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Adverse events related to medications identified by a Canadian poison centre

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INTRODUCTION

Poison Centres are an untapped source of information on adverse events related to medications, including therapeutic errors and adverse drug reactions.

OBJECTIVES

The objective of this one-year, retrospective cross-sectional pilot study conducted at one Canadian Poison Centre was to demonstrate the feasibility of using their electronic data to identify and describe adverse events related to medications.

METHODS

All electronic records from the IWK Regional Poison Centre in Nova Scotia between November 1, 2007 and October 31, 2008 for unintentional exposures were abstracted for a descriptive data analysis.

RESULTS

A medication was involved in 1,525 (32.5%) of 4,697 eligible calls. There were 470 (30.8%) calls for unintentional therapeutic errors and 61 (4.0%) for adverse drug reactions; the remainder were coded as 'unintentional general' (970 [63.6%]). The latter category included events such as ingestion of an adult's medication by a young child. A higher proportion of calls involving medications (compared with non-pharmaceutical substances) resulted in a referral to a healthcare facility (10.2% vs. 6.0%, $p < 0.0001$), admission to a non-critical care unit (9.4% vs. 3.9%, $p = 0.002$) or to a critical care unit (2.6% vs. 1.2%, $p = 0.1$).

CONCLUSIONS

Poison centres offer an accessible, well-established community resource for individuals and/or healthcare professionals to report adverse events related to medications.

FUTURE DIRECTIONS

Establishment of a mechanism to routinely share information from all Canadian Poison Centres with relevant national drug safety programs will enhance integration of national reporting schemes and the capacity for detection of sentinel events.

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Adverse events identified in a Canadian pediatric teaching Hospital

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INTRODUCTION

Voluntary reporting systems for adverse events (AEs) are commonly used despite the evidence that a significant proportion of events go unreported. Other approaches capitalize on existing administrative data to identify harm.

OBJECTIVES

To demonstrate the feasibility of using routinely collected administrative data to identify AEs in outpatients and inpatients at a one Canadian pediatric teaching hospital.

METHODS

This retrospective cross-sectional pilot study was conducted at the IWK Health Centre from April 1, 2008 - March 31, 2009. The primary outcome measure was the occurrence of an AE identified from electronic administrative data using validated screening criteria (sensitivity 59.9%, 95% CI 42.8-75.0; specificity 97.4%, 95% CI 94.1-98.8).

RESULTS

There were a total of 2,333 AEs coded in 1,179 (2.4%) of the 49,234 eligible patient registrations. Approximately 68% of registrations were for outpatient services (including the emergency department and day surgery); the remaining 32% were for inpatient admissions. The most common types of AEs were procedure-related (1,299 [58.3% of 2,333]), medication-related (615 [26.4%]) and those related to devices, implants or grafts (415 [17.8%]). Those with an AE were significantly younger (9.9 vs. 15.4 years, $P < 0.0001$), more likely to be admitted to a pediatric intensive care unit (5.3% vs. 2.3%, $P < 0.0001$) and have a longer hospital length of stay (5.9 vs. 1.9 days, $P < 0.0001$).

CONCLUSIONS

Application of the screening criteria provide a standardized, cost-effective approach for identifying AEs that will complement data collected using other methods.

FUTURE DIRECTIONS

Comparing AEs identified using administrative data with those identified by the voluntary reporting system in the hospital will identify overlap and differences between the approaches to help refine the screening criteria.

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Using SBAR to communicate falls risk and management in interprofessional rehabilitation teams

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INTRODUCTION

Communication breakdown has long been cited as the leading cause of inadvertent patient harm, including falls (1). SBAR (Situation-Background-Assessment-Recommendation) is a structured communication tool that provides assertion and structure to communication. Many healthcare organizations have implemented SBAR with promising results; however, there is little evidence regarding its effectiveness beyond acute care and nurse-physician communication.

PURPOSE

This study implemented the adapted SBAR tool on two interprofessional rehabilitation teams, and evaluated outcome and processes related to best practices in falls prevention and management.

METHODS

In Phase 1, SBAR was implemented on two rehabilitation units with high falls incidence over a 6-month period. In Phase 2, evaluations were conducted in a pre-post design comparing the impact of the intervention with changes in the rest of the hospital. Process changes were assessed using interviews and focus groups where participants shared their experiences using SBAR. Four outcome measures assessed participant perceptions of safety culture (as measured by the Hospital Survey on Patient Safety Culture); effective team processes using the Team Orientation Scale; attitudes and uptake of falls best practices; and safety reporting (including falls incidents, severity and near-misses).

RESULTS

SBAR was widely used by interprofessional teams as part of a broader program of safety activities. In particular, there were significant changes in staff perceptions of safety culture, as well as effective team processes and falls best practices both within the study teams and compared to the rest of the organization. Near-miss and severity of falls incidents trended downward, but were inconclusive. This was likely due to a short time frame, as well as the nature of rehabilitation where patients are pushed to the limits of their abilities.

CONCLUSIONS

Teams used SBAR to communicate issues around falls prevention and management; however, it was also utilized for a variety of other clinical and non-clinical situations such as transitions in care, as a debriefing tool, and for conflict resolution. Participants found the tool useful in helping to communicate relevant and succinct information and to, “close the loop” by providing accountabilities for action.

FUTURE DIRECTIONS

Recommendations are provided to other organizations considering adopting SBAR within their clinical settings, including an implementation toolkit and video simulation for enhanced uptake.

ACKNOWLEDGEMENTS

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Improving patient safety through increased utilization of thromboprophylaxis on an in-patient mental health unit

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INTRODUCTION

It has been well established that venous thromboembolism (VTE) and pulmonary embolism (PE) are significant and avoidable contributors to mortality, morbidity and prolonged length of hospital stay. Guidelines for the thromboprophylaxis of most hospitalized patients have been available since 1986 and recently updated. Current guidelines recommend routine thromboprophylaxis for most medical and surgical patients. Due to a lack of clinical trials, no recommendations were made for patients on Mental Health units.

OBJECTIVES / PURPOSE

Following an inquest into a fatal pulmonary embolism in a patient on a Mental Health Unit, we undertook to re-assess our patients' risk for thromboembolism and change our policies and procedures as needed to reduce that risk.

METHODS

A literature search found no definitive studies but numerous articles on the risk of VTE in psychiatric patients. Immobility and stasis can result from the application of physical, environmental or chemical restraints, frailty, sedation, elective immobility or by catatonia. The use of physical restraints may also cause trauma to the blood vessels.

An association was reported between the treatment with of antipsychotics agents, particularly clozapine, and an increased incidence of thromboembolic events. Schizophrenic patients also appear to have an unusually high incidence of genetic clotting abnormalities. Using the information gathered, we examined risk factors for venous thromboembolism for sixty-one patients admitted to Mental Health over a three-week period in July 2009.

RESULTS

Of the patients surveyed, eight (13%) had at least two risk factors.

Antipsychotic use increased this number to twenty-five patients (41%). Restraints were ordered for twenty-three patients (37%). Patients in lap-belts or geri-chairs, those confined to their rooms or under chemical restraint, and electively immobile or catatonic patients were not included in this total. This data showed many of our patients were at risk for VTE.

CONCLUSIONS

We revised our policy and procedures on the use of any form of restraint to ensure that any patient under restraint and who is immobilized for more than fifteen hours is assessed for the need for thromboprophylaxis. The number of patients receiving prophylactic antithrombotic treatment tripled from 2008 to the same period of 2010.

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■ Dr. William Geerts, Sunnybrook Health Sciences Centre

Which nursing care model provides the best patient safety?

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INTRODUCTION

Concerns over nurse shortages, deterioration of nurses' working conditions, and increased threats to patient safety at the nursing-unit level have led to calls to redesign nursing practice. Health care organizations are seeking new operational models of nursing care delivery aimed at ensuring high-quality, effective, and safe services for patients, while also improving outcomes for nurses. Little, however, is known about the distinctive features of these emergent nursing care models and their impact on patient outcomes and safety.

OBJECTIVES

- To identify the main models of nursing care delivery in acute care units in Quebec
- To identify the distinctive features of these models
- To gather evidence on the impact of these models on patient safety

METHODS

Our study is based on a survey of 22 medical units in 11 acute care facilities in Quebec. Data collection used several methods: a questionnaire administered to 282 staff nurses; interviews with senior managers, head nurses, and staff nurses; focus groups with staff nurses; administrative data on staffing; and systematic review of 2700 patient charts. We based our construction of the models on correspondence and cluster analysis. Regression and multiple comparisons tests were used to examine the effects.

RESULTS

We identified four models of nursing practice: two professionally-oriented models characterized by a higher proportion of registered nurses in the nursing staff and a greater support for professional and innovative practice; and two administratively-oriented models characterized by flexibility in the use of nursing resources, a lower proportion of registered nurses and nurses' perception of a less supportive practice environment.

The results show significant differences in outcomes across these models. The risk for patients to be victim of an accident was significantly lower in wards that are based on the professionally-oriented models.

CONCLUSIONS

Despite similar performance-oriented claims, models of nursing care delivery do not invariably follow the same path. More complexly, they embody diverse ways of mixing nursing resources, using the skills of nursing staff, designing work environments, supporting innovation, and improving patient safety.

ACKNOWLEDGEMENTS

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Medication reconciliation on admission to long term care

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INTRODUCTION

In a 2004 study Boockvar noted a 20% incidence of adverse drug events caused by medication changes on transfer between facilities. These adverse events occurred most often upon transfer from acute care back to the nursing home. Inaccurate communication between facilities was identified as a potential factor. The recommendation was to implement medication reconciliation on readmission to the long term care facility.

Medication reconciliation is the formal process of comparing what is ordered to what the patient is actually taking and resolving any differences. It is a required organizational practice by Accreditation Canada.

PURPOSE

The purpose of our pilot project was to: formalize the collection of the best possible medication history (BPMH) at Mount Hope Centre for Long Term Care in London Ontario; modify the existing admission process and form to embed medication reconciliation and to implement a sustainable process which would efficiently use our current resources and not increase workload.

METHODS

Plan

Educate staff about medication reconciliation

Develop a MedRec on Admission Process Flow

Develop a BPMH/Admissions Medication Orders (AMO) document

Establish a BPMH prompt tool

Enable pharmacists to access the Ontario Drug Benefit Drug Profile Viewer and electronic medical records system to facilitate reconciliation and documentation

Implement Medication Reconciliation on admission/readmission on a pilot unit

Draft a spread plan

RESULTS

Nurses, physicians and social workers on the pilot unit were educated

A process flow was drafted and finalized with the help of staff

A BPMH/AMO form for new/readmissions was drafted

The BPMH prompt tool was developed. Medication history questions were printed on the back of the BPMH/AMO. Lanyard cards were made available

Access for the pharmacists was enabled

The Medication Reconciliation pilot process was implemented in March 2010

Feedback on the tool and process resulted in a minor revision to the form

A spread plan was drafted

CONCLUSIONS

A medication reconciliation process for new admissions and readmissions was implemented at Mount Hope. The process has resulted in a more standardized process for obtaining the best possible medication history and using it to obtain admission medication orders.

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- Dr. Albert Annen, Medical Director, Mount Hope Centre for Long term Care

Staff education on patient safety: Knowledge transfer and the fall prevention program

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INTRODUCTION

Falls are an ongoing patient safety issue in hospitals, yet many staff assume that fall prevention is as simple as ensuring supervision and proper footwear. However, evidence-based guidelines cite numerous risk factors and recommend multi-factorial, individualized interventions. An essential aspect is the transfer of knowledge and implementation of these interventions at the bedside. As we launched our updated Fall Prevention Program, we focused on nurses' learning needs and teaching strategies.

OBJECTIVES

To measure and increase the effectiveness of knowledge transfer among nurses after a 30-minute teaching session.

METHODS

Learning needs were assessed through chart reviews before implementation and analysis of baseline quiz scores. Content areas assessed during the quiz: safe use of restraints, medications, predisposing factors for delirium, timing and target population for completing the fall prevention tool. Knowledge transfer was assessed in all newly-hired nurses who agreed to complete a quiz before and after the teaching session.

RESULTS

- Chart reviews: 50 charts were chosen at random from admissions in September 2008, prior to the implementation of the current Fall Prevention Program. Results showed minimal documentation of fall risk assessment. Although all patients met the criteria for a formal fall risk assessment, only 32% of the charts demonstrated documentation of preventive interventions such as ensuring that side rails were up, 42% of charts had some additional interventions that were tailored to the patient and 26 % of the charts had no documentation at all.
- Analysis of quiz scores: 97 nurses completed a pre and post-test, the average baseline score was 52%. The areas where knowledge was lacking included: the safe use of restraints, the timing for fall risk assessment and the medications associated with a fall risk. The quiz showed an overall improvement from 52% to 84% in knowledge transfer related to fall prevention strategies.

CONCLUSIONS

A number of learning needs were identified, particularly in relation to documentation. Specifically, risk factors and safety issues related to falls. Our teaching sessions appear to be effective, though more data is needed to assess for actual changes in practice, such as follow-up chart reviews and bedside audits.

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Assessment of disposable laryngoscope blades in comparison to the new ISO minimum lighting standard

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INTRODUCTION

Concerns over prion disease transmission and lack of cleaning requirements for “out of operating room” settings has led to increasing usage of disposable laryngoscope blades (DLB). Previous studies have recommended a minimum lighting level of 900 Lux in the clinical setting for direct laryngoscopy and the most recent ISO standard recommends a minimum of 500 Lux.

PURPOSE

The purpose of this study was to evaluate the light intensity delivered by several different brands of DLB in comparison to reusable blades and the new ISO standard.

METHODS

REB approval was deemed unnecessary by our institution for this QC study. Light intensity or illuminance (Lux) from the blade was measured using a previously validated light testing system. Nine different brands of single-use #3 Macintosh “fiberoptic” blades compatible with the ISO green standard system were tested (4 plastic/5 metal disposable blades). Five samples of each DLB brand were tested. These were compared to the light intensity delivered by one new Heine Classic stainless steel reusable #3 Mac blade. All blades were tested using 3 different handle/battery sources: a new Heine 3.5 volt rechargeable battery/fibre-optic handle set, a Heine 2.5 volt fibre-optic handle and new alkaline batteries, and a Vital Signs LED handle and new alkaline batteries. Each of blade/handle combinations were serially tested five times and a mean light output was recorded. The rechargeable battery/handle was replaced on the charger between tests and the alkaline batteries were tested with a volt meter and replaced frequently to avoid battery drain affecting our results. Data was expressed as mean \pm 1 sd. Statistical analysis was performed using ANOVA and TUKEY HSD for multiple pairwise comparisons.

RESULTS

The light intensity delivered by the various DLB and handle/battery combinations ranged from 802 to 3846 Lux, in comparison to the standard reusable blade/3.5 v handle which produced 7538 Lux (full data to be presented). The Heine stainless steel reusable blade performed significantly better than all of the DLB ($p < 0.000$). The 3.5 volt handle performed significantly better than the other 2 handle/battery sets ($p < 0.007$). Plastic DLB performed significantly better than the metal DLB ($p < 0.000$).

CONCLUSIONS

Our data demonstrates that the disposable blades delivered significantly less light than the standard reusable blade. The 3.5 volt handle/battery provided significantly better lighting than the other two light/battery sources. Interestingly the plastic DLB provided better light output than the metal DLB. Several of the metal DLB were below the suggested clinical minimum of 900 Lux for direct laryngoscopic intubation but all blades tested exceeded the new ISO standard of 500 Lux.

ACKNOWLEDGEMENTS

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- ISO 7376:2009
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Does emergency physician disposition decision-making have an impact on adverse events?

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INTRODUCTION

One of the most critical decisions that emergency physicians (EPs) make is disposition (admission versus discharge).

OBJECTIVES

We sought to determine how EPs make disposition decisions for high acuity (non-ambulatory) patients and the impact these have on adverse events (adverse outcomes associated with health care management).

METHODS

We conducted a real-time survey of attending staff EPs for consecutive patients discharged from geographic high acuity areas of a tertiary care emergency department (ED) during enrolment shifts from June to August 2008. We excluded resident physicians and medical students. This piloted survey used three standardized questions about rationale for EPs decisions and use of clinical judgement versus evidence based guidelines. We collected data on patients' initial ED presentation and any subsequent 30 day adverse outcomes (deaths, admissions, unscheduled ED and clinic visits). Three trained EPs independently reviewed de-identified case summaries using a structured adverse event review process. Analysis included descriptive statistics and odds ratios.

RESULTS

We interviewed 32 of 36 eligible EPs immediately after disposition decisions for 366 patients (88.9% response rate). The EPs were 71.9% male and experienced (53.1% > 10 years in practice). Half of the patients were male (54.9%) with a mean age of 60.0. The most common presenting complaints were chest pain, generalized weakness and abdominal pain. For the majority of encounters, EPs based their decisions on clinical judgment (320/366, 87.4%) while the remainder were based on evidence (46/366, 12.6%). There were 69 adverse outcomes (18.9%) and 10 adverse events (2.7%, 95%CI: 1.1-4.4%). All adverse events were deemed preventable. The likelihood of experiencing a preventable adverse event was not associated with decision making rationale ($p=0.37$), gender (OR 1.5 95% CI:0.3- 7.2) or experience (OR 3.3 95% CI:0.4-4.8).

CONCLUSIONS

EPs most often rely on clinical acumen rather than evidence-based guidelines when discharging patients from the ED. This approach was not associated with more preventable adverse events.

FUTURE DIRECTIONS

Future research should focus on EP's decision making style as well as better understanding disposition decision making from high acuity areas of the ED.

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Breaking new ground: Mapping out the disposition decision for high acuity emergency patients

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INTRODUCTION

There are sparse data on how emergency health professionals make the critical decision of emergency department (ED) patient disposition (admission versus discharge).

OBJECTIVES

We sought to create a process map and highlight error-prone areas for disposition decisions for high acuity (non-ambulatory) emergency patients.

METHODS

From February to March 2010 we conducted four focus groups with volunteers from a tertiary care academic center who were stakeholders in emergency patient disposition decisions. These were organized according to profession: residents, staff physicians, social workers with nurses, and patient safety committee members. We tasked participants with creating a process map of the disposition decision for a 50 year old man who presented with chest pain. Groups proposed decision points which were placed by a scribe on sticky notes on a wall. We asked participants to broaden out their map to consider all high acuity patients and then test it out using a case description of a real adverse event. We asked participants to identify and prioritize error-prone areas. The sessions were audiotaped, transcribed and analyzed for themes using qualitative techniques.

RESULTS

While each group came up with a distinct map, there were several common themes such as: triage, geographic location of the patient in the ED and social circumstances of the patient. Residents focused on physician cognitive processes whereas social workers and nurses identified the impact of patient social factors very early in the session. Patient safety committee members focused on error throughout their process. Emergency physicians identified several dynamic elements that came into play at various points in decision making such as clinical risk stratification. Diagnostic error and the impact of crowding on decision making were identified as important sources of error amongst most groups.

CONCLUSIONS

While there were many differences there was an overall endorsement of triage and patient social factors as important contributors to emergency disposition decision making. Universal concern was expressed about the impact of diagnostic error and crowding of EDs.

FUTURE DIRECTIONS

Future research will focus on creating a consensus map which can then be used to inform future disposition decision support tools.

ACKNOWLEDGEMENTS

- This study was funded by the Emergency Medicine Patient Safety Foundation.

"Gut" versus guidelines: How do emergency physicians make clinical decisions

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INTRODUCTION

Dual process theory purports that clinical decision making can be based primarily on either experiential ("gut"-based) or rational cognitive processes.

OBJECTIVES

To determine whether emergency physicians perceived their clinical decisions to be more experiential or rational and how this compared to other physicians.

METHODS

We sent via postal mail a validated psychometric tool, the Rational Experiential Inventory 40 (REI-40) to all actively practicing emergency physicians according to the College of Physicians and Surgeons of Ontario website in January 2010. The survey consisted of 40 statements ranked on a Likert scale from 1 (Definitely False) to 5 (Definitely True) and eight demographic questions. We recruited an additional 22 emergency residents and 20 emergency physicians at a local conference. Mean scores were calculated and compared against a previous study of New Zealand cardiologists. Analysis included descriptive statistics and Student t-tests.

RESULTS

We received responses from 455/968 emergency physicians (response rate of 47.0%). The responses were predominately from men (71.7%) - apparently representative of the gender distribution in the profession according to the College of Physicians and Surgeons (72.3% male). Over half of the respondents (66.4%) were from academic or community teaching institutions. We excluded 41 physicians due to incorrect addresses (16) or not actively practicing (25). The mean rational scores were 3.92 (SD 0.35) and 3.33 (SD 0.48) for experiential. This suggests that emergency physicians tend more towards a rational decision making style ($p < 0.0001$). These results are comparable to previous REI-40 scores published for New Zealand cardiologists with a mean rational score of 3.93 (SD 0.37) and 3.05 (SD 0.53) for experiential. We found that male respondents tended more towards rational decision making 3.94 (SD 0.36) whereas female respondents tended more towards experiential 3.41 (SD 0.48) ($p = 0.02$).

CONCLUSIONS

Ontario emergency physicians identified more with the rational cognitive decision making style than the experiential (gut-based) style although it is recognized both are used in clinical practice.

FUTURE DIRECTIONS

Development of decision support tools should be informed by the knowledge that both experiential and rational decision making styles are used in emergency practice.

ACKNOWLEDGEMENTS

- This study was funded by the Emergency Medicine Patient Safety Foundation.

Considering patient's perspectives: Soliciting feedback from patients as part of the quality process

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INTRODUCTION

Patient Satisfaction is an integral part of the Quality Program of this of this 637 bed University Teaching hospital. Unit-specific surveys have been completed for over 10 years and a hospital-wide discharge survey has been in place since 2004. The creation of unit-specific surveys allows each unit to include questions specific to their population and mandate.

OBJECTIVES / PURPOSE

Obtaining feedback from recently discharged patients enabled the Cardiac Surgery Unit to evaluate patient concerns.

METHODS

A survey was conducted in 2005 and a follow-up survey was conducted in 2009. In both surveys, the multidisciplinary Patient Satisfaction Team was co-chaired by a physician and a head nurse. Surveys were created using a bank of bilingual, validated questions licensed to the hospital.

The original survey was distributed to patients during their hospitalization. The follow-up survey was mailed to the home address of the patients approximately 3 weeks post discharge. Both surveys were anonymous, included a cover letter listing a contact name and patients had the option of completing their survey on-line or returning in a pre-addressed postage paid envelope.

RESULTS

Completed surveys were entered into a Patient Satisfaction software, allowing for analysis of satisfaction, importance and weighted satisfaction rates. Data was further analyzed by sociodemographic variables. Comments from patients were also included in the final report delivered to the Patient Satisfaction team.

Results of the first survey guided improvements over the four year interval. Improvement plans included creation of comprehensive patient information booklet which is now distributed to all patients on admission and the installation of a portable phone system to replace the overhead call system.

Of the five questions common to both surveys, satisfaction was increased on four questions, was identical for one question and decreased significantly on one question. An action plan to address the question with decreased satisfaction was presented to the Hospital's Quality & Risk Management Committee and was implemented immediately.

CONCLUSIONS

Including Patient Satisfaction Surveys within the mandate of the Quality Program has allowed the hospital to systematically consider patients' perspectives on their hospitalization.

The Cardiac Patient Satisfaction Team will be conducting Patient Focus Groups to further explore areas of lower satisfaction.

Preventing falls in LTCHs

Candace Chartier, OMNI Health Care

INTRODUCTION

OMNI has introduced a policy program that ensures every one of our 1466 residents are screened with a new Osteoporosis Screening Tool and assessed for risk of falls based on a set of criteria. Once this screening is completed all residents identified at risk are immediately fitted for hip protectors with a built in FIR technology that enhances strength, increases healing and reduces muscle tension for wearers. All sites have been educated through the Ontario Osteoporosis Strategy and residents and family members are being educated as well.

OBJECTIVES / PURPOSE

The purpose of this program was a part of our Falls Prevention and Healthy Living, Healthy Skin Program. By identifying residents at risk we are taking a proactive approach to preventing falls resulting in fractured hips and transfers to an acute care setting. Our pilot home ran this program for four months in order to provide us with evaluation of the product as well as monitoring the number of falls resulting in fractures.

METHODS

The pilot home initiated the screening on 124 residents and all residents identified at risk were put into hip protectors with FIR technology. All staff were educated on Osteoporosis and the new Screening Tool. A draft policy was created and reviewed with the Clinical Team on site and a finalized policy was produced for:

1. Osteoporosis Screening Tool for all residents on Admission and annually
2. Use of Hip Protectors with FIR Technology

We also screened every resident for BEERs list medications that may result in falls and included all of our physicians through our Professional Advisory Committees for sign off on this program.

RESULTS

In the pilot home the results were as follows:

- May: 14 falls, 1 fractured pelvis for resident that was morbidly obese and slipped to floor while sitting on bed (was not wearing the hip protector as bariatric size was still in production).
- June: 14 falls, 3 fractures-one resident was a pathological fracture with onset of pain when standing up from toilet, one resident had fractured femur not hip and was wearing hip protector, one resident fractured wrist and was wearing hip protectors as well as having a previous hip fracture several years ago.
- July: 10 falls, no fractures

CONCLUSIONS

A hip fracture in a LTCH setting costs approximately \$38,000.00 per resident and there is a 20% chance of morbidity in the first year of suffering a fracture. OMNI has implemented this new protocol in all 17 sites across Ontario due to the huge success in our pilot home and we have estimated to have saved the health care system 1.2 million dollars by preventing approximately 34 hip fractures.

ACKNOWLEDGEMENTS

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Parents' needs around medical error disclosure: A qualitative study

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INTRODUCTION

Canadian Disclosure Guidelines suggest explaining what happened and why, what will be done to prevent recurrence, and offering an apology. Near-miss (NM) disclosure is considered optional. Paediatrics receives special consideration: "in most circumstances, the pediatric patient with the cognitive ability and emotional maturity to understand the information provided should be included." Surveys reveal parents expect full disclosure irrespective of actual vs. potential harm.

OBJECTIVES / PURPOSE

To explore parents' views on including children in disclosure and reasons for a 'severity threshold' which may differ from adult patients.

METHODS

Fifteen parents of children admitted to Paediatric Medicine at SickKids participated in semi-structured interviews. They were given three scenarios (adverse event (AE), error without harm, and NM), and asked about preferences regarding disclosure. Interviews were audiotaped, transcribed verbatim, then manually coded for emergent themes.

RESULTS

A diverse sample was obtained (half Canadian-born). Six had previously healthy children and nine had children with special needs. Parents uniformly wanted to be informed if their child experienced harm, but only a minority wanted their child informed. Most parents wanted to know about an error with no harm but few wanted to know about a NM; very few wanted children informed of either scenario without harm.

For the AE scenario, disclosure preferences were consistent with the Canadian Guidelines. However, parents strongly emphasized the need for reassurance of a good final outcome. They anticipated difficulty managing emotions such as anger and anxiety. Reasons not to tell the child included fear of 'stressing' the child, compromising recovery, or compromising trust in the healthcare system. Parents analyzed children's cognitive and emotional readiness to cope with disclosure and wished to be a 'buffer' between the healthcare team and the child, dictating what, when, and who would tell the child. Generally, as event severity decreased, they felt the risks of informing the child outweighed benefits.

CONCLUSIONS AND FUTURE DIRECTIONS

Parents have heterogeneous expectations regarding disclosure of errors without harm and NM. They may have a greater need for reassurance than adult patients, and wish to be a 'buffer' between the healthcare team and the child. These factors should be considered when designing disclosure policies in pediatric settings.

ACKNOWLEDGEMENTS

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Timely critical event reviews... so what? The challenge of implementing the recommendations in a timely fashion!

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INTRODUCTION

Recognizing the importance of obtaining 'timely' information related to adverse events and near misses in our paediatric tertiary care hospital we implemented in 2007 an electronic reporting system. This intranet based Safety Reporting System (SRS) facilitates instant reporting of events to the management level within the Patient Service Units (PSU) as well as the corporate Quality Management Department. We now can quickly identify those events that then undergo our critical event management (CEM) process. However, the follow-up workload resulting from this 'timely' information now presents new challenges. How can we manage the recommendations that come out of the reviews in an equally 'timely' fashion before the critical events repeat themselves?

OBJECTIVES / PURPOSE

The objective of the evaluation was to look at the number of events that have been identified for review since the implementation of the electronic SRS, how many recommendations these reviews have generated and how many have been implemented. The events that undergo the CEM process fit the definition of a critical event (CE) therefore they are significant and consequently so are the majority of recommendations. It is quite possible that the number of reviews done are generating more recommendations than are humanly possible to address in a timely fashion in the current healthcare environment before the event repeats itself.

METHODS

All reviews completed over the last 4.5 years and ensuing recommendations were compiled and categorized. The recommendations were assessed for the number that had been implemented vs the number that were outstanding. The lists were further analysed to search for repeated events.

RESULTS

The data demonstrated that in the year previous to implementing the SRS there were a total of 4 CE reviews done, with 87 recommendations. In the 3.5 years since introducing the SRS that number has increased to 68 CE reviews with close to 200 recommendations. Evaluating implementation of recommendations is in progress.

CONCLUSIONS

Given the increased number of reviews and ensuing recommendations identified for immediate action it will be necessary to revise our CEM process to uniformly include a decision matrix. This will enable us to focus efforts on quick implementation of the recommendations associated with the highest risks.

A conceptual framework and tools to support critical event management

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INTRODUCTION

Events that cause significant harm or death to a patient are relatively rare. When they occur it is important to understand the factors that contributed to the adverse event. In addition, it is important to understand 'near misses' in order to prevent these events from actually happening and causing patient harm. A critical event management (CEM) process was developed at a pediatric hospital in Ontario to understand serious adverse events by bringing key players to the table for frank discussion. An evaluation of CEM was undertaken to identify the supports, challenges and recommendations for system improvements.

OBJECTIVES

The objective of the evaluation was to understand the experience and perceptions of hospital staff that participated in the CEM review process. More specifically, the following topics were explored: a) professional safety, support, and a culture of 'non-blame'; b) the CEM review process as a learning experience, and; c) recommendations for improvement to the CEM process.

METHODS

Eight focus groups and 3 semi-structured interviews were conducted with a total of 25 hospital staff.

RESULTS

A conceptual framework describing the CEM process was developed from the data and includes 6 key elements: 1) corporate commitment to quality and safety; 2) meeting effectiveness; 3) closing the loop; 4) tools to support the CEM process; 5) goals, and; 6) communication, tracking and review. Tools to support CEM goals were proposed as they relate to the 5 key components of the conceptual framework.

CONCLUSIONS

Information provided in this evaluation will enable the organization to expand the CEM program and create necessary tools and supports to more effectively prevent critical events from occurring or recurring. Recommendations to improve CEM include: 1) develop CEM as a program with a virtual 'home' linked to the intra-net; 2) develop tools to support all components of the CEM program; 3) develop a safety accountability structure that is both unit-based and encompasses senior administration.

A PICU Patient Safety Checklist modelled on the Safe Surgery Checklist

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INTRODUCTION

Pediatric Intensive Care is inherently complex and variable, and interventions known to improve patient safety are routinely overlooked. Checklists have the potential to make care safer by reinforcing implementation of key care elements. Developing a checklist tool and process that balances efficiency with effectiveness remains a significant challenge in the PICU environment.

OBJECTIVES / PURPOSE

To describe the development of a PICU Patient Safety checklist tool and process at the Children's Hospital of Eastern Ontario (CHEO) modeled on the Safe Surgery Checklist.

METHODS

Narrative description of the development of a PICU checklist, and presentation of compliance and satisfaction data related to the introduction of a new tool and process.

RESULTS

A Patient Safety Checklist was first introduced to the PICU at CHEO in 2007. The tool went through seven iterations between 2007 and 2008 through addition or removal of elements, but the process remained unchanged: elements were ticked off on a sheet during a collective pause in morning rounds at each patients' bedside. Staff satisfaction with the tool and process was low: they perceived many elements to have low value and too much time was required to complete it. In early 2009 a new process was introduced:

a checklist sheet divided into three categories of elements (RN, RT, MD) was kept at each bedside to be completed each afternoon, with no group discussion during rounds. Staff satisfaction was higher, but an audit revealed low completion rates. In June 2010, a new process based on the Safe Surgery Checklist is being introduced. Fifteen core elements will be discussed at each bedside each day (8 for all patients, 4 for ventilated patients and 3 for patients with central venous lines). Checklist elements were developed through a multidisciplinary consensus-building process. A separate Quality Checklist containing 29 less important elements will be completed at the bedside. Pre- and post-introduction audits data is being collected, along with staff satisfaction surveys and will be available for analysis by August 2010. The data is expected to show improved implementation of checklist elements and improved acceptance of and compliance with the checklist process.

CONCLUSIONS

The PICU Patient Safety Checklist at CHEO has evolved in both process and content over the past 3 years. We anticipate that the newly introduced format will result in higher compliance with implementation of checklist elements and improved staff satisfaction.

Financial impact of clinical pharmacy services in ICU/CCU

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INTRODUCTION

There are several studies examining the financial impact of clinical pharmacy services in the critical care setting. The overall rate of adverse drug events (ADEs) in ICUs are higher than in general care units. One study found the presence of a pharmacist as a member of the ICU team resulted in a 66% decrease in preventable ADEs. The most current evidence reports the cost of each ADE can range from \$6000 to \$9000.

OBJECTIVES / PURPOSE

To assess the financial impact of a pharmacist providing clinical services to both an ICU and CCU units by calculating the costs saved from avoidable ADEs.

METHODS

Interventions logged on to computerized pharmacy system were collected during the first 2 months of a pharmacist placement on ICU/CCU units. A total of 259 interventions were collected. This data was analyzed using cost saving / cost avoidance criteria obtained from a study by Saokaew S. et al. Pharmacy Practice.

2009 Apr-Jun.

RESULTS

TYPE	NUMBER OF INTERVENTIONS	PERCENT
Cost savings	21	8.1%
Cost Added	14	5.4%
Cost Avoidance	47	18.1%
No Financial Impact	142	54.9%
Unknown	35	13.5%
Total	259	100.0%

26.2% interventions saved money

Cost Savings:	\$ 1398.11
Cost Added:	\$ 329.38
Cost Avoidance	\$ 88,260.00
Total Potential Cost Saved:	\$ 89,328.73

Required Organizational Practices "(ROP) Challenge" Competition and ROP Jeopardy: Using innovation, creativity, and FUN to develop a culture of safety!

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INTRODUCTION

Education, change in culture, and implementing sustainable change begins with the staff on the frontline and ends with the patient receiving our care. The challenge of being a six-site academic health science centre with over 10,000 employees is to identify patient safety education initiatives that will pique the interest of the staff, engage them in the learning process, and help them apply that knowledge when interacting with their patients. The framework we selected to achieve these goals was Accreditation Canada's 31 Required Organizational Practices (ROPs). Our multi-faceted strategy included developing an ROP logo and stickers placed on all hand-sanitizers, ROP slogan (Relying On you for Patient Safety), various marketing materials including a giant ROP puzzle, and the ROP Challenge competition and ROP Jeopardy.

OBJECTIVES / PURPOSE

Our objectives were two-fold. First, to share information with the staff regarding the mandatory ROPs. Second, to provide staff with an opportunity to reflect on their job functions and how they may already be applying the ROPs in their daily routine.

METHODS

Our team combined androgogical learning and human factors principles to develop these patient safety education initiatives. First we created the "ROP Brochure". Information

was taken from Accreditation Canada documentation and distilled down into a tri-fold, color brochure. An MUHC Qmentum logo was created depicting a puzzle with the ROP puzzle piece in the centre. The ROP puzzle piece was branded as the ROP logo and placed on any documentation/practice that was evidence of compliance (e.g. hand sanitizers, high-risk medications, narcotics cupboards, disclosure policy). Next the ROP Challenge competition was developed and took place over five months. Content of the monthly "Challenges" was based on the ROP Brochure and consisted of short quizzes, crossword puzzles, and various word-match games. The final "Challenge" was ROP Jeopardy, a dynamic and interactive game in which monthly winners competed for a grand prize. ROP Jeopardy was held in an amphitheatre; audience demographics included clinical and non-clinical staff in addition to senior leaders and the CEO.

RESULTS

Over 600 staff participated in the monthly ROP Challenges, and over 100 were on-site during ROP Jeopardy. Qualitative feedback indicates that these innovative strategies have improved knowledge of the ROPs in non-clinical areas like finance and human resources while reinforcing the link to patient safety to clinical and support staff in patient care areas.

CONCLUSIONS

These educational initiatives are easily transferable to a variety of healthcare organizations and regions.

Using multiple strategies, based on androgogical and human factors principles, helped create an innovative and successful learning environment. This learning environment is the first step in initiating a change in culture that will result in sustainable change to patient safety.

Recuperation of adverse events in the operating room: Teamwork and communication

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INTRODUCTION

Recuperation of incidents/accidents is a major component of operating room risk management. Any delay may be harmful to the patient. Failures of teamwork and communication may delay recuperation.

OBJECTIVES AND METHOD

Using a vignette, we tried to assess key points which could improve recuperation in the operating room setting. Team performance for recuperation of situations at risk is multifactorial. It first relies on a common understanding of the situation by actors. In a preliminary study, team key factors for optimal recuperation were identified: permanent staff, adequate communication, team climate, team coordination, satisfaction at work, stress and fatigue perception, training and education, personal experience, work context and environment, medical equipment quality and quantity, task complexity, patient status, general organizational context in the hospital. These results led to investigate by structured interviews using a clinical scenario (vignette), the conditions for recuperation among the four main categories of operating room team including a surgeon, an anesthetist, a nurse anesthetist and an operating room nurse. Interviews were conducted in four Quebec institutions and six French ones.

RESULTS

Considering the sample size, we must proceed with caution in interpreting our findings. Close to half of the individuals were dissatisfied with communication within teams. Team coordination during emergency situations is an important matter. These are common situations for error recovery. Problems were reported with team leader identification in such situations. Respondents emphasized that conflict situations are common within teams. These situations can contribute to dissatisfaction and stress and thus create a climate unfavourable to high-performance work in both ordinary and error-recovery situations. A large majority of respondents believe that supplementary training could provide the team with improved detection and recovery skills.

CONCLUSIONS

Vignette is an appropriate tool for assessing teamwork and communication for recuperation in the operating room setting. Its use requires structuring the interview around predetermined keywords related to key points for recuperation. Based on these results, a questionnaire will be administered in 30 randomly chosen hospitals.

Transfusion medicine clinical systems improvement (CSI) project

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INTRODUCTION

Patient Safety Walkarounds, led by senior management, are an integral part of creating a culture of safety at Sunnybrook Health Sciences Centre. In July 2009, the Transfusion Medicine Clinic (TMC) participated in these Walkarounds, where challenges identified included outdated triage and scheduling processes and limited administrative support resources. Recommendations for TMC included a focused process analysis to improve efficiency, patient flow and safety and overall patient and staff satisfaction.

OBJECTIVES / PURPOSE

- a. To improve efficiencies in work flow;
- b. Define required medical & administrative criteria regarding patient scheduling; and
- c. Provide a safe and satisfying clinic environment.

METHODS

A complete flow-mapping exercise and process analysis utilizing Lean methodology was conducted by a Performance Improvement Specialist and included the registered nursing staff, educator and manager. This identified key areas of waste and opportunities for improvement. A series of interventions aimed at optimizing and standardizing work flow and improving communication were recommended and implemented.

Among these interventions were implementation of: an electronic patient scheduling system, a patient information pamphlet, TMC admission criteria and revised standard clinic processes.

RESULTS

Although final outcome measurements are in progress, preliminary successes have been identified 3 months following Walkarounds, including:

- Implementation of an electronic scheduling system
- Electronic data collection processes

- Streamlined workflow processes for recording and filing patient information.
- Standardized workflow processes for specific treatment delivery.
- Improved communication between staff and patients through the development of a Patient Accountability pamphlet.
- Improved communication between TMC staff and referring services through the development of standard admission criteria

Compliance with each of these new processes is currently being tracked.

CONCLUSIONS

Interventions to optimize human performance and communication related to TMC patient and workflow processes has led to several quality improvements in our clinic. Greater awareness of the outcomes of these processes and the roles of all the participants involved has enhanced communication and teamwork between the staff, referring and support services which provides patients with safe and timely care.

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- Ana Lima, Transfusion Safety Nurse
- Registered Nurses of the Transfusion Medicine Clinic
- Jeannie Callum, Medical Director of Transfusion Medicine Clinic

Removing unnecessary central venous catheters: Evaluation of a quality improvement intervention in two intensive care units

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INTRODUCTION

Central venous catheters (CVCs) are commonly required for the monitoring and treatment of critically ill patients. Since CVCs are associated with adverse events such as infections, prompt removal of unnecessary CVCs can improve patient safety. The baseline rate of unnecessary CVC days (CVC days with no apparent indication) in our two adult intensive care units (ICUs) was 27.7%*. The Critical Care Program's Patient Safety and Quality Improvement Committee lead a multi-faceted intervention, including a daily checklist, designation of safety "champions" and educational activities, to facilitate prompt removal of unnecessary CVCs. This study was performed to evaluate the intervention's effectiveness.

OBJECTIVES

To examine the rate of unnecessary CVC days in the ICUs of Kingston General Hospital, an academic centre in Eastern Ontario, and to compare current and pre-intervention rates.

METHODS

A prospective observational study in the hospital's 25-bed, closed, level-3 ICU, and 16-bed, open, level-2 ICU. During 28 consecutive days, all patients were reviewed daily and central lines were identified. Indications for each CVC were determined by chart review and interviews of the nursing staff, if required. Analyses included descriptive statistics and chi square tests.

RESULTS

One hundred ten patients (age, 64.7 ±15.7; male, 55.5%; medical, 75.5%; mechanically ventilated, 62.7%) had 159 CVCs and a total of 820 CVC days. Twenty nine (26.4%) patients had at least 1 no-indication CVC day. For 88 (10.7%) CVC days, there was no indication for central venous access. Of these, 48 (54.5%) were of hemodialysis catheters, 29 (33.0%) of PICCs, and 11 (12.5%) of other CVCs. Compared with baseline, the rate of unnecessary CVC days decreased by a factor of 2.58 (CI, 2.04-3.26; p<0.0001).

CONCLUSIONS

Rates of unnecessary CVC days decreased substantially after the introduction of a multi-faceted intervention to identify and remove unnecessary CVCs.

FUTURE DIRECTIONS

Associations between unnecessary CVC days and patient, catheter, clinician and unit characteristics should guide fine tuning of the quality-improvement intervention to eliminate unnecessary CVCs from our ICUs.

* Cload B, Day A, Ilan R: Evaluation of Unnecessary Central Venous Catheters in Critically Ill Patients: A Prospective Observational Study. Can J Anaesth. 2010; in press.

Development of a primary care patient safety program for the Canadian Forces Health Services

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INTRODUCTION

In recent years, the concept of patient safety has emerged as a high priority for health care organisations across Canada, as well as globally. Committed to promoting the safest possible delivery of health care, the Canadian Forces Health Services Group adopted Patient Safety as a strategic priority in 2007. The CF Patient Safety Plan 2009-2012: “Creating a Patient Safety Culture in the Canadian Force” was launched during Canadian Patient Safety Week in November 2009. The Canadian Forces Health Services is a national health care system that consists of 43 units at 77 military installations across Canada. In Canada it delivers exclusively Primary Care services.

OBJECTIVES / PURPOSE

To describe the process used to develop the CF Patient Safety Plan. The central issue of this work was the challenge developing a pan-Canadian Patient Safety program within a primary care setting when the preponderance of current patient safety research stems from populations in the acute care settings

METHODS

The program was developed with inputs from an environmental scan, analysis of incident reports and interviews with executive level management. A logic model was developed to ensure alignment of actions to short, mid and long-term objectives.

RESULTS

An environmental scan revealed a dearth of primary care patient safety research. The consultative process resulted in a three-year comprehensive plan that features 32 directed patient safety activities grouped into six themes of Promotion, Education, Harm Prevention Strategies, Reporting, Investigation and Organizational Learning with a long-term goal of “Creating and Sustaining a Culture of Patient Safety”. Measures of success initially relied on the accreditation reports of compliance with Accreditation Canada required organizational practices (ROPs).

CONCLUSIONS

The framework described in this study shares common elements with safety programs in other complex organizations and is therefore easily transferable across organizations. The action items of this plan are specific to a primary care setting but are generic enough to allow wide transferability.

A webinar learning series for medication reconciliation in long term care

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INTRODUCTION

A Webinar Learning Series (WLS) for Medication Reconciliation at Admission was developed for Long Term Care Homes in Ontario. The aims of the WLS were to:

1. Establish a process for medication reconciliation for enrolled organizations.
2. Develop & implement a process to capture the % of admitted patients with a completed Medication Reconciliation process.
3. Develop a virtual QI curriculum for the acquisition & application of improvement knowledge & skills.
4. Develop Medication Reconciliation Change Package for Long Term Care

METHODS

Enrolled teams participated in a series of four webinars, each held three weeks apart and a live Closing Congress. One week following each webinar, a conference call was held to provide education and support to teams. The curriculum was developed based on the Breakthrough Series Collaborative model originated by IHI. Teams were expected to be enrolled in Safer Healthcare Now! obtain senior leader support, commit to submitting measurement data and to participating in 100% of the webinars and the closing congress.

RESULTS

81.3% of participants reported making changes to capturing medication history information, 87.5% reported making changes to their reconciliation process and 93.8% reported collecting measurement data. Teams tested change ideas from the change package such as introducing the ISMP Best Possible Medication History interview guide.

Sixteen teams began the webinar learning series. Of 14 homes that completed the WLS, 8 homes (57.1%) submitted data at least once. Seven homes (50%) submitted data on the percentage of long-term care residents reconciled at admission.

The curriculum content was adjusted based on the needs of the teams. For example, a presentation on ways to engage physicians was incorporated into the program.

CONCLUSIONS

Areas of learning that will inform future iterations of this program include enhanced use of Webex technology, preassessment of participating teams, and increasing the scope of the program to incorporate medication reconciliation at admission, transfer and discharge. A WLS is a viable and effective method to increase capacity for knowledge and skills in medication reconciliation and quality improvement.

ACKNOWLEDGEMENTS

- Ontario Health Quality Council, ISMP Canada, Accreditation Canada, CPSI, Safer Healthcare Now! Quality Healthcare Network

Partnering with Health Canada (HC) to improve patient safety and medical devices: One hospital's experience

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OBJECTIVE

This paper's purpose is to provide information about HC's pilot project on medical devices, and describe one participating site's experience in partnering for patient safety. The pilot's goal was to develop an understanding of how organizations use devices, how problems are reported, earlier regulatory interventions and what characteristics of the system contribute to a particular event. Historically, reports have been device focused and not patient centered.

METHODS

Along with HC, ten Canadian health care facilities across different provinces were part of a network to improve medical device safety as the number of voluntary reporting to date was very low. Hospital reporters delivered information from their near misses and incident/accident reports from April 15, 2009 – April 15, 2010. Reports were submitted electronically to HC, triaged for priority and entered into a database. Reports were transferred to the Inspectorate of HC and to the manufacturer, distributor and/or importer depending on the nature of the incident. In response to adverse event reporting, HC provided feedback to assist sites in their quality improvement activities. Information sharing was done internally and externally via electronic newsletters, reports, conferences and teleconferences.

RESULTS

One particular hospital's experience in this pilot has been tremendous. Moreover, the number of reports documented on medical devices has risen in this organization and now come from all areas of the hospital due to increased awareness across many disciplines. Staff are better aware of what and when to report and presentations to multi-disciplinary staff have taken place to ensure this goal. Other improvements have been: improved quality of documentation of reports and increased collaboration between the hospital's Quality Program, Biomedical Engineering Department and the Nursing Department.

FUTURE DIRECTIONS

Due to the overwhelming success of the pilot, the project is now in its second year with all sites on board again. All sites indicated a sense of support and community by participating in this pilot and a greater awareness of medical device safety in their organization. It is hoped that the assessment of these reports may result in changes to product labelling, clinical practice processes, manufacturing processes or licensing requirements, benefiting product safety and ultimately patient safety.

Using simulation to explore the characteristics of apology during team-based disclosure of adverse Events

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INTRODUCTION

Apologies support a patient centered approach to care and as part of the disclosure process acknowledge responsibility and convey regret for an adverse event. Despite the importance of apologies during the disclosure process, little is currently known about how apologies are characterized in a disclosure with patients.

OBJECTIVES / PURPOSE

Using simulation to explore the characteristics of apology during team based disclosure of adverse events.

METHODS

Through the use of video recordings of medical and surgical teams disclosing adverse events, a secondary analysis was undertaken to investigate the characteristics of apologies during the simulation. Video recordings were transcribed verbatim, with emphasis on the presence and characteristics of apology. Transcripts of the disclosure process were analyzed into codeable units and included investigation into language use and interprofessional team participation in the apology or expression of regret.

RESULTS

Characteristics of the apology will be described such as which team member apologized, when the apology took place and statements of the apology and admission of regret. Interestingly, team members apology in the disclosure conversations were often a reaction to/or response to prompts initiated by the patient.

CONCLUSIONS

Apologies support a patient centered approach to care and emphasize the importance of the apology in the disclosure conversation. The disclosure process including apologies can be influenced by interprofessional communication and relationships. Thus a better understanding of the characteristics and the role of apologies during the disclosure process can be utilized as a way to enhance interprofessional relationships and collaboration and importantly to improve disclosure skills among interprofessional healthcare team members.

FUTURE DIRECTIONS

Exploration into the effectiveness of apologizing early in the disclosure conversation may be beneficial in the disclosure conversation for both the patient and the health care provider. Further, investigation into the apology of disclosure will provide a more in-depth understanding of the disclosure process, and support the integration of evidence into disclosure training within the interprofessional team context.

ACKNOWLEDGEMENTS

- Canadian Patient Safety Institute Patient Safety Studentship
- Ryerson University Faculty of Community Services

Incentives, barriers and facilitators for medication error reporting: Perceptions of health professionals from Nova Scotia

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INTRODUCTION

Opportunities to improve patient safety are hindered by wide-spread under-reporting of medication errors. Data from these reports can be used to improve processes, identify areas for progress, and prevent similar errors from occurring in other settings.

OBJECTIVES / PURPOSE

The objectives of this research were to not only identify incentives, barriers and facilitators to medication error reporting, as perceived by front-line health care professionals, but to also understand why certain factors serve as barriers and to explore what some hospitals have done to successfully break down barriers.

METHODS

A comparative case study analysis of medication error reporting practices and beliefs at four community hospitals in Nova Scotia, Canada was completed using focus groups (with physicians, pharmacists, and nurses) and in-depth interviews (with risk managers). Focus groups and interviews were audio taped, transcribed verbatim, and analyzed for thematic content using the template style of analysis. Safety Culture Theory was used to develop and analyze this study.

RESULTS

Careful analysis of the textual data identified themes related to incentives for, barriers to, and positive facilitators of medication error reporting. Incentives were thematized into three categories: patient protection, provider protection, and professional compliance. Barriers were thematized into five categories: reporter burden, professional identity, information gap, organizational factors, and fear. Positive facilitators were thematized into three categories: reducing reporter burden, closing the communication gap, and educating for success. Participants indicated they would report medication errors more frequently if reporting were made easier and if educated about the reporting process and timely feedback.

CONCLUSIONS

Study results may lead to better understanding of the barriers to medication error reporting, why these barriers exist, and what can be done to successfully break them down.

FUTURE DIRECTIONS

These results could be used by hospitals to encourage reporting of medication errors and ultimately make organizational changes leading to a reduction in the incidence of medication errors and an improvement in patient safety. Future research efforts should focus on evaluating the effectiveness of implementing various strategies suggested for improving medication error reporting.

ACKNOWLEDGEMENTS

- ISMP-Canada, NSHRF, CIHR, Dalhousie University Killam Foundation, Dalhousie University College of Pharmacy Endowment Fund.

A Canadian snapshot of senior and team leaders description of quality and safety team initiatives

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INTRODUCTION

Quality and safety (Q&S) teams have been proposed as one strategy to build a safer health system. Little information exists about what motivates Canadian healthcare organizations to establish such teams, nor their focus, challenges, enablers and outcomes.

OBJECTIVES / PURPOSE

To describe the establishment, implementation and outcomes of Q&S team initiatives across Canadian healthcare organizations.

METHODS

Web-based survey completed by; 1) senior healthcare organizational leaders, and 2) team leaders of Q&S team initiatives. The survey explored attitudes and opinions of participants about Q&S teams; differences between senior (SL) and team leader (TL) responses were explored using Chi square tests.

RESULTS

To date 163 surveys have been completed. The primary motivations for establishing teams were accreditation, senior leadership mandate, and participation in national initiatives. Safety culture, quality of work environment and models of care delivery were the predominant Q&S team initiatives. Consistent evaluation of Q&S teams was lacking – 31.9% of SL reported that most teams evaluated their impact. If outcomes were evaluated they focused on patient satisfaction, safety culture, adverse events, work flow, LOS, costs, and readmissions. More TLs than SLs reported time availability (51.8 v 20%, $p<.001$) and team communication as enablers (61.5 v 28.8%, $p<.001$) for effective team performance. More SLs reported supervisory leadership as a facilitator to establishing (92.4 v 79.5%, $p<.001$) and measuring team impact (76.3 v 60.2%, $p=.028$). There were different beliefs about challenges teams faced in attempting to influence change; more TLs than SLs indicated lack of: 1) supervisory (21.7 v 5%, $p=.002$) support; 2) senior leadership support (20.5 v 1.3%, $p<.001$); 3) organizational culture (32.5 v 15%, $p=.009$); and 4) organizational strategies/goals (13.3 v 1.3%, $p=.003$) as challenges to their work.

CONCLUSIONS

Leadership plays a central role in creating an improvement culture and implementing structures / processes where quality work can occur. This requires dedicated human and financial resources, and committed time for Q&S team members. To understand the impact of team initiatives, organizations need to engage in rigorous formal evaluation.

ACKNOWLEDGEMENTS

- Funding: CIHR, Alberta Innovates-Health Solutions; in-kind/cash contributions: Winnipeg Regional Health, Saskatoon Health Region, Calgary Health Region (now Alberta Health Services), CPSI.

Does 2% chlorhexidine gluconate bath pre-pyloromyotomy decrease the rate of postoperative wound infection? A nurse led quality initiative

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INTRODUCTION / BACKGROUND

In 2005 General Surgery staff at HSC, in Toronto, Canada, discussed in Mortality and Morbidity Rounds that there had been an increase in wound infections post pyloromyotomy. Infection control was approached and a retrospective chart review was performed from May 2005 to September 2005 of all pyloromyotomies. This audit focused on the Center for Disease Control (CDC) parameters for surgical site infections (SSI) as well as input from the surgeon group. There was analysis of the infected group and then statistical analysis of infected vs. non-infected group. It was recommended that two 2% chlorhexidine gluconate baths be instituted within 24 hours prior to surgery.

OBJECTIVES

In 2005 we implemented two 2% chlorhexidine gluconate baths prior to pyloromyotomy on the inpatient surgical unit. In 2008 we decided to review this Quality Initiative to see whether or not these baths had changed our postoperative pyloromyotomy wound infection rate. We also wanted to see whether or not the baths were actually being performed. The Model for Improvement which focuses on the Plan-Do-Study-Act (PDSA) cycle was used as a framework for this quality improvement initiative.

METHODOLOGY

A retrospective chart review (n=41) was performed from December 2007 to May 2008 that looked at how many pyloromyotomy received baths, how many baths they received, who received preoperatively antibiotics, who received postoperative antibiotics and signs of wound infection. A patient was considered to have a wound infection according to CDC guidelines for superficial wound infection. In the first PDSA cycle we learned that because of insufficient documentation (66%) of whether or not the baths had been performed we were not able to draw any conclusions about our practice change. It was decided that in order to best evaluate this quality initiative the nurses had to be re-educated about the documentation of the preoperative baths for this population. A stamp was introduced specifically to aid the documentation of these baths. A second retrospective chart review (n=49) was conducted after the re-education from May 2009 to October 2009.

RESULTS

It was noted in our first chart review (n=41) that our surgical infection rate had dropped 34%, however due to insufficient documentation we could not suggest that it was the result of the practice change. With the second chart review (n=49) 98% of patients had sufficient documentation of baths and it was noted that our postoperatively wound infection rate was maintained at a 35% reduction. Therefore our decreased surgical infection rate had been maintained for 22 months.

CONCLUSIONS

Although we know that postoperative infections are multifactorial, it would seem that our practice change, implementing the two 2% chlorhexidine gluconate baths as a preoperative intervention, resulted in a decrease in post-surgical site infections in our pyloromyotomy population.

Implementation of a Rapid Admission Medication Reconciliation Audit Process (RAMRAP)

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INTRODUCTION

The inpatient Child and Youth Mental health programs at BC's Children's Hospital successfully implemented a process to audit admission medication reconciliation completion and discrepancy rates within 24 hours after admission.

OBJECTIVES

To build a process that distributes admission medication reconciliation audit workload amongst a multidisciplinary team of staff members. The audit process is designed to occur within 24 hours so that discrepancies and causal factors can be addressed promptly.

METHODS

Collaborative audit process design (nursing, medicine, pharmacy and Quality & Safety) included needs assessment, form design, audit team membership, data elements, Accreditation Canada reporting structure, physician and staff feedback. Responsibility for ensuring audit completion was distributed to each clinical area. Through a decision making process that fit with team culture each unit requested and received support including training provided by a clinical pharmacist and Quality & Safety Leader to meet audit requirements.

RESULTS

A quality assurance process has been put in place that audits admission medication reconciliation within 24 hours of admission. The individual audits take 5 minutes on average to complete and highlight potentially serious medication discrepancies occurring at the transition to inpatient admission, and afford an opportunity for timely correction of these discrepancies.

CONCLUSIONS

Giving each clinical area team the responsibility for constructing their internal audit team to fit their culture was instrumental in staff acceptance of the audit process and successfully building a process that is time efficient enough to allow audits of admission medication reconciliation for 100% of inpatient admissions.

An internet-based intervention to improve patient outcomes after surgery

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INTRODUCTION

Upon discharge from hospital after surgery, patients are often left to take the role of “health provider” in their own care as well as “diagnostician” in terms of deciding whether symptoms signal a potentially serious adverse event. Thus, there is a need to provide patients timely, accurate information pertaining to their self-care.

OBJECTIVES / PURPOSE

To describe the development and evaluation of a website designed to help women in their recovery from hysterectomy.

METHODS

The sample included 31 women, 11 from Ottawa and 20 from Halifax, Canada undergoing abdominal hysterectomy. The intervention was a website developed for patients recovering from abdominal hysterectomy that consisted of five main elements: information specific to day of recovery, a two-minute check-up, detailed symptom specific information, a free text journal, and general information. Patients were asked to log in to the website for the first seven days after discharge from hospital and then twice a week for the next three weeks. Upon log in, patients were provided information relevant to the day of recovery after surgery and completed a screener asking them whether they had experienced any of 18 symptoms. Patients who indicated that they experienced a symptom were immediately provided more information about the symptom and how to address it. Patients also completed a pre and post-operative survey to evaluate the website.

RESULTS

The overall compliance was 71% (288 out of 403 possible logins completed). In the post-operative survey, patients reported they felt the website aided in their recovery, reduced worry, and helped them deal with symptoms. Our interpretation was that patients effectively used the website to aid in their recovery.

CONCLUSIONS

A tailored, surgery specific, self-care website that delivers timely, relevant information to patients may be an effective low cost way to fill the information needs of patients after surgery and improving recovery after surgery.

FUTURE DIRECTIONS

- i) Developing ways to reach individuals without home Internet access,
- ii) Evaluating the impact of the website on healthcare utilization;
- iii) Developing the website for other surgeries; iv) Fully integrating the website into clinical settings.

ACKNOWLEDGEMENTS

- Canadian Medical Protective Association, Canadian Foundation for Innovation, IWK Research Foundation, Nova Scotia Health Research Foundation

Patient safety culture and high reliability principles: Perceptions of Canadian leaders in an academic centre

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INTRODUCTION

Health care in North America has been declared unsafe by leading experts in the field.^(1,2) Leaders who are attentive to a climate of safety and aspire to the safety mindfulness principles of High Reliability Organization (HRO) can positively influence the organizational climate.⁽³⁾

OBJECTIVES

To describe the patient safety climate and its alignment with the HRO principles in two hospitals (tertiary versus ambulatory care) in Southeastern Ontario.

METHODS

The Patient Safety Climate in Healthcare Organizations (PSCHO) survey was mailed to 212 hospital leaders. The focus of this analysis was on two components of the survey; senior leadership and supervisory leadership support for safety. Question responses were on a five point likert scale ranging from strongly disagree to strongly agree. Strongly disagree or disagree were considered “problematic” responses. When such responses occurred in more than 10% of respondents, it was interpreted as a lack of safety climate and misalignment with HRO principles.

RESULTS

Our response rate was 67%. In most cases, more than 10% of responses to the “senior” and “supervisory” leadership questions indicated “problematic” responses. The “Medical/Nursing” group was more likely to report problematic responses compared to the “Board/Administrator” group (i.e., 27% vs. 4.3% respectively). In addition, tertiary care leaders indicated

more problematic responses than ambulatory care leaders (23.7% vs. 7.5% respectively) particularly with respect to patient safety and program changes (52% vs. 28%) and balancing patient safety with productivity (62% vs. 50%). Medical/Nursing leaders were significantly more likely to indicate problematic responses on questions related to communication flow (51% vs. 26%), consideration of patient safety with program changes (55% vs. 22%), and balancing patient safety with productivity (70% vs. 28%) than Board/Administrative leaders.

CONCLUSIONS

Safety climate insights varied significantly by leadership roles and institution type. The fact that Medical/Nursing leaders perceived more safety problems than the administrators may reflect their respective level of engagement with daily functions. This observed inconsistency in perceptions suggests that the safety climates at these two acute care hospitals are not aligned with the HRO principles.

FUTURE DIRECTIONS

Further research will determine whether attentive and safety literate leaders are key elements necessary to foster a safety climate based on HRO principles.

ACKNOWLEDGEMENTS

■ Funding was provided by the Queen's University Faculty of Health Sciences.

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Patient safety risk assessments: Creating safer environment

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INTRODUCTION

Threats to patient safety are considered a major healthcare concern for the public and healthcare providers. Daily within Capital Health, thousands of people receive a high standard of care. However, because healthcare relies on a variety of complex interactions, skills, interventions, knowledge, technologies and drugs; this can lead to patients occasionally suffering unintended harm. Improving the quality and safety of patient care is a priority. The Patient Safety Risk Assessment (PSRA) provides an opportunity to globally assess and then remove or reduce risks for patients and staff, and create safer healthcare environments.

OBJECTIVES / PURPOSE

- To ensure there is a formal process to identify patient safety and risk issues that is dynamic, responsive to change, and integral to the organization and that facilitates continual improvement(s) to protect patients and staff;
- To provide objective and constructive reports based on the available information regarding patient and staff safety and risk issues that is openly shared and reviewed with all applicable staff and management;

METHODS

The need for PSRA is determined as follows:

When:

1. If it has not been done;
2. When a risk/hazard has been identified;
3. Change to the care environment;
4. After a significant patient safety event;
5. Identified trend(s) in the Patient Safety Reporting System; and
6. At regularly scheduled times appropriate to the care environment

How:

1. Identifying Patient & Staff Risks/ Hazards
2. Evaluating & Prioritizing Risks/ Hazards
3. Risk Mitigation Requirements:
4. Taking Action:
5. Monitoring and Reviewing:
6. Recording the Assessment:

RESULTS

To date at Capital Health since 2007, over 15 PSRA have been conducted. In all the assessments staff from all disciplines were active participants in the assessment process often identifying issues and making recommendations for remediation. The risk assessments in general have had immediate impact on:

- Ordering and replacement of patient care equipment;
- Realignment, reassessment or cessation of clinical practices;
- Revision or creation of clinical policies;
- Changes to the physical environment to the benefit of patients, families and staff;
- Dissemination of best practice standards and required organizational practices (ROPs); &
- Increasing awareness of Patient Safety and the Capital Health Patient Safety Reporting System.

FUTURE DIRECTIONS

PSRA will be linked to individual clinically-based quality committees as part of their overall quality review activities.

ACKNOWLEDGEMENTS

Thanks to the over 15 clinical units that enthusiastically participated in the assessments and the following individuals who provided constructive feedback on the development of this process:

- Catherine Gaulton VP & General Legal Counsel, Capital Health (Nova Scotia)
- Ruth Stewart, VP Marsh Risk Consulting (MRC), Marsh Canada Limited

Infection Prevention and Control Program (IPAC) for physician offices

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INTRODUCTION

In 2007, several cases involving improper sterilization/reprocessing of medical devices in offices and hospitals were highlighted by the media. Government directed that health institutions and professional regulatory bodies ensure that Alberta's infection prevention and control standards are adhered to in all healthcare settings.

The College of Physicians & Surgeons of Alberta took on the task of ensuring compliance with accepted standards for the cleaning, disinfection and sterilization of reusable medical devices in physicians' offices.

OBJECTIVES / PURPOSE

The College developed an expert panel to direct a program to set standards for infection prevention and control practices in medical offices, educate physicians, and inspect and report on compliance with best practices, starting with device reprocessing. The goal of the program is to increase knowledge and the quality of IPC practices in medical practice so as to improve patient safety.

METHODS

- Medical practices in Alberta that reprocess reusable medical devices were identified.
- A panel of medical practitioners/IPC specialists developed standards to audit reprocessing practices in physicians' offices.
- An audit form was created from the Ontario PIDAC standards and guidelines.
- IPC practitioners were recruited as inspectors and trained to conduct inspections of physicians' offices and report on the findings.
- Education was provided on-site by inspectors, through College newsletters and the College's website.
- Each inspection report was reviewed by the Advisory Panel to confirm requirements.
- A certificate of completion of inspection was awarded.

RESULTS

- 5725 physicians were sent a letter of inquiry
- 1434 indicated they relied on reprocessed medical devices (representing group and solo practices)
- 418 inspections initiated
- 377 IPC inspections completed to date
- The most common deficiencies identified were published in the College newsletter and shared at medical education sessions
- Follow-up inspections have shown a range of uptake of the directives and recommendations. Repeated contact was necessary for a small number of offices to ensure compliance with the standards.
- Among those who have completed the process:
 - 80% continued reprocessing
 - 15% switched to single-use devices exclusively
 - 5% stopped doing procedures
- Physicians reported the cost of making necessary changes ranged from insignificant to thousands of dollars

CONCLUSIONS

Awareness of best practices in reprocessing of medical devices has improved significantly. CPSA has become a credible resource for information and IPC support to physicians and an ally to public health officials in responding to concerns about IPC in community practices.

Educational institutions and practice management programs for physicians will begin incorporating more training for future and current physicians on this and other IPC topics.

ACKNOWLEDGEMENTS

- Ontario PIDAC Standards and Guidelin

Communicating about nursing adverse events in nursing homes

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INTRODUCTION

There is increasing attention being paid to disclosing harmful events in the healthcare setting, however no study has examined this in the nursing home (NH) setting despite new policies aimed at protecting workers when disclosure has occurred as well as guidelines from the Canadian Patient Safety Institute to help structure the disclosure process. In NHs, the physician is often not a day-to-day provider in the care of residents, and thus the responsibility of disclosure may fall on the nurse, nurse supervisor, or administrator.

PURPOSE

The purpose of this study is to identify and list the factors influencing nursing adverse events among nursing staff working in Ontario NH settings.

METHODS

Three-thousand self-administered mailed surveys were sent to a randomly selected sample of registered nurses and registered practical nurses employed by Ontario NHs through a mailing list received from the College of Nurses of Ontario. Nurses completed and replied anonymously, and returned the surveys via mail.

RESULTS

One-thousand one-hundred eighty nurses replied accounting for a 45.6% response rate. Differences were found between groups assigned to two clinical scenarios, whereby participants responding to the minor error scenario were more likely to provide full disclosure than those participants responding to the serious error scenario. Only 18.7% of respondents had received education on disclosing errors to residents; 95.4% of respondents indicated that they are somewhat (32.5%) or very (62.9%) interested in receiving this type of education.

CONCLUSIONS

The results of the study demonstrate the continued need to encourage a “culture of safety” around adverse event disclosure in the NH setting. The data obtained in this study aids to quantify and prioritize the necessary areas of disclosure education needed for nurses, and will be used in future studies to assist in the development of intervention strategies and policies aimed at improving nursing error disclosure.

Transfer of accountability: A shift in thinking AND process

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INTRODUCTION

Almost 70% of sentinel events are attributed to communication breakdown (Accreditation Canada, 2008). Transition points of care such as shift change, patient transfers and discharge are particularly at risk for communication mishaps. Failing to communicate key elements of a patient's status, can lead to erroneous assumptions, and delays in critical treatment; causing patient harm. Transfer of Accountability (TOA) is a process that ensures critical information is systematically communicated at these transition points through the use of checklists and face to face verbal exchange.

METHODOLOGY

In accordance with sound patient safety principles and Accreditation Canada Standards, St. Joseph's Healthcare, Hamilton (SJHH) is working on multiple strategies to achieve this goal; one of which is the development of standardized checklists for shift to shift handover and transfer from unit to diagnostic services. These checklists are designed to allow for differentiated clinical content while simultaneously incorporating a standardized section with the key information needed to provide safe care for the immediate period following handover. In addition, a bedside check has been included in the new shift handover process which facilitates early detection of error or risk.

RESULTS

More complete analysis of data from observational audits, evaluation surveys and incident reports is underway however; several positive outcomes of the new process have been identified:

- More consistent identification of at risk patients (i.e. falls)
- Fewer missed diagnostic/lab tests
- Fewer follow up calls to nurse/physician for clarification of orders or care plan
- Earlier identification of error/risk at bedside check (i.e. missing armband; wrong IV solution)
- Improved ability to respond to an emergency situation when off the unit due to concise, readily accessible written info
- Expressed nurse satisfaction with process (i.e. more confidence; feel more organized)

CONCLUSIONS

Next Steps include further refinement of the checklist for use in Mental Health and Rehabilitation. This practical checklist provides a standardized yet program sensitive way to consolidate the key elements of information needed to provide safe care and the addition of a bedside check fosters a different way of thinking about handoff and the accountability that goes with it.

Safe transitions: Medication reconciliation at discharge

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INTRODUCTION

Patient Safety is a critical issue on the agenda of hospitals across the country. The ISMP identified poor communication at transition points is responsible for approximately 50% of medication errors and 20% of adverse drug events. Medication reconciliation is a powerful strategy to reduce these errors. While this process has primarily been initiated on admission, little has been done at the point of discharge.

GOAL / OBJECTIVES

The goal of this improvement project is to ensure that the medications ordered for patients discharged to the community are consistent with the intentions of the prescribing physician, are communicated appropriately, and that any variation from current medications is adequately documented.

METHODS

In consultation with hospital and community based physicians, pharmacists and nurses, St. Joseph's Healthcare, Hamilton implemented an electronic medication prescription form to replace the current handwritten prescription pads which reduced the risk of transcription error and improved legibility. The form is completed by the physician, copied for the chart, faxed to the family physician and the original is given to the patient to fill at their community pharmacy. Draft versions were simulated with physicians and small tests of change were used to further refine the form and pilot the process before spreading to other units.

RESULTS

Several positive outcomes have been achieved through this initiative:

- Increased legibility
- Fewer follow up calls from community pharmacists and reduced risk due to transcription error or illegibility
- Improved communication to family physician thereby improving continuity of care
- Increased physician satisfaction both in hospital (less writing) and in community (better communication)
- Copy of form allows for post discharge reconciliation and identification of variances
- Initial audits show fewer variances because the nature of the form demonstrates physician Intent (when they make a change, it is documented)

CONCLUSIONS

This process provides a practical, efficient and safety conscious solution to medication reconciliation in a paper based health record environment.

NEXT STEPS

- Further refinement of the form to account for multiple medical services involvement
- Expand implementation to Surgical Units and in Transfer to Alternate (non-acute care) Services/Programs such as Rehab and Mental Health

Double checking for safety in the OR

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INTRODUCTION

The Surgical Safety Checklist (Checklist) is a tool to promote patient safety in the perioperative period. Haynes et al (2009) released a multicenter study demonstrating the effectiveness of the World Health Organization Safe Surgery Checklist (further adapted by Canadian Patient Safety Institute). They found the use of the checklist (attached) resulted in a reduction of surgical complications by 36%. The checklist encompasses a number of points of verification and key tasks that Operating Room Team carry out in the Perioperative period. The tool offers a practical way to facilitate communication and plan for risk thereby establishing consistency in practice and ensuring all the key items are deliberately considered for every patient undergoing surgery.

OBJECTIVES / PURPOSE

As part of their surgical safety strategic plan, St. Joseph's Healthcare, Hamilton adopted the Safe Surgery Checklist to improve consistency and safety in practice within the OR.

METHODS

Drawing on proven quality improvement strategies the checklist was implemented in two phases. Phase 1 focused on: site verification/marketing, timely antibiotic prophylaxis, formalized "Time Out" procedure immediately prior to incision. Phase 2 incorporated all the other elements of the Briefing, Time Out and Debriefing components in the checklist. Multiple strategies were employed including face to face stakeholder meetings (ie. surgeons, anesthesiologists, nurses, technicians, and pharmacists), electronic desktop applications, daily huddles and feedback of audit data. Small tests of change in three areas (general surgery, maternal child, and ophthalmology) resulted in several modifications of the checklist so that it remained practical and meaningful to the clinicians using it.

RESULTS

Recent audit results indicate an increase in antibiotic prophylaxis compliance from 70% to 99%. Compliance in the use of checklist for every surgery (process measure) is 86% and compliance in the completeness of checklists received (outcome measure) is 85% across all three surgical sites. Several near miss incidents have been identified where the use of the checklist avoided harm to the patient.

CONCLUSIONS

Observational audits are underway to validate this data but there is clear indication from the data and anecdotally from members of the OR team, that the use of the safe surgery checklist has been adopted into practice in a standardized and meaningful way.

Quality Book of Tools[©]: Guide to quality and safety indicators for family practice in Canada

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PURPOSE

McMaster University and the Ontario College of Family Physicians have developed, tested, refined, validated and revised a comprehensive set of quality and safety performance indicators to assess family practices in Canada, which will be available in the 2010 edition of the Quality Tool. The Tool is part of an interdisciplinary, voluntary assessment Quality program.

METHODS

Indicators from New Zealand's Aiming for Excellence, Australia's Standards for General Practice; the European Practice Assessment, the UK Quality and Outcomes Framework, and the Canadian Institute of Health Information's Pan Canadian Indicators were compared with the Quality Tool. The "orphan" indicators were validated through a Delphi process involving primary care and quality experts in Canada.

RESULTS

Five guiding principles continue to be incorporated: voluntary, self-reflection, consumer involvement, interdisciplinary teams, continuous quality improvement (CQI). Eight new categories, 6 based on the Institute of Medicine aims for the 21st century (safe, effective, patient-centered, timely, efficient and equitable) and 2 based on the Ontario Health Quality Council's reporting framework attributes of a high performing health system (appropriate resources, integrated) form the backbone of the Tool. A total of 73 indicators with associated defining criteria and a further information section with helpful web linked tools complete the Tool. One notable example is Category D: Safe which includes infection control, cold chain office procedures, disposal of sharps and biomedical waste, medical equipment, drugs, medical record keeping and incident reporting.

CONCLUSIONS

The Quality Book of Tools[©] is a comprehensive book of practice management and clinical care indicators for improving quality and safety in primary care/ family practice settings in Ontario-Canada.

Using electronic hand hygiene data capture: Improving efficiency and decreasing costs while maintaining quality

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INTRODUCTION

The Ottawa Hospital is a ~1,100 bed academic health science centre, which provides care to eastern Ontario and western Quebec. TOH has had a Corporate Hand Hygiene program for 5 years. An evaluation was done on our program showing that we could streamline the number of corporate audits, audit based on need for improvement, decrease the turnaround time for hand hygiene reports, and improve efficiency with data capture/reporting.

OBJECTIVES / PURPOSE

- Develop and implement a revised audit schedule for in-patient units
- Develop and test an electronic solution for hand hygiene data

METHODS

- Stakeholder meetings to assess the best way to audit
- Developed an application for the iPod Touch; created based on the MOH HH auditing form
- Developed Corporate Auditor list based on Clinical Manager feedback
- Evaluated time it takes to audit a unit with 50 observations
- Created an 8-hour Auditor Training Program
- Beta tested the iPod Touch application
- Audited over 50 inpatient units at TOH in March 2010
- Evaluated program in June 2010

RESULTS

TOH developed the following auditing program: annual audits in March to be done by 17 specifically trained Corporate Auditors; quarterly audits on high risk units and outbreak units conducted by three Corporate Trainers; monthly random audits conducted on lowest to highest compliance units based on March results, done by Corporate Trainers. We trained seven Infection Prevention and Control staff on the audit tool. Data entry time decreased from 6 weeks for all inpatient units to ~ one week and report generation and feedback decreased by a further 2 weeks. This allowed for increased end user satisfaction and a cost saving of approximately \$10,000 of an analyst's time. We incorporated instant verbal and written feedback into the audit process and created physician lead and Clinical Manager dyads to lead improvement at the unit level.

CONCLUSIONS

While there are challenges associated with conducting HH audits in a large centre, we have shown that with innovation and creativity it can be done in a manner that allows for a quality auditing product, increased efficiency and reducing costs.

SAFETYNET-Rx: Pilot project for patient safety and quality improvement in Nova Scotia pharmacies

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INTRODUCTION

Little is known about medication incidents and near misses, collectively referred to as Quality Related Events (QRE), within the community pharmacy setting. SafetyNET-Rx, an outreach program to enhance patient safety through a community-pharmacy-based quality assurance program, was piloted in 13 pharmacies across Nova Scotia.

OBJECTIVES / PURPOSE

To better understand the nature of QREs within community pharmacies in Nova Scotia and to analyze the effect of the SafetyNET-Rx program on identifying and reporting QREs.

METHODS

Thirteen community pharmacies were recruited in Nova Scotia representing rural and urban locations, high and low prescription volumes and independent and corporate ownership. The study took place August 2008 to December 2009. Stores were required to identify two quality facilitators responsible for implementing the SafetyNET-Rx program in each participating pharmacy. Participants completed a pre- and post-implementation medication safety survey, a pre-implementation safety culture survey, and reported all QREs to an online, anonymous third-party database. Results were analyzed using means and the Wilcoxon sign-ranked test.

RESULTS

The main outcome measure for the purpose of quantitative analysis was total score. Total scores ranged from 39.3% in one pre implementation survey to 84.4% in one post implementation survey. The average MSSA score for the seven stores prior to the intervention period was 51.0%. Twelve months later, the average score was 64.7%. From August 2008 to December 2009, there were 1532 medication incidents reported. Of those 1532 incidents, 83.62% were intercepted before they reached the patient. The majority of incidents were reported to have occurred during the order entry/ transcription of the prescription.

CONCLUSIONS

The pilot program of the SafetyNet-Rx project highlights improvements in the area of safety practises. Future projects are underway to further evaluate the use of the program and the effects it has on safety improvements of community pharmacies in Nova Scotia.

ACKNOWLEDGEMENTS

- Funding for the pilot project was provided by the Social Sciences and Humanities Research Council. We would also like to thank the Nova Scotia College of Pharmacists (NSCP) and the Institute for Safer Medication Practices (ISMP) Canada for their involvement and contributions to the study.

Building a culture of patient safety in a rehabilitation hospital

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INTRODUCTION

Partnering with the Canadian Patient Safety Institute (CPSI), St. John's Rehab Hospital (SJRH) conducted research to identify an approach to developing a culture of patient safety in a complex rehabilitation client population. The research examined the knowledge, skills and attitudes of Domain 1 of the CPSI Safety Competencies Framework. The project extended from April 2009 to May 2010 and reflected SJRH's strategic direction to enhance patient safety.

OBJECTIVES / PURPOSE

The researchers asked, "How can staff attitudes, knowledge and skills inform the development of enabling and key competencies, in order to construct a patient safety culture?"

METHODS

SJRH sought to identify staff knowledge, skills and attitudes that inform the enabling and key competencies necessary to build a culture of patient safety. We planned to identify variables needed to develop a patient safety culture within a rehab facility, with a view to being able to extrapolate the findings to the broader hospital setting.

We reviewed medication errors, falls, hand hygiene and hospital-acquired infection rates. Results from SJRH's Employee Engagement and Wellness Surveys, along with Accreditation Canada's Patient Safety Culture Survey and Effective Organization Questionnaire were also reviewed.

RESULTS

We administered Accreditation Canada's Worklife Pulse survey twice, 14 months apart. The second survey showed that a majority of staff believe SJRH fosters a worklife that promotes patient safety, suggesting that most staff know worklife is key to patient safety. Strengths included: overall job satisfaction; clarity of expectations; safe work environment; and working conditions contribute to patient safety. Opportunities included: involvement in decision-making; communication; and trust. We held staff and management focus groups to validate results and solicit recommendations.

Comparing 2009/10 to 2008/09, falls as a proportion of total incidents fell by 7%, near misses as a proportion of total medication incidents increased by 6% and hand hygiene rates before and after patient contact increased by 37% and 20% respectively.

CONCLUSIONS

A culture of patient safety at St. John's Rehab was investigated in the context of medication errors, in-hospital falls, hand hygiene and healthcare acquired infections.

Creating a culture of patient safety requires a multi-faceted approach with commitment at the institutional level as well as by all health professionals. We can create a patient safety culture if we can achieve optimal patient outcomes by reducing and mitigating unsafe acts and employing best practices grounded in two practices: team-based expertise-led proactive analysis of opportunities to improve systems; and resilience-building that comes from training staff in the situational awareness that mandates fast responses to issues and problems.

ACKNOWLEDGEMENTS

- The authors gratefully acknowledge funding from CPSI for the safety studentship.

Building knowledge for safer care: The nursing RAP-CD program

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INTRODUCTION

There is growing evidence that a large proportion of the 10,000 – 20,000 annual preventable deaths from adverse events in Canadian healthcare are related to the lack of application of research in practice. To concurrently address this gap and local patient safety issues, a teaching hospital partnered with an academic institution to create and evaluate a research capacity building/career development intervention, the Nursing Research Advancing Practice-Career Development (RAP-CD) program.

OBJECTIVES / PURPOSE

Our study aimed to: 1) examine the effects of the program on selected nursing and organizational outcomes (career resilience, organizational support, retention, and research attitudes); and 2) explore participants' learning processes and self-reported ability to provide safer care.

METHODS / RESULTS

10 teams of 40 clinical nurses were selected to participate in RAP-CD and conceive, develop, and conduct their own research project based on a local patient safety/quality issue. Over an 18-month period, teams participated in an interactive curriculum and worked with a research

supervisor. A mixed methods design was employed to evaluate the impact of the RAP-CD intervention. Consenting participants completed a pre- and post-program survey and corporate databases were queried to quantify patient safety, nurse, and organizational level outcomes over time. Qualitative focus groups were used to gain insight into how participating nurses are applying their newfound research knowledge and expertise into daily practice for safer care. As part of the knowledge translation component of the program, each team presented their methods, findings, and lessons learned at a hospital symposium in May 2010. Post intervention data is being collected in June/July 2010 with final results available in September 2010.

CONCLUSIONS

Throughout the Nursing RAP-CD program, nurses described feeling more confident and competent in their knowledge and ability to provide safer patient care. Unit-based improvements in patient safety and nurse satisfaction were achieved through the translation of local team findings into practice. Our results demonstrate that concerted efforts to enhance research capacity amongst health care professionals can bridge the know-do gap in clinical practice and our methods serve as an organizational blueprint to improve patient safety.

ACKNOWLEDGEMENTS

- Funding provided by the Ministry of Health & Long Term Care – Nursing Research Fund.

Outcomes associated with an organizational approach to improving safety culture: The SAFETYNET Initiative

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INTRODUCTION

To reduce preventable adverse events and deaths in Canadian hospitals, organizations need systems and tools to enhance safety awareness, improve event identification and reporting, and create safety-oriented cultures. Very little empirical evidence is available to guide hospitals to achieve these goals. In this context, we developed and implemented the SafetyNET Initiative at a large, urban, academic health sciences centre and evaluated its impact on adverse event reporting and patient safety culture throughout the organization.

OBJECTIVES / PURPOSE

The objectives of our study were twofold: 1) To evaluate the impact of our organizational patient safety program, SafetyNET, on patient safety culture indicators, adverse event and near miss reporting, and safety-oriented hospital discourse; and 2) To elicit the perceptions of healthcare professionals about the SafetyNET program in specific and organizational safety culture in general.

METHODS / RESULTS

The SafetyNET intervention had three main strategic and evidence-based components: 1) multi-media marketing and communication plan involving a hospital-wide poster campaign, an award-winning video featuring a true story of a fatal adverse event, and a townhall launch with the corporate executive team; 2) on-line education and discussion forum with five modules and an interactive face-to-face learning series matched to each module release; and 3) peer-nominated recognition program to profile hospital employees and physicians who contribute to enhancing safety at our hospital. A quasi-experimental mixed methods design was used to examine the effect of SafetyNET. A time series analysis was used to measure changes in adverse event reporting, safety culture survey results, and patient safety discourse frequency at multiple timepoints. Textual analysis and focus group methodology will uncover hospital discourse and address objective 2. Final analysis is being conducted in June/July 2010 with final results available August 2010.

CONCLUSIONS

In our study, an organization-wide approach to improving adverse event reporting and safety culture was developed, implemented, and evaluated. Our triangulated analysis using quantitative and qualitative data sources contributes to the evidence on efficacious organizational interventions to enhance patient safety. Deliverables include a toolkit and myriad resources for other interested healthcare organizations to implement and evaluate a similar program.

ACKNOWLEDGEMENTS

■ Funding provided by the Canadian Patient Safety Institute

Developing and evaluating and interprofessional safety competencies intervention: Insights and results

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INTRODUCTION

Effective interprofessional teamwork and collaboration have been linked to safer care practices and better clinical, financial, and system outcomes. Although international attention has focused on patient safety for the past decade, gaps in interprofessional practice persist in hospitals. In this context, St. Michael's spearheaded the development and testing of a targeted intervention, SafetyNET II, to foster the acquisition and application of safety competencies amongst selected teams of health care professionals.

OBJECTIVES / PURPOSE

Our objectives were two-fold: 1) To evaluate the impact of participation in SafetyNET II on safety culture and interprofessional collaboration; and 2) To elicit the perceptions of the healthcare professionals involved in the SafetyNET II program on safety and teamwork.

METHODS / RESULTS

Participants in SafetyNET II participated in a 3-day interactive workshop; developed and executed an action learning project with the assistance of a mentor with patient safety expertise; and presented their projects in a knowledge exchange forum. The workshop curriculum focused on the six competency domains derived from the Canadian Patient

Safety Institute's Safety Competencies Framework. A quasi-experimental, mixed methods design including surveys, focus groups, interviews, and observations was used to evaluate our outcomes.

Upon completion of the program, participants felt that their patient safety knowledge and interprofessional communication were improved and that the program strongly contributed to their ability to identify and address patient safety issues in their clinical areas. Final analysis of the data is planned in July – September with results available October 2010.

CONCLUSIONS

Through their local action learning projects, SafetyNET II participants have demonstrated the acquisition of interprofessional patient safety competencies. These competencies are key to maximizing professional scope of practice and to the design and delivery of safer healthcare. Collectively, the knowledge generated and the toolkit produced from this study may contribute to the expanding knowledge base on the impact of interprofessional education and collaborative practice on safer processes and outcomes which may be transferable to other health care settings across Canada.

ACKNOWLEDGEMENTS

- Funding provided by the Health Force Ontario Interprofessional Care/Education Fund, Ministry of Health and Long Term Care

Clinical decision making by advanced care paramedics: A think aloud study

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INTRODUCTION

As paramedics make many clinical decisions while caring for patients in the prehospital setting, it is essential to determine how paramedics make decisions.

OBJECTIVES / PURPOSE

The Think Aloud technique was used to identify thinking strategies paramedics use to make decisions during emergency calls.

METHODS

A small sample of Canadian advanced care paramedics (ACPs) verbally worked through two scenarios. Participants were encouraged to explain why they made each assessment, treatment and transport decision. Clinical decisions and thinking strategies were identified in the interview transcripts. Analysis included descriptive sample statistics, frequency of decisions and thinking strategies, and inferential statistics to identify differences in thinking strategies used in the two groups (novice and experienced participants), and by all participants in the different scenarios types.

RESULTS

Eight ACPs with a mean 9.6 years of overall paramedic experience (SD 6.7) participated. Twenty-nine decisions were made in the trauma scenario. Eighteen decisions were made in the medical scenario. The most frequently used thinking strategies across both scenarios were Rule Out the Worst Scenario and Exhaustive thinking. In the trauma scenario, participants used Event-driven and Algorithmic thinking most frequently. In the medical scenario, Algorithmic and Rule Out the Worst Scenario were employed the most. Event-driven thinking was used more often in the trauma scenario compared to the medical scenario ($p < 0.001$). Experienced participants made more decisions than novices ($p < 0.05$).

CONCLUSIONS

This thinking strategies paramedics use in trauma and medical scenarios have been explored. The results of this study will be valuable for paramedic training, quality improvement, patient safety and future research.

ACKNOWLEDGEMENTS

- This study was funded by a Canadian Patient Safety Institute Studentship

Guidelines for improving ambulatory chemotherapy pre-printed orders

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INTRODUCTION

Through field studies at six cancer centres across Canada and a national survey of oncology care providers, pre-printed orders (PPOs) were identified as the most common communication tool used for delivering chemotherapy. However, observations from the field studies revealed that existing PPOs varied widely in format and layout and did not incorporate the flexibility required for the dynamic needs of oncology ordering practices.

OBJECTIVES

Develop guidelines for improving ambulatory chemotherapy PPOs that are easy to understand and follow for healthcare professionals

METHODS

To identify common issues and positive features, we collected and reviewed sample PPOs and incident reports from the field study sites. We also reviewed the literature on PPOs in healthcare, medication labeling and general form design to identify best practices that could be applied to PPOs for ambulatory chemotherapy. Based on these findings, we developed 64 PPO recommendations. These recommendations were reviewed by the Clinical Advisory Group, which consisted of medical oncologists, pharmacists and a nurse.

We then collaborated with seven students and three faculty members from the graphic design department of the Ontario College of Art and Design (OCAD) to develop example designs and to refine the graphic design recommendations. Employing a user-centered design method, the graphic design team redesigned sample PPOs for three chemotherapy protocols. These were then presented to the Clinical Advisory Group and selected users across the country, and further developed through the incorporation of their feedback.

RESULTS AND CONCLUSIONS

The interdisciplinary efforts and the evidence collected from both existing literature and ethnographic field studies resulted in a guideline document for improving ambulatory chemotherapy PPOs. The document consists of 28 content and 52 design recommendations as well as a suggested design process. Although relatively new to healthcare, collaboration between graphic designers, human factors experts and clinicians can make significant contributions to improving patient safety by proactively identifying safety risks and addressing them through innovative design solutions.

ACKNOWLEDGEMENTS

- The authors gratefully acknowledge the contribution of the Canadian Association of Provincial Cancer Agencies (CAPCA) Systemic Therapy Safety Committee, the graphic design department of the OCAD and Dr. Maureen Trudeau at Sunnybrook Odette Cancer Centre.

Patient safety in primary care

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INTRODUCTION

Most of the current research on patient safety has focused on care provided in hospitals, with limited attention given to the identification and evaluation of the unique safety risks in primary care. Further, the impact of proposed strategies to enhance safety or about actions taken to prevent or ameliorate the impact of safety incidents in primary care is largely unknown. A synthesis of the patient safety research in primary care is required in order to reveal what is currently known about the risks to patients and the effectiveness of strategies to curb their impact and what issues require further research.

OBJECTIVES / PURPOSE

To present the current understanding of patient safety as it applies to primary care and to identify gaps in this knowledge base.

METHODS

A comprehensive review of white and grey literature, qualitative interviews with key informants and a roundtable with key stakeholders from across Canada were undertaken.

RESULTS

Two major themes related to the provision of care that resulted in patient safety concerns: missed or delayed diagnosis and medication management. These issues seem most often to occur as a result of failings in

communication, administrative processes and knowledge and skills of providers. Some populations, such as the elderly, patients with several co-morbidities or complex health issues, aboriginal people and people newly arrived in Canada may be more vulnerable to safety concerns. By developing more effective means of communication with patients and using tools such as the electronic medical record, patient safety can be effectively incorporated into all primary care practices.

There are gaps in the scientific literature, such as the potential impact of non-clinicians and administrative staff, and of issues surrounding the introduction of best practice guidelines. Further, aspects of safety related to the diagnosis, treatment and care of children have not been reported in the literature.

CONCLUSIONS

The main patient safety themes that emerge from the literature review, and were substantiated through key informant interviews and the round table discussion, are medication management and missed or delayed diagnoses. The evidence on frequency and type of incidents is limited and, in many instances, weak in scientific quality. Further, there is fairly limited evidence available about the outcome of actions proposed or initiated to improve safety in primary care. Understanding patient safety is crucial for the development of effective and proactive systems for enhancing safety in primary care. Much more rigorous research is needed.

ACKNOWLEDGEMENTS

- This research was funded, in part, by the Canadian Patient Safety Institute (CPSI) and the BC Patient Safety & Quality Council (BCPSQC)

Ontario's response to the Surgical Safety Checklist: Surgical Safety Checklist implementation toolkit and regional education sessions

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INTRODUCTION

In 2009, the Ontario government mandated the public reporting of percentage compliance with surgical safety checklists (SSCL) by July 30th, 2010 for all surgeries performed Ontario. The Ontario Hospital Association (OHA) partnered with the Government of Ontario to provide hospitals with the necessary resources and materials required to support this initiative.

OBJECTIVES

This multi-staged project will evaluate the effectiveness of a provincial wide patient safety strategy to support the uptake and adoption of the SSCL in all hospital OR's .

METHODS

The OHA sent out a baseline survey questionnaire to Ontario hospitals in June 2009 to assess: current state of readiness for adoption of a SSCL, variability in delivery of evidence based patient safety practices contained on the CPSI's SSCL; perceived barriers to implementing the SSCL; and what form of assistance hospitals would require to implement. Using feedback from the survey, a comprehensive action plan was created to help hospitals move towards implementation of a SSCL in all OR's. An interprofessional multi-stakeholder advisory committee was brought together to inform this process and guide the development of a SSCL Implementation Toolkit. The toolkit provided background, evidence, rationale for checklists, an operational step by step "How to Guide", and a comprehensive appendices containing tools, resources and references. A second survey was sent to hospitals

Nov 2009 to assess for additional educational needs. Respondents stated that a practical "hands-on" workshop would be helpful with implementation if lead by peri-operative coaches with previous experience in implementation of the SSCL within their own facilities. Both toolkit and education program were launched February 23rd, 2010 at a videoconference/webcast. At the end of each educational session, participants were asked to evaluate the value of the sessions and the toolkit. Another 3 month follow up survey is presently being conducted to ascertain if any change has occurred from issues that were identified in the baseline survey.

RESULTS

Results from the final two surveys will be available by September 2010. Evidence gathered will inform success of this provincial wide strategy to support uptake and adoption of the SSCL in all Ontario hospital; ascertain variability in the delivery of evidence based patient safety practices; and discover if there are any new or changed barriers to implementation.

Conclusion: Indicators of success of this project include: The success of a multi-faceted approach to implementation of a patient safety initiative; widespread uptake and adoption of the SSCL; reduced variability in the delivery of evidence based patient safety practices; and hospitals able to effectively manage barriers to implementation of a checklist

ACKNOWLEDGEMENTS

- The Government of Ontario provided financial assistance for the Surgical Safety Implementation Toolkit, and the Regional Education Sessions.

Patient Safety Leadership Walkarounds (PSLWs): A customized approach for building a culture of patient safety

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INTRODUCTION

The provision of safe, excellent care requires engagement of leadership, staff and physicians. To foster a culture of patient safety, Mount Sinai Hospital (MSH) developed and implemented a unique approach for executive walk rounds that was based on experiences of others but adapted to meet the needs of our organization.

OBJECTIVES

MSH's Patient Safety Leadership Walkarounds (PSLWs) are designed to:

- Provide education for staff
- Encourage staff and managers to routinely identify and resolve local and systems issues that have potential to harm patients
- Promote accountability and collaboration between departments
- Provide a forum for senior leadership and staff to engage in dialogue about patient safety

METHODS

Starting May 2008, monthly PSLWs have been held throughout the hospital.

In preparation for each PSLW, a series of multimedia education sessions for staff sets the context and provides information on the patient safety movement. Guiding questions are shared to help prepare and streamline the discussion on the day of the PSLW.

Senior VP Medical leads each PSLW which is attended by the CEO, the entire senior leadership team as well as directors, managers, physicians and staff. Action items are captured and validated with unit leaders who then make a plan for resolution. Accountability is assigned to VPs based on their portfolio.

RESULTS

In a span of 24 months, 23 PSLWs have taken place at MSH. Over 900 staff and physicians have attended these meetings with close to 40 people at each session. Of the 353 issues logged in an electronic data base, 48% are being worked on and 15% have been resolved. Annual capital funds have been earmarked by the CEO to help units purchase small equipment items for patient care. Results of the NRC Picker opinion survey show that 89% of MSH staff believe that quality of care is a principal goal of the organization.

CONCLUSIONS

Tremendous positive feedback has been received from staff and the leadership team. Based on our experience, safety initiatives should be tailored to meet the unique culture and needs of each organization in order to be successful and sustainable.

ACKNOWLEDGEMENTS

- Sunnybrook Health Sciences, Toronto
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Safety in home care: Medication management from the perspectives of the caregiver and client

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INTRODUCTION

Home care, coupled with the relationships between client, caregiver, family member and homecare staff have come to represent a growing trend and one that lacks research, especially in terms of medication administration. The importance of understanding the strategies, challenges and insights of care recipients and providers related to medication management is particularly important because clients and caregivers are in a position to make important decisions regarding medications often without the supervision of the practitioner. As part of a larger multi-site qualitative study being conducted in Nova Scotia, Quebec, Ontario and Alberta, a pilot study was conducted to explore the safety challenges surrounding medication management in the context of home care.

OBJECTIVES / PURPOSE

The purpose of this pilot study is to test the data collection protocols and to begin to better understand the experiences, challenges and insights of patients, their caregivers and family members in relation to medication administration and home care safety.

METHODS

In-depth semi-structured interviews with home care clients and their caregivers and/or family members were conducted in Hamilton, Ontario. Photographic data were collected to capture the relevant measures taken in the home for medication management.

RESULTS

Preliminary findings revealed safety challenges related to boundaries of care, the strategies undertaken by the client and caregiver to manage their medications and the various forms of safety that are important to the client and caregiver. The boundaries of care expected by caregivers are dynamic and constantly redefined. Caregivers establish routines, take charge of situations, model providers, adjust and accept conditions not easily changed, and attempt to set boundaries and limits to technical tasks taken on as ways to manage safety. Both clients and caregivers experience numerous safety concerns for example, functional losses, inability to properly use equipment or medication containers, self-neglect of caregiver health, fear of complications due to medications and fear of making mistakes related to care, equipment and medications.

CONCLUSIONS

This multi-method, textual and visual research approach offers a unique and context-rich opportunity to examine and understand challenges relating to medication management and safety in home care for the client, their family members, and caregivers.

ACKNOWLEDGEMENTS

- Canadian Institutes of Health Research (CIHR), Canadian Health Services Research Foundation (CHSRF), Ministère de la Santé et des Services Sociaux (Quebec), Ontario Ministry of Health and Long Term Care, Nova Scotia Health Research Foundation (NSHRF), VON Canada, Accreditation Canada, Canadian Institute for Health Information (CIHI), University Health Network, Canadian Patient Safety Institute (CPSI).

Use of safety reports to identify infection control hazards

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INTRODUCTION

Safety reports are useful for identifying and trending errors, near misses and adverse events. They are a key learning resource for improving patient safety. Sick Kids Hospital, an acute care pediatric center with ~300 beds, introduced a secure web based safety reporting systems (SRS) in 2004 wherein the events and contributory factors (CFs) are voluntarily reported by staff. Reports are reviewed by hospital directors on a monthly basis.

OBJECTIVES / PURPOSE

To describe infection control incidents and their contributory factors as reported through the hospital's SRS.

METHODS

SRS entries from Jan 08-Mar 10, categorized under infection control were reviewed and divided into categories: sterility/disinfection (SD), patient isolation (PI), equipment stock (ES), wound related (WR), PPE Breach (PB), line related, environmental cleaning and other. CFs included training/education (TE), task factors (TaF), team factors (TeF), provider factors (PrF), institutional environment, patient factors, physical environment and information technology. User-designated level of harm was also assessed.

RESULTS

206 infection control entries (3% of total entries) were analyzed with a mean (range) of 6 (2-14), 8.7 (2-18) and 10 (6-18) entries per month for 2008, 2009 and 2010, respectively ($p=0.31$). During 2008 and 2009, May and September were the months with the highest and lowest mean (range) number of entries of 15 (14-16) and 4 (2-6), respectively. The aggregated top 3 locations for incident reports were the operating rooms 96 (46.6%), emergency department 12 (5.8%) and NICU 11 (5.3%). The most common event types were SD 58 (28.2%), PI 57 (27.7%) and ES 18 (8.7%). 193 events had multiple CFs; most common were TE 157 (76.2%), TaF 140 (68.0%), TeF 124 (60.2%) and PrF 124 (60.2%). One hundred forty six (70.9%) events were associated with minor or no harm. No major harm was ascribed.

CONCLUSIONS

Safety reports complement existing surveillance methods for identifying vulnerabilities in infection control, including those identified through other means. Information provided on CFs can guide interventions. It is essential to respond to the concerns raised through SRSs to reinforce the value ascribed to input from the front lines. Whether data in SRSs are sensitive enough to reflect improvements in practice requires further study.

Communication in patient care handoffs and implications to safety

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INTRODUCTION

Currently, there are several processes in healthcare that are not standardized; of critical importance is the process of patient care handoffs. The transfer of care from one healthcare worker to another involves detailed, high-pressure communication contexts and is often a point of information loss. Communication breakdowns can lead to discontinuity of care, serious harm, and even death.

PURPOSE

This project aimed to study current communication patterns and procedures in cross-disciplinary patient handoffs in order to propose standardization as well as develop design criteria for future handoff support tools.

METHODS

Observations of 40 handoffs were carried out over a 4-month period (the first 25 involved use of a computer program for receiving handoffs and the last 15 did not). The observations focused on communications between anesthesiologists and nurses involved in handoffs from the operating room to the recovery room in a large hospital.

RESULTS

Preliminary interviews suggested four clinical information categories for a handoff: patient history, intra-operative events, patient status, and future care plan. Observational data confirmed these were the most commonly discussed topics (21%, 20%, 19%, 13% respectively out of 13

categories). The introduction of the computer program during handoffs was associated with more patient care planning as compared to those without computers (56% and 42% respectively). Nurses produced the majority (74%; anesthesiologists 26%) of information seeking communications, whereas anesthesiologists produced more responses to requests for information (55%; nurses 45%), demonstrating a high proportion of closed-loop conversations. However, proportions of seeking information and offering information were close (15% and 17% respectively), suggesting that nurses had to request pertinent patient information often.

CONCLUSIONS

Nurses asked anesthesiologists many information-seeking questions implying a need to structure and standardize the process. The introduction of a computer program to assist with the handoff allowed the healthcare workers to focus more on planning as opposed to reviewing the past.

FUTURE DIRECTIONS

The possibility of implementing the handoff structure uncovered here in a supporting computer program will be explored as a way to standardize the handoff and mitigate information loss.

ACKNOWLEDGEMENTS

- Funded by The Canadian Patient Safety Institute and The Ottawa Hospital.

Seeking adverse events: A comparison of two methods

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INTRODUCTION

Adverse Events (AEs) are widely acknowledged as events imposing a significant burden on the healthcare system. Most healthcare organizations use voluntary reporting systems (VRS) as the primary mechanism to try to quantify the volume and rates of AEs, despite expert opinion and emerging evidence that these types of systems are not appropriate for quantification and should be complemented by other approaches.

OBJECTIVES / PURPOSE

We compared cases found (and associated cost to find cases) between 1 April - 31 December, 2008, using a traditional VRS to those found using a retrospective trigger tool – the IHI Global Trigger Tool (GTT).

METHODS

All cases identified and validated as AEs with GTT were cross-referenced to the VRS database using a combination of unique patient identifiers and event description narratives. Financial costs related to VRS and GTT case finding activities were calculated for the study period.

RESULTS

GTT identified 114 AEs, 8 of which involved serious harm (SAE) at a cost of \$451.53/AE or \$6434.31/SAE. VRS identified 11,014 AEs, 35 of which were SAEs at a cost of \$19.21/AE or \$6,046.91/SAE.

Only 6 of 114 AEs discovered by GTT method were identified in the VRS. None of the 8 SAEs identified by GTT were identified in the VRS. The top trigger in the GTT method associated with patient harm was related to healthcare-associated infections. This trigger event was not identified in the VRS.

CONCLUSIONS

Differences in intent and output exist between the VRS and GTT methods. VRS-identified AEs included errors of omission and commission; GTT-identified AEs included only errors of commission. The VRS method allowed collection of close calls and hazards; the GTT method did not. The GTT method allowed the calculation of an Adverse Event rate, which the VRS method did not.

Retrospective trigger tools and voluntary reporting systems represent two unique and important sources of knowledge for managers and operators of healthcare systems. Both should be used in context with each other and also with other sources of knowledge (e.g., hospital-associated infection rates, immunization rates). Healthcare organizations cannot rely on or fund a single method or approach if they truly wish to be informed about the safety of the care they provide.

Institutional and personnel situation awareness: Two sides of the same coin

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INTRODUCTION

Safety in healthcare is a growing concern for healthcare administrators, staff and patients. New methodologies have been developed to manage risks inside these institutions, reducing personal and financial costs, along with unnecessary time-consuming procedures. Alternatives to paper-based notification systems have been adopted as a means to improve adverse event (AE) notifications. Even with these efforts, AE notification systems suffer from inadequate notification, unclear notification and sometimes inappropriate notification.

The Situation Awareness (SA) framework focuses on understanding how a person perceives, comprehends and predicts situations. When applied to AE notification systems, SA has the potential to offer new insights for the design of these systems, reducing risk and improving safety.

OBJECTIVES / PURPOSE

The main purpose of this work is to develop an analysis tool for risk managers to better comprehend the issues of risk management and develop better notification systems.

METHODS

This model is based on the SA framework. An augmented model was developed to allow a mapping of the common issues found in AE notifications. This development consisted of a literature review and a modeling of the institution's SA and the personnel's SA within the scope of AE notification.

RESULTS

A model was developed to analyze the difficulties of achieving appropriate levels of AE notifications using the SA framework. Two main structures were developed in this model, one for institutional SA (I-SA) and one for personnel SA (P-SA). I-SA represents the mechanisms by which an institution or its risk management team acquire and process information about AE. P-SA maps how the staff perceives and processes the AE information and ultimately decides the course of action to be taken.

We have called the disconnect between the two SA processes the Institutional SA Gap and represents the of the current issues found when using notification systems to detect AE.

CONCLUSIONS

This model allows an integration of current risk management concerns along with a better understanding of the issues found in AE notification, thereby providing insight for improving the notification systems and ultimately the awareness of AE.

ACKNOWLEDGEMENTS

■ NSERC for the financial support.

Disclosure: Look backs and patient notification programs following a multi-patient event

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INTRODUCTION

Recent high profile inquests and legal claims involving multi-patient sentinel events suggest look backs and patient notification processes are anything but easy. Healthcare organizations must balance the need for prompt, comprehensive and appropriate disclosure with the need to evaluate the implications of each proposed patient look back and notification on a case-by-case basis.

OBJECTIVES / PURPOSE

Should an event involving multiple patients be disclosed in the same manner as an event involving one patient?

METHODS

Using HIROC's extensive Canadian claims data base, we are evaluating 150 from a possible 16,332 claims reported to HIROC between 2000-2010.

Inclusion criteria: a) precautionary and actual claims b) open and closed claims c) claims coded as a suspected or actual class action d) claims involving more than one claimant e) disclosure considered

Exclusion criteria – claims reported before 2000.

RESULTS

- Preliminary findings:
- 35% involved accredited teaching facilities.
- Absence of pre-existing policies to assist during look backs and patient notifications.
- Organizations frequently received conflicting messages regarding if and how to appropriately conduct such a process.
- Large scale look backs and patient notification programs attract considerable public attention, which can impact settlements and court awards.

CONCLUSIONS

Decisions surrounding a large scale look back and patient notification program should be evaluated on a case-by-case basis involving clinical, technical and legal experts. Disclosure considerations following a multi-patient event are often more complex and require some different management strategies than employed in a single patient event.

FUTURE DIRECTIONS

- Clarify whether and how we would measure the 'success' of look backs and patient notification programs.
- Identify barriers that continue to exist in organizations impacting their ability to conduct their due diligence.
- Glean lessons learned from the acute care sector that can be applied to the other healthcare sectors.

ACKNOWLEDGEMENTS

- Primary Funding Source: Healthcare Insurance Reciprocal of Canada (HIROC), Canada
- Technical help: HIROC's Risk Management and Claim departments

Medical safety in community practice: Final results

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INTRODUCTION

Medical Safety in Community Practice developed a Safety Learning System (SLS) that collects patient safety incident reports, monitors incident frequency and types, and analyzes incidents for causation, preventability, and detection, ameliorating, and mitigating factors in family medicine clinics.

OBJECTIVES / PURPOSE

To discuss final results of the implementation of a family medicine SLS in Alberta, Canada.

METHODS

Patient safety incident reports were collected from clinic members via fax and website. Incidents were categorized using the World Health Organization International Classification for Patient Safety (ICPS).

RESULTS

Nineteen clinics participated including: 55 physicians, 54 office staff, 19 nurses and 7 office managers. A total of 245 incident reports were received: 74% by fax, 26% by website. Reports were submitted by physicians (57%), office staff (27%), nurses (14%), and office managers (2%). Forty-one percent of incidents (41%) were close calls, 56% had no harm and 88% were preventable. Reporters were familiar (67%) with the patient. Emotional impact on reporters was most often frustration (48%) and embarrassment (29%) and 39% talked to someone about the incident. Using ICPS, types of incidents involved documentation (35%), medication (27%), or clinical

administration (20%). Contributing factors were staff factors (51%), organizational factors (25%), external factors (15%), patient factors (8%), and work factors (1%). Detection was by the healthcare worker (23%), healthcare professional (19%), shared patient/provider (13%), or patient (10%). Ameliorating factors were related to the organization including claims/risk management (20%), and related to the patient including patient education (13%), open disclosure/apology (13%), and management of disease/disorder (13%). Mitigating factors were directed to patients in management/treatment/care undertaken (26%), directed to staff in effective communication (16%), and directed to the organization in documentation error corrected by staff (13%).

CONCLUSIONS

Most reported incidents were preventable and did not cause the patient harm, but did have an emotional impact on the reporter. Contributing and ameliorating factors were identified and can be used to improve the system.

FUTURE DIRECTIONS

To use triangulation of methods such as trigger tools, chart review and incident reporting to expand the type of incidents identified.

ACKNOWLEDGEMENTS

- Funding: Canadian Health Services Research Foundation, Canadian Patient Safety Institute and Alberta Heritage Foundation for Medical Research.

Learning from a sentinel event to enhance the identification of all patients at risk for falls

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INTRODUCTION

A sentinel event involving a 40 year old female patient who fell and sustained a catastrophic injury provided us with a sobering realization that we had unidentified holes in our systems for preventing fall. As an organization preventing patient falls was a priority, however we did not fully appreciate that all patients regardless of age and diagnosis are at risk for falling. This realization carved out our journey to the following new fall prevention program.

OBJECTIVES / PURPOSE

The main objectives were to:

- Increase adherence with a fall risk assessment tool
- Decrease the overall incidence of patient falls
- Improve patient outcomes post fall

METHODS

A three month pilot of a new paper fall assessment tool occurred on four medicine units. Post pilot evaluation led to these next steps:

- Converted paper assessment tool to an electronic version
- Implemented electronic post-fall interventions
- Provided formal education and eLearning module
- Set expectations for fall risk assessments, post fall care and physician engagement
- Provided timely data feedback

RESULTS

Initial results four months post implementation indicates increased awareness and application of fall prevention strategies. Preliminary results include:

- An overall increased adherence with the fall risk assessment tool from 4% to 97%
- An overall 39% reduction in falls within the four inpatient medical units

CONCLUSIONS

We have seen a positive impact on the overall incidence of falls by raising awareness around the importance of preventing falls, mitigating harm post falls and implementing electronic assessment tools and interventions.

Our future direction includes implementation of the revised fall prevention strategy on all other inpatient units except for the Maternal Child and Mental Health units. Adjustments are underway to meet the needs of these two unique patient populations. Further data collection, analysis, and dialogue with staff are required to sustain current gains and keep this patient safety issue alive and in the forefront of our practice.

ACKNOWLEDGEMENTS

- QHC Fall Prevention Committee
- Carol Goodhall

Human factors training for medical risk management: Needs assessment

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INTRODUCTION

The impact of human-environment interplay on patient safety generated a growing interest in Human Factors (HF). The Safety Competencies document (2008) recognizes the importance of HF as one of the six core safety competencies. Training in human factors is linked to the mitigation of errors and adverse events in other domains.

OBJECTIVES / PURPOSE

This project aims to develop a human factors training program to facilitate medical risk management. The immediate objective was to establish the need for such a program and define its scope.

METHODS

The first project phase was a needs assessment. Thirty interviews were conducted with physicians from various medical disciplines, nurses, medical and nursing educators, patient safety personnel, and human factors professionals familiar with healthcare.

RESULTS

A high proportion of the interviewees (62.0%) indicated that physicians were least aware of the Situation Awareness factor, and least trained in dealing with its impact. Twenty to thirty percent indicated little awareness or training with

factors such as fatigue (30.0%), the use of checklists (27.0%), workload (23.0%), interruptions (17%), and impact of work environment (13.0%). Most interviewees (89.0%) indicated that physicians have good awareness of teamwork and communication and these were rated very high in terms of their criticality to safety. Interviewees also emphasized that most human factors are tightly inter-related in their impact on safety. Interview data indicated that human factors training, particularly situation awareness, is primarily needed for critical care physicians.

CONCLUSIONS AND FUTURE DIRECTIONS

Beyond establishing the need to learn about the impact of human factors on patient safety, situation awareness emerged as a factor reflecting the largest gap between current and desired knowledge and training of physicians. The first learning module will focus on situation awareness as an over-arching factor related to various perceptual, cognitive, and environmental influences. This module will lay the foundation for the development of an overall training program of human factors for risk management in medical practice.

ACKNOWLEDGEMENTS

- The project is funded by the Canadian Medical Protection Association.

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Safety issues arising from interactions between institutions

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INTRODUCTION

When two institutions interact, errors or near misses can occur. One such interaction between a public hospital and Public Health is described. This was not just a patient safety issue, but became a staff safety issue also.

PURPOSE

To describe an outbreak of confirmed Influenza A on one floor at a rehabilitation hospital in 2003 (post SARS). At the behest of Public Health, requirements for Tamiflu were instituted on an urgent basis. All staff and patients anywhere in the hospital were required to take Tamiflu prophylaxis. The next day, the requirements changed to allow an exception to those who had been immunized against influenza more than two weeks previously. The following day, staff who were not working on inpatient units were also excepted. No rationale for all these changes was communicated.

METHODS

There was no new information in this time frame. Either the requirement for Tamiflu (for those previously immunized, and for the non-clinical staff) or rescinding of the requirement was in error. Presuming the former, doses of Tamiflu taken in this population became medication errors, and the doses required (but not taken) became near misses.

RESULTS

Amongst the 114 inpatients, there were 7 errors (took Tamiflu although immunized), and 59 near misses (immunized, no Tamiflu dispensed). Amongst the 438 staff, there were 30 errors (took Tamiflu although immunized) and 189 near misses (non-clinical staff, no Tamiflu taken).

CONCLUSIONS

Interactions between institutions must be carefully managed regarding who is accountable at any given time, and as to lines of communication. There is otherwise potential for medication errors and near misses amongst both patients and health care workers. Discussion of the root causes of the errors in this scenario must be undertaken.

ACKNOWLEDGEMENTS

- To Sheila Basrur (since deceased) and to St. John's Rehab for permission to release this data.

Transforming the patient experience: Bringing to life an interprofessional collaborative practice model

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INTRODUCTION

Patient safety, defined as “the reduction and mitigation of unsafe acts within the healthcare system, as well as through the use of best practices” (1), is fundamental to quality healthcare. It is seen as a moral and ethical imperative in caring for others (2). There is also recognition that no industry is more complex than the healthcare industry (1,3,4). James Reason (5) advocates for the importance of analyzing and working within a system perspective as it relates to patient safety given these very intricacies. It is acknowledged that no single activity but rather a combination of solutions is needed (6) to shape and sustain safe patient environments.

OBJECTIVES / PURPOSE

The objective of this quality improvement initiative was to design, implement and evaluate a safe, quality, cost effective, patient-centered, interprofessional collaborative practice model of care. Targeted areas included a focus on communication gaps, discharge delays, and heightened engagement of patients/families in the care process. The hypothesis was that through a broader, system-wide approach to change, practice environments would be better armed to enable safer, enriched experiences for patients and practitioners alike.

METHODS

From March - October '09, 54 direct/indirect care providers gathered to vision a new approach to care delivery. This included the creation of 8 support teams to redesign roles and processes. The resulting model, centered around patients, was conceptualized as a system of interacting levers: People, Technology, Information, and Process – all enabled by collaboration and coordination, communication, education, and leadership. An education program was created to support the changes, as well as an evaluation focused on Patient, Provider, and System outcomes and using a pre-post mixed-methods design.

RESULTS

In early November '09, two adult inpatients units went 'live' with the new model, and the post#1-implementation evaluation phase has been completed. Results are encouraging, including decreases in nosocomial infections, readmission rates within 30 days, patient falls, and an increase in medication incident reporting on both units.

CONCLUSIONS

As anticipated, the importance of a systems approach in managing the complexities of healthcare has been key. Critical to this has also been the value of interprofessional collaboration and patient engagement in optimizing care. A Patient/Family Advisory Council has been formed to provide further direction.

Moving beyond QMENTUM: Developing a balanced scorecard to screen and communicate accreditation milestones

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INTRODUCTION

Accreditation Canada's (AC) QMENTUM program enhances patient safety in the move towards making healthcare safer. To optimize their role as quality and patient safety champions, quality team leaders as well as some key members on the team must be able to translate the information from the Accreditation Portal in order to communicate the results from the accreditation milestones (self-assessment and visit) to team members.

OBJECTIVES / PURPOSE

The objective of the project was to evaluate the usefulness of a balanced scorecard using summarized accreditation milestone results for QI teams.

METHODS

We presented various data extractions in the form of summarized graphs to key QI team members from seven clinical programs. Following the presentation of the graphs, each were individually asked questions on the following themes: usefulness of results for communication and as a screening tool, usefulness to compare results between teams or benchmarking, tracking of results through time, and comparing self-assessment and visit results.

RESULTS

Overall, the summarizing of accreditation milestone results was found to be useful for communicating results to staff. The results by quality dimension were found to be less relevant to present to staff and too global for key QI team members to act upon. The presentation of results by standards was deemed useful for QI team leader and Program Manager as it ranked them by priority of action (highest to lowest). Finally, comparison between the results for self-assessment and results for the visit was found useful to identify discrepancies between staff perception and surveyor evaluation. Benchmarking by quality dimension or by standard either globally or between services was not considered as being useful.

CONCLUSIONS

The study was useful in promoting the accreditation process to QI team members and staff. Even though the scorecard as a screening tool was deemed less important than expected, as the organization embarks on its second 3-year cycle with QMENTUM, it is expected that this need will grow. Summarizing the data from the Accreditation Canada portal is a tedious process but in time should prove to be useful for communicating and enabling teams to follow their improvements over time.

ACKNOWLEDGEMENTS

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Utilizing positive deviance in the development of an antimicrobial stewardship program at a large, urban community hospital

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INTRODUCTION

Antimicrobial stewardship has the potential to decrease *C. difficile* rates through reductions in antimicrobial use. Implementation of effective stewardship programs in non-academic institutions has proven difficult. Positive Deviance is an innovative model for inducing institutional change which may be valuable in the development of Antimicrobial Stewardship Programs (ASP).

OBJECTIVES

To successfully implement an ASP in a 490 bed urban community hospital Intensive Care Unit (ICU) using Positive Deviance.

METHODS

At initial Positive Deviance meetings reductions in antimicrobial use was identified as an important strategy to reduce *C. difficile* colitis. Interested parties were brought together to form an Antimicrobial Stewardship Committee (ASC).

The ASC utilized feedback from the ICU to develop an ASP the ICU. Each weekday between April 1 to June 30, 2010 a specially trained pharmacist collected information on all ICU patients receiving antimicrobial agents and reviewed cases with an Infectious Diseases (ID) physician. Recommendations to optimize antimicrobial utilization were feedback through face to face meetings with the ICU care team.

RESULTS

During the 3 month pilot project there was a 38.9 % reduction of broad-spectrum antipseudomonal antibiotics usage as compared to the same time period of the previous year. Antimicrobial costs per ICU patient day were reduced by 42.7% while Multiple Organ Dysfunction Score and mortality remained unchanged. No new cases of nosocomial *C. difficile* infections were identified during the pilot period. Based on an average of 0.14 cases/100 patient days there would have been expected to be 2 cases during the duration of the pilot.

CONCLUSIONS

Utilizing Positive Deviance, an urban community hospital was able to successfully launch an ASP in the ICU. Implementation of the pilot program resulted in substantial reductions in both antimicrobial use and costs as well as a reduction in nosocomial *C. difficile*.

FUTURE DIRECTIONS

Positive Deviance is a valuable tool for the development and rapid introduction of Antimicrobial Stewardship Programs in non-academic institutions.

ACKNOWLEDGEMENTS

■ The Positive Deviance Project, Liz Rykert

A quality initiative: An audit of in-hospital cardiopulmonary resuscitation at Sunnybrook Health Sciences Centre

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INTRODUCTION

It is imperative for a hospital to develop a system to respond to In-Hospital Cardiopulmonary Arrests in a timely and effective manner. In order to ensure the quality of these response systems, hospitals must develop a system to record and analyze data from these resuscitations. Prior to this initiative, collective data on resuscitation efforts at Sunnybrook Health Sciences Centre had never been reviewed or analyzed. In order to address this patient safety issue, we proposed to conduct an audit of cardiopulmonary resuscitations and to create a resuscitation database at our institution.

OBJECTIVES / PURPOSE

To define an audit process for In-hospital Cardiopulmonary Resuscitation at Sunnybrook. We proposed to create a database of clearly defined resuscitation variables and to analyze a subset of these variables in order to provide a baseline performance review of In-hospital Cardiopulmonary Resuscitations at our institution.

METHODS

Resuscitation data variables were defined in a data dictionary. Data was collected from retrospective and prospective chart reviews. A total of 50 resuscitation events were reviewed. A database was created and key variables were identified and analyzed.

RESULTS

Eighty-eight (88) variables were defined in our data dictionary and inputted into our database. Data was organized into five categories: Admission, Event, Initial Condition, Resuscitation and Outcome. Preliminary review of data collected showed: average age was 72.4 years, gender (66% male, 34% female), with 74% of the events witnessed arrests. A total of 66% of patients were pulseless at some time during the event and 60% of patients received chest compressions (6% not recorded). The initial pulseless cardiac rhythms were identified as PEA/Asystole in 66% of patients. 18% of patients developed shockable rhythms and 18% were defibrillated. 60% of pulseless patients had a sustained return of spontaneous circulation.

CONCLUSIONS

The development of a CPR database is critical for a hospital to ensure a high quality response system to In-hospital Cardiopulmonary Arrests. This initiative resulted in the creation of a database at Sunnybrook. Preliminary analysis has provided a baseline performance review of resuscitation efforts at our institution and has elucidated certain quality issues that will be further explored in future quality improvement initiatives.

Social network mapping and the Canadian Positive Deviance Project (CPDP)

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INTRODUCTION

CPDP is a Canadian Patient Safety Institute and industry-funded study examining the use of a culture change methodology called “Positive Deviance” to help reduce hospital-acquired infections (HAIs) in 5 Canadian hospitals. One tool used is social network mapping, which tracks changes in hospital working relationships.

OBJECTIVES / PURPOSE

To create and analyze social network maps at each hospital in order to strategically foster and follow relationships that promote HAI reduction.

METHODS

Five hospitals completed their first of two rounds of social network mapping. Survey responses were run through the Smart Network Analyzer (SNA) software to produce a set of maps. The maps were generated from responses to questions regarding who are considered innovators in HAI reduction; the individuals who staff seek advice from on HAI reduction; and relationships that individuals would like to develop to reduce HAIs.

RESULTS

All hospital maps revealed substantial clustering of roles, indicating that while staff interact within their role, they are less likely to work with (or talk to) people in other roles (for example, physicians not talking to nurses, or nurses not talking to housekeepers) about HAIs. Although physicians at most sites were rarely engaged in working on HAIs, physicians at one site were found to be integral to the change process, and at all sites, staff identified physicians as a group that they would like to work with in the future.

CONCLUSIONS

Social network mapping can be used to develop and strengthen relationships with individuals considered by their peers to be promoters of HAI reduction. Maps identify system weaknesses in communication and indicate opportunities for expanding networks. Maps may also be used to increase healthcare worker engagement and awareness of HAI reduction champions.

FUTURE DIRECTIONS

By applying network-weaving methods such as creating a diverse dense core, strengthening relationships and expanding their network periphery, the pilot sites will use their maps to strengthen the interconnectivity between roles and improve the way staff work together to reduce HAIs in their hospitals.

ACKNOWLEDGEMENTS

- We would like to acknowledge our project funders: Canadian Patient Safety Institute, Becton Dickinson, Safer Healthcare Now!, B.C. Patient Safety and Quality Council and Ontario Agency for Health Protection and Promotion.

Community pharmacy medication incident reporting processes: The role of computerization and pharmacy staff position

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INTRODUCTION

Reporting processes designed to help staff learn from medication incidents (MI) represent an effective means by which to reduce MIs in community pharmacy. Reporting and learning can improve safety by encouraging long-term dispensing, process, technology, and cultural changes. However, given the lack of a standardized MI reporting process across the pharmacy profession, many Canadian pharmacies are left to develop their own individualized MI reporting process which may range from no process to a fully computerized one.

PURPOSE

Explores the capabilities of the MI reporting processes currently in Canadian pharmacies and how perceptions of these capabilities differ based upon position (i.e., pharmacy manager, pharmacist, technician) and process computerization (i.e., primarily manual, approximately equal combination of manual and computerized, primarily computerized).

METHODS

A survey was sent to 427 pharmacy staff in Nova Scotia in 2010. Kruskal-Wallis One-Way Analysis of Variance by Ranks test is used to analyze the data, with post-hoc follow-up performed using Mann-Whitney U tests with a Bonferonni correction applied.

RESULTS

210 surveys were returned for an initial response rate of 49.2%. For this research however, only respondents working in pharmacies with a formal MI reporting process in place are of interest, resulted in 122 surveys and a response rate of 29%. Examining the mean ranks among pharmacy staff highlighted differences in perceptions for the extent that the process permits anonymous reporting and is cost effective. Examining the mean ranks for process computerization highlighted large differences between the extent that the process is modern, updated periodically, has colleagues support, and is seamlessly integrated into the daily work routine.

CONCLUSIONS

The results indicate that perceptions of the MI reporting process differ significantly by the level of process computerization, with pharmacy staff overall reporting more positive views with some level of computerization. This speaks to the need for community pharmacies to carefully examine their existing MI processes and assess how reporting and subsequent learning can be improved by computerizing various aspects of the process.

ACKNOWLEDGEMENTS

- This study was funded by the Nova Scotia Health Research Foundation (NSHRF). We would also like to thank the Nova Scotia College of Pharmacists for their assistance.

Pharmacy staff perceptions of medication incident reduction and reporting in Nova Scotia

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INTRODUCTION

Medication incidents (MI) can have serious consequences for the health of Canadians and the perceived safety of community pharmacy practice. Most research involving MI reduction and reporting strategies have focused on the hospital setting. Under-reporting of MIs in the community pharmacy setting has led to decreased opportunities for learning.

OBJECTIVES / PURPOSE

To determine the factors that influence pharmacy staff perceptions of MI occurrences and facilitators of MI reporting.

METHODS

Participants were recruited on a volunteer basis from thirteen pharmacies in Nova Scotia representing rural and urban locations, independent and chain ownership and high and low prescription volume. The questionnaire contained twenty-three questions aimed at assessing the state of MI identification and disclosure in Nova Scotia pharmacies. The data was analyzed using multivariate analysis of variance (MANOVA).

RESULTS

In all, 79 surveys were completed from 13 pharmacies in Nova Scotia. Respondents indicated that the use of pharmacists to help select drug therapies would be the most effective strategy to reduce MIs, whereas sharing learnings with colleagues and assuring anonymity when reporting would increase MI reporting. Celebrating reporting of errors and limiting the use of abbreviations were seen as the least effective strategies. MANOVA results indicated that practitioner type played an overall significant role in staff preferences to increase MI reporting ($F=1.775$, $p=0.027$). Ownership type did not have an overall significant impact on either MI reduction ($F=1.520$, $p=.095$) or reporting ($F=1.357$, $p=.152$). Follow-up univariate and post-hoc Bonferroni comparisons found significant differences between staff types and ownership types for both MI reduction and reporting.

CONCLUSIONS

This study indicates a great deal of variation among pharmacy staff with regards to their perceptions of MI reduction and reporting. This presents challenges for improving MI reporting at both the community pharmacy and regulatory authority levels. The promotion of a safety culture among Nova Scotian community pharmacies may help to mitigate this.

ACKNOWLEDGEMENTS

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Patient versus occupational safety culture: Competing forces or two sides of the same coin?

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INTRODUCTION

The creation of a positive patient safety culture is viewed by many as crucial for patient safety improvement. Patient safety culture is based on the earlier construct of industrial safety culture. It is therefore surprising that very little is known about the relationship between patient safety culture and occupational safety culture. Typically healthcare organizations assess patient safety culture by surveying healthcare professionals using safety climate questionnaires. Recent reviews of these instruments have been critical of the reliability and validity of these instruments. A fundamental criticism of existing questionnaires is the lack of an explicit theoretical background or model to support their development.

OBJECTIVES

To develop a patient safety questionnaire based on a sound theoretical framework and with good psychometric properties.

To examine the relationship between healthcare professionals' perceptions of patient safety culture and occupational safety culture.

METHODS

Social influence theory was selected as the framework to develop a healthcare safety climate questionnaire. This theory explains how key individuals use social and informational influence to shape the climate. Four scales were developed to assess healthcare professionals' perceptions of senior managers', supervisors', physicians' and colleagues' commitment to patient safety. Parallel scales were developed for occupational safety climate. The survey was completed by 398 healthcare professionals (Nurses, Physicians) from three Canadian acute care hospitals. This was a convenient sample rather than a population or random sample.

RESULTS

Exploratory factor analysis supported the hypothesized four factor model of patient safety climate. The reliability of these four scales was good, with Cronbach's alphas ranging from 0.78-0.84. The occupational safety climate scale was equally reliable (0.82-0.84). Supervisor's commitment to patient safety ($\beta=.25, p=.002$) significantly predicted participant assessment of overall department patient safety grade and colleagues' commitment approached significance ($\beta=.15, p=.054$). Senior managements' commitment was the only factor to predict overall regional grade ($\beta=.32, p<.001$). Patient safety and occupational safety climate were significantly and positively correlated ($r=.64, p<.01$).

CONCLUSIONS

The results provide evidence of the good psychometric properties of the questionnaire and that occupational safety climate is related to patient safety climate. This suggests that occupational safety should be considered when trying to create a positive patient safety culture.

ACKNOWLEDGEMENTS

■ SSHRC

Identified risk factors for self-reported medication errors in hospital and community settings in eight countries

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INTRODUCTION

Medication errors occur frequently in the hospital and community settings. Therefore, it is essential to identify factors that predispose individuals to their occurrence.

OBJECTIVES / PURPOSE

The objective of this study was to identify risk factors associated with self-reported medication errors in the hospital and community settings.

METHODS

The Commonwealth Fund's 2008 International Health Policy Survey of chronically ill patients, conducted in Australia, Canada, France, Germany, the Netherlands, New Zealand, the United Kingdom and the United States, was the primary data source for this research. The self-reported survey data of 9,944 adults from the eight countries was explored focusing on the following variables; (1) number of medications taken, (2) country in which the participant lives, (3) respondent's gender and age and (4) linkage to a regular family doctor. Data analysis included the use of bivariate analysis and logistical regressions. Odds ratios were utilized to identify risk factors for the occurrence of self-reported medication errors.

RESULTS

Risk factors for self-reported medication errors were identified as being consumption of 6-10 medications ($p < 0.05$), more than 10 medications ($p < 0.0001$), female gender ($p < 0.05$), age 50-64 ($p < 0.01$), and not having a regular doctor ($p < 0.05$). The risk factors for the occurrence of a hospital based medication error includes the consumption of 6-10 medications ($p < 0.0002$), and being age 25-34 ($p < 0.005$). Females are at a higher risk of experience a medication error in the community setting ($p < 0.03$).

CONCLUSIONS

26.5% of Canadian respondents self-reported having experienced a medication error within the last two years. Extrapolating this number using the 2006 Canadian census, that equates to over 6.5 million adult Canadians experiencing an error. Ensuring that there are safeguards in place during the entire medication-use system is essential to reduce the number of medical errors' experienced by Canadians every year. This study has shown that creating and sustaining access to a family doctor may help to mitigate the occurrence of medication errors in Canada for those at higher risk. Further, Canadians need to ensure continued safety of medication use in the community setting.

ACKNOWLEDGEMENTS

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TRACES for healthcare: Training for adverse and critical events in safety in health care

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INTRODUCTION

The project is a partnership between researchers at the School of Population and Public Health at UBC and 3 health regions in Canada (Winnipeg Regional Health Authority, Saskatoon Health Authority, and Vancouver Coastal Health) on a program of safety research based on the theories of resilience and resonance. The objective is to implement a staff training model for investigating and learning from adverse events and “near misses” in health care. The learning approach focuses on building frontline staff and management skills in a number of key areas: the dynamic nature of critical incidents, local as well as leadership and decision making to facilitate cultural change related to understanding, investigating and learning from “near misses” and adverse events. Applying and sharing ideas with, and learning across 3 different settings have the additional benefit of comparing the application of new safety concepts in separate regions and provides useful information about the environmental/structural constraints and incentives that influence the uptake and effectiveness of the model (i.e. resilience and resonance).

OBJECTIVES

The goal is to build capacity in acute care hospitals to do critical incident investigation. The objectives are: to understand how resilience concepts are operationalized for frontline staff and management and to clarify how best to teach these concepts; to describe current safety activities and culture; to determine the impact of the training on incident analysis, investigation and learning; to create an approach for wider dissemination of lessons learned and understanding of resilience as a fundamental concept to enhance patient safety in Canada.

METHODS

Qualitative and quantitative research (formative and summative) pre & post implementation of the training.

RESULTS

We have learned how best to structure the learning sessions themselves, and through various activities we have begun to discover how organizational structures, can influence implementation of the new model. Support from senior leadership is key to the success of the training. Participants have found it particularly useful to describe an incident, as a narrative, with focus on trying to understand the context at the time of the incident. Participants recognize that the new model profoundly alters their approach to writing recommendations.

CONCLUSIONS

Learning about safety occurs differently at different parts of the organization, and occurs in intervals across time. Training efforts for critical incident investigation must focus on building an understanding of system thinking, non-linearity and hindsight bias, with examples that challenge existing beliefs about how the system works, and the ways in which people work in complex socio-technical systems.

ACKNOWLEDGEMENTS

- Funding: Canadian Health Services Research Foundation and the Canadian Patient Safety Institute
- Dekker, S. *The Field Guide to Understanding Human Error* (2008); Ashgate.

Preliminary program evaluation of medical safety in community practice

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INTRODUCTION

Medical Safety in Community Practice (MSCP) developed a voluntary Safety Learning System (SLS) that collected patient safety incident reports and developed and implemented improvement strategies to increase patient safety in family medicine practices. Facilitated improvement meetings were held bi-monthly with participating clinics.

OBJECTIVES / PURPOSE

To discuss the quantitative evaluation of MSCP within Alberta Health Services – Calgary zone.

METHODS

A comprehensive logic model was developed based upon the MSCP objectives. The survey portion of the evaluation contained closed(modified 6 point Likert) and open ended questions. The survey explored 6 themes: incident reporting, meetings, MSCP Program, improvement method, sharing & learning, teamwork & communication as well as demographics. The survey was completed at the end of each clinic's participation.

RESULTS

Five of nineteen clinics in MSCP have been surveyed (completion by August 2010). Four clinics graduated and one dropped-out. A total of 23 participants completed the survey: 11 physicians, 2 nurses, 9 office staff and 1 office manager. Representative results are for those whom agree or strongly agree. Incident Reporting – “Time spent reporting incidents was worthwhile” (63%, 12/19). Meetings – “Frequency of meetings has been just right

(91%, 21/23),” “the meetings are productive (91%, 21/23)” and 74% (14/19) “will continue having patient safety meetings once MSCP is over”. MSCP Program – “MSCP is worthwhile (95%, 21/22).” “I'd recommend MSCP program to a colleague (76%, 16/21)”. Improvement Method – Almost all (95%, 21/22) “understand the Improvement Method” and 91% (20/22) “feel confident developing new improvements without MSCP”. Sharing & Learning – The majority of participants “benefited from learning what types of incidents occur in other clinics (76% 19/22)” and “awareness of patient safety issues has increased (91%, 20/22)”. Teamwork & Communication – “It is now easier for personnel in this office to ask questions (68%, 15/22).” “In our office we are now more likely to look for the underlying reason of errors (61%, 14/23).” “Teamwork between physicians has improved (56%, 10/18).”

CONCLUSIONS

Preliminary results suggest that participating clinics benefited by increasing their awareness of patient safety and their ability to implement improvements.

FUTURE DIRECTIONS

To expand MSCP to further family medicine practices and other community based practices.

ACKNOWLEDGEMENTS

- Funding: Canadian Health Services Research Foundation, Canadian Patient Safety Institute and Alberta Heritage Foundation for Medical Research.

Transfer of accountability: A cornerstone in healthcare safety

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INTRODUCTION

Lakeridge Health (LH) strives to standardize the handover of information to ensure continuity of patient care and safety. The process of transferring care among health care professionals poses risk for several reasons; shift change implies an interruption in the continuity of care, information is conveyed with a sense of urgency in a busy environment, the process is inconsistent and the human element implies risk.

Transfer of Accountability (TOA) at LH is the verbal transfer of information regarding patient care. TOA is to be a standardized, formal communication process which facilitates the exchange and clarification of information at transition points in a patient's care. The process of TOA will have a positive impact on quality patient care. In addition the integrity of the information is favourably impacted which has a corresponding positive effect on nursing efficiency.

OBJECTIVES / PURPOSE

A TOA Steering Committee was created in September 2009 to support the implementation of a standardized approach to TOA. The objectives of the TOA Steering Committee are to standardize terminology, standardize an electronic worksheet, define roles and responsibilities for nursing, leadership, Information Technology and Administrative support, and develop consistent messaging around TOA to all staff at all campuses.

METHODS

Shift to shift TOA has been the focus at LH, which includes the standardization of terminology, creation of a safety checklist with clinical systems assessment and clear delineation of roles and responsibilities. The TOA Steering Committee has been using rapid cycle change methodology to improve TOA with seven pilot units.

RESULTS

To date, seven of thirty units at LH are at varying stages of implementation. Teams and processes are in place to customize the information pertinent to each patient care area and to electronically support the information which is shared. Successes today include: elimination of taped report and paper kardex and the recording of pertinent patient information in one standard location.

CONCLUSIONS

The focus of TOA is to maintain patient safety by providing consistent, complete and accurate information about a patient's health history, current clinical assessment status as well as recent and/or anticipated treatments. The work of the TOA Steering Committee has been pivotal in determining a consistent approach to TOA and will set the course for the TOA process across the organization.

ACKNOWLEDGEMENTS

- Lorraine Sunstrum-Mann – Executive Sponsor
- TOA Steering Committee – Lakeridge Health

Patient safety and interdisciplinary communication

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INTRODUCTION

Communication failures among healthcare providers can result in a multitude of adverse patient safety consequences.

OBJECTIVES

To identify the prevalence of interdisciplinary communication related errors in hospitals and to understand the effects on patient outcomes. Also, to explore factors that contribute to communication failures and to identify evidence based strategies that can be used to overcome them.

METHODS

A literature search was conducted using the key words communication, hospitals and patient safety in MEDLINE, EMBASE and CINAHL. Abstracts were reviewed for relevance and applicable articles were analysed.

RESULTS

26 articles were identified, both research studies and anecdotal papers. The prevalence of reported errors related to communication failures ranged from 29-91%, indicating that there are major reporting discrepancies. Patients were impacted by communication failures through increased Emergency Department lengths of stay (Redfern et al., 2009) and increases in medication errors (Manojlovich & DeCicco, 2007). Moreover, researchers reported that as nurse physician collaboration increased, 30-day risk adjusted mortality decreased (Estabrooks et al., 2005). Factors that contributed to communication failures included clinicians performing tasks rather than listening to report, ongoing interruptions and lack of a structured communication strategy. In order to overcome these communication failures, interventions such as checklists, briefings, simulation, crew resource management and structured communication methods have been suggested. Unfortunately, no single method has been widely studied; therefore the need for further research is highlighted.

CONCLUSIONS

The prevalence of interdisciplinary communication failures is poorly understood. However, as there is evidence that patient safety is at risk when communication failures occur, it is imperative that additional resources and research are devoted to this topic.

ACKNOWLEDGEMENTS

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Standardizing nursing shift handover

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INTRODUCTION

Research shows that up to two-thirds of sentinel events in hospitals are related to communication problems (Haig et al., 2006). Miscommunication during shift handover can present a major risk for adverse events.

OBJECTIVES / PURPOSE

The aims of this project is to devise an evidence-based, structured nursing handover process for General Internal Medicine using a change management process to implement the new handover process; and evaluation of the new handover process.

METHODS

This three phase project involved developing a new handover process from reviewing the literature and using the Nominal Group Technique with nurses to determine the structure, content and processes of the new process. Roger's Diffusion of Innovation model formed the implementation plan and execution of the new process. Structured observations occurred two weeks prior to the implementation and four weeks after the implementation of the new process. Frequency of missing information was compared between the pre and post implementation observations. Semi-structured interviews were also conducted with nurses and patients to elicit feedback on the new process.

RESULTS AND CONCLUSIONS

Communication improved with the new standardized handover process in terms of a decrease in missing information. Pre-Implementation of the new process, discharge was discussed only 22.4% of the time vs. 70.8 % post-implementation. The chi square test results indicated a p value of <.05 for missing information. Patients responded positively to the four questions and the themes included feeling safer, process professional, improved communication, and knew the nurses coming on earlier. Nursing interview themes included an increased knowledge transfer, increase in safety, increase knowledge of the patient, and improved patient experience. Challenges with the new process included variations in the way nurses practiced the new process, the written template was too small and confusion around finding nurses for report. Overall, the new handover process has improved patient and nurse communication, nurse to nurse communication and decreased variations in the shift handover process.

FUTURE DIRECTIONS

The standardized shift handover will be rolled out across the General Internal Medical units and throughout the hospital in all clinical areas.

ACKNOWLEDGEMENTS

- The shift handover team, John Renwick (data) and the staff on the General Internal Medical Units

Psychometrics of a behavioural marking system for obstetrical teams

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INTRODUCTION

Multidisciplinary team training has been touted as a means to improve performance and ultimately patient safety. To determine the effectiveness of high-fidelity simulation for obstetrical team training, a valid and reliable tool to measure team performance is required.

PURPOSE

This study investigated the internal consistency and reliability of two newly developed tools to assess obstetrical team performance.

METHODS

After REB approval, multidisciplinary obstetrical teams from 6 hospitals participated in 3 sessions separated by 5-9 months where they managed 4 high-fidelity obstetric simulation scenarios. Two assessment tools, the Assessment of Obstetric Team Performance (AOTP) and a Global Assessment of Obstetric Team Performance (GAOTP) 1 were used by 8 trained reviewers to rate the DVD recordings of all teams' performances.

RESULTS

Two items were consistently incomplete from the AOTP and therefore omitted from the analyses. Across the 1088 completed evaluations (136 performances x 8 evaluators), the internal consistency (Cronbach's alpha) for the 16 item AOTP was .96, and .91 for the 6-item GAOTP. Correlation between the two scales was 0.97 and when the two scales were treated as a single 22-item rating scale, the alpha was 0.97. The 8-rater alpha for the GAOTP was .81 (single-rater intra-class correlation coefficient, 0.34) indicating acceptable inter-rater reliability. After averaging team scores across raters for each scenario, the 4-station alpha for the 12 teams was .79 for session 1, .88 for session 2, and .86 for session 3, suggesting that performance is not being strongly affected by the situation specificity of the scenarios. Pearson's correlation of team performance scores from session 1 to session 2 for the four scenarios were: .59, .35, .40, and .33 and for the total score across scenarios .47 indicating moderate test-retest reliability.

CONCLUSIONS

The GAOTP would be a sufficient assessment tool for obstetrical team performance using simulation provided 8 raters were used to ensure a sufficiently stable score. This could allow the quantitative evaluation of an educational intervention (i.e. multidisciplinary team training) on obstetrical teams.

ACKNOWLEDGEMENTS

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Health Outcomes for Better Information and Care (HOBIC): Improving patient safety outcomes across the continuum of care

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INTRODUCTION

In Ontario, the Health Outcomes for Better Information and Care (HOBIC) initiative has become a part of the province's information management strategy as a way to demonstrate the impact of nursing care on health outcomes. Because we are in the early stages of HOBIC implementation, little is known about how HOBIC outcomes (i.e. assessment data) are used by nurses and other health care provider to incorporate best practices into daily care.

OBJECTIVES / PURPOSE

The objective of this study was to examine the use of HOBIC outcomes data for care planning and evaluation for falls and pressure ulcers, and to gain a better understanding of factors that influence the link between HOBIC outcomes and the use of evidence informed practice guidelines.

METHODS

Mixed qualitative methods were used to gain insight into the use of HOBIC for nursing care planning and patient outcome evaluation. The sample included nurses in acute care, complex continuing care, long term care and home care settings using HOBIC.

RESULTS

Complex interactions occur at the point of care that influence nurses' assessment of the relevance of HOBIC and the degree to which HOBIC fits with current structures and practice. While nurses' reported a range of perspectives on the usefulness of HOBIC, they were unanimous in requesting feedback on patient outcomes. Nurses' ability to integrate HOBIC into their practice has more at stake than completing the admission and discharge assessment; the use of HOBIC outcomes to plan and evaluate care depends, in large part, on the availability of integrated electronic documentation and care planning tools.

CONCLUSIONS

HOBIC implementation is far from straightforward – the real challenge in HOBIC implementation is not mastery of the technology per se, but support for and the ability of nurses to adapt daily practice in order to take advantage of its functionality. Exploitation of the full benefits of HOBIC is dependent upon the readiness to change practice in ways that will support the use of outcomes data in daily practice.

ACKNOWLEDGEMENTS

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Hourly rounding: A new wave for patient rounds of the future?

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INTRODUCTION

Falls and wounds in the acute care inpatient population contribute to increased morbidity and mortality. In addition to such a significant impact on patient safety, there is also a considerable burden on regional healthcare resources.

OBJECTIVES / PURPOSE

Decrease the incidence of falls and pressure ulcer wounds in medicine units .

METHODS

In the fall of 2009, the Victoria General Hospital (VGH) medicine program in conjunction with Victoria Institute of Clinical Research and Evaluation (VIC R & E) along with WRHA Patient Safety began to look at rounding practices within the VGH acute care environment. By the spring of 2010, the team completed a 6 week hourly rounding pilot study where the primary focus was to measure the impact of standardized hourly rounding on patient safety.

RESULTS

From the above mentioned pilot study showed a significant decline in falls from 9.58% to 1.55% (unit based on falls/1000 patient bed days). Past data analyses showed a yearly increase in falls with the exception of a significant decrease during the present study in 2010. In Canada on average a fall costs \$14,660 due to injuries and possible surgeries (Herman, Gallagher & Scott, 2006, 17). A reduction in falls by 90.0% gives a savings of \$117,573 in this study alone. If the study is validated, hourly rounding could save the system both resources and cost.

CONCLUSIONS

The study's results cannot be disputed in that working with the current standards and policies in place at Victoria General Hospital standardizing patient rounds has an impact in overall patient safety. The cost reduction due to fewer burdens on the system if falls and wounds are decreased is encouraging because those funds can be used in purchasing equipment, research and staffing.

Clinical effects

RECOMMENDATIONS

Multi-unit or multi-site hourly rounding – A larger n study would validate study results.

Revision of pressure ulcer wound data collection methods

ACKNOWLEDGEMENTS

- Victoria General Hospital
- Vic R & E

Patient Safety 101: Development of an e-learning program to support a culture of safety

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INTRODUCTION

The horrors of medical error are well established. In 1999, the Institute of Medicine reported that 98,000 patients die annually in the United States and in 2004, Baker and colleagues revealed that 24,000 patients die annually in Canadian hospitals from preventable medical error. There is growing evidence that patient safety education can influence organizational safety culture. According to Reason, a key error prevention strategy is to instill informed vigilance and intelligent wariness through the creation of error wisdom at the frontline. Health care institutions are challenged to deliver this error wisdom effectively and efficiently.

OBJECTIVES / PURPOSE

To enhance organizational safety culture in a large integrated health care system by establishing a common safety language and knowledge base utilizing current information technology to develop and deliver an interactive, standardized patient safety curriculum.

METHODS

Using a systems approach to error, we developed a Hazard Model to act as a conceptual framework to guide the development of an e-learning patient safety program, and draw attention to known high risk situations. Each hazard is described and accompanied by strategies known to mitigate the hazard. A variety of strategies are used to enhance the learning experience and accommodate the learning needs and styles of various professional disciplines. Guided questions are used to encourage reflection and application of new knowledge to the participant's clinical environment. Responses are aggregated to create a culture of safety data base for the organization.

RESULTS

We significantly increased completion rates over our live patient safety course. Greater than 93% of participants (N=12,815) strongly agreed/agreed that course objectives and program purpose were met, and that content and teaching methods were appropriate. Although difficult to establish causal relationships, we realized improvements in safety climate scores, increased reporting, and fewer sentinel events. The culture of safety data base is a rich source of information, giving voice to employee concerns and used to drive improvement efforts.

CONCLUSIONS

Establishing a common safety language and knowledge base, promotes organizational learning and builds the foundation for a strong safety culture. Current information technology is a valuable tool offering an efficient means for disseminating safety information in complex healthcare systems.

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Environmental scan of patient safety education in Alberta's post-secondary education sector

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INTRODUCTION

It is not known to what extent undergraduate healthcare provider education programs have embraced the systems approach to patient safety. This requires an attitudinal change and paradigm shift from the traditional model of individual provider responsibility for safe patient care that is taught in most undergraduate programs. A literature scan suggested that effectively preparing new healthcare workers to practice with a systems view of patient safety requires integrating systems-oriented content throughout a program's curriculum with appropriate leadership and organizational supports in place within the program, and should be reinforced by the way in which close calls and adverse events involving students in the clinical setting are handled.

PURPOSE

- Determine the extent to which a systems approach to patient safety is integrated into education programs for regulated healthcare professionals in Alberta
- Determine what kinds of resources educators need to support integration of a systems approach to patient safety into their curricula
- Gather feedback about the utility and content of a draft Patient Safety Education Self-Assessment Tool

METHODS

Eighteen post-secondary education programs in Alberta representing nine regulated health professions were contacted to participate in a semi-structured telephone interview. The interviewer guided a small group of

participants from each program through the draft Patient Safety Education Self-Assessment Tool items, recording the consensus score and discussion about each item. In addition, participants were asked to comment on the draft self-assessment tool and process, and suggest types of learning resources that would be helpful to support integration of patient safety concepts into their curricula.

RESULTS

A total of 60 educators participated in 18 interviews that ranged in group size from 1 to 5 participants. Overall, ratings for items on the self-assessment tool were higher than expected, suggesting that patient safety is well-integrated into most programs. However discussion revealed that participants were unclear about many of the terms or concepts embedded in the questions, particularly those related to a systems approach to patient safety. Despite the limitations of the tool, many participants commented that the process was a valuable stimulus to considering how a systems approach to patient safety could be more effectively integrated into their curricula.

CONCLUSIONS

Patient safety is a core concept that is integrated into most healthcare provider education programs in the post-secondary sector. However it appears that the prevailing orientation to patient safety is that of individual provider responsibility for safe patient care. Support is required to help programs make the paradigm shift to a systems approach to patient safety.

ACKNOWLEDGEMENTS

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