified the barriers to implementing consistent safety strategies and will inform future safety initiatives including nursing education programs.

LIMITS Concerns around sustainability for this type of project were identified, this has lead to the development of a more rigorous medication education program with the hospital.

CONCLUSIONS Ongoing review of the literature in relation to medication safety attitudes and behaviours will lead to more the implementation of more effective strategies to reduce the incidence and severity of medication errors.

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80. FACTORS OF CATHETER-ASSOCIATED BLOODSTREAM INFECTION IN NON-ICU SETTINGS

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BACKGROUND Bloodstream infection (BSI) is an important cause of mortality and mortality in both the ICU and non-ICU settings. The major infection factor is related to using intravascular catheter. Some researchers stated that has to be more research data as a benchmark to prevent catheter-associated bloodstream infection (CABSI).

AIMS This study was designed to evaluate the factors of CABSI in non-ICU setting.

METHODS A retrospective study was inducted at a regional teaching hospital in northern Taiwan. The medical records of all BSI patients in non-ICU settings from January 1, 2010 to December 31, 2012 were retrospectively reviewed. A standardized case record form was used to collect demographic, clinical, and microbiologic data. SPSS for Windows 19.0 version was applied to the statistics analysis. The results were analyzed using descriptive statistics and inference analysis. The p-value of less than or equal to 0.05 was considered to have statistical differences.

RESULTS During the study period, 218 episodes of BSI occurred in non-ICU settings. One hundred and thirty five patients (61.93%) were confirmed account for CABSI. Most of the catheter types for CABSI were central venous access port (CVAP, 84 cases, 62.22%) and central venous catheter (CVC, 41 cases, 30.37%). No matter which catheter types for CVAP or CVC-related CABSI, the patients mostly were male (58.3%, 62.5% respectively). The average age (58 ± 11 years old) of CVAP-related CABSI cases were younger than the CVC-related CABSI cases (69 ± 13 years old) (p

LIMITS Our study has several limitations. First, it was a retrospective study at a single regional teaching hospital. Therefore, generalization to other clinical setting is limited. Second, there is a lack of a control group data. Thus, we were unable to further evaluate the association between host characteristics and CABSI.

CONCLUSIONS CABSI is the critical factor in BSI in non-ICU settings, especially, CVAP and CVC. Therefore, we have to emphasize the infection prevention for the CVAP and CVC in the clinical care. Surveillance and prevention of CABSI in non-ICU setting, the authors suggested to consider related factors including male patients, cancer related disease, the difference of ward and the variant pathogens.

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81. MEASURING AND IMPROVING HEALTH SYSTEM PERFORMANCE: A MIXED-METHODS APPROACH TO BALANCED SCORECARD DEVELOPMENT

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BACKGROUND An aging population and success in treating acute events have increased the number of individuals with complex needs who require ongoing care from multiple healthcare providers. These changes necessitate well-coordinated, high-quality care across the health system. Increasingly it is recognized that the largest gaps in quality lie in the chasm as patient transition from one provider to another. Past paradigms of provider-specific performance reporting are insufficient to help guide the process of system integration and improve system performance. A balanced scorecard (BSC) with a system-level perspective focused on continuity and quality of care has yet to be developed. Most BSCs are vertical in that they provide direction and measures for performance within the boundaries of an organization. This inward emphasis often leads organizations to remain short-term in focus, and at times misaligned with population health needs and priorities. Many BSCs used in healthcare also lack a patient quadrant and fail to place patients or health status at the center of focus.

AIMS The aim of our study is the development of a health system-level BSC for the province of Ontario in Canada.

METHODS We use the theoretical frameworks of complex-adaptive systems and social capital to frame our work. These lenses focus our attention on the importance of social ties, interactions, and stakeholder perceptions. We are using a mixed methods approach to BSC development consisting of four stages: (1) focus groups, (2) outcome mapping through consensus development conferences, (3) performance dimensions and indicator selection, and (4) a validation survey. The purposes of the first two stages were to (a) identify and understand the various strategic goals present in the healthcare system, and shared system priorities, (b) provide insight into the contextual details associated with exemplary health services integration initiatives already in existence in the system, and (c) to identify and understand the interdependencies and interrelationships among various system components, as perceived by those working in the system. Focus group and outcome mapping participants were diverse, representing acute care, community care, and primary care, and consisting of front-line staff and managers. Through the focus groups and outcome mapping exercise, we identified the key areas requiring indicator development. We are currently completing the final two stages of this research.

RESULTS Through the focus groups, we found that health system performance and integration is challenged by system complexity, weak ties and poor alignment among professionals and organizations, a lack of funding incentives to support collaborative work, and a bureaucratic environment based on a command and control approach to management. Policies and management practices are needed that promote system awareness, relationship-building and information-sharing, and that recognize change as an evolving learning process rather than a series of programmatic steps. Through the outcome mapping exercise, participants identified the end-goal of healthcare as "caring communities, healthier people, and health system sustainability." They identified the key strategic outcomes as (1) clients have access to an integrated health care system, (2) service is delivered by the appropriate provider in the appropriate location, and (3) information, support, advocacy, and other help are provided as people move through the continuum of care. The outcome map displays four broad capabilities required to achieve these three outcomes; each capability area is also further broken down into numerous enabling outcomes and action steps. The map provides insight into the interrelated factors that facilitate integration and system performance from the perspectives of local stakeholders. The focus group and outcome mapping results are being used to develop performance dimensions and indicators for conceptualizing and measuring health system performance.

LIMITS Limitations stem from local biases that are introduced within the context of the study. Expanding the study to other Canadian provinces and international jurisdictions will enhance the validity of the BSC framework and measures.

CONCLUSIONS In developing a health system-level BSC, we create a framework for guiding integration and improvement efforts in the province of Ontario through a focus on both coordination of care and population health. Health system performance measures that are built upon a foundation of shared system priorities will contribute to strategic synapse - a process whereby diverse stakeholder groups can achieve unity around system priorities. By bringing together knowledge and expertise from various levels and sectors of healthcare, this research takes a vital step towards fulfilling important gaps in partnership formation, knowledge exchange, and coordinated actions.

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82. REFLECTION ON THE DEVELOPMENT OF EVIDENCE-BASED HEALTH CARE FROM PERSPECTIVES ON NARRATIVE NURSING

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BACKGROUND The development of evidence-based health care is derived from the concept of positivism. The broad definition of it mainly focuses on the actual verification which is regarded as a reliable source of information, excluding personal experience or metaphysical considerations.

AIMS This paper aim is critical thinking when practiced in nursing and recommends that evidence-based nursing should be able to discriminate the point where humane caring begins.

METHODS Nursing combines disciplines of aesthetics and science and focuses on the caring of patients. It is aimed to utilize narrative nursing to care and listen to the patients' life stories so as to further understand the patients' behavior or the truth beyond the phenomenon. The events with more meaningfulness or detailed context are recorded either verbally or in a written form to interpret the story of the disease.

RESULTS This paper will recommended that during the process of evidence-based health care, narrative nursing is needed to understand personal cognition, absorption, and digestion as well as to interpret the patient's story.

LIMITS We suggest team-building and inter-professional integrated health care should be promoted by narrative nursing concept and competency in patient centered care.

CONCLUSIONS This not only enables the nurses to care that patient's disease from a professional's perspective but also helps them to learn to experience the illness from a human's viewpoint, and thus to achieve the purpose of solving the patients' problems. Providing efficacious information from various perspectives can facilitate finding patients problems and improve quality of care.

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83. IMPROVING QUALITY OF LIFE IN NURSING HOME CONSTIPATION RESIDENTS: A EVIDENCE-BASED STUDY ON THE EFFICACY OF USING ABDOMINAL MASSAGE

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BACKGROUND About 75% of nursing home residents have constipation problems. This not only affects their quality of life but also becomes their chief complaint when feeling unwell. Clinically, methods such as the use of stool softeners, laxatives and enemas are commonly used to relieve constipation, but the side effects often lead to gastrointestinal motility disorders. Some evidence-based studies show that abdominal massage is an effective and non-invasive method of relieving constipation, and therefore, can further improve the residents' quality of life.

AIMS This study aims to better understand how the nursing home residents' quality of life is improved after the intervention of abdominal massage for constipation relief.

METHODS Experimental Research Design was applied in this study. Cluster randomization was used and the residents were divided into the experimental and control groups by drawing lots. Interviews and structured questionnaire were used as the pre-test to understand the residents' constipation situation and quality of life. Abdominal massage developed from the evidence-based study (Stroking, Effleurage, Palmar kneading, Vibration) is used as the intervention. During the 4-week intervention period, records were kept to examine the efficacy. The structured questionnaire used for this study included Constipation Symptoms Scale and WHO Quality of Life-BREF Chinese version.

RESULTS 72 constipation residents in the nursing home participated in this study, with 36 people in either group, and demographic data of the two groups is also obtained. Pre-test and post-test were conducted to measure the efficacy of abdominal massage on the constipation relief and the improvement of quality of life so as to further understand the correlation between the constipation symptoms and the improvement of quality of life after the intervention of abdominal massage.

LIMITS Accurate records of the residents' diets and activities were kept so as to conduct the control of the moderating variables.

CONCLUSIONS This study explores the effectiveness of the abdominal massage on the enhancement of the constipation residents' quality of life so as to understand the correlation between the bowel movement syndrome and quality of life. It is expected to serve as reference for nursing interventions in an attempt to help the nursing home residents relieve constipation problems.

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84. IMPROVEMENT TO PREVENT FALLS OF EMERGENCY ROOM PATIENTS

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BACKGROUND Our emergency room, which is divided into emergency care and observation section, of the hospital is located in southern Taiwan. The majority of patients are either in critical condition or with mobility difficulties. Due to the acute break-out and condition needs, we constant have to perform emergency treatment and examination to extend patients life. It is also the main reason that causes the patients to fall. Use the Root Cause Analysis to identify the causes and reasons which cause Emergency Room patients to fall during their visits.

AIMS Develop and import different prevention and improvement measures to reduce the chances and series of fall of patients to enhance the quality of emergency care.

METHODS Between January and August of 2012, there are total of 25 cases of fall, which rank for level zero to three. One of those cases led to bone fracture. Because of this, we use Root Cause Analysis (RCA) to analyze the failure of process and issues to improve the procedures to reduce the occurrence of errors. By using RCA operating procedure, we identify the problems came from different factors. Staffs factors: Nursing staffs did not take assessment and preventive measurement for the risk of falling, lack of educational training, and lack of support from other staffs. Equipment factors: Lines of flow and sections are not clearly marked, rollaway beds are not properly functioned, warning signs of the slippery floors in the bathroom is not posted clearly, and bedpans slide off easily. Patients factors: Patients' condition is weak and fall unconsciously. We need to research the reasons to transform people, environment and equipment. Assess improve measures are: execute assessment and fall prevention education, adjust staff support, modify line of flow, regularly inspect bedpans and hospital beds, replace old hospital beds with adjustable beds for patients' convenience, install anti-slip pads and display warning signs in the bathroom, and remove the wheels on commode chairs.

RESULTS After various improvement and intervention of this study, the incidents have decreased to twelve from September, 2012 to January, 2013. Quality Control Nurse also assessed this project and confirmed the accuracy is at 100%. Overall fall prevention for the study subjects is 81%.

LIMITS Through the process of improvement to investigate the reasons of falls, it directed to us that the awareness and education level still needed to be improved on hospital staffs, environment line of flow, equipment and others.

CONCLUSIONS By implementing RCA analysis and taking different measurement, and execution of the teamwork, there were no more incidents after 10 months of implementation and 3 months follow-up. Fall prevention not only saves the nursing staffs time to clean up after patients, it will also improve the quality care of patients.

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85. THE DEVELOPMENT AND EVALUATION OF THE NURSING PRECEPTOR'S ADVANCED TEACHING TRAINING PROGRAM

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BACKGROUND Background: Benner (1984) proposed Dreyfus model of nurses as the "From novice to expert" learning and development process. In busy clinical situations, nursing preceptors play a key role not only in teaching the new nurse, while still caring for patients. However, an effectiveness teaching model is still lacking.

AIMS The study aims to establish a Nursing Preceptor's Advanced Teaching Training Program and explore the effect.

METHODS Methods: A quasi experimental research design is adopted. Two groups of new staff nurses and nursing preceptors were recruited from March. 1, to Jul. 31, 2011. The control group provided with 'OSTE Program'•; whereas, 'Nursing Preceptor's Advanced Teaching Training Program'• was implemented in the experimental group, which is an Objective Structured Teaching Exercise (OSTE) workshop, including a 120- minutes 1-minute preceptor (OMP) lecture and 3 measures of OSTE. Data is collected with a structured questionnaire including "OSTE rating scale," "Self-report teaching ability of teachers' satisfaction questionnaire" and " The level of benefit new nurses questionnaire " One baseline measure before program and 2 post measures were done. Repeated measure analysis by GEE performed to compare the control and experimental groups.

RESULTS Results: This study established a "Nursing Preceptor's Advanced Teaching Training Program"• model. The experimental group showed the ability and satisfaction in teaching score higher than control group, however, in the benefit level of the new nurses score between the two groups had no significant differences.

LIMITS Limitation: There are several limitations to the current study ,most notably on the outcome of self-reporting to assess the level of benefit new nurses. Although the experimental group showed the ability and satisfaction in teaching score higher than control group, we cannot determine whether there are actual or perceived changes, still need further study.

CONCLUSIONS Conclusion: A based on the objective structured clinical nursing teachers advanced training model can effectively improve the clinical nursing preceptors teaching ability and satisfaction. Results of this study can be applied to the design of nursing preceptor education program to enhance clinical teaching ability.

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2nd Conference of International Society for EBHC
6th International Conference for EBHC Teachers and Developers
Evidence, Governance, Performance
Taormina (Italy), 30th October - 2nd November 2013

OTHER SELECTED ABSTRACTS (NOT PRESENTED)



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OTHER SELECTED ABSTRACTS (NOT PRESENTED)

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86. THE EFFECT OF A REVISED APPROACH TO TEACHING EVIDENCE BASED MEDICINE ON MEDICAL STUDENT PERFORMANCE

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BACKGROUND Evidence Based Medicine is taught in second year of the University of Calgary three year undergraduate medical education program. Student feedback from 2011/12 on this course suggested changes were needed. The curriculum was revised to meet the student learning needs. These changes included 1) the information literacy component, taught by the Health Sciences Librarians, was incorporated into the small group seminars, with key concepts delivered over the five week lecture/seminar series in the small group setting, 2) preceptors were briefed at a one hour lunch meeting prior to the lecture/small group session, 3) students were provided with examples of high score/ quality Critically Appraised Topic (CAT) assignment and 4) students were required to develop and present a CAT topic in the last lecture.

AIMS To determine if the revised approach to teaching Evidence Based Medicine has any effect on student performance as measured by their CAT score.

METHODS Students' grades on their CAT assignments are used as proxy for students' performance. Students were taking 2 blocks of clinical encounters each year and they were required to submit a CAT assignment at the end of each block. CAT Scores from 2011/12 students (prior to revised curriculum) and 2012/13 students (after revised curriculum) were compared using a repeated ANOVA

RESULTS There were 110 CATs per each block from class of 2011/12 and 153 CATs per each block from class of 2012/13. The 2 by 2 Repeated ANOVA test indicates that there has been an overall increase in CAT scores from the academic year 2011/12 to the academic year 2012/13 ($p < 0.001$). The test also showed that CAT scores do not differ between blocks in both years ($p = 0.366$)

LIMITS Several changes were made concurrently to the curriculum and delivery of the course, and this study is not able to reveal if the improvement in student grades is the result of all the changes or some of the changes. There may be differences between the cohort of the students (2011/12 vs 2012/13) in terms of demographic and previous research background that can affect their grades independent of the revised curriculum.

CONCLUSIONS The revised approach in Evidence Based Medicine teaching (involving librarian in small group teaching, one hour briefing with small group preceptors prior to teaching session, providing student with the examples of CATs and mandatory CAT presentation) improved student performance as measured by their CAT scores.

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87. SINGLE DUCT NIPPLE DISCHARGE - ARE WE OVERTREATING THESE PATIENTS

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BACKGROUND Background: Nipple discharge has a known association with breast cancer, but determining which cases to identify as being at high risk is a complex and controversial task for the clinician.

AIMS The current policy at West Hertfordshire Hospitals Trust is to offer microdochectomies to all women who present with unilateral single duct discharge, dominant duct discharge or persistent duct discharge and negative cytology and pre-operative imaging. The aim of this study is to determine if a more discriminative approach might be applied to women who present with nipple discharge.

METHODS All patients who underwent a microdochectomy over a 4-year period (2006-2011) were assessed. Patient demographics, characteristics, presenting complaint, pre-operative imaging, and pathology results were analysed.

RESULTS Of the 122 patients analysed in this study, only 7 (5.74%) were diagnosed with malignant carcinoma: 4 patients had DCIS; 3 patients had DCIS and IDC. Of these, 2 had bloodstained nipple discharge. Another two women were diagnosed with papillary carcinoma; only one of them presented with bloodstained nipple discharge, although both had single duct discharge only. 42 cases of mammary duct ectasia (34.43%) and 52 cases of papilloma (42.62%) were found. All women with malignant diagnoses were over the age of 55. Although 47 women (38.52%) presented with a history of blood-stained discharge, only 17 of this cohort (36.17%) had positive cytology – one of whom was diagnosed with multifocal intermediate-grade DCIS. The other 16 women were diagnosed with papillomas, duct ectasia, and benign breast disease. Of those 30 women who presented with a history of bloodstained discharge and had negative cytology, only two were diagnosed with carcinoma (DCIS IDC and papillary Ca); of those 17 with no recorded bloodstained discharge but positive cytology there were no malignant diagnoses. Conclusions: Microdochectomy performed for nipple discharge results in a low rate of malignancy on excision. Our results from this study correspond with other microdochectomy series. It would appear that a cytological diagnosis is an equivocal discriminator for cancer at best. Further work on a prospective study will help to differentiate patient groups who would most benefit from surgical intervention.

LIMITS The " blood stained " nature of the nipple discharge was no not assessed for haemosiderin, and patients above age of 90 were excluded from the study

CONCLUSIONS Further work on a prospective study will help to differentiate patient groups who would most benefit from surgical intervention.

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88. SUFFICIENT ECONOMY PHILOSOPHY PROCESS OF COMMUNITY AT COMMUNITY ORGANIZATION COLLABORATION CENTERS AT BUNGWAI SUB-DISTRICT, UBON-RATCHATHANI PROVINCE, THAILAND

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BACKGROUND Nowadays, the way of life is undoubtedly in crisis with even a worsening trend in spite of the apparent modernization and mainstream economy as well as the way of life with health.

AIMS The aims of this retrospective qualitative study was to explore the processes of community at community organization collaboration centers according to King Bhumibol's Sufficiency Economy Philosophy at Bungwai Sub-District , Ubon-Ratchathani Province , one of the rural areas of The Kingdom of Thailand.

METHODS This study used many documents from outstanding community organization collaboration centers' documents recorded by 27 researchers of the association of researchers. These documents consisted of observational, in -dept-interview, focus-group, and Bungwai-Sub-District documents. Data were analyzed by content analysis and sought regarding critical concerns of Sufficiency Economy Philosophy.

RESULTS Thematic analysis of all documents covered 4 major findings of Sufficiency Economy Philosophy. These themes consisted of 5 U : 1) Understanding the meaning of this philosophy : 'taking middle-path into consideration using technology appropriately, making reasonable decisions based upon knowledge should be built in order to take full benefit and cope up with any risk and eliciting good morals or ethics in proper management underpinning strength together with a proper value system as well as maintaining immunity against the vigorous-waves of change'. 2). Upgrading the enlist-process of understanding the way of life. 3) Undertaking and eliciting activities coming from the mindset which are derived from the up-and-up by unionism and unison, 4) Upbringing these ideas into next generation because of unrest-less feeling (sufficient-happiness). 5) Un-exercise because of working hard stand for exercise.

LIMITS Datum in exercise aspect was one of the limitations in some- part from youths. They did not accept that exercise was medicine.

CONCLUSIONS The process of community development according to King Bhumibol's Sufficiency Economy Philosophy among community organization collaboration centers at Bungwai Sub-District consisted of 4 dimensions and these might be associated with the present generation feeling (sufficient-happiness). Sufficiency Economy Philosophy served as a guiding light for Bungwai Sub-District but the opinions or feelings of next generation should be further explored.

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89. APPLYING ATOMOXETINE IN ATTENTION DEFICIT HYPERACTIVITY DISORDER CHILD

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BACKGROUND Children with Attention deficit hyperactivity disorder (ADHD) are distracted easily, unable sit still, overactive and lack of patience. They can't get along well with others and poor self-confidence and learning. Stimulants are first-line therapy for ADHD. However, their use raises some adverse effects. Atomoxetine is another new therapeutic drug class, selective norepinephrine-reuptake inhibitors, for ADHD.

AIMS We want to explore the benefit and advses effects of Atomoxetine treatment for children with ADHD.

METHODS We use critical appraisal and meta-analysis methods to evaluate effect and adverse effects of Atomoxetine treatment for children with ADHD .Primary literature articles were obtained through PubMed/MEDLINE (1966-Februray2013). We use key words of Atomoxetine Treatment and ADHD. The inclusion criteria are prospective design and randomization study.

RESULTS There are thirteen study and data were from 6-and 12-years-olds (N=173), received Atomoxetine treatment >=2 years. The rate of positive response in SNAP-IV scores is 74.3%, and the adverse effect is 4.2%.

LIMITS This is a meta-analysis study.

CONCLUSIONS Atomoxetine treatment appears generally well tolerated and effective for children with ADHD.

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90. FAMILY PRESENCE ON ROUNDS AND FAMILY CONFERENCE IN THE ICU: A SYSTEMATIC REVIEW OF EVIDENCE AND RECOMMENDATIONS FROM TWO PHENOMENOLOGICAL STUDIES

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BACKGROUND Family-centered care has become the new mandate in the health care field that includes honoring the patient and families' perspectives and choices and supporting them in participating in care at the level that they might choose. Involvement of family and friends is one dimension of patient-centered care that focuses on accommodating the significant others that patients rely on in difficult situations. This includes involving them in appropriate decision-making, supporting them as caregivers, making them welcome and comfortable in the care delivery setting, and recognizing their needs and contributions. Family conferences and family presence on rounds were two of the recommendations presented under the shared decision-making model.

AIMS This paper presents the findings of two phenomenological studies about the experiences of the critically ill patients, their families and nurses in the ICU and the ER and integrates the evidence-based recommendations for family-centered care. The focus will be on evidence-based practices namely, family presence on rounds and family conferences in the critical care units including a discussion of the published systematic review articles conducted on the said topics. From these studies and review, nurses and other members of the health care team will better understand the impact of family presence on rounds and family conferences that can affect patient care, to document a research agenda to improve patients' outcomes, contribute to evidence-based practice and influence policy of family presence in critical care.

METHODS Using Van Manen's method of phenomenological research, 38 in-depth, open-ended interviews were conducted and analyzed using the wholistic, selective, and detailed line-by-line thematic approach. Thematic analysis elucidated the experiential descriptions, essential relationships, and meaning structures of the ICU and ER experiences of nurses, patients and family members during critical illness. From the findings of the two research studies evidence-based recommendations namely, family conference and family presence on rounds in critical care were set forth and systematic reviews on the topics were conducted using the 2008 Scottish Intercollegiate Guidelines Network (NICE) methodology checklist. A better understanding of family presence in conferences and rounds in critical care such as the ICU and the ER has the potential to ultimately determine interventions that will help in addressing the issues identified by the review.

RESULTS The patient's experience as they relate to finding meaning during critical illness in the ICU is centered on obtaining support from their family and professionalism from the nurse. Adaptation in the ICU, as experienced by nurses, patients and family members integrates family as a unit, physical care/comfort, physiological care and psychosocial support resulting in transformation. While nurses perceived that addressing the patient's physiologic deficit promptly is paramount in the ER, they also set forth that including family members as co-participants in the care is equally important. Patients and family members perceived that communication, critical thinking, sensitivity and caring are necessary for emergency room nurses. From the systematic reviews conducted from the recommendations of the two phenomenological studies, evidence establishes the importance of family conference and/or meetings to critically ill patients and families. Family meetings have been associated with favorable outcomes for patients, families and the health care system. Family presence on rounds may also lead to positive outcomes and increased satisfaction among patients, family members and the health care staff. The majority of the study results reported by investigators were positive.

LIMITS The information available for a potential for developing evidence-based guidelines specific to family conference in the ICU is limited by the lack of high quality, well-conducted RCTs, metaanalysis and systematic reviews. This lack of rigorous, high quality RCTs markedly limits the weight of evidence presented and affects recommendations for practice. On the other hand, from 1988 to 2010, only one study was conducted on family presence on rounds in adult ICUs. Data is limited by the lack of research studies conducted on this topic in general. Also, the SIGN grading system as a methodology used for this systematic review is rigid with little flexibility. Its emphasis on RCTs as gold standard is not particularly well suited to the family presence on rounds literature which comprises mostly observational studies.

CONCLUSIONS It is my belief that the nursing knowledge gained from these studies and review, used cautiously, provides insight into how these experiences can influence nursing practice, education, administration and future research. This study affirms the mutual influence among the family, patient and nurse during a critical illness experience. Furthermore, the results support the tenets of family-centered care, which mandates the purposeful inclusion of the family in all aspects of care. The recommendations for nursing, administrative and institutional policy includes ongoing assessment, mentoring, leading and facilitating that can help to develop and improve the interpersonal, communication, critical thinking skills and caring practices of the nursing staff. Recommendations for further research on family presence on rounds and family conference and/or meetings in the ER and ICU are included.

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91. THE MENTAL HEALTH OF LOOKED AFTER CHILDREN: AN AUDIT OF STRENGTHS AND DIFFICULTIES QUESTIONNAIRES (SDQ) IN SUFFOLK, ENGLAND

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BACKGROUND The SDQ is a behavioural screening questionnaire for children aged between 3 and 16 years old. It is used to assess positive and negative psychological attributes and to assess the impact of these attributes on the subject and others around them. The SDQ is designed to be used as a clinical assessment tool, an outcome evaluator, as a screening tool and as an epidemiological tool. Research suggests that Looked After Children experience a higher prevalence of mental health disorders than the general child population. All local authorities in England are required to provide information on the emotional and behavioural health of children and young people in their care, using the SDQ to collect the data.

AIMS This work had two aims: 1) to audit the use of the SDQ for Suffolk's Looked After Children population against best practice standards, 2) to estimate the potential prevalence of mental health disorder in Suffolk's Looked After Children population.

METHODS All SDQs completed for Looked After Children in Suffolk between April 2010 and March 2012 were collated and anonymised before the data were entered into an Excel-based audit tool (n=410). Total difficulty scores (TDS) and scores for specific psychological attributes were recorded for each individual along with data on gender, age at completion and mode of completion (teacher, carer or service user). Data were compared with the national prevalence of mental health disorders for the general child population (as estimated by the Department of Health in 2000) and for the national Looked After Children population.

RESULTS SDQs were completed by carer only for the entire sample. Consequently, there was no triangulation of data for individuals across teacher/carers/service user completed questionnaires. SDQs were only completed for children who had been in continuous care for at least 12 months and the data were not routinely used for individual clinical purposes (as a screening tool or an outcome evaluator) or for local epidemiological purposes. The mean TDS for both genders and for both examined age ranges were significantly higher for the sample than for the national general child population. For girls aged 5-10 (n=43) the mean TDS was 15.2 (CI 12.8 to 17.6) compared with 7.9 nationally. For girls aged 11-16 (n=88) the mean TDS was 14.2 (CI 12.6 to 15.8) compared with 7.6 nationally. For boys aged 5-10 (n=116) the mean TDS was 18.0 (CI 16.7 to 19.3) compared with 9.3 nationally and for boys aged 11-16 (n=138) the mean TDS was 16.1 (CI 14.9 to 17.3) compared with 8.8 nationally. For boys aged 5-10, the mean TDS was significantly above the threshold score for abnormality. Mean scores for all specific negative psychological attributes were significantly higher for each gender/age group in the sample than the national general child population. For all attributes except emotional symptoms, mean scores for boys were higher than for girls. The mean familial impact score was above the threshold for abnormality for both boys aged 5-10 and girls aged 11-16. When applying the audit results to the full Suffolk Looked After Children population, it suggests that the prevalence of mental health disorder is also higher than the estimated prevalence for the national looked after children population.

LIMITS Estimates of the national prevalence of mental health disorders in looked after children (in 2003) utilised the SDQ in combination with other data sources. This limits the ability to compare the prevalence estimated in this audit with that for the national looked after children population.

CONCLUSIONS This audit suggests that services for looked after children in Suffolk have not optimised use of the SDQ. Additionally, those data that are collected are used primarily as a source for statutory returns to central government and clinical or local epidemiological use is very limited. Better use of the SDQ following best practice guidelines could contribute to early identification of mental health need in looked after children and provide data to assist prioritisation of mental health resources. The audit also suggests that mental health need in Suffolk's looked after children is significantly higher than the general child population and potentially higher than the national looked after children population.

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92. EVIDENCE BASED PRACTICE IN HEALTHCARE MANAGEMENT? A STUDY OF HEALTHCARE MANAGERS IN THE NHS IN ENGLAND

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BACKGROUND It is widely accepted that managers make better decisions if their decision making process is based on good quality evidence. Although the concept of evidence based practice is well established in relation to clinical practice, what little research there is suggests that health managers largely rely on experience and intuition. Moreover, there is little agreement on what types of information constitute 'evidence'. While there are studies of clinical professionals, health services managers' information use has not been investigated systematically.

AIMS To describe the information behaviour of health service managers in decision-making and identify the facilitators and barriers to its use. The research covered anyone who has managerial responsibilities as all or part of their job, and included clinical and professional staff as well as general managers.

METHODS 1. Case studies of five innovative projects in five NHS trusts – mental health, acute and primary. In depth interviews with 54 managers involved in the projects focussed on information behaviour relating to the decisions made. Documentary evidence relating to the Trust and projects. 2. Interviews were transcribed and analysed by theme and statements were extracted for a Q sort exercise with 33 managers to identify attitudinal statements for two national surveys. 3. The managers' survey (n=2092 across 59 Trusts) was used to generalise and explore the case study findings. The librarians survey (n=151) concerned the services and resources available to managers. 4. Descriptive, correlation and factor analyses identified associations between information behaviour and personal characteristics, attitudes, job and tasks, and Trusts culture, type, and performance indicators. 5. There was user/participant input at all stages of the research.

RESULTS Virtually all managers see information use as important, especially those engaged in major change projects, and not only in seeki but pass on information Only one third found it easy to find information relevant to their work as a manager and most found it difficult to access either through lack of time, information overload, or not knowing where to find it. Training in information search was helpful, but those with significant expertise in search and research based sources – librarians and medical staff – reported most difficulty in finding information related to management. However, those who have studied management find it easier. Managers used a variety of different sources, online, written, people/ networks, and education and training courses, and internal trust data. Internet/online sources were very widely used, but personal contacts are more important. A great deal of information is passed on verbally (via colleagues and contacts) and acquired through direct observation, and "doing"• (experiential learning). For most managers, seeing for yourself "what works" was critical information. Libraries were often seen primarily as repositories of clinical or research based information, and this was a minor source for most managers. Most decision-making and information gathering is performed in groups or teams and these were mechanisms for knowledge sharing, and repositories of information. People and networks were a primary source of information for all managers. These information sharing relationships are being disrupted by organisational restructuring. Sources used varied substantially by job role, profession and task as did the ones they found most useful. In particular, there were specific sources that were rarely or never used by most respondents but were used quite frequently by people in certain job roles. What information is accepted as useful or "evidence"• is often contested, especially in the context of major change The only personal characteristic associated with variation was level of education, with those who had studied at postgraduate level being far more active, finding it easier to find information, and being more likely to use academic sources.

LIMITS It was not possible to calculate a response rate, as the size of the population of staff with management responsibilities is unknown, but there was good coverage of age, gender, Trust type and performance, professions and job roles.

CONCLUSIONS Managers need critical evaluation skills for assessing the effectiveness of what they observe and the information they find, otherwise they are vulnerable to the latest fad or fashion. Large differences found in the information valued by job role and profession suggest interprofessional training in use could be beneficial. The fact that much clinical innovation has implications for management suggests that recommendations for clinical innovation should also include information relevant to management. Managers need to consider how groups, teams, learning sets etc can be used to enhance information collection and exchange, and take measures to facilitate networks in restructuring and service design

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93. CONDUCTING A RANDOMISED CONTROLLED TRIAL: A RETROSPECTIVE LESSON

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BACKGROUND Randomized controlled trials are considered the best level of evidence to support clinical judgment. Well conducted randomized control trials are carefully planned in advance in order to minimize the potential for bias. This is achieved by following steps that are well established in evidence based medicine and should be done in advance of starting to recruit: (i) formulating a precise research question, from which follows (ii) describing the appropriate population and eligibility criteria, defining the intervention and the corresponding control, (iii) identifying a primary outcome and other secondary outcome measures, and (iv) specifying the target difference in the primary outcome which the trial should have power to detect. These features determine an appropriate target sample size, how the trial will be managed in a clinical setting and the statistical analysis plan. Overlooking any one of these features can undermine the ability of the trial to answer the research question. Many journals now require that a trial should be registered before starting to recruit in order to be eligible subsequently for publication. Not all clinicians are skilled in the conduct of randomized controlled trials and good research intentions are often thwarted by lack of careful design and meticulous execution.

AIMS We aim to describe the challenges that arise when collaboration is sought at a late stage based on first-hand experience of collaborating on the analysis and reporting of a randomized trial

METHODS Description of the steps taken to optimize the analysis and reporting of a randomized controlled trial which had recruited 95% of its target sample when the research team sought methodological collaboration with analysis and reporting. The trial setting was a cardiac intensive care unit. The primary objective of the trial was to evaluate the effectiveness of routine use of non-invasive ventilation in the post-operative management of coronary artery bypass graft patients compared to standard care.

RESULTS The research question was well-defined in terms of the trial population, the intervention and comparator. However, we identified key limitations when our help was sought. The primary outcome and the target sample size were not consistently defined and the latter was not adequately coupled with the reported sample size calculation. The primary outcome had been modified from actual discharge to be time until fit for discharge without this change having been documented. Secondary outcomes (respiratory and biochemical) were also poorly defined. Despite recruitment having commenced in February 2008, the trial had yet not been registered. The randomization sequence was not concealed from the doctor who recruited participants. We took a number of steps to address these limitations. Before analyzing the data, we registered the trial, we reconciled the different versions of the primary outcome, we wrote a statistical analysis plan (requiring all investigators to agree to it) and we reconciled the actual intervention delivered against the original randomized allocation. After analysing the data, we conducted a systematic search for related literature (not done in advance of starting the trial), we reported the findings in accordance with CONSORT and insisted on an open discussion highlighting both strengths and weaknesses.

LIMITS Given our late collaboration these 'repair measures' may still have left hidden sources of bias.

CONCLUSIONS Late application of expert skills in conducting a trial should lead to more valid and transparent reporting of a trial. However, the day-to-day conduct of such a trial may have introduced bias which remains hidden. In view of the special status of randomized trials in systematic reviews and in informing clinical practice, and the danger of reporting biases, we argue that the requirement for prospective trial registration by many journals is too extreme. Rather, journals should strive to ensure full compliance with the CONSORT recommendations and, more generally, transparent reporting of trial conduct and its limitations. Full and transparent reporting should allow readers to appraise a trial on its merits.

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94. THE EXPERIENCE OF THE TRAINING FOR HEALTH WORKERS "FOUNDATION OF EVIDENCE BASED MEDICINE" IN KAZAKHSTAN

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BACKGROUND Currently, treatment of patients, without regard to principles of evidence based medicine is not possible. In 2010, in Budapest, a final decision on Kazakhstan's joining the Bologna Declaration. Kazakhstan - the first Central Asian state, a full member of the European educational space. In the same year 2010, the rate of evidence-based medicine has been included in the curriculum of three year undergraduate. However, most physicians who graduated from medical university much earlier in 2010, keeping out of the course.

AIMS Leadership of the Republican Centre of Health Development (RCHD) decided to hold 5-day trainings for health workers to provide basic knowledge and skills in evidence-based medicine for them.

METHODS Two years trainers from the Center Standardization RCHD conducted trainings in 16 regions of Kazakhstan. The training lasted for five days and included: the basic concepts of clinical epidemiology, a systematic review and meta-analyze, design studies, the hierarchy of evidence, medical databases. In the practical training students (students) learn the skills of question on Pico, an Internet search of relevant research results, a critical analysis of research, decision making on relevant issues. All students were tested before the training and its end.

RESULTS During this time, trained 3,000 health workers. Among them were doctors, nurses, managers, health care organizations, health departments in the region, quality control. Most of the students have mastered the basic principles of evidence-based medicine and practical skills, as shown by tests that are carried out at the end of the training.

LIMITS Trainings were conducted during 2011 and 2012.

CONCLUSIONS Form of learning as training has proven its effectiveness, the expectations of both trainers and trainees. Therefore, such training is popular among medical workers who do not have the knowledge and skills of the foundation of evidence-based medicine. Such training should be conducted in the future.

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95. DEVELOPING AN INDEX TO EVALUATE EFFECTIVENESS OF SANITATION PROGRAM

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BACKGROUND Effectiveness of investments in household sanitation program can best be assessed by going beyond the physical outputs (number of toilets built/percent population covered) and looking at the components like extent of toilets maintained and used by the community. It should also incorporate impact of program in terms of bringing a decline in morbidity associated with lack of sanitation and, improvement in the quality of life particularly of women (who are at the receiving end due to lack of sanitation facilities within the house).

AIMS This paper seeks to discuss a theoretical framework to develop an index to assess the effectiveness of the sanitation program in urban and rural areas in developing countries.

METHODS It is desirable the Sanitation Effectiveness Index should reflect on; - Effectiveness of the interventions/program (policy, investment, reach, coverage etc.) - Appropriateness and affordability of technology - Sociocultural and physical acceptability - Outcomes and impact in terms lowered morbidity (associated with lack of sanitation), improved quality of life particularly of women (in terms of convenience, time saved, safety/ security) and improved general hygiene conditions Given that in different societies/countries, standalone and cumulative contribution of these factors would be manifested differently, challenge would be to identify the most wide/common contributors/ variables affecting/acceptable to most nations. Similarly, we shall have to take a call on relative contribution/weight-age of every one of these factors in the index. On the basis of our literature search, we are considering the following variables for the construction of index. - Effectiveness of the interventions/program- policy and political commitment (e.g., subsidy for construction of toilets), strategy and programs, budget allocation, mainstreaming, program implementation mechanism and human resources, geographical reach, population covered, public and private expenditure, proportion of toilets maintained and regularly used, monitoring and oversight. - Appropriateness and affordability of technology – cost effective and user friendly, widely available, whether appropriate in local contexts (like scarcity of water, recycling of excreta). - Sociocultural and physical acceptability- knowledge, understanding and appreciation of usage and benefits, priority, social relevance (gender concerns, equal access to all), culturally acceptable (e.g., building a toilet in the house). - Outcomes and impact- prevalence of diseases associated with lack of sanitation [like; Diarrhea, Malaria, Schistosomiasis, Trachoma, Intestinal helminths (Ascariasis, Trichuriasis, Hookworm), Japanese encephalitis, Hepatitis-A, Arsenic, Fluorosis], family expenditure on medical care for these diseases, reach of toilet program to all sections of society, quality of life (particularly of women) in terms of convenience, time saved, safety/ security, benefit accrued from recycling of excreta and improvement in general hygiene conditions.

RESULTS The paper will review the efficacy of including these variables in the index. To determine the relative contribution/weight of every variable in the index, a principal component factor analysis will be attempted. Loading of different variables on the principal component will be used to determine the relative weights of different variables in the index.

LIMITS -

CONCLUSIONS –

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96. GRAN PARADISO NATIONAL PARK: USING A WIRELESS PUBLIC ACCESS TO SEND RADIOLOGICAL IMAGES TO A REMOTE REPORTING LOCATION AS PART OF THE HOME RADIOLOGY PROJECT OF PIEDMONT REGION. DESIGN OF A HEALTH IMPACT ASSESSMENT STUDY ON A DELIVERY OF A NEW HEALTH INTERVENTION.

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BACKGROUND Within the Home Radiology project of Piedmont Region (R@dhome), it has been necessary a widening of the testing area, in order to verify the effectiveness of the project in areas that are demographically and geographically very different from urban areas. Has been decided to employ the mobile radiological station not only to perform radiological exams at patient's home, but also to open minor radiological ambulatories in rural areas. Locana (1200m above mean sea level) is situated in Gran Paradiso National Park and it is about 30 kilometers from the nearest hospital and people over 65 years are 22% of population. For this reason it's important to optimize the potential offered by telemedicine.

AIMS The aim of this study is to provide simple radiological services to vulnerable patient, in outpatient settings, by ensuring a real-time delivery of the x-ray images and a medical report on digital media (CD-filmless) and to measure the impact of the intervention on the valley population and on national health system services

METHODS Home Radiology project of A.O. City of Health and Science – Molinette – initially provided a VPN connection between the mobile radiological station and the PACS of the hospital's radiology department by using a 3G modem/router. The VPN connection allows the user to send the produced DICOM images directly to the PACS server. In Orco and Soana valleys, where the HSDPA/UMTS/GPRS coverage is not efficient enough to send the radiological images, there are some wireless spots managed by a private provider; the mobile station's PC can be connected to this spots using a Lynksys Wireless Router linked to the firewall (WPA-AES Authentication). To assess health impact of the intervention, from January 2013 up to 31 December 2013 is expected to study 250 patients, whose radiological images were sent quickly and in complete safety to the hospital PACS. Of these patients will be evaluated age, sex, individual lifestyle factors, social and community interactions, work, living, socioeconomic, cultural and environmental conditions. The measurement instrument is a questionnaire with semi-structured interview. All patients undergoing instrumental examinations are included in the study. We study also the effect of the field intervention on admissions to nearest hospital. Data will be analyzed with SPSS (Ver.17.0).

RESULTS At today (29 march 2013) we have study a sample of 56 patients and the work is in progress until the 31st December 2013.

LIMITS We observe a great difficulty to interview older people; it is often necessary ask for help to caregivers and this is an important bias for statistical analysis. We have also a great difficulty to assess socioeconomic conditions of patients. This phenomenon is due to mistrust towards interviewers.

CONCLUSIONS Due to the frailty of patients involved in the study positive results are expected; we hope to find: local radiology department admissions noticeably decreased (health cost decrease), fewer inappropriate hospital admissions, decrease of social costs, improvement of patient's quality of life and positive effects on the environment (smaller number of vehicles on mountain roads). This project is very innovative in the outline of international literature and may be of great value to the patients, family, consultants and general practitioners.

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97. EVALUATION OF DISSEMINATION AND IMPLEMENTATION OF CLINICAL PRACTICE GUIDELINE FOR REHABILITATION OF STROKE PATIENTS – APPLYING THE RE-AIM FRAMEWORK

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BACKGROUND Adoption and implementation of clinical practice guideline is essential part in evidence based health care. Korean government and the Korean Academy of Medical Sciences are facing with the mission of dissemination and implementation of developed clinical practice guideline. In this process, It is necessary to establish the theory-based strategy to disseminate and implement guideline more effectively.

AIMS To evaluate dissemination and implementation of clinical practice guideline for rehabilitation of stroke patients in Korea applying the RE-AIM(reach, effectiveness, adoption, implementation and maintenance) framework

METHODS The RE-AIM framework in terms of reach, effectiveness, adoption, implementation and maintenance was applied. Structured questionnaire was formulated. Survey was performed by e-mailing to physicians working at primary clinic and general hospital from 1st Nov -30thNov 2012.

RESULTS Of the total respondents, 65.9% answered 'Reach'- no problem for the accessibility of clinical guidelines, cognitive level, and adoption. For Effectiveness measurement, the use of practice guidelines would help the determination of the direction of treatment and communication with patients (79.6%). For the Adoption-environment to apply clinical practice guidelines, there were no problems (64.8%). However, for Implementation-the degree of application with Practice Guidelines, only 30.3%of respondents frequently used the guidelines. For Maintenance, 54.8% of users had used the clinical practice guidelines for more than 6 months.

LIMITS This survey was performed by cross sectional survey.

CONCLUSIONS The reach has been low and even in the respondents with the guideline, the rate of clinical application has been low as well. RE-AIM framework is a useful tool to evaluate the effect of using guidelines and develop strategies to disseminate them.

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98. PHARMACOECONOMIC ANALYSIS OF THE REQUIREMENT OF THE REGIONAL CHILDREN'S HOSPITAL

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BACKGROUND Rational prescribing and use of drugs is one of the main conditions of improving health care. Clinical and economic analysis is used to control the financial costs of managing drug supply. These analysis based on the ABC and VEN methodology that allow to clearly justify the use of medicines in the hospital ABC analysis is the distribution of the share of drug costs for each drug in the total cost of the most expensive to least expensive. All drugs are ranked in three groups. Group A include the most expensive drugs, which together account for 80% of costs. Group B include less expensive drugs, which account for 15% of costs. Last group C include drugs, which account for 5% of costs. VEN-analysis was conducted in parallel with the ABC-analysis. This analyses is used for evaluation of the rationality of financial expenditures and determination which category is dominated by drugs in the hospital. In accordance with international practice, drugs are divided into vital, essential and non-essential

AIMS The purpose of research was to evaluate the rationality of drug supply in regional children's hospital with ABC and VEN-analyses.

METHODS We analyzed drug's requirement of Karaganda Regional Children's Hospital on 2012 year. We used next databases to conduct the clinical and economic analyses: Official site of the Interregional public organization "Society of pharmaco-economic studies - <http://www.rspor.ru/>; Medline - <http://www.pubmed.com/>; Cochrane Collaboration - <http://www.cochrane.org/>; British Medical Formular - <http://www.bnf.org/> Karaganda Regional Children's Hospital is multifold hospital with the surgical, neurological, endocrinological, nephrological, hematological, immunological, pulmonological and gastroenterological medical care for children of Karaganda region. The hospital is designed for 345 beds, consisting of admissions, outpatient clinics, day patient facility, 10 specialized hospital units. The list of necessary medicines was formed according to demands from heads of Clinical units. Purchase of drugs from the Republican budget is carried according to contract MM-012-N-12 of 19.01.2012 "Department of Health Care of the Karaganda Region" with Farmacia (organization of official government distributor)

RESULTS ABC analysis was conducted on International Non-proprietary Name (INN) of drugs. The total number of analyzed drugs at the hospital were 275. Group A included 45 drugs (16.4%), group B included 45 drugs (16.4%), group C included 185 drugs (67.2%). The total cost of the drugs amounted to 385062\$. Drugs from group A were 80% of total cost, for these drugs was spent 227980\$. The top drugs included: sevoflurane -14,5%, ceftriaxone-10,8%, meropenem -7, 1%. As leaders of Group A also includes five drugs that belongs to the non-essential group, without evidence for its efficiency and safety. They were freeze-dried bacteria, complex of peptides, derived from pig brain (Cerebrolysin), sterile concentrate metabolites of intestinal microflora, deproteinized gemoderivat of calf blood (Actovegin), choline alfofoserat. This indicates a misallocation of clinic budget and lack of implementation of evidence-based medicine in practice. Drugs from group B were 15% of total cost, for these drugs was spent 98541\$. In this group were 9 drugs with unproven efficiency: thioctic acid; selimarin, fumarin; methyluracil; netilmicin; piritinol; smectite; essential phospholipids; saccharomyces bulardi; hopantenic acid. Drugs from group C were 15% of cost, for these drugs was spent 52512\$. In group C was 22 drugs: silibinin, metamizol sodium, tolpirazon, carnitine orotate, DL-carnitine chloride, pyridoxine hydrochloride, cyanocobalamin, adenosine capsule, trimetazidine, tizanidine, piracetam, spores Bacillus clausii, perftoran, vikalín, glycine, phenobarbital, valokardin, ornithine, vinpocetine, nicergoline, baclofen, cinnarizine, benzybenzoat, propolis tincture, ascorbic acid, extract of eucalyptus, peppermint extract, ipidakrin, DL-methionine. These drugs belong to a group of non-essential, without evidences of efficacy and safety. According to the results of VEN-analysis 52 of the drug (18.9%) were classified as vital drugs, 187 (68%) - to essential drugs and 36 (13.1%) - for non-essential drugs. The top drugs were 'nootropics'• (7), 'hepatoprotectors' (5), and pre-, probiotics (4). The total number of the most purchased drugs was (16) 44.4% - almost half of all drugs that are included in this group. According to the analysis the formulary commission members of clinic considered it appropriate to reconsider the inclusion of 36 drugs in the absence of evidence of clinical and cost effectiveness.

LIMITS There are no limit

CONCLUSIONS Clinical and economic analysis allows you to control the efficiency and rationality of spending financial means of hospital. This technique makes it possible to optimize the range of drugs that provide the primary financing for the purchase of essential drugs, more efficient use of financial resources of the hospital

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99. INFRASTRUCTURE FOR THE EVIDENCE-BASED MEDICINE IMPLEMENTATION IN MEDICAL SCHOOLS AND RESEARCH INSTITUTIONS

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BACKGROUND Current state of medical science and health system provides necessitates of the development and application of new approaches and technologies for the scientific information collection, analysis, synthesis and interpretation, enable to transform research results into clear, precise recommendations for physicians and for the solution of common problems of the health care optimal organization. To solve this problem, it is necessary to create an infrastructure for the evidence-based medicine (EBM) implementation in health organizations first of all in medical schools and research institutions.

AIMS To assess the Infrastructure for the evidence-based medicine implementation in medical schools and research centers and research institutes.

METHODS We have examined the activities of 33 organizations (eight medical universities and schools, 25 research centers and institutes) in the health system of the Republic of Kazakhstan. We have assessed the presence of units responsible for the EBM development, their staffing, performance.

RESULTS Since 2008, six Medical universities and schools have formed EBM centers, research institutes and research centres have formed EBM sectors in the Research Management department, two medical schools realizing continuing medical education programs have formed EBM courses, implementing training programs for EBM. By the end of 2012 these division had been formed in 23 (70%) research institutes and centers, medical universities and schools. Thus EBM centers in universities usually operate consisting of 3-6 experts, EBM sectors - consisting of 2 experts. The most intent attention to the EBM units staff development is given in universities - all experts are regularly trained in EBM. In addition, EBM centers actively perform actions to implement the EBM principles - train their employees and third parties. EBM ceters are involved in the research and educational process. However, the activity of EBM sectors in research institutions and centers is often formal - in more than 50% of organizations the EBM sectors experts do not have EBM certificate, more than 40% of organizations do not have any regular training in EBM.

LIMITS The results indicate the lack of coverage of medical schools and universities, research centers and institutes by the divisions which are responsible for the development of evidence-based medicine, and the insufficient qualification of specialists in these devisions.

CONCLUSIONS Research results point to the need to ensure the conditions for the functioning of EBM centers and sectors in all medical universities and schools, research institutes and centers, to form an effective system of their staff training, their inclusion in the regular EBM trainings in these organization, development of research and instructional products in health system.

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100. UTILIZATION OF PRIMARY CARE SERVICES IN TWO COMMUNITY HEALTH CENTRES IN ONTARIO, CANADA

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BACKGROUND Community Health Centres (CHCs) provide comprehensive health care services to populations facing barriers to access. The CHC is defined through a charter and principles that are common to all CHCs yet the application of these principles may vary. The model is based on interdisciplinary team-based care where all health care providers including physicians and nurse practitioners (NPs) are salaried. The NPs play an important role in the management of patients and the provision of services, which can be considered as similar to that of the physicians. However, how this role is defined in relationship to the physician may vary between CHCs.

AIMS There are two objectives to this study. The first is to understand whether there is substitution or complementarity between NPs and physicians and whether what determine the utilization of services varies between the two provider types. The second objective is to determine whether there are variations between the two CHCs.

METHODS Data on patients and their visits with NPs and physicians was collected from two CHCs (n1=2,236 patients and n2=2,055 patients). These CHCs were selected based on the quality of their data, their interest in participating in the study and their capacity to provide the data. Data included the number of physicians and NP visits, patients' socio-demographic information as well as their socio-economic status and health status. Two-part models were run using a Probit for the probability of 1) having a physician visit and 2) having a NP visit and a Poisson regression with the number of physician visits and the number of NP visits as the outcomes. The models were run with pooled data with a dummy variable for the CHC and separately.

RESULTS In one CHC, an increase in the number of NP visits was associated with an increased number of physician visits but the physician visits did not have a significant effect on the number of NP visits. In the other CHC, NP visits was negatively associated with the physician visits but physician visits had a significant positive effect on the number of NP visits. When the data was pooled, NP visits was positively associated with physician visits but physician visits were not significant in predicting NP visits.

LIMITS The study is based on data collected for administrative purposes in the CHCs. The lack of information on how clinicians share the work for providing services to the client population limits interpretation of the results. However, the author did work in the past with both organizations and has some knowledge of the characteristics of the CHCs.

CONCLUSIONS The difference in the results between the two CHCs suggest that there may be unobserved organizational factors that affect utilization of physician and NP services differently. More research would be required to understand the specific roles that the providers play with each CHC.

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101. EXPLORING OF PREDICTORS OF BURNOUT AMONG NURSES IN TAIWAN

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BACKGROUND Nurse burnout is a critical and global issue which effects nurse and patient outcomes. Researchers have investigated work-related burnout using personal characteristics and job setting categories. Predictors of personal characteristics that have been explored include age, marital status, and work experience. However, the job setting categories, such as Hospital level and geographic area as well as nurse perceptions of mental, job satisfaction, work environment, and work engagement have not been investigated in Taiwan.

AIMS The purpose of this study was to investigate the predictors of burnout among nurses in Taiwan using a national sample. Therefore, some questions still need to be investigated: 1) whether the difference on personal characteristics, job setting and nurse perceptions related burnout dimensions is in Taiwanese nurses. 2) How the explanation variance on the significant variables.

METHODS A secondary data analysis was conducted to investigate the predictors of burnout among nurses in Taiwan. The data was obtained from the NURSE-Outcomes study, a nationwide survey of nurse workload and patient outcomes in Taiwan conducted from 2008 to 2010. Of the 1,896 nurses invited to provide data, 1,846 completed questionnaires. Data from 5 instruments from the NURSE-Outcomes were obtained. The 5 instruments were the Maslach Burnout Inventory-Human Service Survey (MBI-HSS) Chinese version, the Brief Symptom Rating Scale (BSRS-5), the Mueller/McCloskey Satisfaction Scale (MMSS), the Utrecht Work Engagement Scale (UWES-9), and The Nursing Work Index-Revised (NWI-R). Differences among variables on total burnout and subscales scores were examined using t-test or ANOVA. Pearson correlations were used to examine the association among continuous data. Two hierarchical regression analyses were used to explore the predictive ability of the variables to burnout. In Model 1, the control variables were entered; the predictor variables were entered in Model 2.

RESULTS The average age of the 1,846 nurses providing data was 29 (SD 5.26). Most were unmarried and had worked for less than 5 years. There were significant differences among type and location of hospital on the reduce sense of personal accomplishment burnout dimension. Marital status, length of current employment, and length of total employment differed significantly on the emotional exhaustion, personal accomplishment, and depersonalization dimensions ($p < 0.01$). Except for age and NWI-R score, there were significant correlations among all variables ($p < .001$). The significant categorical and continuous variables were included into the linear regression model to predict burnout, emotional exhaustion, personal accomplishment, and depersonalization. The explained variance was 36%, 39%, and 20% on emotional exhaustion, personal accomplishment, and depersonalization respectively. Fifty-five percent of the total burnout score was predicted. Work engagement explained the greatest variance of sense of personal accomplishment and depersonalization. Mental health explained the greatest variance of emotional exhaustion.

LIMITS The current study used secondary data analysis that relies on an accurate and complete database. The study findings were limited to variables contained within the NURSE-Outcomes study.

CONCLUSIONS Personal characteristics as well as situational factors can be used to predict nurse burnout. Personal characteristics of nurses such as marital status, length of current employment and length of total employment impact burnout of nurses in Taiwan. Mental health is a strong predictor of emotional exhaustion. Work engagement is a strong predictor of a sense of personal accomplishment. Strategies to improve the mental health and work engagement of nurses in Taiwan may avoid burnout. In the present study, individual predictors effected nurse burnout. Support services such as mental health consulting or a support group may provide stress management. Single and new graduates are especially vulnerable to burnout and require additional support. Nurse administrator should complete ongoing assessments of environmental stressors on younger unmarried nurses with less experience. The nursing manager must create a positive work environment and inspiring provider to engage in their work.

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102. C.U.R.A.: A UNIQUE REFERENCE CENTER FOR INTEGRATED HOME ASSISTANCES

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BACKGROUND The ULSS 9 of Treviso has divided its territory in four Social healthcare districts, based on the organizational pattern of Veneto Region. They represent on the whole an access “place” for 420.000 inhabitants, of which 73000 over age 75. In the last years the organizational model of the “End life caring” has obtained a great result, moving from take in load 3400 people in 2006 to 63.000 people in 2011. This has permitted a reduction of number of hospitalization and ensured the accommodation of the patient in family environment, offering alternatives to the hospitalization, containing the number of improper hospitalization, favoring protect discharges and promoting the social health integration. The reorganization of the home care service has improved since November 2011 thanks to the establishment of the Unique reference center for Integrated home assistances (CURA), that has unified in the integrated home care system the “prese in carico” and the administration of patient difficulties. The assistance system is a unique orientation center for both customers and care givers, giving uniform answers to the expressed needs guaranteeing the administration and solving of the request.

AIMS The initiation of Unique center for Integrated home assistance has permitted “(comprehensive) la presa in carico globale” through a single interlocutor, responsible of receiving and elaborating the request, and tracks the process till the answer, undertaking also “remote monitoring/ remote assistance for patients with intense assistance needs. The purpose is providing precise information and references on the access process to a specific service (call center); administrating the request and path till the response.

METHODS The professionals, (as doctors, nurse, administrative personnel) from the 4 districts have been involved in trainings on the field through internships at first aid to grant uniformity of conducts and information flux. It has been implemented an specific operating system (....) to record the users’ requests availing the Integrated Home assistance. The team is compound by Cure Primarie's Director and Coordinator, nurses of the Home Assistance from the 4 districts, supporting operators and the administrative personnel. The user request has been codified into areas for colour codes to allocate the level of responsibility: white for fast management requests, green for requests of Information/Activation of services, yellow for ordinary assistance activity and red for complicated assistance activity.

RESULTS The CURA's head office is operative 24h, 365 days a year. In daytime the office takes on responsibility of the stated requests and needs, referring to the referential services. In nighttime, the office takes on responsibility of the requests and manages the response of impelling services triggering the relevant services. The organization and operation are granted by operative instructions and procedures in order to ensure uniform response. Nowadays CURA is the unique head office ruling the Cure Primarie activities of the 4 Health and social districts of Treviso ULSS n.9. the patients signed up (in possession of the unique number) are 5665 and the patients in load are 3520. The daily calls average is 80, the requests (over 10.000) have been classified in postponable (average time of solution from 5 to 2 hours) and impelling (average time of solution from 30 minutes to 1½ hours). In April 2012 have been tested the call-center systems with some patients in load to ADI, from September have been tested Telepresenza systems at domicile on a 10 people group requiring high assistance complexity.

LIMITS Lack of an established team, now the home care system's nurse personnel shifts in rotation between the 4 districts.

CONCLUSIONS The implementation of Unique reference center for Integrated home assistances guarantees assistance 24/7, as unique center that receives requests, coordinates the responses, and is also in contact with family doctors. This is a model that wants to be set up as crossroad of the territorial network oriented to a determined and filtered population catchment which ensures the reception of the requests and the constant connection between the professional and the users, in order to achieve a continuous assistance.

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103. EVIDENCE INTO PRACTICE – LESSONS FROM HEALTH SERVICE REDESIGN IN ENGLISH ACUTE HOSPITALS

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BACKGROUND The Collaborations for Leadership in Applied Health Research and Care (CLAHRC) is a National Institute of Health Research (NIHR) initiative aimed at closing the 'second translation gap' between what is known to be effective in healthcare and what is routinely used in practice in the English National Health Service (NHS). Within the Birmingham and Black Country (BBC) CLAHRC (one of nine regional CLAHRCs), the Health Service Redesign theme is investigating the drivers, responses and outcomes of service redesign in three local NHS hospital Trusts over five years. How does this relate to internal (e.g. capital redevelopment) and external (e.g. NHS reforms) organisational change? Thus, the work is tracking both strategic direction and four clinical services at the acute Trusts over time, to evaluate how they design and deliver change (including evidence-based) at organisational (strategic) and service (operational) level, by recording the progress of these changes and how different groups perceive and react to them.

AIMS To work collaboratively in evaluating and synthesising the lessons for knowledge transfer from redesign initiatives at English hospital Trusts, taking into account the context of organisational cultures and ever-changing NHS environment.

METHODS Our findings are from qualitative studies that comprise semi-structured strategic interviews undertaken in 2009 (n=77), 2011 (n=21) and 2012 (n=29) with senior managers, clinicians and local commissioners; the first round of service level interviews took place in 2011 (n=92) with staff involved in pathways for cholecystectomy, myocardial infarction, heart failure and end of life care. The interviews were recorded and transcribed, and the data analysed thematically using the Framework Method. The codes relevant to knowledge transfer were then interrogated specifically for this analysis. We also draw on sources of data such as patient interviews (n=7), observation of meetings, and interviews with BBC CLAHRC NHS and academic leads (n=19), all conducted within our varied co-production approach.

RESULTS In our assessments we find that knowledge transfer during change is dependent on the relevant NHS organisational and staff engagement, this encompasses several important aspects including: – researcher/practitioner relationship: pre-existing relationships are most useful – tailoring the nature of contact – use of NHS staff as 'diffusion fellows' or 'knowledge brokers' – highlighting the benefits of involvement to individuals' own challenges Ownership of evaluation within NHS organisations also promotes its 'embeddedness'. Changes need to be owned by the Trust, with as many Trust staff aware/involved in 'co-producing' the research; having academic team members based at the NHS organisation should be considered. Dissemination of findings seems subject to a 'value' hierarchy whereby clinical service data is perceived more useful than organisational information and quantitative findings are seen as more useful than qualitative. Knowledge mobilisation is facilitated if: – redesign is still underway – a NHS change champion is available – improved outcomes for patients can easily be demonstrated – benchmarking shows a Trust to be less effective than its peers Research timescales matter: the length of traditional academic projects and the NHS need for short term results often causes mutual misunderstanding; this can result in scepticism, cynicism, and poor engagement. This can be offset if early 'quick wins' can be disseminated, especially if the feedback is designed to be easily understood.

LIMITS This paper focuses on the qualitative analyses that have been selected for knowledge/evidence. The overall study is a complex mixed methods longitudinal evaluation of health service redesign.

CONCLUSIONS Knowledge transfer around service redesign at hospital Trusts depends on maintaining engagement between those transferring and those implementing. This is harder when the redesign is neither a clinical nor an organisational priority, and staff are contending with other pressures. Co-production of research is facilitated by regular feedback of findings in ways appropriate to clinical or managerial audiences and providing concise, accessible frameworks for improvement. Tensions remain between academic and NHS timescales; the necessary balance could be reached if NHS staff understood evaluation processes better, and academics were able to focus on knowledge translation and mobilisation independently from publication pressures.

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104. TEACHING ESSENTIAL METHODOLOGICAL CONCEPTS TO CLINICAL GUIDELINE GROUP MEMBERS

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BACKGROUND Clinical guideline groups aim to carry out rigorous systematic reviews of clinical evidence in a specified area. Clinical guideline recommendations are then made in the light of the objective evidence and also the group's clinical or patient-centred experience. Systematic reviewers working on clinical guidelines have a clear understanding of the methodological concepts essential for evidence appraisal and analysis. However it is essential this understanding is shared by clinical and lay members of the clinical guideline group, in order that they may be able to fully engage with the evidence and make appropriate recommendations. Some members of clinical guideline groups have a good background understanding of statistics but are less familiar with concepts such as absolute effects, interpretation of effect sizes, imprecision and heterogeneity. Methods to encourage guideline group understanding are therefore essential. Currently we use both booklets and teaching sessions to instil such understanding but it is unclear whether either has an advantage over the other, or whether both are required.

AIMS The aim of this study is to compare: - Teaching methods applied alone - A booklet applied alone - Teaching and booklet applied together.

METHODS Samples Participants from three separate guideline groups were invited to take part in the study. Allocation to teaching or booklet or both teaching/booklet was not randomised by individual participant, as it would not be practical to split a guideline group into differing modes of instruction; teaching sessions are normally held during the first development meeting, and so those not in the teaching group would have to temporarily sit out of the session. Instead, all from one guideline group were allocated to the same intervention, although the allocation of guideline group to intervention was itself randomised. Measurements Prior to each intervention, individuals in all three groups were given a Forest plot, and asked some questions relating to the effect sizes, confidence intervals, imprecision, absolute effects and heterogeneity. Approximately one week after the intervention they were given the same tests. Interventions One group of guideline group members were instructed on the following concepts in two 30-40 minute group teaching sessions: - Effect sizes and confidence intervals - Forest plots - Relative and absolute effects - Imprecision - Meta-analysis and heterogeneity The sessions were carried out by a Research Fellow with experience in Postgraduate teaching. The concepts were covered in-depth using step-by step PowerPoint presentations. This was carried out before embarking on the developmental stages of the guideline. The second group were given information on the same concepts and at the same point in the guideline via an information booklet. The third group were given both of the interventions above.

RESULTS This study is on-going, but full results will be analysed and available for presentation several months before the time of the conference

LIMITS Although there is bound to be a practice effect from using repeated tests of understanding, this will be the same for both groups and so is controlled for.

CONCLUSIONS We hope to gain an insight as to the best teaching methods especially with an eye on increasing efficiency and using the time spent with the group to the maximum benefit.

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105. EFFECT OF STRUCTURED TEACHING MODULE ON KNOWLEDGE OF CARETAKERS OF PATIENTS WITH SCHIZOPHRENIA AND RELATED DISORDERS

Philip Angel, Khakha Deepika, Sood Mamta

AIIMS

BACKGROUND Schizophrenia and related disorders affect nearly 6-7 million people in India. Caretakers who are major support to the patients lack knowledge about the illness. The purpose of this study was to develop a structured teaching module as a means of passive psycho-education as similar studies were not available in India.

AIMS 1. To assess the effect of the structured teaching module on knowledge among caretakers of patients with Schizophrenia and related disorders. 2. To correlate various demographic variables and select variables with the knowledge of the caretakers before and after imparting the teaching module. 3. To find out the perception of the caretakers about the usefulness of the module in providing information regarding Schizophrenia and related disorders

METHODS A pre experimental study was done on a sample of 30 caretakers selected according to the inclusion criteria by convenience sampling. Based on the learning needs identified by focus group discussion and review of literature a structured teaching module was prepared in Hindi and English. The caretakers were called in groups. Informed written consent was taken. The demographic profile of patient and caretaker along with the information related to clinical profile, care of the patient and previous exposure to information on Schizophrenia and related disorders were collected. A knowledge questionnaire prepared by the researcher was used to assess the knowledge of the caretakers. The pre-test was done before the intervention. The teaching module was administered after a short discussion on the contents of the module. Next day (day 1) after a discussion to clear the doubts, the feedback was taken about acceptability of the teaching module using an acceptability performa. Post-tests were done on day 1 and day 15. Data were analyzed using SPSS 17.

RESULTS The results showed that there was a significant improvement in the knowledge of the caretakers from pre-test to post-test knowledge scores (p

LIMITS No control group and randomization Convenience sampling was used Extended follow up could be done No measures were taken to avoid exposure to any other information during the post intervention phase

CONCLUSIONS The structured teaching module was found to significantly improve the knowledge of the caretakers. The caretakers perceived the teaching module as useful and implementable. However there was a reduction in the knowledge after 15 days still there was a gain in knowledge from pre-test. Gender, previous exposure to information, educational qualification, duration of care and duration of treatment were found to have a correlation with the knowledge scores.

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106. COMMUNITY ACQUIRED PNEUMONIA. HOW TO MEASURE APPROPRIATENESS OF MANAGEMENT

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BACKGROUND Despite broad-spectrum antibiotics and progresses in critical care, Community-Acquired Pneumonia (CAP) is nowadays a significant cause of morbidity and mortality. Frequently, the diagnosis is confounded by coexisting cardiac or pulmonary conditions. Recognition of patients at risk for complications from pneumonia is critical when making the decision of how and where to treat.

AIMS We have pursued and implemented a clinical audit, in the context of a research project funded by an Italian project , Regione Emilia-Romagna - University (2b22-PRUa2-2009-005), in order to assess the appropriateness of treatment, site of care, and clinical outcome of CAP in our hospital.

METHODS To determine the appropriateness, we examined the clinical diagnosis, confirmed by chest X-Ray, the prognostic risk, based on a quality score of severity (mild, moderate, severe) resulted from a flow chart, already tested in a previous study (Potena et al. Int J of Tuber Lung Dis 2008), the antibiotics used in CAP enrolled and care settings chosen by the Medical First Aid doctors. The clinical outcome were the judged healing or 30-day mortality. We enrolled 200 patients admitted to First Aid with a diagnosis of CAP, since August 1st 2011 to December 31 2011. Also, the process indicators were: adherence to ATS-IDSA guidelines treatment and the appropriateness of the site of care chosen or not by flow-chart.

RESULTS 83% of patients with mild risk, and 17% with moderate risk were outpatients. 17% of patients with mild risk, 22 % with moderate and 60.4% with high risk were admitted to hospital. We observed true healing in 95.1% and partial healing in 4.9 of domiciliary patients, among which none deceased. In CAP patients admitted to hospital we observed 15.1 % of mortality, 60.4% of complete healing, and 24.5 % of partial healing. In-hospital mortality was similar to the observed data from literature. Duration of illness was 21.6 days at home (judged by patients called in a phone survey) and 12.5 in hospital (judged by discharge date). Antibiotic prescription was appropriate, and followed ATS-IDSA guidelines, in 56.4 % of domiciliary and 79.2 % of hospital admitted patients.

LIMITS 1) not all the staff of First Aid doctors accepted to participate this audit and most effort were requested to researchers in data collection; 2) data of clinical healing were not collected by GPs in outpatients; so they are not comparable with the data of healing in patients admitted to hospital.

CONCLUSIONS Clinical audit is a powerful method to investigate the CAP management and to analyze the criticality due to variability of prognosis and the inappropriate behaviour of doctors. 31% (one of three) patients with CAP arriving in First Aid Service should be treated at home by General practitioners with no risk of mortality. The flow chart we used is safe if used by hospital or family doctors. Appropriateness of antibiotics prescribed for CAP treatment could largely improve, if doctors would follow guidelines suggestions. Finally, CAP impact on costs in medicine is much more linked to inappropriate admission in hospital than to costs of drugs used to treat the patients.

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107. WHATEVER HAPPENED TO PATIENT INVOLVEMENT IN HEALTH RESEARCH GOVERNANCE?

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BACKGROUND The involvement of patients and the public has been a key element in the governance of health and medical research. It is a requirement of medical research councils and research funding bodies. It is supported by an infrastructure in the UK that funds the involvement of patients and the public, and by guidelines issued by organizations such as INVOLVE. There have been long-standing issues about how involved patients and the public can be in practice given researcher resistance manifested in questions about their representativeness, their understanding of research, their contribution to the research process, and the additional costs involved. The recession of the past four years with reductions in public spending has impacted negatively on the availability of research funding.

AIMS The aim of the paper is to explore whether the previously well-funded support given to patient and public involvement has been undermined by recent changes to medical and health care research funding and to assess whether researcher resistance has lessened or increased.

METHODS Two sources of data will be used: (1) published data relating to research funding and published statements regarding the requirement to involve patients and the public in research funding (2) interviews among patients and the public involved in research funding applications, and their support staff

RESULTS The results will be presented as: 1) Quantitative data regarding research funding 2) Discourse analysis of public documented statements regarding the requirement to involve patients and the public in research 3) Analysis of interviews

LIMITS The findings will be limited to Wales and England, but within the UK economic and the context of UK research funding. It will be related to the past four years only. The degree of involvement is multi-factorial and it will not be possible to identify any changes in the economic and financial context as solely responsible for any changes in researcher attitudes to patient and public involvement.

CONCLUSIONS The analysis presented will seek to measure the extent of patient and public involvement and identify any changes. It will seek also to report on possible and likely causes, from the perspective of patients and the public with experience of research involvement. It will offer commentary on researcher behaviour and attitudes, and commentary on the overall context of health and medical research funding, from the perspective of patients and the public.

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108. THE DEVELOPMENT AND EVALUATION OF NURSING MINI-CLINICAL EVALUATION EXERCISE PROGRAM

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BACKGROUND Introduction: The mini-clinical evaluation exercise (mini-CEX) is one of the workplace based assessments used to measure aspects of clinical competence in the Taiwan medical Post graduate training program. It was introduced here in 2004. The mini-CEX is widely used for the evaluation of medical trainees' clinical competence. However, still lack of study has examined the effect of mini-CEX on the nurse preceptors.

AIMS The purpose of the study was to develop and evaluate the effect of a nursing mini-Clinical Evaluation Exercise (mini-CEX) education program model.

METHODS Research design comprised a three-stage approach, firstly, a total of 55 new training nursing clinical teachers were involved in a 4 hours workshop, secondly, establishment of the mini-CEX evaluation standards, finally, using three teaching videotapes to analysis score reliability and explore the effectiveness of feedback. A self-administered questionnaire was used to investigate the nursing clinical teacher's effect of the level of understanding, acceptance, rating reliability, and satisfaction of use mini-CEX.

RESULTS The research result revealed once complete the workshop program, that the effect of mini-CEX education program whether the level of understanding or acceptance had significantly improved ($p < .01$). Followed by established 52 topics standard of mini-CEX. Further, tracked a total of 39 teachers for rater reliability analysis with Cronbach's α value respectively 0.87, 0.92, 0.99. There were 3 people did not write feedback content.

LIMITS The present study was limited by the small sample size and the selection of participants from a single hospital, which reduces the generalizability of the results.

CONCLUSIONS This education model can enhance nursing clinical teachers understand the extent of the mini-CEX application and promotion. Further, nursing clinical teachers' feedback capability still need to be strengthened.

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109. A CLINICAL AUDIT EXAMINING THE USE OF FUROSEMIDE BY THE LONDON AMBULANCE SERVICE

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BACKGROUND In July 2001 the London Ambulance Service NHS Trust (LAS) introduced furosemide for use by paramedics to treat pulmonary oedema secondary to left ventricular failure (LVF). Failure in the heart's left ventricle can lead to an accumulation of fluid in the lungs, resulting in decreased gas exchange across the alveoli. A patient with pulmonary oedema secondary to LVF will primarily experience respiratory distress, which can progress to respiratory failure if left untreated. In 2002 a clinical audit was undertaken to determine appropriateness of furosemide administration by the LAS. This clinical audit identified that paramedics had difficulty distinguishing pulmonary oedema secondary to LVF from other conditions such as chronic obstructive pulmonary disease (COPD), and issues with drug administration records. As a result the LAS training packages were reviewed in line with the drug dosage guidelines which were reissued nationally in 2006. In addition, later publications on furosemide use have highlighted some concerns about the accuracy of pre-hospital diagnosis of pulmonary oedema. The lack of access to diagnostic techniques, such as chest X-rays, limits the information available to crews when making a diagnosis.

AIMS The re-audit conducted in 2009 aimed to assess whether the concerns identified during the initial 2002 clinical audit had been addressed, specifically: to assess if furosemide was indicated when administered and to determine if the dose and route of administration were appropriate.

METHODS The retrospective re-audit was conducted for 100 consecutive cases where furosemide was administered during September and October 2008. All patient report forms (PRFs) were assessed by clinical audit staff and a Clinical Advisor to the LAS Medical Director, who examined appropriateness of furosemide use in line with the national guidelines. Patient diagnoses upon arrival at hospital were requested for every patient; 24 patient diagnoses were received.

RESULTS The re-audit findings showed patients administered furosemide received a thorough assessment of their observations. However, only 40% of patients (n=40) administered furosemide were clearly presenting with pulmonary oedema secondary to LVF. For the remaining 60% of patients (n=60), administration of furosemide was considered inappropriate as the patient: - did not have symptoms or history to support a diagnosis of acute pulmonary oedema (n=21, 21%) - was likely to be suffering from an alternative condition, such as COPD or chest infection (n=16, 16%) - had a gradual onset of symptoms and therefore did not warrant furosemide use (n=9, 9%) - had good observations and therefore were unlikely to be suffering LVF (n=3, 3%) - was receiving dialysis for renal failure and therefore furosemide was contraindicated (n=1, 1%) For a further 10% of patients (n=10), the PRF did not contain sufficient information to determine whether the diagnosis was appropriate. Patients' diagnoses obtained from hospitals showed a similar trend as only 46% of the 24 patients (n=11) received a hospital diagnosis indicating pre-hospital furosemide administration was appropriate. There was however improvements in the documentation of drug administration with furosemide appropriately administered intravenously for 100% of patients (n=100) and drug dose correct documented of for 97% of patients (n=97).

LIMITS The primary aim of this re-audit was to assess the appropriateness of furosemide use, however as there was not always sufficient documentation on the PRF this was not always possible. It was only possible to obtain hospital diagnosis for a quarter of the patients in the sample. A more complete data set would provide a greater understanding of the indication of furosemide use for this patient group.

CONCLUSIONS The re-audit results indicate that the concerns identified in the initial LAS furosemide clinical audit relating to drug documentation and dosage were resolved. However, the review of the appropriateness of administration of furosemide demonstrated that it is often used when not indicated. This is a low figure of diagnostic accuracy and supports evidence published elsewhere which demonstrates the difficulties of identifying pulmonary oedema secondary to LVF in the pre-hospital arena. As a result of the potential side effects of administering furosemide when it is not indicated, in December 2009 the LAS Medical Directorate made the decision to withdraw furosemide as a treatment for pulmonary oedema by the LAS. The process took approximately six months and at the same time investigations began looking into the feasibility of introducing continuous positive airway pressure (CPAP) as an alternative treatment for this patient group. Following the full withdrawal of furosemide, the LAS also contacted the other eleven ambulance services in England, nine of whom confirmed their paramedics are still using furosemide to treat patients with acute pulmonary oedema secondary to LVF.

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110. EVIDENCE-BASED DECISION MAKING IN THE OR: BRIDGING THE GAP BETWEEN PAST PERFORMANCE AND FUTURE DECISIONS [DAY BY DAY/ON A REGULAR BASIS]

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BACKGROUND Recent years have posed the challenge of maximizing health outcomes while spending less money because of the healthcare field changes in both demographic and financial terms. The resource cut has severe managerial implication on the strategic, tactical and operational level, all of which need to be taken into consideration in order to make the best use of resources and thus keep costs under control. This holds especially true in the case of surgical operating rooms (ORs) as they can account for as much as 40% of a hospital total expenses. Information Technology (IT) systems represents a valid instruments to support workflow planning and organization of the surgical block (SB) with a systematic and objective analysis of historical data, evaluating their performance according to relevant indicators.

AIMS Our aim is to highlight the key role of IT systems for strategic, tactical, operational decision making in the OR. Specifically, we show such technology potential in triggering a wise decision making process, taking as an example the organizational planning of surgical activity in an OR that has traditionally been organized in two distinct 6-hour session assigned to two different Surgical Department. The data generated by our IT system allows us to determine if there exists any link between organizational choice about those 6-hour session assignment, Overtime indicators and ICU utilization

METHODS we retrieved quantitative data from a/our Operating Room Management System (ORMS) on Mondays surgical activity from march 2010 to February 2013, tracing the surgical activity of the Thoracic and Vascular surgical units in terms of OR and Intensive Care Unit (ICU) utilization when working in the same OR. We run a cross-sectional analysis for each surgical unit and a comparative analysis between the two, looking for significant patterns and organizational choices impact on indicators such as Overtime Rate and ICU Utilization Rate for nonclinical reasons

RESULTS We analyzed 99 Mondays of surgical activities for the Thoracic SU, while for the Vascular SU data were available for 84 Mondays. Of these, surgical activities was executed in the same OR during 66 Mondays. Thoracic SU preponderantly used afternoon hours, with 57 afternoons against only 9 mornings; consequently, for vascular the OR utilization in these terms is inverted. Overtime workdays for Thoracic SU were 30% (20 out of 66), while they were 60% for Vascular SU (40 out of 66). Mondays against only 9 afternoons for vascular SU). Days where both SUs were in overtime were 15% of total workdays, corresponding to 50% of overtime days for Thoracic SU and 25% of overtime days for Vascular SU. Interestingly, those days were both SUs recorded an overtime were days in which Thoracic SU was operating on afternoons, meaning that probably those 10 days of overtime for such specialty were partially caused by a "cascade effect". As far as regards procedure quantity during workdays under consideration, it is important to notice how thoracic SU did 68 procedures (16% of which ended up using ICU services) while Vascular SU did one hundred (16% of which ended up using ICU services). When speculating on some sort of correlation between ICU utilization and overtime, we found that 80% (8/10) of afternoon thoracic patients gone to ICU were the last surgery of workdays in overtime (avg 90 min.) while 75% (3/4) of afternoon vascular patients were the last surgery of days in overtime (avg. 47 min.). In those afternoons where no overtime was found, less than 5% (2/42) of thoracic patients went to ICU; such percentage was equal to 22% (2/9) for vascular patients. This confirm that the lack of flexibility in the Recovery Room opening, associated with recurrent overtime, may have an impact on ICU utilization for nonclinical reasons

LIMITS Limits of this study are attributable to, on one side, the way data recording takes place, because the single procedure information must be entered by nurses through a portable data recording system. In this way the cultural approach and the involvement in the process of the nurses are fundamental to achieve available data. On the other side the data for the urgency and the patients send back or move to the next day can't be recorded. The 15% of the total procedures of the hospital are not recorded

CONCLUSIONS Nowadays in the healthcare sector field where the problem is to reduce the managerial gap to cover the increase of health demand while the financial decrease it's fundamental the implementation of IT systems to track and know every process. With Operating Room Management System is possible to highlight problems and utilization patterns, making it possible to address problems in a timely and precise intervention. Performance can thus be steered by a evidence based knowledge and then that can be able to perform management efforts to well-defined issues. Every process can be improve only by a real knowledge an control of it with evidence based approach.

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111. HEALTHCARE IMPROVEMENT SCIENCE: PRODUCING HIGH QUALITY EVIDENCE

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BACKGROUND The science of healthcare improvement is crucial to guide effective, safe, and efficient healthcare. Improvement science has recently gained increased attention with the intent of taking advantage of the practical learning that occurs in improvement efforts by increasing the rigor. This emerging multidisciplinary field overlaps with other fields such as translational science and implementation science. Research of different types can contribute to the choice of more effective improvements, but in this nascent field, resources are limited and expertise is scarce. There is a case for creating a national research agenda for improvement science, focusing on priorities felt most urgent by stakeholders (in this case, healthcare providers). If researchers and funders were to concentrate efforts and resources, then which topics and improvement strategies should be the focus and which criteria should be used to set priorities?

AIMS This study sought to identify views about national priorities for producing evidence about which improvement strategies are effective and to build agreement for action in a large improvement research and development network.

METHODS A three-phase identification and consensus process was used that involved the following: 1. Previously published priority documents were summarized to develop a survey, which was piloted. 2. Almost 3,000 Stakeholders were identified using a variety of methods and invited to rate the resulting 33-topic, 9-category list, posted on the internet. Data from 560 respondents (20% response) were analyzed. 3. An expert panel used survey results to further refine the research priorities through a Rand Delphi process. Final priorities were crafted into a statement which the experts considered would be understood by those they represented and thus could be effectively communicated to the larger group of stakeholders.

RESULTS This study produced a stakeholder-informed research agenda for the study of improvement and implementation strategies. The consensus priorities highlight the most important and urgent needs in improvement knowledge as identified by clinical and academic scholars, leaders, and change agents in acute healthcare settings. The expert panel approach evolved stakeholder survey results into a research agenda and achieved consensus within the panel. Priorities identified emphasized the topics of: care coordination and transitions in care, high-performing clinical systems and microsystems improvement approaches, implementation of evidence-based improvements and best practices, and culture of quality and safety.

LIMITS Challenges in creating this agenda arose from several sources. One challenge was identifying and reaching the broad array of disciplines that constitute the stakeholders in healthcare improvement in spite of focused efforts to do so. Also, the lack of common terminology posed challenges; other related fields such as translational science and knowledge translation, can also share many scientific priorities and overlaps in the goal of quality healthcare.

CONCLUSIONS This research agenda points to topics where evidence is needed in general areas of improvement; a more specific research agenda would provide clear guidance for scientists and clinicians in the field. The improvement research agenda provides a starting point for building interchange with this knowledge domains, common frameworks, and scientific capacity across these fields. The priorities identified were adopted by the improvement science research network as the research agenda to guide their strategy for producing evidence in health delivery science. Subsequent decision making processes used these stakeholder priorities to select and launch studies across the network that were well-received and supported by network members. The process and conclusions may be of value to others seeking to concentrate their resources on quality improvement topics where research is capable of yielding timely and actionable answers.

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112. THE CATALAN ATLAS OF UNWARRANTED VARIATIONS: THE CASE OF PRIMARY KNEE ARTHROPLASTIES

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BACKGROUND Variation in the use of health care services might be explained by the willingness and ability of medical doctors to offer treatment rather than differences in patient preferences or their illness level. Identifying and reducing such variation should be a priority for health providers.

AIMS Our project wants to identify unwarranted variations in procedures, treatments, outcomes, quality and expenditure on the catalan health services. Here we present one of our first projects on primary knee arthroplasties.

METHODS Ecologic study on the standardized rates of knee arthroplasties produced between 2007 and 2011 in 40 healthcare areas in Catalonia. For this study administrative and clinical data for hospital discharges was used. To estimate variability small area analysis was performed.

RESULTS 43.994 admissions for knee arthroplasties (210 and 86 per 100,000 women and men respectively) were analysed. A 3-fold variation in standardized surgical rates between areas were found. Small area analysis showed a moderate level of variation in older patients and in male (empiric Bayes 0.1) and a low level of variation in younger patients and in women (empiric Bayes 0.05).

LIMITS Use of aggregated data is a limitation of this study. Variables that have not been included for study-design reasons may have an impact on variations. To overcome some of the limitations of this study, further research is recommended that uses primary data at the individual case level.

CONCLUSIONS This study not reveals a wide variation on primary knee arthroplasties rates among areas. From now on our goal should focus on adequate provision to the real needs of the people and their preferences to identify the unmet needs and evaluate the results of surgery.

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113. SAFETY WALKAROUND

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BACKGROUND The promotion of patient safety requires a systems approach and the adoption of methods and different instruments, in relation to specific purposes, socio-cultural and organizational context, the progress of a safety culture. A key aspect is that all the actors in the system are directly involved and can interact in synergistic form. To continue the work begun in the last few years that the UOC Obstetrics and Gynecology started with the management of safe childbirth, the early identification of risk factors for shoulder dystocia, it is to continue this time by stimulating the participation and involvement of all operators and 'accountability in the management of clinical risk. decided this time to implement the Safety Walkaroundal order to stimulate the chosen instrument was the Safety Walkaround method which allows the realization of the principle of involvement of everyone, but it has also been shown to be effective for the identification of risks and adverse events and for subsequent adoption by all of the containment and prevention.

AIMS Engage in a direct and in their working environment the health professionals in order to: identify the major risk situations and system vulnerabilities and corrective measures to be taken to increase patient safety promote the development of a sense of protagonism against the safety improve communication and organizational climate within the UOC reinforce the principle that "security must be a commitment by all"

METHODS The SWR should promote a 'culture of responsibility', of learning from, necessary to engage in the management of clinical risk. Therefore, before starting the revolutions of safety, it was decided to interview all the staff of the service, some of the questions used were as follows: - There have been events in the last days that resulted in damage to the patients? - Knows 'missed events' that took place in recent days, they were going to cause harm to patients? - What elements present in the environment may result in an early adverse event? - What do you think you could do in his business unit systematically to improve safety? - When you make a mistake, it always reports? interviews allowed the establishment of a climate of confidence, and during them many operators have complained of discomfort related to work organization and communication within the department. In an integrated risk management and safety of patients and it was decided to proceed with the recognition of work-related stress (Legislative Decree 81/08.) (D.Lgs 81/08.)

RESULTS Analysis of the data obtained with the safety walkaround and those stress showed the following problems: - Lack of communication between the different professionals; - The absence of tools to manage the risk for patients in the operating room. Prevention measures and improving security between the preventive measures identified by reference to the specific reality of the UOC, the most important were: - Introduction of the briefing (very short meeting for security) daily; - Introduction of the surgical checklist - Introduction of the checklist for the early detection of risk factors for shoulder dystocia; - Dissemination of the tools for better communication; - Dissemination of safety measures; - Improvement of the delivery / transfer of patient information; - Measures for safe identifies measures for safe patient identification.

LIMITS Initial distrust of the operators Dread blame the error Lack of confidence in the corrective action Strong dependence on the ability to involve the risk manager

CONCLUSIONS The SWR is proved to be effective in the development of a safety culture, as well as assist in the identification of risks of adverse events and the adoption of strategies for improvement at all levels of the organization. has allowed us to strengthen the sense of belonging to the structure of the operators and the principle that the UOC Prevention and Security Risk Management since its inception has tried to convey to all operators, that "Safety must be a commitment by all."

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114. SYSTEM TO IMPROVE THE QUALITY AND RISK MANAGEMENT OF THE CLINICAL TRANSFUSION PROCESS

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BACKGROUND Numerous studies have shown that patients are exposed to frequent and unnecessary damage caused by errors and accidents (poor quality of service) occurred in hospitals. Such problems occur in many aspects of the process of care. For many patients, and their doctors, the transfusion is only one element of the entire process of care, and transfusion risks represent only a small percentage of the overall risks to which they are exposed patients. For this reason it is desirable to define a system of quality management specific to the area transfusion, which however must be inserted in a system of management of hospital quality of wider scope

AIMS - Deliver quality assurance and risk management of the clinical transfusion process - Promote best practice in blood transfusion - Comply with relevant EU directives.

METHODS One relevant definition of clinical quality assurance is: 'Improving performance and preventing problems, through planned and systematic activities including documentation, training and review.' For this purpose was developed and implemented a quality system (QS) and risk mapping applied to the clinical transfusion process, re-engineering processes and mapping all the risks present in order to protect clinicians and patients. Factors that contributed to success were: Leadership - Management demonstrates commitment to quality - Responsibility for quality is clearly assigned - Resources are available - There is an effective hospital transfusion committee or equivalent Documentation - sharing Guidelines and standardized setting out the requirements of a given product and purpose of a given process. instructions for doing each job and records to show whether the job has been done correctly Change Control: Changes in procedures are introduced in a controlled fashion and proper records are maintained Evaluation or Audit - Performance is independently assessed Staff Training and Assessment - Staff are taught what to do and why it is important - Their knowledge and competence is assessed Risk assessment and prevention of errors - Mapping for for each of the main steps in the clinical transfusion process, the possible errors or failures in the process, the possible consequences for the patient, some underlying reasons for failures or errors, and finally some key points about prevention and avoidance. Quality Improvement - There is a culture of learning from errors and acting on the lessons learned.

RESULTS A quality system (QS) for the clinical transfusion process should: - Provide assurance to patients, the community and clinicians that treatment is safe, effective and efficient, the people who carry out each step of the process know what they are doing, how to do it and why they are doing it - Provide evidence that tasks are carried out correctly and consistently using the right procedures - Lead to improvement in quality by providing evidence about performance and by encouraging everyone concerned to learn from both mistakes and successes.

LIMITS Successful introduction of a QS depends on strong management support to make sure that: - Responsibility for developing and maintaining the QS is clearly assigned - Sufficient staff, proper working conditions, facilities and training are provided - An effective programme of evaluation or audit is in place.

CONCLUSIONS To promote improvements in the quality and risk management of the clinical transfusion process, which is defined as: - Transfusion of the right unit of blood to the right patient at the right time, and in the right condition and according to appropriate guidelines. - No adverse reactions or infections - Benefits the patient - No unnecessary transfusions because the execution of the transfusion must be performed only when the patient really needs it.

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