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**Functional outcomes after neonatal open heart surgery: comparison of survivors of the Norwood staged procedure and the arterial switch operation**

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**Background:** Improvements in long-term survival of children undergoing the Norwood staged procedure and the arterial switch operation has resulted in the need to prepare these at-risk children for each stage of their developmental trajectory, including school readiness. This study describes and compares functional outcomes following the Norwood staged procedure and arterial switch operations.

**Methods:** This prospective, inception cohort study comprised a sample of 73 children (71 percent boys) who had the Norwood staged procedure (n=28) or the arterial switch operation (n=45) at < 6 weeks of age at the Stollery Children's Hospital, Edmonton, AB, between 2002 and 2005. Excluded children were those who had chromosomal abnormalities or cerebral palsy. When children were 18-24 months of age, parents completed the Adaptive Behavioral Assessment System II. Standard scores for the domains are mean 100, standard deviation (15); skill area scaled scores, 10(3). Student t-test with Bonferroni correction was used to compare groups.

**Results:** This population has greater than 4 times the number of children delayed on the General Adaptive Composite than the normative group. Functional outcomes were similar in the two groups other than those of home living (Norwood: 8.8(2.8) compared with arterial switch: 11.2(3.1), t=3.389, p=0.001) and self-care (Norwood: 5.9(3.5) vs. arterial switch: 8.1(2.6), t=3.140, p=0.002).

**Conclusion:** These survivors are at increased risk for delayed functional abilities. Self-care, necessary for independence and confidence as children reach school age, was particularly low in the Norwood group. Reasons for low self-care abilities require further study.
Ondansetron use during pregnancy: a case series and review of literature

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Objectives: The aim of this study is to describe the use of ondansetron in pregnant patients with hyperemesis gravidarum.

Methods: This is a retrospective case series of all pregnant inpatients with known pregnancy outcomes who received ondansetron at the CHU Sainte-Justine. These patients were identified using the Pharmacy software program. For the purposes of analysis, a standardized data collection sheet for all the demographic, biological, pharmaceutical and clinical data was developed. In addition, a review of the medical literature on the use of ondansetron during pregnancy was conducted.

Main Results: From January 2002 to October 2009, we identified eleven patients who received ondansetron for hyperemesis gravidarum. Ondansetron was started only after the standard protocol used at CHU Sainte-Justine for managing hyperemesis gravidarum turned out to be unsuccessful. We observed twelve live births, including a set of twins. Gestational age at birth was 36.8 ± 3.9 weeks (median: 38.0 weeks, [24-40]), and mean birth weight was 2.89 ± 0.97 kg (median: 3.07 kg, [0.66-4.10]). We noted one minor birth defects (isolated defect of the atrial and ventricular septum) and three transient anomaly unrelated to ondansetron use (e.g. slight hydrocele and intrauterine growth retardation) Ondansetron is not well studied during pregnancy but our data and the medical literature do not suggest any association between ondansetron and adverse pregnancy outcomes.

Conclusion: Ondansetron was used to treat hyperemesis gravidarum when the standard protocol was ineffective in eleven patient and was not associated with any major birth defect.
Organizational factors underlying breakthrough outcome improvement in Canadian NICUs using the Evidence based Practice for Improving Quality (EPIQ) method: Lessons for leaders

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Background: The Canadian Neonatal Network (CNN) includes all Canadian tertiary level NICUs. Variation in practice and outcomes is known to exist. A randomized cluster trial of the Evidence based Practice for Improving Quality (EPIQ) conducted between October 2002 September 2005 was associated with improved neonatal outcomes in Canadian NICUs.

Objective: To examine critical success factors and barriers to improvement operative in Canadian NICUs during the EPIQ study.

Design/Methods: A retrospective survey was conducted of sixteen team members and eleven physician leaders of the project using a tool derived from the literature. Qualitative interviews were conducted with six site investigators and exploratory description and naturalistic inquiry were used to explore emerging themes.

Results: Investigators and team members agreed that EPIQ had a high utility, was effectively implemented, that teams, communication and leadership were effective, and that systems supported quality improvement. Sharing of information and expertise between centres was viewed as key to success, but competition and peer pressure were not evident. The collaborative nature of the project was perceived as key to success. Respondents identified the need for training and resources in quality improvement. Investigators indicated that EPIQ had been a major learning opportunity for their NICUs, many of which redesigned their Quality management structure and processes as a result of involvement in EPIQ.

Conclusions: EPIQ improved NICU outcomes across participating Canadian centres. EPIQ established credibility for quality improvement in NICUs, generated organizational learning, and was congruent with the values of academic physicians and staff. Leadership, organizational structure, resources and processes all contributed to improvement. Collaborative networks or communities of practice can provide structure and validation for change. Better communication between clinicians and senior leaders is required. Our next project, EPIQ-2, builds on what we have learned and will provide enhanced coordination, resources, communication and feedback to participating NICUs.
Reasons Why Parents Choose an Ambulance in Pediatric Emergency Services

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Purpose: Appropriate ambulance utilization is an important challenge in pediatric emergency service. The purpose of this study was to clarify ambulance utilization in pediatric emergency services in Kagawa prefecture in order to evaluate appropriate utilization of pediatric emergency care.

Methods: The survey was performed between January and February 2009. We obtained informed consent from 17,374 people (50%) with infants aged six years or younger. Survey items included the transportation methods to a child emergency care institution, the age of the child receiving emergency care services, day and time of consultation, symptoms and treatment provided.

Results:
1 Of 9693 (56%) infants receiving emergency care services, 386 (4%) infants were brought by ambulance, 9,175 (94.7%) infants by a privately-owned car, and 132 (1.4%) infants by taxi.
2 The child’s age of ambulance users was significantly lower than that of privately-owned car users or taxi users.
3 The number of ambulance users who utilized emergency care services at night was significantly higher than that of privately-owned car users. The number of privately-owned car users who utilized emergency care services during the day on holidays was significantly higher than that of ambulance users or taxi users.
4 By correspondence analysis, ambulance users were associated with hospitalization or transfer. Taxi users were associated with examination or intravenous treatment. Privately-owned car users were associated with internal medicine treatment.
5 Compared to the privately-owned car users, ambulance users utilized emergency care services because they were significantly more worried about the infant’s condition, expected to consult pediatricians at hospitals with tertiary pediatric emergency care services, or because of the infant’s serious condition.

Conclusion:
These findings indicate that an ambulance was used late at night to consult tertiary facilities for emergency care due to the infant’s severe condition.
Thus, ambulance utilization for pediatric emergency services was appropriate.
Anxieties of Parents Who Utilized Pediatric Ambulance Transport

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Purpose:
We conducted a survey to characterize the anxieties of parents who used an ambulance in pediatric emergency care in Kagawa Prefecture in comparison with parents using a privately-own car or a taxi for transport.

Methods:
The survey was performed between January and February 2009. We obtained informed consent from 17,374 people (50%) with infants aged six years or younger. We asked parents about their anxieties (31 items) and expectations (19 items) regarding pediatric emergency medicine.

Results:
1. Of 9693 (56%) infants requiring emergency care services, 9175 (95%) were transported by privately-own car, 386 (4%) by ambulance, and 132 (1%) by taxi.
2. Ambulance users utilized a pediatric medical office as a family doctor with significantly higher frequency than privately-own car and taxi users.
3. Regarding a family doctor with 24-hour services, ambulance users utilized hospitals for pediatric emergency care with significantly lower frequency than privately-own car and taxi users.
4. Ambulance users were significantly more anxious about pediatric emergency care and official supports than the 2 groups.
5. Ambulance users more strongly hoped to receive information about emergency medical services at night and on a holiday than the privately-own car users.
6. Ambulance users more significantly hoped for a satisfactory explanation about the infant’s condition and treatment than privately-own car users.
7. Ambulance users more significantly expected to utilize hospital consultation which their child could be admitted than privately-own car users.

Conclusion:
These findings showed that ambulance users were anxious about pediatric emergency care. Therefore, it is important to explain the infant’s condition and treatment when an ambulance service is used.
When a child might require medical treatment at night and on a holiday, it is necessary for parents to have information available to easily find emergency medical facilities.
Short term follow up of HIV-1 infected children without treatment: use of CD4/CD8 ratio as a marker of disease progression

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**Background:** In this study we follow up children with perinatal HIV-1 infection who are not on antiretroviral therapy (ART). It aims to assess the relevance of laboratory markers of disease progression with immunological status in pediatric population at our tertiary hospital in Mumbai. The significance of CD4/CD8 ratio in predicting disease progression is analysed.

**Methods:** A retrospective analytical study on all HIV-1 infected children who presented to our hospital in the year 2006-2007 and could not afford ART was carried out.

**Results:** CD4/CD8 ratio was found to predict the worsening or improvement/no change of immune category of children within 6 months (p value=0.030). Those with an improvement or no change in immune category had a mean initial ratio of 0.62 ± 0.30 and those with a worsening of immune category had a mean initial CD4/CD8 ratio of 0.37 ± 0.25. Thus children with a higher ratio showed better chances of improvement or maintain their immune category.

**Conclusion:** CD4/CD8 ratio may be used with caution as an adjuvant marker to CD4 count and CD4% to establish need of initiating antiretroviral therapy and for monitoring the immunological status and disease progression in HIV-1 infected children.
Reliability of Absolute Lymphocyte Count as marker to assess need to initiate antiretroviral therapy in HIV infected children

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Background: CD4 counts are a standard laboratory measure of disease progression in HIV infected children. However, in resource poor settings, World Health Organization (WHO) had suggested absolute lymphocyte count (ALC) as marker for starting Antiretroviral therapy (ART). The study aims to assess the reliability of using ALC as a marker for starting ART in HIV infected children in a tertiary hospital setting.

Methods: Using WHO 2006 guidelines for cut off values of ALC and CD4% as a comparative standard, a retrospective analysis was done on ART naïve HIV infected children who underwent baseline CD4% and ALC and sensitivity and specificity of ALC was calculated.

Results: Sensitivity of ALC was 30.77% (60.23%- false negatives), specificity of 75%, with positive predictive value of 66.7% On comparison across age groups, the sensitivity of the test varied, increasing from 28% in less than 3 years to 46.15% in those >3 and ≤ 8 years. In children with WHO clinical stage 1 or 2 of disease, only 1/9 was identified by ALC as requiring ART as opposed to 5/9 by CD4% (80% false negatives).

Conclusion: Low sensitivity makes ALC an unreliable marker of immunosuppression in children. ALC does not corroborate with CD4% and does not improve the ability to identify mild clinical cases of children in need of ART.
Development of Culture-Specific Pictograms for the Labeling of Medication

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Rationale: Effective communication between healthcare providers and their patients regarding pharmaceutical therapy promotes compliance and positive patient health outcomes. However, accurate comprehension by the patient is often difficult due to varying levels of health literacy, language differences, and cultural variations.

Objective: To develop pictographic instructions for the labelling of medication that is meaningful and sensitive to First Nations’ culture.

Study Design & Methods: Focus Groups composed of community members and health care providers were conducted in six British Columbia First Nations communities. The focus groups were presented the current medication labelling pictograms and were asked to provide feedback to develop pictograms that would be best understood by members of each community. The redesigned pictograms were then communicated back to the communities through several iterations until agreement on the final version.

Results: Focus group discussions identified appropriate modifications to medication pictographic instructions to reduce interpretation errors based on cultural specifications and have allowed incorporating the culture-specific pictograms into the storyboard concept. The focus groups agreed that the majority of the original pictograms were not appropriate so 15 new pictograms were created and validated for use in First Nation communities.

Conclusion: Developing culturally meaningful pictograms can be used to improve patients’ understanding and memory of complex medical instructions and reduce risk of taking medications incorrectly, thereby contributing to patient safety.
Drug Utilization in End-of-Life Palliative Pediatric Patient’s at Roger’s House Hospice and at Children’s Hospital of Eastern Ontario

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Rationale: Pediatric palliative care is an essential and comprehensive model of care for children with life-threatening or progressive life-limiting conditions. Use of pain medications including opioids is often feared by families, as they perceive it as an indication that death is approaching. Care differences may be seen when comparing care provided in hospice to that provided in hospital.

Objectives:
1. Assess medications administered at end-of-life.
2. Evaluate average daily dose (mg/kg/day) per medication.

Methods: Retrospective chart review of end-of-life pediatric patients who died at the Children's Hospital of Eastern Ontario (hospital) or Roger’s House (hospice) from January 2005 to December 2009. Variables collected 7 days prior to death included: drug, route of administration, dose, # doses/day, and rate of hydration. Patient diagnosis coded by International Classification of Diseases (ICD-10). Medications categorized using Anatomical Therapeutic Chemical (ATC) classification system.

Results: 187 different drugs prescribed in 91 subjects. There was a statistically significant increase in the # of patients who received antibacterials, diuretics, blood substitutes, muscle relaxants, and mineral supplements in hospital versus hospice. There was a statistically significant increase in patients who received scopolamine, dimenhydrinate, methotrimeprazine at the hospice versus hospital. No statistical significance seen between medication doses in either hospital or hospice for any medication except scopolamine. Hydration rates were significantly higher in hospital compared to the hospice.

Conclusion: Analgesics and psycholeptics were used frequently in both centres. There were no distinct trends noted in medication dosages prescribed at either of the centres, which may reflect patient and/or individual physician/nurse practitioner considerations. Care in a hospice is primarily focused on symptom management whereas in an acute care hospital the focus is more on acute care. The hospice practice of minimal artificial hydration differs from hospital acute care practice.
Validation of a Set of Asthma Illustrations in Children with Chronic Asthma in the Emergency Department

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Rationale: National and international asthma guidelines support the use of written asthma action plans. However those presented in text format are difficult for pediatric patients and those with low literacy skills to comprehend. Pictograms enhance comprehension of information in action plans.

Objectives: To validate a set of asthma illustrations in children with chronic asthma presenting to an Emergency Department (ED) for their eventual inclusion into an action plan.

Study Design & Methods: Semi-structured interviews using guessability and translucency questionnaires tested the comprehensibility of 15 illustrations (8 representing different levels of asthma control and 7 representing asthma triggers) in asthma patients seen in the pediatric hospital ED over the 10-month study period. For patients 1-9 years of age (group A) the questionnaire was performed on the parent, patients 10-17 years of age (group B) completed the questionnaire themselves. Literacy was assessed using the Rapid Estimate of Adult Literacy in Medicine (REALM) or REALM-teen scales.

Results: 80 patients enrolled in the study. After the first 30 patients were interviewed, modifications were made to 7 of the original 15 pictograms to improve comprehension. Data analysis was performed on the subsequent 50 patients (25 in each of Group A and B). Guessability was 94% (Group A) and 97% (Group B). On a 1-7 translucency scale, the pictograms were rated as ≥ 6 by 92% of all participants. Literacy assessments found both groups to be equivalent in having the ability to read most patient education material.

Conclusion: The 15 illustrations were validated to be useful and comprehensible tools for inclusion into an action plan.
Rationale: Language and literacy barriers between patient and healthcare providers are key factors affecting patient comprehension of medical instruction and ultimately affecting health outcomes. Using pictograms to supplement written and oral instructions increases patient comprehension.

Objective: The authors sought to develop pictograms for type II diabetes education and counselling, that were meaningful and sensitive to First Nations’ culture.

Study Design & Methods: Focus Groups composed of community members and health care providers were conducted in six British Columbia First Nations communities. The focus groups were presented current diabetes counselling pictograms and asked to provide feedback on whether they would be understood by members of their community. Pictograms were redesigned and communicated back to the communities through several iterations until final agreement was reached.

Results: Pictograms provided to the focus groups depicted the effects of type II diabetes on its primary complications including: heart disease and stroke, blood sugar control, infections, eye problems, kidney disease and foot care. The majority of the original pictograms were not appropriate for First Nations, therefore 32 new pictograms were created and validated by the focus groups for use in FN communities.

Conclusion: Diabetes affects First Nation people disproportionately. However, the disease and its complications are manageable when patients adhere to accepted guidelines for self-care. Culturally meaningful pictograms can be used to improve patients’ understanding and memory of complex medical instructions and enhance their ability to manage their own self-care.
Prioritizing Risk Factors Related to Morphine Administration in a Pediatric Surgical Unit

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Rationale: Morphine is a high alert drug that has the potential to cause harm particularly to young patients and has been associated with medication errors.

Objectives: To understand the underlying processes, structure, context and various tasks associated with nursing administration of IV bolus morphine on a pediatric surgical unit. To validate and prioritize risk factors identified through previous research activities.

Study Design & Methods: Semi-structured interviews were designed to confirm and validate data collected in a preceding observational study [1]. Interviews lasting about 30 minutes were conducted with small groups of 3-5 participants. Approximately 30% of active surgical unit staff participated. In addition, four subject matter experts (SME) rated each of the observed factors in terms of frequency, severity, and likelihood of occurrence (adapted from the Failure Mode and Effects Analysis (FMEA) of the Institute of Safe Medication Practices (ISMP)). Relative risk scores were computed for each risk factor based on the product of the frequency, severity and likelihood ratings assigned by a SME. The mean relative risk score, between SMEs, was used to prioritize risk factors.

Results: Findings from the observational [1] study revealed 75 unique influencing factors across four major categories: 1) Environmental; 2) Tools; 3) Individual characteristics, including nursing experience and risk-taking behaviours; and 4) Organizational and social factors, including communication, clarity of responsibilities, and distribution of workload.

Interview data confirmed the observational findings and supported the prioritization of risk factors. Prioritization of risk factors based on the mean relative risk score suggests the top five risk factors are: (1) Nurses not taking the MAR/Order into the patient room; (2) Multi-tasking, especially during drug preparation; (3) Rushing, during drug preparation and administration; (4) Unrelated conversation during drug preparation; and (5) Fatigue related to lack of sleep or workload and missing regular breaks.

Conclusion: Analysis of data from the three research methods suggests that the preparation phase of the process, which takes place in the medication room, is the most appropriate focus for safety & efficiency improvements.
Knowledge brokers to facilitate the use of measures

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Study Objective and Design:

The objective of this study was to evaluate the impact of a multi-faceted knowledge translation (KT) strategy involving Knowledge Brokers (KBs) to increase the knowledge and appropriate use of four evidence-based measures of motor function for children with cerebral palsy (CP)

Gross Motor Function Classification System (GMFCS)

Gross Motor Function Measure – 66 items (GMFM-66)

Gross Motor Function Measure – 88 items (GMFM-88)

Motor Growth Curves

Knowledge brokering is defined as “all the activity that links decision makers with researchers, facilitating their interaction so that they are able to better understand each other’s goals and professional cultures, influence each other’s work, forge new partnerships, and promote the use of research-based evidence in decision making”1. Knowledge brokers (KBs) are the individuals who perform these activities.

Twenty-five pediatric physical therapist KBs brokered for six months to 122 physical therapists (PTs) across 28 children’s rehabilitation centres in Alberta, British Columbia, and Ontario. A mixed methods pre-post study design with a 6 and 12-month follow-up was conducted.

Analysis:

A mixed effects multinomial logistic regression was used to examine the impact of the intervention on knowledge and use of the measures (none/some/high)

Interview data were transcribed verbatim and entered into NVivo for thematic analysis by study team members. Themes were verified through member checking.

Results:

Quantitative (Oxford Level 4 Evidence)

- PT knowledge of all measures increased significantly post-intervention

- PT use of measures increased significantly post-intervention with one exception (the GMFM-88)

Qualitative

- Strengths and challenges of the KT strategy were identified from the perspective of the KBs, administrators and participating physical therapists.

Discussion and Implications:

This study provides evidence that a multi-faceted KT strategy using physical therapist KBs is an effective way to increase and sustain knowledge and use of outcome measures in practice.

Although the measures were specific to children with cerebral palsy, these results may be generalizable to other evidence-based materials and health professions.

References:

Spreading the Word: The Use of Webinars to Translate Knowledge on Paediatric Pain Across Canada and Around the World

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Introduction: The CIHR Team in Children’s Pain - a cross-Canada interprofessional research team committed to narrowing the gap between paediatric pain knowledge and practice – partnered with the Canadian Association of Paediatric Health Centres (CAPHC) to develop a series of webinars to inform audiences on how research can improve process and clinical outcomes.

Methods: Two interactive webinars were held in March 2010: the first provided an overview on paediatric pain and the second focused on pain assessment and management in infants and young children. The interactive webinars were operated through CAPHC using the GoToWebinar application, utilizing an online presentation platform with audio supplied via teleconference. The webinars targeted healthcare practitioners, management/decision makers, researchers, and consumers. Participants were polled on key areas of interest before, during and after the webinar and their responses implied consent to share their opinion/information.

Results: A total of 718 participants registered for the two webinars (235 for the first and 483 for the second). All registrants for the first webinar were from Canada; however, 68% of the registrants for the second were from the United States, 31% from Canada, and 1 registrant each from South Africa, Australia, and the Republic of Georgia. Registrants were primarily from academic-affiliated hospitals/centres (68%) and healthcare practitioners (63%). Of the practitioners, the majority were nurses (51%) for the first webinar and child life specialists (63%) for the second. Using a scale of 1 (strongly disagree) to 5 (strongly agree), evaluation questions showed the attendees “learned something new and useful” (mean=4.30) and were committed to using the knowledge they learned to “think/reflect on what this information means for my job” (mean=4.45).

Conclusions: The webinars were an effective means of disseminating knowledge on paediatric pain to a varied audience. Attendees rated the information highly and were committed to using the knowledge in their work environment. Future webinars will build on this foundation and explore ways to extend the reach and scope of the webinars and further investigate how attendees use the knowledge acquired.
Educating for Collaboration in Inter-Disciplinary Practice: A Manager Rotation for Doctors in Training

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**Purpose:** Effective inter-disciplinary programs need managers who understand collaboration amongst team members. In the past, teams often used a physician-as-leader approach, and this may still be seen in clinical settings. The Royal College CanMEDS framework acknowledges a need for residency training in physician roles of Collaborator, Communicator, Advocate, Scholar, Manager and Professional in addition to the traditional Medical Expert. The Manager role includes key competencies of collaboration within organisations, effective practice management, and administration/leadership skills. Practicing developmental paediatricians frequently work in tertiary centres as leaders of clinical teams and programs. This rotation was designed to provide direct experience with these activities during training.

**Methods:** This descriptive poster outlines development of a 1 month Manager rotation for senior residents in a 2-yr sub-specialty residency in Developmental Paediatrics (DP). A 4-wk Year 2 School-Aged Services block was chosen since residents had worked 12 wks in this area in Year 1 and achieved competency in its Medical Expert learning objectives (LOs). Residents functioned as manager of a hospital-based day school for children with complex learning and behavioural concerns. Residents (n=2) were well known to assessment and intervention teams and welcomed in their leadership roles. The school’s Medical Director was preceptor. Rotation components discussed include: selecting the right program, developing LOs, daily/weekly structure of rotation, getting staff buy-in, providing appropriate support (secretarial/nursing), modeling and coaching in collaboration, and developing evaluation framework.

**Results:** Due to program size, formal evaluation data cannot presented for confidentiality concerns. On-going data collection on subsequent residents will allow this to occur. Preliminary feedback from staff and learners indicate that residents’ role as Program Managers was well understood and accepted by staff, and residents were first to be called for team concerns. Teams reported good communication and collaboration in patient care.

**Conclusions:** In this 4-wk pilot block, preliminary feedback indicated that senior DP residents successfully functioned as managers of an inter-disciplinary program. On-going evaluation is needed to determine long-term success in teaching collaboration in inter-disciplinary practice.
Educating for Inter-Disciplinary Practice: A Medical Student Experience of Teamwork

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Purpose: The Medical College of Canada uses the Royal College CanMEDS framework in setting its Learning Objectives for the qualifying examination taken by all Canadian medical students. The framework acknowledges physician roles of Collaborator, Communicator, Health Advocate, Scholar, Manager and Professional in addition to the traditional medical Expert. The Professional role recognises the interdependence of health professionals in providing optimal patient care and includes key competencies related to team work and inter-disciplinary practice. These include determining the scope of practice of other health care professionals and facilitating communication among team members. Pre-clinical students may receive formal classroom instruction in collaboration and team roles, but on the wards they often see a traditional physician-as-leader approach. We developed a clinical experience and an associated learning tool for teaching inter-disciplinary practice.

Methods: This descriptive poster outlines development of “Follow-the-Child,” a 2-day observational experience for Year 3 medical students on a Developmental Paediatric elective rotation. Students follow a family through each step of an inter-disciplinary assessment in a clinic for school-aged children with complex learning and/or behaviour problems, and actively participate in the medical assessment, team conference and family meeting for the assigned patient. Students are oriented by their preceptor and given a paper form with specific learning objectives and information to be gathered from their interactions with each team member. The form is later reviewed with the preceptor. At the end of their elective, students rate this experience on a 5 pt Leiter scale and give informal written feedback.

Results: The experience was rated positively by students who demonstrate improved knowledge of team member roles in their subsequent clinical work. Students who used the form found it helpful structuring the 2-day experience and kept it for further reference. Having a specific written assignment ensured students attended to the inter-disciplinary aspects of the assessment as opposed to focusing on the physician Expert role.

Conclusions: A structured medical student experience with a written assignment can contribute to their understanding of inter-disciplinary practice.
Spring Cleaning Blitz: Using 6S Techniques to Create a Functional Work Environment

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Background:
Caregivers on the surgical unit often need to access necessary supplies kept on the unit to care for children who are admitted. A functional work environment is crucial in providing efficient access to required supplies and ensuring that children receive care in the safest and most timely manner.

Objectives:
• To create an organized work environment that supports the workflow for all caregivers
• To eliminate clutter and improve storage capacity of the workplace
• To avoid the cost of excess/useless inventory kept in the department
• To create a layout that meets infection control standards
• To sustain improvements

Methods:
After determining the current state of the supplies and distribution process in the surgical unit, inventory control methods were applied to determine the optimal order quantities for supplies. All the supplies were located and inventory lists were developed.

The 6S steps: Sort, Straighten, Shine, Standardize, Sustain, and Safety were applied to two Clean Supply rooms. The approach followed a 3 day Rapid Improvement Event format in which five team members (1-CRN, 1-Junior nurse, 1-Senior nurse, 1-Outsider, 1-Facilitator/Outsider) worked together through the methodology while applying each individual's expertise.

Results:
• A more systematic work environment for all caregivers in the department
• Infection Control standards followed
• Staff engagement in 6S sustainment and ownership in continuous improvement
• Removal of $2300 of excess supplies from the Clean Supply rooms
• 136 Cubic Feet of shelf space freed up
• Accounting for the adjusted quotas in inventory, 30% reduction in materials handling, equaling approximately $2800 in savings

Conclusion:
LEAN and Inventory control methods can be used as innovative approaches to promote work flow efficiency, safety, and cost effectiveness in an everyday clinical work environment.
Performance Measurement Framework
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One of The Hospital for Sick Children (SickKids) Strategic Objectives is to “Strengthen Enterprise Performance Management”. One key component of this objective is a Performance Measurement framework.

The abstract will demonstrate how SickKids introduced a Performance Measurement framework including reporting standards and tools in order to enhance evidence-based decision-making. This framework includes the introduction of an enterprise Balanced Scorecard as well as the enhancement of operational dashboards.

Core Components of an Enterprise Performance Measurement framework will be described including the purpose of measurement for accountability, improvement and research. The organization’s use of information will be described with its its evolution from data to information to insight and finally to intelligence. Adding insight and intelligence to an organization is recognized as a key enabler to success where the organization has deeper understanding of its drivers and operations.

The author will describe the concept and differences between scorecards and dashboards and how they are being applied both at the corporate level as well as at the portfolio/department level.

Scorecard (Strategic Performance)
The goal of a scorecard is to keep the business focused on a common strategic plan by monitoring execution and mapping the results of that execution back to a specific strategy.

Dashboard (Operational Performance)
The goal of a dashboard is to keep the business focused on operational goals.

Finally, key success factors will be discussed as follows:

Relevance – making too much information or irrelevant information means important information will get lost in clutter

Timeliness – delay in data availability impacts the organization's decision-making agility and proactiveness

Culture - an acceptance by the organization of the value of their data in managing performance

Thresholds and Notifications – timely notification of indicator results that fall outside pre-determined thresholds

Drill Down – understanding enterprise information by focusing on more detailed data.
Strategic Use of Paediatric Patient Specific Case Costing System

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The Hospital for Sick Children (SickKids) invested in both the resources and the information system needed to implement a Case Costing system in 2006/07. System was implemented and live by April 1, 2007. For 2007/08, the hospital was able to cost all inpatient and day surgery activity. As of 2008/09, costing of patient specific activity was incorporated for the Emergency Department, the dialysis unit, the haematology/oncology daycare unit and the outpatient cath lab activity.

This abstract will describe
1) the Case Costing methodology,
2) the clinical, utilization and financial database created as part of this process and
3) focus on the strategic use of case costing information both internally at SickKids as well as externally.

While hospitals already have financial and management reporting structures in place for tallying costs and reporting by functional centre, by implementing case costing another perspective is gained when analyzing financial information that of the hospital’s cost curve analyzed in various ways: by patient, by patient mix, by procedure/diagnosis, by program, by physician, etc.

Case costing provides answers to important management and planning questions that cannot traditionally be answered with departmental management and financial information alone.

Case costing provides information to support many kinds of analysis and initiatives. During the last 3 years, SickKids has been able to use the information for the following opportunities:
1) Successfully negotiated funding for a number of tertiary/quaternary patient care needs
2) Evaluation of patient care treatment maps/critical care paths
3) Enhancements to the development of program budgets and variance reporting
4) Feasibility and impact analysis
5) Utilization analysis of clinical services i.e. OR, Diagnostic Imaging, Laboratory Services, Pharmacy
6) Utilization analysis of Allied Health services
7) Comparison of out-of-province and international patient costs vs. funding
8) Provided data for the funding rates calibration of the Provincial Paediatric Surgical Wait Times Strategy
Developing National Benchmarking Capacity through a Paediatric Community of Practice

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This poster will demonstrate how a virtual paediatric community of practice (CoP) of Canada’s 16 Academic Paediatric Health Centres, in collaboration with a Canadian health information leader have, and continue to, champion the uptake and timely use of health data to enhance clinical and administrative decision support. Our ultimate goal is to improve healthcare delivery for Canadian infants, children and youth.

Established over a decade ago, our paediatric CoP is a virtual network which has been advancing paediatric empirical decision support in Canada with a mandate to coordinate and oversee national data sharing, networking and benchmarking for the paediatric health community. In order to achieve this, we pioneered the creation of a Pan Canadian view of paediatric academic benchmark data, by partnering, beta testing and contributing to the development of a Canadian national business intelligence tool.

Resource pooling enables all our CoP acute care centres to access a high level of data analysis and national peer expertise. Incorporating the power of information and communication technology as core tools of our business model has allowed us to build national and local analytic capacity at modest cost. The resulting increase in our capacity has supported our ability to explore variability in best practice and outcome for common problems as well as the development of national indicators (e.g. Childhood Asthma). Strategies are currently underway to make an expanding array of business intelligence tools electronically available for quality improvement, planning, and ultimately, academic research. Moving forward we plan to collaborate and challenge our methodology by expanding our scope and including additional colleagues across the paediatric continuum of care.

Optimizing existing health information and communication technologies has also led us to begin addressing what the data really means….the journey to answering the elusive “so what factor”!

We look forward to sharing our successes, challenges, and lessons learned and invite you to learn about how our core methodology of People, Processes and Tools have made our virtual CoP a true and innovative act of business intelligence.

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CHU Sainte-Justine, Montréal, Canada

Contexte : Les pratiques médicales et pharmaceutiques actuelles misent de plus en plus sur l’interdisciplinarité.

But(s) : Présenter la démarche de développement d’un curriculum en pharmacologie pour les résidents en pédiatrie du CHU Sainte-Justine par des pharmaciens et des résidents en pharmacie.


Résultats : Cinq thèmes ont été proposés soit 1) le circuit du médicament, 2) la pharmacovigilance, 3) la pharmacokinétique, 4) les interactions médicamenteuses et 5) les préparations magistrales pour un bloc 12 heures d’enseignement intégré à l’horaire existant sur un cycle de trois ans. Une approche d’apprentissage par problèmes a été retenue, en identifiant pour chaque cours des éléments de contenu (p.ex. étapes du circuit du médicament), des problèmes pratiques (p.ex. recours à des échantillons) et les pratiques souhaitées (p.ex. consignes pour les médicaments achetés via le web par les patients). L’évaluation des connaissances avant la prestation et l’évaluation de la satisfaction des résidents en pédiatrie sont présentées.

Conclusion : Il n’existe pas d’exemples comparables documentés de la contribution des pharmaciens à la formation de résidents en médecine. Cet article décrit une initiative de formation structurée en pharmacie dans le cadre du programme de résidence en pédiatrie de la Faculté de médecine de l’Université de Montréal.
Step Into the Ozone: Innovative Practices in Paediatric Opioid Medication System Safety
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A variety of factors including the age, size, and physiological status of pediatric patients, increases the likelihood that medication incidents, particularly those involving high-alert medications, such as morphine, will result in harm. CAPHC and ISMP Canada with support from CPSI, are working collaboratively to enhance the safety of paediatric opioid medication use.

This presentation/poster will include the process and findings of phase 1 in which seventeen CAPHC member organizations submitted 4000 reports of medication incidents and the data was analyzed to identify the top 5 medications and contributing factors, most frequently involved in errors reported as causing harm.

It announces the findings of phase 2 which include the current state of opioid practice in Canadian tertiary hospitals and community hospitals; opioid medication system tactics and recommendations, results of “the Morphine Challenge” – a test designed and conducted by human factors engineers to compare accuracy of calculations using the Rule of 6 and standard concentrations; and the foundation of a national communications implementation strategy. The Ozone is based on the findings of a psychologist’s interviews of paediatric nurses and is a protective psychological space for the safe delivery of opioids.

Our three-pronged approach to opioid medication system safety is innovative and unique.

The CAPHC/ISMP Canada paediatric high alerts (opioid) project will provide common recommendations for Canadian hospitals treating paediatric patients. National acceptance and implementation will reduce the potential from harm related to opioid medications in Canadian paediatric patients and will support Canadian hospitals to meet Accreditation Canada Required Organizational Practices.
Baby Steps in LEAN: Access to Narcotics in the NICU

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**Background:** Following reduction in pharmacy services, nurses dispense all prn medications including narcotics in NICU. This requires nurses to leave the bedside, delays narcotic administration and contributes to medication errors.

**Objective:** Reduce waste of nurses' time and treatment delays associated with narcotic administration in NICU.

**Design and Methods:** Using the A3 format and a spaghetti diagram, the team documented the current condition, highlighted inefficiencies and performed a root cause analysis. Next, we drew a diagram of the target state. Potential changes designed to standardize work and increase transparency were brainstormed, communicated with staff, and implemented in sequence using PDSA cycles.

**Outcomes:** Two PDSA cycles were implemented. In the first cycle, the team standardized the narcotic keyholder and made his/her identity transparent by using a colourful lanyard. This change was poorly accepted by the nursing staff. In the second cycle, we standardized the location of the narcotic key using a lockbox. This significantly reduced the time spent searching for the key and was enthusiastically accepted by the nurses. The cost of implementation was $43, plus time spent on improvement. Estimated savings between now and 2014 (planned date of opening of new Women’s Hospital) are $110,717.

**Conclusions:** LEAN can be used to redesign everyday clinical work to reduce wasted time, improve efficiency and employee satisfaction.
Implementation of a Booking Time Guideline for Common Procedures to improve Paediatric Operating Room Flow

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Background:
Operating rooms (OR) have the highest operating costs of all hospital departments (Said 2006). OR scheduling can be an effective utilization tool (Perdomo 2006). At WCH, surgeons and their office staff book OR procedures based on estimates which may be inaccurate, leading to delays, overtime, waste and frustration. Our goal was to improve utilization of OR time at WCH.

Methods:
We measured total surgical elapsed time and time of four subprocesses (OR setup, anaesthesia, surgery and cleanup) of >6200 cases in nine surgical specialties over a two year period. We shared the actual data with surgeons and developed a booking time guideline for nine common procedures based on the median total elapsed time for each procedure. This guideline is now being distributed to surgeons’ offices and education is being provided for their office staff.

Results:
Baseline total elapsed time exceeded estimated time in 68% of cases. To date, there has been a 42% decrease in time discrepancy per case for the seven surgical procedures with lowest variability in surgical elapsed time. Comparison of data from January-February 2009 and January-February 2010 shows a statistically significant increase in the time requested by surgeons for tonsillectomy, tonsillectomy/adenoidectomy and T-tube insertion. The difference between estimated and actual total surgical elapsed time decreased significantly for T-tube insertion.

Conclusions:
Preliminary results suggest that surgeons’ awareness of the time actually required for common surgical procedures encourages them to request more realistic time on the OR schedule. This may reduce delays and waste. Surgical procedures with low variability in surgical process elapsed time are good candidates for a booking guideline. Future plans include continuing education of surgeons’ office staff, ongoing data feedback, and analysis of larger data samples.
Improving Quality of Care and Patient Safety for Transitional Youth and Young Adults

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The absence of an integrated, coordinated system of care between child and youth-serving and adult-serving mental health systems represents one of the weakest linkages within the Canadian mental health care system. This lack of integration results in significant barriers at a point where effective transition of services is necessary to achieve the recovery-oriented reform described by the Mental Health Commission of Canada. Failure to address fragility in the linkage between child and adolescent mental health services (CAMHS) and adult mental health services (AMHS) is believed to “jeopardize the life chances of transition-age youth (ages 16-25 years) who need to be supported to successfully adopt adult roles and responsibilities” (Pottick et al., 2007, p. 374). The purpose of this study was to establish an evidence base that would help inform a better standard of mental health care for Canadian youth. In the first phase of the study, investigators in Eastern Ontario crafted a policy ready paper combining best practice guidelines from the empirical literature in the field incorporated with the perspectives of provincial policy leaders from several ministries. This document provided the template for an evaluation comparing optimal transition services with the available transitional services in the region. In the second stage of the study focus groups were conducted with key provincial policy leaders, local service managers and providers, parents, and youth currently negotiating CAMHS/AMHS transitions. Qualitative analysis identifying key themes including barriers and facilitators in the CAMHS/AMHS transition were identified and the results were then compared to the practice guidelines from stage one to generate the best model/s of transition for young people with mental health concerns. The results of this work established critical components for a transitional model of care specific to the needs of stakeholders in the region and appropriate for generalization in many parts of the health care system across Canada.
Implementing a Provincial Policy Network

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Background:
Access to current, relevant and evidence informed policies is essential in providing safe, effective, quality care to our patients.
Policy development and processes have been identified as an issue throughout Nova Scotia District Health Authorities due to time commitment, limited resources and cost constraints.
Sharing of policies and policy development is limited between the health districts due to access related issues.
In 2004 the Chief Executive Officers (CEOs) of the District Health Authorities (DHAs) and the IWK, sponsored a study to determine the feasibility of a provincial framework and approach for policy review and development.

Recommendations included:
1. Districts undertake an initiative to create a provincial network.
2. Approach Department of Health to explore options for development of provincial collaboration tools to support the work of the network.

Process:
The Provincial Policy Working group OP3 (One province, one process, one policy) was established in 2007.
The Committee consists of representatives from each DHA and the IWK including a project lead from the Department of Health and HITSNS.
The group was established to create a provincial policy network, collaborative tools and processes to support shared policy development and content.
The goal of OP3 is to realize efficiencies in policy development across the province.
The OP3 Group established a project charter and a statement of works including the mission and vision of the group.
A centralized location for provincial policies was established, including standardized tools (Medworxx and Sharepoint) to develop and house the policies.
A standardized template was created to be used by all DHAs.
Standardized definitions for policies, procedures, SOP’s, etc were established, and a standardized style guide for policy development was created.
The group is presently working on a process for approval of policies at the provincial level. Once completed, the group will begin to work with the DHAs to establish common Provincial policies.

Outcome:
The creation of a formalized provincial policy network and collaboration tools reduces costs for the DHAs, provides consistency in policy development and review, and improves access to policies and information sharing throughout the Districts.
A Model for Expanding Community-Based Autism Assessment Services

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**Background:** Communities such as Simcoe County and York Region have long suffered from a lack of resources to assess preschool children suspected of having an Autism Spectrum Disorder. As a result, many families rely on assessments that are variable in terms of adherence to best practices. The Canadian Best Practice Guidelines (Miriam Foundation, 2008) recommends that diagnostic assessments be conducted by an interdisciplinary team when possible. Further, it suggests that the assessment include a full medical examination, administration of the ADOS and reference to DSM IV criteria. In many underserviced communities, children have been assessed by a variety of professionals, using suboptimal or non-standardized assessment tools. These diagnostic limitations leave families faced with the possibility of an inaccurate diagnosis or a delay in diagnosis and treatment until an interdisciplinary assessment can be carried out.

**Objectives:** To demonstrate that an interdisciplinary model involving Speech-Language Pathologists and General Pediatricians can provide high quality preschool autism assessments thereby reducing wait times for assessment.

**Method:** The Children’s Treatment Network of York and Simcoe has recently developed an innovative, collaborative model for assessment of children suspected of having ASD. This model expands the assessment capacity of local resources for children. General pediatricians are able to incorporate information obtained from community partners, the results of the ADOS assessments, and their own clinical opinion when making a diagnosis of ASD. In ambiguous or complex cases, the child can receive further assessment by a developmental pediatrician and/or other disciplines. Throughout the process, two developmental pediatricians are available to mentor and assist various team members. Children in Simcoe and York can now receive a diagnosis based on a standardized observational assessment with contributions from several members of the interdisciplinary team.

**Results:** Between September 1, 2008 and August 30, 2009, 54 children were assessed through the expanded service. Of those, 83% received a diagnosis of ASD (n=45). These children were an average of 38 months of age at the time of assessment (range: 23 months - 58 months). The average wait time for the assessment was 5 months. Previous to this expansion, children were waiting approximately 12 months for assessments.

**Conclusion:** Interdisciplinary teams utilizing ADOS-trained Speech-Language Pathologists and General Pediatricians can expand existing autism assessment services and reduce wait times and average age of diagnosis for families. We recommend that these teams be closely supported by Developmental Pediatricians and other professionals such as Occupational Therapists and Social Workers. This model adheres to best practice guidelines and can be implemented in other communities where access to assessment services is limited.
Bridging General and Specialist Care for Peds: Pediatric e-Referral and e-Consultation Pathways

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Bridging General and Specialist Care (BGSC) is an e-referral and e-consultation initiative, implemented to streamline referrals and consultations and improve communication between primary care providers and specialist. Since 2008, approximately 150 primary care providers and specialists have worked collaboratively to develop and trial e-referral and e-consultation pathways for a number of adult conditions and specialty services.

In 2010, “BGSC for Peds” was launched, which will result in the development of e-referral and e-consultation pathways for primary care providers and pediatricians referring to pediatric medical and surgical specialists at the Children's Hospital of Winnipeg. Beginning with otorhinolaryngology, pediatric e-referral and e-consultation pathways have been developed for all ear, nose and throat conditions. By fall of 2010, all pediatric specialists will have been engaged, and e-referral and e-consultation pathways will be developed and implemented for many.

The “BGSC for Peds” presentation will provide an overview of: a) the methodology undertaken for e-referral and e-consultation pathway development, b) the pathways for pediatric specialties created to date with focus on the ENT pathways developed which launched “BGSC for Peds”, c) the information technology used to facilitate e-referral and e-consultation and d) utilization statistics and the impact of BGSC for Peds as perceived by referring pediatricians, primary care providers and pediatric specialists.
Critical Event Management: A Qualitative Approach to Understanding Staff Perceptions of Supports and Barriers

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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. A critical event management (CEM) process was developed at CHEO to understand serious adverse events by bringing key players to the table for frank discussion. The CEM process has been operational for three years and an evaluation was undertaken to identify the supports, challenges and recommendations for system improvements. The objective of the evaluation was to understand the experience and perceptions of hospital staff that participated in a critical event review.

Methods:
Focus groups and semi-structured interviews were conducted to obtain information about participants’ experience, perceptions, opinions, attitudes and beliefs related to participating in a CEM review.

Results:
Eight focus groups and 3 interviews were conducted with a total of 25 (5 males, 20 females) hospital staff. 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.

Discussion:
There was agreement among participants that CEM reviews are important and that the process has evolved in a positive direction since its inception. Recommendations to improve critical event management 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.

Conclusion:
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.
Impact of a tertiary pediatric emergency department ambulatory zone on wait times of both high and low acuity patients

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Introduction: Emergency Departments (ED) face pressures to reduce wait-times (WT), yet rarely have additional resources to apply. We postulated that implementing an ambulatory zone (AZ) for low acuity patients would reduce WTs for both high and low acuity patients, as the entire department would benefit from system improvements and efficiencies from parallel processing.

Methods: Lean techniques were used to identify improvement opportunities throughout our tertiary care pediatric ED (2008 census 53667). A multidisciplinary team designed, implemented and supported staff through the transition to an AZ model utilizing parallel processing for low acuity patients. Concurrent improvements to triage were implemented to allow rapid identification and movement of appropriate patients to the zone. Implementation occurred without increased staffing levels or significant modifications to clinical space. Institutional databases and chart audits quantified the impact on median and 90th percentile time-to-MD (TTMD) and total length of stay (TLOS) for high acuity (all admitted + non-admitted CTAS 1-3) and low acuity (non-admitted CTAS 4-5) patients, comparing the 6-month period following implementation with the same period the year before.

Results: The AZ was implemented June 15, 2009, and now manages up to 50% of all patients. Immediate and sustained reduction in WTs across all groups were achieved: median TTMD & TLOS declined for high acuity patients by 23% & 11%, low acuity by 42% & 21%; 90th percentile TTMD & TLOS declined for high acuity patients by 23% & 4%, low acuity by 29% & 20%. High acuity patients saw the MD 19 min sooner and stayed 24 min less; low acuity patients saw the MD 44 min sooner and stayed 36 min less. Secondary benefits of lower left without being seen rates (2.6%, down from 3.5%) were also achieved. Measures of staff and patient satisfaction are underway.

Conclusions: Implementation of an AZ in a pediatric ED yields substantial improvements to WTs for all patients, not just low acuity patients served in the zone. These improvements, based on Lean philosophies, were achievable without additional staff or significant redesign.
Leading Systems Change & Improvement in Healthcare - From Principles to Action

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Objectives:
This presentation highlights a strategy that has been adopted at the Hospital for Sick Children to effectively manage adaptive challenges in ambulatory care.

Content:
Healthcare organizations across all sectors face a vast array of adaptive challenges (Heifetz and Laurie, 1997) prompting the need to develop new strategies and learn new ways of operating within an ever changing environment. Conference participants will have the opportunity to learn how principles of Lean Thinking (waste elimination and value enhancement) are aligned with those of change management (staff engagement and ownership) all within a conceptual framework that helps build capacity and transform the organizational culture to one of continuous improvement. Presenters will impart their perspectives and experience in applying the “Ready, Set, Flow” framework to two ambulatory process redesign initiatives at SickKids.

Conclusion:
Sharing lessons learned will provide participants with insights that could be applied within their own practice settings in order to improve work and patient flow processes, enhance the quality of care and service delivery, and foster a healthy organizational culture and climate.
Implementation of a Surgical Checklist at Winnipeg Children’s Hospital: A Unique Approach

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Background:
The WHO Safe Surgery Saves Lives Checklist – a simple 19 item checklist – was created with the goal of improving safety for patients undergoing surgical procedures around the world. Positive results of a multi-site pilot study were published in the New England Journal of Medicine in January 2009. The Surgical Safety Checklist will be an Accreditation Canada Required Organizational Practice in 2011. In April 2009, a multidisciplinary working group was established to adapt the WHO Surgical Safety Checklist for use at the Children’s Hospital. The working group determined that patient safety may be further enhanced by expanding the checklist to follow a patient through the entire surgical process.

Methods:
• The working group developed a document that consists of a series of checklists for critical time periods in the surgical process.
• Page 1 contains the pre-op checklist and includes a shortened version for children scheduled emergently and a longer version for children scheduled electively.
• Page 2 contains individual checklists for separate time periods - before entering the OR, before surgery starts, before leaving the OR, at transfer to PACU and at transfer from PACU to the Receiving Unit. The document serves the dual purpose of checklist and handover tool.
• Multiple small PDSA trials were conducted in Day Surgery, PACU and the surgical ward prior to the trial in the OR.
• Nursing, Anesthesia, Surgical champions were identified in the OR.
• Daily debriefings were held in the OR during the first OR trial

Results:
• Implementation of the surgical checklist is ongoing.
• Staff feedback has been positive when the checklist is used for longer, more complex cases.
• Modifications are required to accommodate shorter, less complex cases.

Conclusion:
Strong leadership support, commitment, and support for the champions of the checklist has been essential in our implementation process.
Redesigning Surgical Patient Flow at Winnipeg Children’s Hospital

Leslie Galloway; Jeff Arsenio; Jack McPherson; Heinz Reimer; Susan Fogg; Betty Hunter; Karin Dixon; Heather Falk; Willow Yakiwchuk; Cindy Holland; Gerarda Cronin; Joanne McGorman; Karen Amos; Lisa Gardewine; Sandie Kowalski; Colleen Weppler; Karen McLachlan; Yin Yin Tan

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Background:
In 2007, the Child Health program identified patient flow as a strategic priority. In February 2008, the Manitoba Patient Access Network funded the Pediatric Surgical Patient Flow Project.

Objectives:
• To understand the child and family's journey through the surgical process.
• To prioritize improvement opportunities to redesign processes of care, eliminating “non value added” activities.
• To decrease the number of surgical cancellations.

Methods:
• Current state flowcharts of the child and family’s journey through the surgical program were developed.
• Utilizing Lean methodology, staff in all areas identified non-value added activities in their everyday work.
• Surgical, anesthesia, set-up and clean up process times for procedures done in the OR were analyzed.
• Demand capacity analyses were performed for PACU and Day Surgery.
• Root causes of cancellations were explored.
• A 6S project was completed on the supply rooms on the surgical ward.
• A surgical patient flow survey was sent to all CAPHC centres and the results were collated.
• A family satisfaction survey was done.
• An Electronic Booking Request Form was implemented.

Results:
• Standardized reporting and improved handover of patients transported to the OR from wards and ED.
• A two nurse sign-out process and scoring criteria prior to transfer from PACU.
• Standardized reporting for children transferred from PACU to the wards
• Implementation of four Physician Standard Order Sheets.
• Revised Discharge Criteria for Day Surgery patients.
• Implementation of a Booking Guideline for the nine most common surgical procedures.
• Cost and space savings on the surgical ward.
• Implementation of a Surgical Checklist
• Development of a pre-admit telehealth program.

Conclusion:
The Surgical Patient Flow Project has been an excellent opportunity to analyze and redesign multiple processes within the Surgical Program. Lean and project management methodology were used to develop innovative, safe, patient centered improvements.
Challenges in Transport to the OR for the First Case of the Day at Winnipeg Children’s Hospital

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Background:
Delay in the transport of children from Day Surgery to the OR pre-op waiting area results in delay in OR start time. Delays result in multiple telephone calls to Day Surgery staff, impacting on workflow and increasing staff frustration.

Objectives:
• To understand the process of transporting children from Day Surgery to the pre-op waiting area for elective surgery.
• To decrease the number of children who arrive late in the OR pre-op waiting area.

Methods:
• A multidisciplinary working group was established.
• Using A3 methodology, a flow chart of the “current” state and a flow chart of the target state was developed.
• The reasons for delay were analyzed, mitigation strategies were identified and an implementation plan was developed.
• A target was identified: Children scheduled for elective surgery will be in the pre-op waiting area at least 15 minutes prior to first case start of the day, 90-100% of the time.
• Four Plan-Do-Study-Act cycles were completed.
• Data are collected daily and analyzed.
• Results are posted in Day Surgery and in the OR.

Results:
• Percentage of children arriving in OR at least 15 minutes prior to the first case of the day improved from 41% to 61.9%.
• Fewer phone calls from the OR to Day Surgery, with improved staff satisfaction.

Conclusion:
Application of A3 problem solving has been an excellent opportunity to understand the complexities that impact patient flow. This project is ongoing. Staff continue to address issues that result in process delays.
Development of a Centralized Transport Clinician Orientation Program In Ontario

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Background: Critically ill newborns in Ontario are transported by four specially trained, hospital-based, non-physician led teams. Orientation programs at the four hospitals varied with inconsistencies in core didactic teaching, duration of preceptorship, competencies, knowledge and skill set, medical directives, policies and procedures, and evaluation for certification. Organizers identified the importance of standardizing practices, as the teams move to a more fully integrated model for neonatal transport in Ontario.

Purpose: To develop a standardized provincial neonatal transport clinician orientation program in Ontario. To increase cost effectiveness and efficiency through centralization of training and resource utilization.

Methods: An interprofessional group from the existing teams worked collaboratively to develop a comprehensive orientation program. Existing local programs were compared, international accredited programs reviewed and experts consulted. The full curriculum was developed during three full day meetings, several teleconferences and email follow up where required.

Results: Over one year, the curriculum and training and evaluation tools were developed. The program consists of three phases. Phase One - Knowledge Acquisition: a centralized 40 hour didactic program, self-directed learning modules and assigned readings. A learner needs assessment facilitated the development of a learning plan and identification of a clinical preceptor. Phase Two - Application and Integration: advanced theory lectures by video conference, preceptored clinical experiences, completion of skills and competencies checklists, and simulation practice. Phase Three - Certification: written exam, observed structured clinical encounters using high-fidelity simulation and physician observed transports, evaluated using a common scoring tool. Four trainees have completed all three phases of the new provincial training program and satisfaction surveys from both teachers and learners have been positive.

Conclusions: In Ontario it was possible for a voluntary collaboration of experts to develop a common curriculum and evaluation strategy for neonatal transport clinicians, which may improve care during transport and result in cost savings.
The Art of the Possible: An Integrated Decision Support Business Intelligence Solution

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Hamilton Health Sciences has worked collaboratively with the HNHB (Hamilton Niagara Haldimand Brant) LHIN (Local Health Integration Network) to develop an Integrated Decision Support (IDS) Data Warehouse and Business Intelligence (BI) solution for the region. This is an eHealth project jointly funded by the HNHB LHIN and all participating organizations within the LHIN, with Hamilton Health Sciences as the lead and host site.

The IDS was launched in November of 2009 in beta, with secure access to a centralized data warehouse containing patient level data, linked by a unique identifier per patient, for all Hospitals and the Community Care Access Centre (CCAC) within the LHIN. Current data holdings include the CIHI DAD (Discharge Abstract Database for Acute Inpatient), and CIHI NACRS (National Ambulatory Care Reporting System for ER and SDS), MIS Trial Balance Reports, CCAC Client Data and CCAC RAI-Assessment Data. In addition, Stats Canada Census data tables, HAY Level of Care tables and ALC-IS (Alternate Level of Care Information System) data have been included. Planning is underway for further data sets to be added, such as the 7 Community Health Centres (CHC), NRS (Rehabilitation), OMHRS (Mental Health), and CCRS (Complex Continuing Care).

IDS is a secure and intuitive web-based portal that has the ability to link the patient level data across multiple data sources, multiple sectors, and multiple episodes to track the flow of patients in the region. The software contains out of the box standard reports, dashboards and analytical views, as well as tools for multi-dimensional ad-hoc analysis and reporting.

Remarkable potential exists for analyzing the activity and inter-facility movement of the pediatric population served by McMaster Children's Hospital (as part of Hamilton Health Sciences). From rate of readmission, both within and across facilities, to Emergency Department frequent visitors to market share to detailed diagnostic analysis, the IDS BI solution is a powerful tool uniquely allowing a consolidated view of the patient journey within the HNHB LHIN.
Key Partnerships in the Development of an Integrated Complex Care Model (ICCM)

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Background: There is a growing need to identify acceptable and sustainable solutions to meet the care requirements of children with complex and chronic care health needs (CCCHN). To this aim, the Hospital for Sick Children, the Toronto Community Care Access Centre, and Bloorview Kids Rehab have developed an Integrated Complex Care Model (ICCM) for CCCHN living in the Toronto Central Local Health Integration Network.

Objectives: The ICCM will seek to improve cooperation across 3 organizations with resultant improvements in care coordination. It will focus on an approach aimed at maximizing accessibility and minimizing duplication of services and resources for CCCHN. It is expected that participating CCCHN and their families will experience improved health outcomes and improved integration of services.

Approach: The ICCM incorporates implementation of targeted interventions including the assignment of a clinical and system ‘key worker’ dyad as a single point of contact for each CCCHN. Families will participate alongside key workers in the design of care and contribute to the refinement and documentation of an individualized care plan. Sixty-five participants have been identified utilizing criteria set by an Ontario Ministry of Health and Long-Term Care(1) expert panel for children with complex care needs.

Implications for practice: Evaluation of the ICCM includes an investigation of: family-centredness of care, caregiver burden and stress, and health service utilization. Perspectives of family members, service providers and key stakeholders will inform a better understanding of the fidelity and impact of the ICCM.

Conclusion: The development and early implementation of an ICCM using a ‘key worker’ for CCCHN highlights a novel approach requiring partnership across 3 organizations. Each shares with the family the ultimate goal of optimizing care across and within sectors. The poster is expected to be of interest to families, service providers and policy makers across health sectors.

Practicing Whad We Preach Part 2: A Follow-up Look at Healthy Active Living Policy and Practice in Canadian Academic Paediatric Health Centres

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Background: 26% Canadian children are overweight/obese. Public perception indicates hospitals should promote health/disease-prevention through institutional policy & resource budgeting. In 2007, we performed a survey of all Canadian Academic Paediatric Health Centres [CAPHC] demonstrating inadequate healthy active living (HAL) policy & practices. Fast food vending & patient sedentary activities were prevalent. A strong HAL policy framework was recommended.

Objectives: i) To perform a follow-up survey to detect changes in HAL policy/practice since 2007. ii) To host a multi-disciplinary, pan-Canadian task force to create a compendium of HAL hospital strategies.

Methods: 2009: a modified HAL survey was completed by all 16 CAPHC. Local CAPHC champions collected & submitted data. A multi-disciplinary, pan-Canadian task force met to share best HAL practices & create novel hospital-based HAL strategies.

Results: Survey 2009: Health Promoting Committees similar at 56%. Nonsmoking policy prevalence was unchanged, but 93% reported partial adherence. Only 19% of organizations had written nutrition policy. Most cafeterias had limited hours of operation. 62% had fast food/coffee franchises. In 81% of centers, vendor determined vending machine content; 38% increased vending machine numbers. None had physical activity (PA) promotion policies. Outdoor walking trails increased by 25%. 38% of children’s playrooms offered Wii fit. 31% of centers had outpatient Child Life workers. None had incentives for staff PA other than discounted fitness club memberships.

Suggested Strategies from Taskforce: Unique nutrition initiatives: “Dial for dining” room service; phase out fast food restaurants; restriction of fast food advertisements; hospital-based farmers markets. Unique PA initiatives: Staff walking challenges; active play in waiting rooms; Active living passports.

Conclusions: CAPHC have demonstrated improvement in HAL promotion since 2007 but considerable effort is required to develop a more comprehensive & systematic approach. Urgent attention must be given to fast food kiosks & vending machines with nutrition-poor content; deficit of Child Life workers & lack of active play areas for children/teens. The taskforce developed a compendium of HAL practice and policy strategies that will be distributed to all CAPHC organization members at this annual meeting.
Training care teams of children with autism spectrum disorders in positive behavior support: An innovative approach.

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Children with Autism Spectrum Disorder (ASD) are at an increased risk for developing problem behaviors. Positive Behavior Support (PBS) has been shown to be an effective intervention for the treatment for problem behavior because it focuses on enhancing children’s communication skills and improving environmental supports (National Research Council, 2001). However, knowledge of PBS, and its implementation strategies, is not widely known. Greater effort is needed to develop community capacity (National Autism Center, 2009). Building community (including parental) capacity involves the provision of an approach that is applied consistently across all of the child’s environments by service providers, education personnel, and families, with the united goal of providing high quality care to the child in need. In Spring 2010, the Joint Action for Children Committee, a cross-sectoral forum in the Edmonton area, developed a pilot training program (funded by the Children and Youth with Complex Needs Initiative at the regional level) to address this need. The training brought together thirteen “Care Teams” of five adults (e.g., parent of a child with ASD, teacher, educational assistant, school administrator, and/or involved clinicians) who attended three full-day sessions and two half-day follow-up sessions over the span of seven weeks. The workshops were facilitated by individuals with expertise in implementing PBS in home, school, and community contexts. Training consisted of lecture, small-group discussion, guided practice, and homework, culminating in the development of individualized PBS intervention plans subsequently implemented by Care Team. Outcome measures included weekly assessment of team functioning, workshop satisfaction, homework completion, and attendance. Pre-post measures included the Parenting Sense of Competence scale, Parenting Stress Index, and the Aberrant Behavior Checklist. Preliminary results indicated a high level of satisfaction with the program, successful implementation of high quality PBS plans, and a statistically significant increase in parents’ sense of competence. A primary goal of the training is to increase capacity across providers in the region. To realize this goal, by Spring 2011, over 250 participants in the Edmonton area will have received this training.
Injury Policy Matters: Injury Indicators for Children and Youth in Canada

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Introduction:
The Canadian Injury Indicators Development Team developed injury indicators for Canadian children and youth, aimed at monitoring and evaluating injury and injury prevention (primary, secondary, tertiary) services provided to, children, youth and their families. Indicators are grouped into policy, risk factor, outcome; meet evidence-based criteria; are useful; are intended to prompt action to prevent child and youth injuries in Canada.

Objectives:
• Evaluate and score four policy indicators
• Establish a baseline assessment of the variability of provincial policies
• Involve decision-makers, expert policymakers, advocates, and programmers
• Pilot a Risk Indicator Survey to examine key observable behaviours and/or conditions
• Report injury-related morbidity and mortality outcomes

Methods:
A 5-phase approach to evaluating policies is ongoing. Policies include bicycle helmet legislation, booster seat legislation, Graduated Driver’s Licensing (GDL), and the presence of Pediatric Trauma systems. Phase 1: identify and define policy elements, Phase 2: identify selected elements within existing provincial legislation, Phase 3: score provincial policies, Phase 4: explore risk factors through observational studies, Phase 5: link the policy indicators with outcomes.

Results:
To date, we have:
• An assessment of Canadian policies and legislation which is linked directly to current evidence and literature
• A preliminary analysis of the impact of these laws, in terms of related risk factors and outcomes
• A standardized observational study instrument for measuring risk and protective behaviours for GDL
• Applications for further funding to explore other policy indicators, risk factor and outcome indicators in greater depth

Discussion:
Evaluating the content and impact of policies is a key approach to providing evidence-based injury prevention. There is variation among provinces in the content and implementation of policies and laws related to keeping children safe. There is also variation in risk factors such as bicycle helmet use, and hospitalizations for child injury. Further research can attempt to understand the reasons for this variation, and provide evidence to guide changes in policies and their implementation. Decision-makers report their interest in being involved in such evaluations.
What’s Working at Child Health BC: Leveraging our Successes

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Child Health BC, Vancouver, BC, Canada

Child Health BC (CHBC), an initiative of the BC Children’s Hospital, is a provincial network linking the Provincial Health Authority, five regional health authorities, four government ministries and other provincial bodies. The mandate is to work together to find and implement strategies to optimize the health of children and youth in BC, and to improve access to high quality clinical health services.

Supported by its lead benefactor, the Overwaitea Food Group, CHBC has made several inroads towards achieving its mandate since 2007. Although a relatively young entity, CHBC and its partners have been able to leverage its successes and stretch their impact throughout every region of the province. This poster will illustrate this growing momentum by highlighting key mechanisms and initiatives undertaken by the network members. A recent survey of stakeholders has validated that the CHBC partnership is working. One respondent commented, “Child Health BC has brought the province together, united us to focus on child health issues. We plan together and share the workload.”

This poster session will provide an opportunity to share specific examples of activities that are forming the substantial infrastructure for an integrated, coordinated, accessible, quality system of care for children and youth in BC.
Ontario’s Paediatric Wait Time Strategy
Tamara Mohammed
Ontario Ministry of Health and Long-Term Care, Toronto, ON, Canada

Introduction:
The Ontario Paediatric Wait Time Strategy (PWTS) aims to increase access to timely, high-quality paediatric surgical procedures in the province. To achieve this important and ambitious goal, the PWTS developed an innovative governance structure and operational plan that (i) relies heavily on REAL-TIME DATA and HIGH-QUALITY EVIDENCE as part of its central decision-making processes, (ii) TRANSPARENTLY REPORTS PAEDIATRIC SURGICAL WAIT TIME INFORMATION to the public and to the provider community, and (iii) holds healthcare providers at all levels ACCOUNTABLE for their performance.

Method:
The PWTS developed policies and invested heavily in tools to facilitate evidence-based decision-making. The development of the Ontario Wait Time Information System enabled the province to collect accurate, timely and relevant information to facilitate priority-setting and informed funding decisions related to paediatric surgical wait times. The PWTS further capitalized on the availability of this information by engaging in transparent, public web-based reporting of paediatric surgical wait time data for all paediatric surgeries and for all hospitals under the Wait Time Strategy. This, in combination with the creation of annual accountability contracts attached to funded incremental surgical volumes ensure that hospitals, Local Health Integration Networks, and the province are accountable to the public and the system for their wait time performance against expert-generated provincial benchmarks.

Conclusion:
The PWTS has significantly influenced healthcare in Ontario. Its innovative governance processes and operational policies have become a model for the healthcare system broadly. As a result of this strategy, its successes and its significant public appeal, a new benchmark has been set in the healthcare sector whereby policy makers and providers throughout the healthcare system are held to higher standards of decision-making, transparency and accountability.
Injury Indicators for Canadian Children and Youth

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Introduction: Each year, 25,500 Canadian children are hospitalized—nearly 400 die—because of unintentional injury. In 2004, the Canadian Child & Youth Health Coalition established injury prevention/trauma as one of four theme areas “to identify existing indicators and develop new indicators that will be used to monitor and evaluate the health of, and the health services provided to, infants, children and youth and their families”. Following this initiative, the Canadian Injury Indicators Development Team developed national injury indicators for Canadian children and youth, including specific indicators for First Nations and Inuit children and youth, aimed at monitoring and evaluating the health of, and health services provided to, children, youth and their families in relation to injury and injury prevention (primary, secondary and tertiary). They are grouped into policy, risk factor, and outcome indicators, and meet evidence-based criteria, are useful, and are intended to prompt decision and action to prevent child and youth injuries in Canada.

Materials and Methods: Multi-phase Modified Delphi processes involving Canadian and International experts in injury prevention research, policy and practice were used to develop, refine and specify indicators. Community/public health practitioners and end-users provided broad input as to indicator ‘usefulness’ and ‘ability to prompt action’ to reduce injury.

Results: A set of 34 indicators was established together with a set of 27 indicators specific to First Nations and Inuit children and youth. Articles, conference presentations and three plain language reports have been published.

Discussion and Conclusions: The establishment of child and youth injury indicators and standards will begin to address the gaps in data collection, analysis and reporting that currently make it difficult to accurately assess the impact of injury in the lives of children and youth. Resulting programs and policies to reduce the incidence and impact of injuries will be informed using appropriate and relevant information. The team has been successful in securing additional grant funding. Future steps include demonstrating the utility of the indicators, developing a web-based indicator/information dashboard, and community injury prevention interventions.
A Balanced and Inclusive Approach to Addressing Early Childhood Caries

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Objective: To shift system thinking from treatment approaches for Early Childhood Caries (ECC) to primary prevention addressing health determinants from a community perspective.

Approach: Healthy Smile Happy Child (HSHC) formed in response to increasing dental surgery in Manitoba. Since ECC is directly linked to health determinants, an upstream community-development approach was used to promote early childhood oral health. The partnership engaged communities and service providers to prevent ECC.

Key strategies:
• Promoted the importance of oral health in the context of overall childhood health and well-being.
• Partnered with decision-makers to raise the profile of oral health within health authorities and government.
• Reviewed pediatric dental surgery data to identify areas of high rates in Manitoba.
• Evaluated project activities to determine effectiveness and identify ways to reach different groups.
• Work with pediatricians and family physicians to increase access to information.

Outcomes: Strategies resulted in access to care initiatives, targeted approaches to high risk communities and links between oral health and well-being.

Some examples include:
• Assisting the Manitoba Dental Association with the Free First Visit program promoting early dental visits to reduce the incidence of ECC in children.
• Supporting and serving as a resource to public health in regional health authorities to enable the incorporation of oral health promotion into their work,
• Linking communities with local dental professionals to serve as experts and to support wellness fairs and education.
• Increased knowledge of causes and prevention of ECC by workshop participants.

Conclusions: While ECC continues to be a problem for many at-risk groups, there is growing realization that there is no quick fix to the problem. A balanced approach is warranted, where there are continued efforts to provide timely dental treatment for young children, while at the same time, expanding evidence-based oral health promotion at the community level.
Looking for Promising Staffing and Scheduling Practices: The Development of the Staffing and Scheduling Conceptual Framework in Nursing

Judith M. Rashotte¹ Jacqueline Ellis¹, ² Katherine Moreau³ Pat Elliott-Miller¹ Chris Ferguson⁴ Anne Mantha⁵ Shaundra Ridha¹ Sheelagh Taylor¹ Betty Winsor-Stallan⁶ Chris Sorfleet⁵

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Introduction: Nursing staffing and scheduling (S&S) is a major health human resource issue currently facing healthcare organizations (HCOs). To increase the capacity of HCOs to address a variety of S&S-related issues, a multi-site collaborative project was undertaken. One objective was to describe the strengths and challenges of the institutions’ respective electronic, manual or hybrid S&S systems, the purpose of which was to look for promising nursing S&S practices.

Methods: Using a descriptive research design, a purposive, convenience sample of 85 nurses, individuals responsible for S&S, and key informants from four healthcare organizations in Ontario participated in focus groups or interviews. Qualitative data in the form of transcripts was analyzed using a thematic content analysis strategy suggested by Burnard (1991).

Results: The findings revealed that in order to understand the strengths and challenges of an institution’s S&S system and ultimately the outcomes or consequences of the system, it is necessary to break down the system into overarching elements and the sub elements that contribute to them. Therefore, a conceptual framework, entitled the Staffing and Scheduling Conceptual Framework in Nursing, was developed from the data to better describe the findings in detail. Six overarching elements were identified: (i) goals, (ii) the organization’s shared value system for S&S, (iii) context, (iv) S&S processes, (v) S&S system outcomes, and (vi) evaluation measures for a S&S system. The findings as revealed in the framework demonstrated the complexity of S&S systems and the interrelated nature of all the elements and facilitated the identification of promising nursing S&S practices.

Conclusions: This S&S conceptual framework provides an overview and roadmap of the key information and evaluation dimensions of a S&S system. Moreover, it provides a foundation for S&S system evaluations and further research on S&S practices.
Every One, Everyone ... On the Road to Culturally Competent Care at the IWK Health Centre

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The IWK Health Centre proudly launched its Diversity and Inclusion Strategy for the organization in May 2010. Development of the Every One, Everyone strategy involved 2 years of planning, consultation and assessment. As part of the development, a project team assessed the IWK's internal awareness of diversity, inclusion and cultural competence. An internal audit tool was developed and administered with results pinpointing necessary improvement in several areas including inclusion education and resources within the health centre. The project team also consulted with community stakeholders in order to understand the viewpoints of diverse populations served by the Health Centre. This was instrumental in identifying key areas of change for the organization.

Three major areas were identified for future work: increased use and confidence in culturally competent approaches; improved planning and implementation of responsive services for diverse communities; and increased inclusion practices in the physical and social environment of the health centre.

As a result of the development of the strategy, a Diversity and Inclusion coordinator was hired. The work of the coordinator and the IWK Diversity and Inclusion Committee is now guided by this strategy. A variety of tools and processes have been developed including a Diversity and Inclusion lens tool to guide the development of services, programs and polices throughout the health centre. Patient materials have been translated into Simplified Chinese, Arabic and French. Six health centre staff have been trained as facilitators and have provided cultural competency sessions to staff and volunteers. The voice of the community is now integral to the work we do and a community forum is planned for the fall to build stronger relationships and support ongoing collaboration.

Implementation of the strategy will be monitored and evaluated and the internal audit tool will be re-administered next year to gage our progress. These and other endeavors have increased confidence within health centre staff and with the community, that the IWK is committed to providing culturally competent care where diverse populations feel welcome, understood and respected.
Caring Every Day for Every Baby - Newborn Screening at McMaster Children’s Hospital

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The Ontario Newborn Screening Program expanded in October 2006 from two tests, Phenylketonuria & Congenital Hypothyroidism, to include a total of 28 rare but treatable metabolic, endocrine & genetic disorders. This change has had a direct impact on patient safety for the newborn population here at McMaster Children’s Hospital. The processes implemented by a dedicated team of professionals have been showcased for use by other centres. The system established enables the identification of at risk newborns at a much earlier stage for potential life threatening illnesses and allows the timely establishment proper interventions to improve quality outcomes. Several different mechanisms for collecting the specimen, ensuring safe delivery of specimen to the co-ordinating centre in Ottawa, tracking the newborns, and follow-up for the newborn screening program have been implemented. Most importantly, the program, which continues today, ensures that every newborn cared for here at McMaster Children’s Hospital receives the screening every time and every where.
Farther “IN” to Integration The continued growth and development of the Integrated Children’s Services Program

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In 2006 in Winnipeg, families with children with complex medical needs that required services from Children’s Special Services and Children’s Home Care were assigned a single service coordinator. That individual would assist families in accessing all of the services that CSS and Children’s Home Care have been providing for families. These services included, but were not limited to:

Service Co-Ordination
  • Respite Program Services
  • Preschool therapy for Children
  • Child Development
  • Behaviour Psychology Services
  • Recreation Services
  • Assistance with some of the extraordinary costs of caring for a child with disabilities
  • Nursing Support
  • Supplies/Assistive technology

As the program evolved, gaps in service delivery between the two systems became evident.

In response to concerns raised by families, and observations of the lead service co-ordinators. Integrated Services has further developed to encompass an in home counseling support service component, and a resource assistant who specifically recruits and trains individuals to support the children and their families. In response to further experiences related to the team by families the program is again set to evolve. Next steps for the program include the development of a “hybrid” worker. This individual would have training from both health and social service systems and will further reduce the number of different systems needed to support families. We would like to present to your our journey to present day, and our future path.
Early Results and Implications: a Study on the Impact of More and Less Integration of Services for Children with Multiple Needs

Sandy L. Thurston1 Gina Browne2

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Children’s Treatment Network of Simcoe York (CTN) is a Network of over 50 organizations from health, community and social services, education and recreation, collaborating as a system to deliver comprehensive, coordinated care to children and youth with multiple special needs and their families. CTN employs several integrative tools and processes, primarily a comprehensive child and family assessment at a single point of access, a shared electronic record and a single plan of care.

Over the past 2 years, Dr. Gina Browne of McMaster University led a research study funded by the Ontario Ministry of Children and Youth Services to evaluate the effectiveness of CTN’s integrated model on child, family, and cost outcomes.

There were no statistically significant differences between the experimental and usual care groups at the end of the two years, largely because of the longer time needed to establish high functioning teams. However, the study provided clinically important and statistically significant trends from further analysis of the experimental group when it was categorized by level of integration received by the family, and compared to the usual care group and a group of families who became inactive. The study is advancing knowledge of the complex interplay of factors related to quality of life of children with complex needs, interactions among ecological factors related to child quality of life, costs of parental depression, and the effects of integrated child and family teams.

Dialogue among CTN’s stakeholders is advancing the interpretation of the findings, and identifying refinements to CTN’s tools, processes and approaches, such as: use of outcome measures with better predictive value at intake; allocation of intensive service coordination in the single plan of care process; inter-professional practice training; and capacity-building to increase psychosocial expertise on teams. It is important to continue research into how the Network most effectively provides a holistic approach, given the multitude of environmental factors, and interactions between these factors, that are simultaneously present for children with complex needs.
Hand Hygiene Compliance - A priority for improvement

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In the spring of 2009, subsequent to a publicly reported baseline hand hygiene audit of 35%, the Children’s Hospital of Eastern Ontario (CHEO) implemented a comprehensive hand hygiene program. CHEO has since posted a significant improvement by surpassing the hospital-set goal of 70% and the 62% provincial average at that time. Most recent results, publicly one year later in April 2010, showed that 79% of the time, hand cleaning took place at CHEO at the right time and in the right way.

The success was the result of strong commitment by CHEO staff and physicians who were not happy with the first results and knew they could do better. A Hand Hygiene Task Force, representing a variety of areas of the hospital lead the charge to increase compliance, with acknowledged success.

Since its initial hand hygiene audit, CHEO has increased the supply of hand hygiene products at the point of care and launched a series of new activities and communications, including a “train the trainer” program, staff training sessions and an “It is OK to ask me if I’ve cleaned my hands” poster campaign featuring members of CHEO front line staff. In addition the hospital continues to provide quarterly reports to its board of directors, ensuring accountability and priority status.

The Hand Hygiene at CHEO drew it’s success from tools provided by the Ontario Ministry of Health and Long Term Care, based on the 4 Moments of Hand Hygiene promoted by the World Health Organization. The Program assessed 6 indicators: 1) Compliance rates as assessed by visual audits at the unit level 2) Employee knowledge 3) Leaders perception 4) Facility level assessment 6) Quarterly reporting at the Board level and 6) Staff training.

Key success factors included: education, facility preparedness, senior management support, patient and staff engagement, modeling correct behaviour and ongoing monitoring and observation of practices. Future efforts will be directed to developing the sustainability plan to maintain the gains.
Adopting the World Health Organization’s Classification for Patient Safety: Findings from a Pediatric Rehabilitation Centre

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Objective:
There is a paucity of literature related to adverse events occurring within the Canadian pediatric rehabilitation setting. The objective of the poster will be to expand this body of knowledge, by reviewing the types of incidents occurring within this setting, over a two year period through the adoption of the WHO’s classification framework.

Content:
The fundamental role of patient safety reporting systems is to enhance patient safety by learning from failures of the health care system. (WHO, 2005) Recognizing this, within our organization, an initiative has been undertaken to transform a culture of simply collecting data into one that continuously learns and responds.

Through phase 1 of this project, baseline understanding of the types of adverse events and no harm incidents occurring within Canada’s largest pediatric rehab facility was undertaken. In January 2009, the World Health Organization through the World Alliance for Patient Safety produced a conceptual framework for the International Classification for Patient Safety. The purpose was to enable categorization of patient safety information using standardized sets of concepts with agreed definitions, preferred terms based on explicit domain ontology. (WHO, 2009) A review of two year’s incident types was completed, using this framework to standardize the taxonomy.

The review provided an understanding of the nature of harm within this pediatric rehabilitation setting. Presented within this poster, will be the findings and discussion related to the thirteen WHO incident type categories: clinical administration, clinical process or procedure, documentation, health associated infection, medication, blood, nutrition, oxygen or gas, medical device, behaviour, patient accident, infrastructure or building and resource or organizational management.

Conclusion:
The review has informed us by providing greater depth of rationale for resources applied to safety initiatives and direction towards creating a learning organization. The profile describing the nature of harm within pediatric rehabilitation is unique. This work contributes to the landscape of knowledge and may inform national opportunities.
Designing, developing, and delivering an ethics tool for patients and families: An example of innovative practice

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At the IWK, we believe that ethics is fundamentally about the ways in which we do, and should, treat each other. This extends from ‘the bedside to the boardroom’ and everywhere in between, and includes individuals as well as groups. Determining what should be done can sometimes be challenging. This is where ethics, understood as a systematic investigation of our values and actions, can be of use. For example, while there may not always be one right choice, there will be better choices than others. Using ethics-informed processes and analyses can contribute to determining what these better choices may be and establish a basis upon which to defend and explain decisions to others.

Along these lines, as the IWK Health Centre Ethics Committee gained greater visibility in rolling out an ethics framework and decision-making tool for staff, physicians, and volunteers, it began to receive requests for a parallel tool for patients and families. Simultaneously, accreditation required that there be ethics resources available for patients and families. In response, the Ethics Committee decided to modify their ethics decision-making tool to help meet the needs of patients and families for ethics support.

The development of the patient and family ethics decision-making tool and the collaborative process is an example of incorporating both innovative thinking and applying patient and family-centered care practices to achieve a final product that is easy to use and helpful.

This poster provides a description of the tool and the development process. It describes ways in which different patient and family stakeholder groups were involved in this process and how the tool was then “rolled out”. We will also outline some of the challenges we faced, including using plain language to pose ethical questions and in providing motivation for patients and families to use the tool.
Paediatric Surgical Safety: We’re Doing it Here

Angela Bailey; Caroline Mitchell; Alaine Young
Hamilton Health Sciences, Hamilton, ON, Canada

McMaster Children’s Hospital, a top paediatric academic health centre, provides compassionate healthcare to children and families across Central South Ontario. As such, family centred care and patient safety is foremost in our everyday work.

A current family centred program allows one parent to accompany their child into the Operating Room suite until after anesthesia induction. This parent is then escorted out to the surgical waiting room, and then is allowed to be present in the Post Anesthesia Recovery Room (PACU) until transfer to the ward area.

With the introduction of the Surgical Safety Checklist (SSCL), originally designed by the World Health Organization (WHO), the Canadian Patient Safety Institute (CPSI) adapted the template for Canadian Operating Rooms to use. In Ontario, the Ontario Ministry of Health and Long Term Care mandated that the SSCL be used. The SSCL is a tool for clinicians to reinforce accepted safety practices and foster communication and teamwork between clinical disciplines. It aims to reduce preventable complications and mortality in surgical patients. The SSCL is a three-stage checklist, to be completed in the Operating Room suite – the first stage is to be completed with the patient awake and able to participate in the briefing – hence this became our unique challenge – a briefing to take place in a setting that can be overwhelming for both parent and child.

In April the McMaster Children’s Hospital launched a pilot of the SSCL. The poster will identify steps taken along the way: Key stakeholders identified, committee accomplishments, adaptation of the SSCL for our corporation, implementation strategies, motivational incentive and lastly patient/family satisfaction survey results. We plan to show how implementing the SSCL in the paediatric population, within the operating room suite, is possible through the involvement of the parent or guardian.
PAPI: a tool in preparation for the intervention plan

Diane Calce; Maryse Cloutier
CHU Sainte-Justine University Hospital Center, Montréal, QC, Canada

Committed to promoting family centered services, the Marie Enfant Rehabilitation Centre (CRME) developed a clinical tool that serves to determine the primary needs of the children and their families as they start their rehabilitation process. More than twenty clinicians collaborated on the development of this preparation tool for the intervention plan called the PAPI (Préparation au Plan d’Intervention).

Based on the conceptual framework on the Disability Creation Process (DCP), the PAPI tool allows rehabilitation workers to go over all of the child’s and the family’s life habits and occupations, and to identify the activities which are most challenging to them. The PAPI-gathered data is then used to guide the individualized intervention plan (IIP).

The CRME currently uses two different sets of the PAPI tool. The first set addresses the needs of children and their parents, while the second set addresses the needs of teenagers and their families. For each client group, there are three available tools. Two of the tools (PAPI short and long versions) must be conducted as a semi-directed interview. The third tool (PAPI leaflet version) can be completed as a self-evaluation by the teenager and the family. All of the tools are available in French and in English.

The purpose of the poster presentation is to introduce the different versions of the PAPI tool to the other participants, and to share with them the benefits and drawbacks of these tools when used as a means to systematize the needs-information-gathering process regarding participation in daily living and social activities of both the child and the family.
When Something Just Doesn’t Seem Right: Family Activated Pediatric Rapid Response Team

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Background:
A Rapid Response Team (RRT) is a safety net for patients whose clinical needs no longer match available resources. Early intervention by a highly skilled team may decrease adverse events, including cardiac and respiratory arrests.

An increased commitment to family-centred care and improved patient outcomes led to the development of a RRT at the Stollery Children’s Hospital. Many RRTs are designed to be activated only by staff or physicians, and not by families. Since families know their child best and can often detect subtle changes in their medical condition, it was imperative that families be included in planning, implementation, and evaluation of the team.

Objective:
The objective was to work with families to develop and implement a family-centered RRT that can be activated directly by families. The team includes a family member, bedside nurse, PICU registered nurse and respiratory therapist, with a PICU physician available by phone, or in person - when deemed necessary.

Design/Method:
Families were accessed through the Family Care Council and Network. Work of the Council and Network provides opportunities to enrich relationships between staff, physicians, and families and offers opportunities to advance the practice of family-centred care.

A working group from the Council and Network was formed to help with preparations for the RRT. This group developed processes and communication materials for the team and also provided direction on distribution strategies. All processes and materials were developed by families, for families.

Evaluation:
Following each RRT visit, the family member, bedside nurse, RRT, and physician complete an evaluation form designed to assess system effectiveness and identify areas for improvement. Quarterly reports will be reviewed by senior management for quality improvement.

Conclusions:
The team was successfully launched on May 3rd, 2010. To date, the RRT has been activated thirteen times. Early evaluations from families and the health care team have been positive.
Providing Translated Child Health Education Materials for Newcomer Families: A Needs Assessment in Toronto Community Health Centres

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Background:
AboutKidsHealth provides education, support, and health promotion for pediatric patients and their families. To redress existing healthcare inequities experienced by newcomer families to Canada as a result of language barriers, AboutKidsHealth is translating its English patient education resources into several languages commonly spoken by newcomer families to Canada including Arabic, Chinese, French, Portuguese, Punjabi, Spanish, Tamil, and Urdu. To evaluate translation priorities, this study assessed the needs of Toronto's Community Health Centres (CHCs) for linguistically appropriate child health education materials for newcomer families.

Methods:
The needs assessment study was conducted using key informant surveys distributed via e-mail to nineteen CHCs in Toronto. Common language groups, degree of need for various translated health topics, current and future uses of online patient education resources, and quality of the survey were assessed by tabulating frequency of responses, calculating median of weighted health topic needs scores, and analyzing Likert scale responses.

Results:
Five CHCs responded to the invitation. Limited translated health education resources are currently available. The current translation priorities at AboutKidsHealth correlate well with the language needs identified by the responding CHCs. Some additional languages that could be considered for future translation include Russian, Ukrainian, Tagalog, Vietnamese, Korean, and Farsi. CHCs have the greatest need for translated health educational material about asthma, mental health, sexual health, newborns, infants, skin complaints, allergies, and safety. When translated materials become available on AboutKidsHealth.ca, CHCs are very likely to print and distribute materials from the website and to refer their patients to the website.

Conclusions:
CHCs serve diverse language groups and have great needs for translated pediatric patient education materials. The availability of printer-friendly online documents would enhance the accessibility of the web resources for the CHCs and their clients.

Acknowledgements: This project was supported by Citizenship and Immigration Canada.
Web-based child health education materials: Current patterns of usage and needs among urban and rural family physicians

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Background:
AboutKidsHealth.ca provides an extensive online collection of child health education materials for families and community-based professionals. AboutKidsHealth is currently translating its English child health education resources into several languages commonly spoken by newcomer families to Canada including Arabic, Chinese, French, Portuguese, Punjabi, Spanish, Tamil, and Urdu. The current study set out to determine the use of and need for web-based child health education materials, including AboutKidsHealth.ca, among urban and rural family physicians. Patterns of usage and need for materials by topic and language were examined. The participants were family physicians and general practitioners throughout the province of Ontario.

Method:
An online survey was conducted that explored the use of printed paediatric patient education materials, the use of and interest in web-based paediatric patient education materials, the topics and languages of the materials in use and needed, as well as the use of the internet in medical practice.

Results:
Fifty-two physicians responded. Few discrete differences were identified between the urban and rural physicians. In general, urban physicians have more paediatric patient education materials available than do rural physicians. Overall, it was discovered that there is a need for child health education materials in numerous languages other than English. The greatest need was for French language materials. As well, there was a need for materials in Native Canadian languages. Furthermore, there was an interest in the use of web-based paediatric patient education materials. This interest was strongest among the rural physicians.

Conclusion:
Results of the current study encourage the development of web-based paediatric patient education materials on a variety of topics and in a variety of languages in order to meet the needs of both urban and rural family physicians and general practitioners throughout Ontario. This project was sponsored by Citizenship and Immigration Canada.
Facilitation of a positive family-centres transfer from the pediatric critical care unit to the ward: An informational letter reduces parental anxiety

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Introduction:
Research has demonstrated that transfer anxiety can be experienced by parents during the transfer of children from the Pediatric Critical Care Unit (PCCU) to the ward. Bowlby’s theory of separation anxiety may provide guidance about methods to deal with parental transfer anxiety. The aim of this project is to decrease parental transfer anxiety using Bowlby’s theory and through implementing an informational transfer letter to be given to parents prior to their child’s transfer.

Methodology:
Surveys were distributed in a pre- and post-interventional study format to both parents and staff. All survey questions were framed by Bowlby’s categorizations of anxiety (primary, expectant, and fright after anxiety). Both parent and staff surveys included open-ended questions with which to measure opinions and perceptions. Parent surveys were distributed within 72 hours of transfer of their child from the PCCU to the ward.

Results:
The staff survey was completed electronically by 133 participants and themes included the need for improved communication and education for parents, and for better timeliness and communication between the medical units. The majority of staff members agree that parents are stressed about their child’s move from the PCCU to the ward (80.9%), that parents are uncomfortable with the decreased frequency of bedside checks and assessments on the ward (72.7%), and that parents are uncomfortable with the increased patient to nurse ratio on the ward (77.3%).

The parental survey was completed on paper by 109 participants. There were statistically significant improvements between pre and post intervention groups in parent knowledge of: potential changes in respiratory equipment, nursing ratio, intravenous therapy, bedside rounds, monitoring devices, parental responsibilities, and assessment frequency. Parents reported an increased chance to ask questions, safety during transfer and awareness of ward supports.

Conclusion:
The implementation of the transfer letter has shown to improve parent experiences of the transfer process and to reduce many aspects of expectant transfer anxiety and fright after transfer. The results from the staff survey also highlight further potential to improve the logistics of the transfer process.
No Pain, All Gain
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**Objective:**
To provide educational sessions on the non-pharmacological management of pain for both parents and children in an inpatient unit of Pediatric Rehabilitation Centre. The aim of each session was to provide children and parents/caregivers tips, techniques, and information to help manage pain using non-pharmacological interventions.

**Methods:**
A non-pharmacological educational program was delivered over a four week period, each session took place once a week for 30 minutes. The program was developed collaboratively between a Child Life Specialist, and a Registered Nurse. Each session was a stand alone topic, there were no exclusions and the group was open to all inpatients and their families. Each session parents were given a hand-out summary on the content covered, and children were given resources to incorporate into their daily routine with nurses and therapists.

**Results Obtained:**
Over the four week educational program, we had a total of 8 children and their families participate in the program. Parents were asked to evaluate the sessions comments included:
1. Good interaction for children and parents
2. Was very pleased the fact that Michael showed interest and wanted to join each session shows that it was effective.
3. It was really fun, calming, and distracting.

**Conclusion:**
An educational program designed to suit both parents and children of an inpatient rehabilitation Centre can be an effective method to provide valuable information and allow parents to connect with each other, and children to support each other during rehabilitation.

**Implications for Practice:**
This educational program was a pilot for future group sessions, lesions were learned and modifications for our next group in June were made. In time we hope that more parents and children will find other techniques to manage pain other than medications.

**Outcomes:**
Further results pending June group, which will include children's evaluation.
The Power of Story Telling: Learning from the Stories of Pediatric Home Health Nurses

Helene M. Lacroix; Catherine Brookman

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Background:
The new vision adopted by a community health organization, to profoundly understand and embrace the client experience, has resulted in a renewed energy and focus. The initiation of this new journey has fostered a unique opportunity for pediatric nurses to reflect, understand, and define interventions and strategies for client care that bring meaning and value. Sharing stories, and making these stories ‘live’, is one important strategy on the journey to understand our impact on the client experience.

Methodology:
Focus groups were held with teams of pediatric home health nurses in three of the organization’s Ontario service delivery centers. Consents were obtained for participating in and recording the sessions. During focus groups, open ended questions were used as prompts to initiate the sharing of client stories. Stories are analyzed by collating the information into thematic groupings.

Outcomes:
Seventeen nurses, including school health, visiting, and shift nurses participated in three focus groups. The stories shared, often about medically fragile children with dependencies on medical technologies, or about children who were palliative, were poignant and touching. Although analysis is just underway, emerging themes include:

- Creating and maintaining therapeutic relationships over extended time;
- Blending within the ebb and flow of usual family dynamics;
- Intervening to enable visible developmental, cognitive and physical outcomes for children and families; and
- Supporting opportunities for ongoing education and debriefing of practice.

Participants also revealed a set of evolving competencies as they care for these children and their families. Finally, the degree to which the nurses appreciated participating in this experience was a powerful and yet underestimated outcome. Each session ended with at least one participant expressing deep gratitude for the opportunity to participate.

Learning:
This poster will focus on the process, rich experience, and initial thematic analysis of the stories shared by pediatric home health nurses. Next steps will include resulting improvement initiatives.
What is working? ... How about therapeutic clowning!!

David E. Langdon
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In May of 1986, the child life department of Children’s Hospital at Health Sciences Centre Winnipeg launched the first therapeutic clown program in Canada. The number of Canadian therapeutic clowning hospital programs has since grown from three in the 1990's to over thirteen in 2010. Therapeutic clowning is now present in hospitals from Halifax to Vancouver. In 2005 a professional body, the Canadian Association of Therapeutic Clowns, was formed. Canada is a leader in the field of therapeutic clowning which is rapidly growing internationally.

This poster presentation will describe the nature of the clown in society, its appropriateness and the therapeutic value of clown play in a health care setting, and the origins of therapeutic clowning. Winnipeg’s program model will be used to show how therapeutic clowns are developed to work in a pediatric setting and how they operate as part of a multidisciplinary team. The positive effects on children and families in hospital will also be highlighted. The poster will conclude with information regarding the Canadian Association of Therapeutic Clowns and therapeutic clowning programs outside of Canada, as well as a bibliography of pertinent resources in print or on-line.
Library Link: How the Children's Hospital Family Libraries Links Families, Caregivers, and Staff to Quality Child Health Information

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The Children’s Hospital Family Libraries provide a wide variety of valuable resources for families, students and healthcare professionals.

The Family Information Library’s catalogued collection has a broad array of information written at the layperson’s level on childhood illness, disease, parenting, discipline, toilet training, premature babies, and autism, to name a few. The peer reviewed books, DVDs and pamphlets are accessible to staff, students and families, both in hospital and the community. The library also offers a lending library, two computers with high-speed Internet access with printing capability, scanning, photocopy and fax services. Since opening in 1993, the library has helped over 1,000 users each year.

The Book Corner Library is a safe haven for patients and families to read or borrow materials and has over 4,000 users each year. The catalogued collection includes fiction, non-fiction, magazines, audio books and movies for all ages. Patients can also borrow materials from the Book and Movie carts that visit the wards daily. The Book Corner also offers Storytime and Mother Goose programs.

This poster will provide a description of Children’s Hospital Libraries and the beneficial services offered to families, students and healthcare professionals.
Family Talks: a family faculty program at the Stollery

Hope Chick; Heather M. McCrady; Sue Robins
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How do we teach staff and physicians about family centred care?

At the Stollery, we do it by engaging Family Speakers. A poster on the wall can remind staff of family centred care principles. But there's nothing like having a real live mom telling her story to touch the heart and essence of professional practice.

But asking families to present in hospital forums requires careful staff support - before, during and after the presentation.

The Stollery has built a family faculty program called 'Family Talks' to guide staff to engage families for speaking engagements. This poster will visually show our process and supporting documentation (which includes criteria for choosing families, checklist for engagement, tips for telling your story, and evaluation).

We will share stats on the numbers of families who spoke at conferences, rounds and meetings at our tertiary pediatric centre in 2010. We'll have clips of stories, quotes and photographs to keep things interesting.

Including the family voice at our hospital means creating opportunities to let the families speak. We've creatively engaged families, built a program from scratch and guided it to organically grow. Family speakers have been embedded in existing speaking opportunities at our facility, like staff orientation, professional conferences and Grand Rounds.

Testimonials from audience members will be included to show the power of the family story told well. (Examples: “Hearing her speak made me change the way I practice medicine.”“Best Grand Rounds I've heard in two years”).

Family speakers can be a powerful tool to educate and change culture about family centred care. We will show you how.
**Family Presence at Resuscitation**

Anna Marie Smith

*HHS - Neonatal Intensive Care, Hamilton, ON, Canada*

Neonatal recently rolled out a Family Support Person (FSP) to assist and support families during critical events with their babies in the NICU.

Traditionally family members have been asked to leave the NICU during invasive procedures or cardiopulmonary resuscitation.

The literature supports family presence during critical events but there is no information specific to the NICU.

A working group was established. The role of the Family Support Person was created and designed. The FSP role can be multidisciplinary but has begun with Registered Nurses in the NICU who have volunteered to participate.

Training sessions were provided to these individuals, which included communication strategies, breaking bad news and role-playing.

To date we have received positive feedback from staff after initial training.

The FSP is identified on the shift assessment sheet and is available to assist / support families in the event of a critical incident with their baby.
Evaluation of “The Roaring Adventures of Puff” (RAP) - A School Based Asthma Education Program for Elementary School Children with Asthma in Winnipeg and Rural/Northern Regions of Manitoba

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Asthma Guidelines, including the Canadian Pediatric Guidelines, recognize asthma education as “an essential component of asthma therapy”.

The Children’s Asthma Education Centre (CAEC) uses a validated small group interactive asthma education program for children and families. However, this does not meet the needs of all families in all regions. Schools provide an opportunity for asthma education for children.

The “Roaring Adventures of Puff” (RAP), developed by the Alberta Asthma Centre, is a school based asthma education program. RAP is effective and well validated and consists of 6 weekly, age appropriate, engaging education sessions for 7-11 year old children, delivered over the lunch hour. Children are encouraged to share their learning with their parents.

We have begun to evaluate the effectiveness of RAP in urban and rural schools in Manitoba. The primary outcome parameter is school absenteeism, (the year before versus the year after RAP). Secondary outcomes include child quality of life, caregiver quality of life, caregiver work productivity, asthma exacerbations, and use of asthma medicines. Questionnaire data and medication use are collected for each child before and 6 months after the program.

Recruitment is ongoing in Winnipeg and in rural/northern regions of Manitoba. RAP in the schools continues to be evaluated based on a pre and post study format. Baseline data have been collected from 23 schools in Winnipeg and 2 rural schools. RAP has been delivered twice in a First Nations community. Program evaluations received from children, families, and school administrators are very positive. Data continue to be collected.

We believe the RAP program, with a focus on education of children, can be effective in urban, rural, and remote settings. Data analysis will be completed in the fall 2010.
Life in the Hospital: Planning for Play

Sherry Treichel; Rosalie Favreau
Children’s Hospital of Winnipeg, Winnipeg, MB, Canada

Play is a way to welcome children into a safe and interesting environment in which getting to know the world can take place. The purpose of this descriptive poster is to highlight the ‘big picture’ of planned opportunities for play in one paediatric hospital. Skilled child life specialists draw on their knowledge of the value and function of play to develop specific goals and objectives for play spaces (indoor and out) and play-based programs (infant, preschool, teen). By offering play opportunities the child is able to journey away from the medical focus of the hospital and enter into a self-initiated play experience. Play opens a window to the needs of the hospitalized child and instills the patient and their family with a sense of normalcy. We are not only enhancing each child’s self-concept and self-esteem, we are strengthening ties to the family and peers. Considerations for diversity of cultures, the value of including the community, and strategies for reducing identified barriers to play will be incorporated.
Show Me Where It Hurts--Patient’s Interpretations of Pain

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Children's Hospital of Eastern Ontario, Ottawa, ON, Canada

It is well known that children and youth’s responses to pain are experienced on both physiological and psychological dimensions. It is standard practice that evidence based pain scales are used to treat paediatric patients. These psychometric measures allow for pharmacological treatment of pain. Psychological interventions to reduce pain and distress include distraction, coaching and cognitive-behavioural interventions.

By also asking the children and youth to tell us about their pain using creative arts, creative writing and interactive sessions we can offer another medium by which they can cope with the psychological impact of pain, illness and injury. By doing so we ensure that patients become partners in their treatment. They are able to tell us their story in ways that make sense to them.

This poster presentation will describe the process of engaging the patients during Pain Awareness Week activities. Patients ranging in age from preschool to adolescence who experienced a variety of medical diagnoses and treatments were asked to take part in these activities. The poster will illustrate some of the themes that emerged when the children and youth were engaged and using their imagination and creativity. It will also highlight the sense of psychological pain that children in treatment for mental health issues can feel. Children who experience pain related to a chronic condition were able to show where the focus of their pain was. In interactive sessions patients and their families illustrated their personal experiences.

The patient focused activities during Pain Awareness Week gave a forum for children and youth to “teach” many hospital employees. Through engagement in their recovery process, both physical and psychological, the participants gained a sense of mastery. By listening to their voices we not only learn the best way to treat their pain we also create powerful and lasting legacies.
Health Care Providers Perceptions of Family Presence during Pediatric Resuscitation

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Background:
The Pediatric Intensive Care Unit (PICU) team strives to achieve the family centered care philosophy consistent with vision and mission of Children's Hospital and Health Sciences Centre. In 2006, a team of nurses began exploration of the evidence on family presence during pediatric resuscitation with the primary goal to integrate this knowledge into practice. From the literature search, it was apparent that there was limited published research on this topic, especially from a Canadian pediatric setting. This led to a staged research project over the subsequent three years to explore and integrate family presence during resuscitation into the culture of the PICU.

Objectives:
Objectives were as follows: 1) To explore health care providers perceptions of family presence during pediatric resuscitation (2007); 2) Develop and integrate a guideline to best support this practice. (2008 – 2009) and 3) Re-examine health care providers perceptions post guideline implementation (2010).

Methodology:
Following approval from the University of Manitoba Nursing and Education Ethics review board and the site research coordinating committee, survey methodology was utilized to gather data at baseline (2007) and again post implementation (2010). Data was analyzed independently at each time interval and then in comparison to explore the quantitative and qualitative responses.

Findings:
In 2007, data demonstrated sufficient support to move this project forward. In addition the survey indentified facilitators and barriers to assist in both the development of an evidence-based guideline and the successful integration into practice. In 2010, the post implementation survey supported that the evidenced-based practice guideline for family presence during pediatric resuscitation had achieved it's goal despite their being significant changes in both the unit personnel and physical layout.

Success Factors:
Several factors were evident. They include: 1) strong leadership support, 2) consistency with the mission and vision, 3) clear comprehensible guideline, 4) research being done by the front line nurses and 5) topic important to staff and the families.
Implementation of Pediatric Post Resuscitation Debriefing

Jannell A. Plouffe

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Objective: To determine if a post-resuscitation debriefing intervention delivered the feedback necessary to increase health care providers' confidence, skills and team functioning.

Design: Impact evaluation, utilizing a two group pre test post test, with non random assignment.

Setting: Children’s Hospital in Western Canada

Participants: Health care providers who were active participants in a pediatric resuscitation.

Measurements and Main Results: Bandura’s (1977) theory of self-efficacy provided the theoretical framework for the relational and non relational propositions, constructs and measures. One hundred percent of eligible resuscitations (N=6) during a 10 week intervention period received a post-resuscitation debriefing intervention. Fifty nine percent of the team present at a resuscitation attended a debriefing (N=29). The baseline questionnaire (N=88) was compared to the post intervention questionnaire results for the treatment (N=21) and the control group (N=13). Rigorous repeated measures ANOVA demonstrated statistically significant changes in individual score (confidence and skill) (p=0.0071), individual average score (p=0.0272), as well as team score (p=0.0130).

Conclusion: Delivery of a post resuscitation debriefing intervention improved the health care providers’ perception of confidence, skills and team work. This suggests the incorporation of formalized feedback in a high risk low volume activity such as a pediatric resuscitation, is an innovative strategy in the overall goal of improving patient safety through provision of a non-punitive evaluation platform.
Celebrating Safety Innovation in the Pediatric Intensive Care Unit (PICU)

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Background:
Innovation is paramount to a successful health care system. Clinical and organizational innovation arises from interest, research and bridging of knowledge. It demands philosophical change in the practice setting beginning with the front line care providers. PICU at Winnipeg Children's Hospital has adopted a strong philosophy in patient safety and is applying innovative Safety Competencies (CPSI, 2009) at all levels of the care continuum. With the goal of establishing an advanced level of safety where 'safety is the way we do business around here,' several innovative and successful health care strategies have been integrated into daily practice.

Methods:
The PICU Safety Committee is a growing multidisciplinary team of front line staff members who network on a monthly basis to establish safety priorities. Leadership of safety initiatives is co-owned with committee members, and a "plan, do, study, act" methodology is utilized. Data is gathered and reported quarterly.

Results:
1. Catheter Related Bloodstream Infection Reduction (CRBSI): 75% decrease in rate of CRBSI sustained over the last 3 years.
2. Ventilator Associated Pneumonia (VAP) reduction: 50% reduction in VAP sustained over 2 years.
3. Severe Sepsis: 90% of all appropriate patients are screened for severe sepsis and of which 75% receive the severe sepsis bundle.
4. Rapid Response Team: There has been greater than 75% reduction in cardiopulmonary arrest calls on the pediatric inpatient units.
5. Occurrence Report Risk Review and Analysis: Over 90% of the occurrence reports generated in the PICU have unit specific actions taken at the front line within two months of the report. There has been a 20% decrease in the most severe of the occurrences.
6. Safety Huddles: Occur weekly and continue to generate safety issues to address.

Conclusion:
Innovation is the key to creating a safe and successful health care system. Empowering front line staff to engage in safety work results in a philosophy of change and a culture of safety as 'the way we do business.'
Childhood Osteoporosis: Screening, Prevention, Treatment and Safe Handling Practices: A Child Health Project

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Osteoporosis is a challenge facing children of all ages with a variety of different health conditions and physical abilities. The reality of this challenge initiated the development of the Child Health Program’s interdisciplinary project team at the Winnipeg Children’s Hospital. Our goal was to develop protocols and tools to identify at risk children and to prevent fractures in these children. We have developed an evidence-based screening tool to allow primary caregivers to quickly recognize the “At Risk for Osteoporosis” child and to determine the next level of care related to bone health. The use of our evidence-based diagnosis, treatment and prevention guidelines will empower all care providers to make bone health a priority for their patients. A “Handle with Care” protocol along with identifiable signage will give caregivers and others who may handle the child during their admission to hospital the ability to do so safely with adequate knowledge of fracture prevention strategies. A resource for families and caregivers that includes the definition of osteoporosis, diagnostic criteria and prevention strategies has been developed to promote safe handling at home. Nutrition and lifestyle recommendations including activities of daily living, safe handling practices, and tips to prevent injury are also included. All children admitted to the Winnipeg Children’s Hospital will be screened during the standard nursing admission assessment. The process from screening to initial work-up, diagnosis and treatment or prevention will be described in detail. Any child identified as high risk or having pediatric osteoporosis will automatically be cared for following the “Handle with Care” protocol during their hospital admission. This multidisciplinary approach to bone health and fracture prevention is key to successful outcomes for our patients. Successful roll-out and sustainability of this project depends greatly on networking and collaborating with many stakeholders from initiation through to the maintenance of this practice change. A future goal is to expand the use of the guidelines in outpatient settings to promote fracture prevention in children with osteoporosis in the community.
Pediatric rescue extra-corporeal membrane oxygenation, without local pediatric cardiac surgery program: single institutional review

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Background and Objectives:
Critically ill children with cardiorespiratory failure unresponsive to conventional therapies die without access to extracorporeal lifesupport (ECLS). Worldwide, many cardiology programs have no onsite paediatric cardiac surgery expertise or ECLS programs. We show that an organized rescue-ECMO (extra-corporeal membrane oxygenation) program, in collaboration with an ECMO-ready accepting facility, can achieve survival rates comparable to onsite ECMO.

Methods and Results:
We retrospectively reviewed all patients initiated on rescue-ECMO from 2004-2009 at Winnipeg Children's Hospital. Eight children were cannulated for ECMO in Winnipeg and transported by air to the nearest facility with a paediatric cardiac surgery ECMO program (Edmonton). ECMO was initiated in 0.2% of PICU admissions and 0.52% of new cardiac patients. Mean age was 4.0 years (7 weeks to 15 years). Reasons for ECMO were cardiogenic shock (n=5) and ARDS (n=3). Cardiogenic shock patients underwent veno-arterial (n=5) ECMO; ARDS patients received veno-veno (n=3) ECMO. One patient on veno-veno support was eventually converted to veno-arterial ECMO. Cannulation for ECMO was performed by a local adult cardiac surgeon with paediatric experience (n=5), a local cardiologist using Seldinger technique (n=1), or the receiving centre's paediatric cardiac surgeon (n=2). Seven children were transported within 24 hours. Logistics delayed one transfer for 2 days. All children survived transport on ECMO without complications. Five children (63%) were successfully weaned from ECMO and discharged from hospital; four (50%) were alive at thirty days. Three survivors (37.5%) had ECMO complications (site bleeding, site infection, cannula thrombosis).

Conclusions:
For patients in extremis, early initiation of rescue-ECMO at the referring hospital can be a lifesaving intervention. ECMO is rarely required in our centre. Carefully planned air transport of ECMO patients was not associated with adverse outcomes. Survival was comparable to that of current published results from institutions with established paediatric cardiac surgery programs. Our protocol includes standardized cannulation and ECMO initiation with input from both sending and receiving centres, concurrent with mobilization of the transport team, thereby minimizing delay and adverse outcomes.
Changing IV practices: Replacing buretrols with a minibag system

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The Buretrol solution set was used widely throughout the Child Health program of a large tertiary care facility for 1) the primary intravenous (IV) tubing and 2) the IV administration of large volume intermittent medications unable to be administered directly into the patient (IV push) or IV tubing. Occasionally, medication began to be provided to the care areas in minibags by pharmacy and manufacturers. Observation of staff practice and subsequent discussion highlighted uncertainty about how to use minibags and secondary medication infusion sets, which contributed to contradictory practices. Consultation with adult health care providers and academic partners did not fully address all pediatric issues.

A literature review to support education on the use of minibags prompted a two year project with major changes to overall pediatric IV practices. A multidisciplinary working group was established, including representatives from all in-patient units. Product changes included primary and secondary IV tubings; selection of minibag size and fluids; and removal of buretrols. New practice issues included maximizing infusion pump features related to minibags systems; management of residual medication within minibag infusion tubing; and the management of inexact minibag volumes related to overfill. Education extended beyond product and practice change to refreshing practice issues such as the rate and volume for flushing of medication in IV tubing; compatibility of medications; administration of medications IV push; availability and use of syringe pumps for large volume intermittent medication, and nurse/pharmacy communication. Product distribution and storage of additional IV bags and tubings challenged supply rooms and expiry dates. The collaborative development of educational strategies and formal and informal staff feedback along with ongoing challenges will be described.
Failure Mode Effects Analysis (FMEA) for Morphine Prescribing Practices

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**Rationale:** At the Children’s Hospital of Eastern Ontario, medication related events represent the highest percentage of patient safety incidents (28%). Of these, there have been 38 morphine related events (5.7% of medication incidents). Due to the voluntary nature of the Safety Reporting System, the recorded number of 38 reported events is likely an underestimation. Although not the sole contributing factor, prescribing practices contributed to a number of these incidents.

**Objective:** To identify and prioritize potential failures in morphine prescribing, with the objective of improving patient safety by identifying and acting upon those parts of the morphine prescribing process which are most in need of change.

**Study Design & Methods:** A failure mode effects analysis (FMEA) was used by the multidisciplinary team to diagram the process of prescribing morphine and to brainstorm potential failure modes and predict their effects should the failures occur in real-time. Following this, the team identified causes of failure modes and prioritized these using severity, detectability and frequency.

**Results:** A total of 70 failure modes were identified and prioritized these using severity, detectability and frequency as scores. Single point weaknesses are steps so critical that their failure would result in a system failure or adverse event. These were found to be distributed across the entire process (n = 23). Secondly those scored with severity 5, meaning a severe or catastrophic effect should a failure of the step occur (n = 12). Finally, risk priority number (RPN) which is calculated based on frequency, detectability and severity (n = 5).

**Conclusions:** By identifying the potential failures in morphine prescribing, developing strategies and recommendations that include the following: 1) development of corporate dosing guidelines; 2) development of a verbal order policy; 3) promotion of pre printed orders hospital wide; and 4) support for computerized physician order entry with forcing functions.
Educating Children and Teens about Inflammatory Bowel Disease (IBD) on the “Upopolis” Secure Social Network

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Rationale:
In contrast to their parents, pediatric IBD patients did not make much use of a free IBD information CD distributed to our clinic patients and families. As youth commonly use the internet, we examined the effectiveness of presenting the same information to hospitalized pediatric patients using the “Upopolis” secure social network.

Methods:
A Child Life Specialist (CLS) administered a pre-questionnaire, then orientated pediatric IBD inpatients (<18 years) admitted January 2009 – April 2010 to IBD information on Upopolis. A post-questionnaire examined the change in knowledge and the patient’s comfort level explaining IBD to their friends. Four categories were measured: 1) Self-reported knowledge 2) Misconceptions 3) Comfort with explaining IBD 4) Evaluation of information. Categories 1, 3, and 4 were measured using a 5 point Likert scale. Category 2 was scored based on correct answers.

Results:
17 patients (aged 10-17 yrs.; mean 14.5; 7 males, 10 females; 13 crohn’s disease, 3 ulcerative colitis, 1 indeterminate colitis) participated. Improvements in knowledge and in comfort level explaining IBD were statistically significant. Category 1, 82% of patients demonstrated increased knowledge (P= 0.002); Category 2, 41% of patients had increased knowledge (P= 0.014), however most others already had near perfect or perfect scores prior to viewing the information; Category 3, 94% of patients had increased comfort explaining IBD (P=0.001). 85% of the patients liked the information and found it applicable.

Conclusions:
IBD information posted on Upopolis effectively educated young patients about IBD and increased their comfort level explaining IBD. This information was evaluated positively by the participants demonstrating that electronically accessible health information introduced by a CLS is an effective way to educate pediatric patients with IBD.
Transitioning from the Pediatric Intensive Care Unit (PICU): Withdrawal of Life Sustaining Treatment in the Home

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Background:
The withdrawal of life sustaining treatment is a situation encountered in the Pediatric Intensive Care Unit (PICU). As complexity and advances in medical interventions evolve, there is a parallel requirement for discussions about the withdrawal of life sustaining treatment options. The withdrawal of treatment requires preparation by the health care team and the family for the resulting outcomes.

Objectives:
This poster will provide an understanding of how the teams from the PICU and palliative care worked collaboratively to provide family-centered care and facilitate the family’s wishes for a home death. Current literature available on the topic of home extubation will be reviewed. The poster presentation will: 1) describe the steps taken to facilitate the patient being transported home from the PICU, 2) identify the considerations by various members of the health care team during the planning and implementation of the care plan, 3) outline the lessons staff learned from this process, and 4) suggest thoughts about future situations.

Methodology:
A case review format will be utilized to present our first situation of a family desiring withdrawal of life sustaining therapy in the home setting. The patient was a three year old girl with a posterior fossa tumour, who had undergone surgical resection and chemotherapy. Located in the brainstem, the tumour caused disordered breathing necessitating intubation and ventilation. Tumour regrowth had occurred and further treatment with radiation and chemotherapy were offered, but chances for survival were felt to be very poor. With the support of the health care team, the family decided to stop life sustaining treatment. They desired to do this in their home, surrounded by their family. In reviewing the options available to families in these situations, home is often not considered.

Results:
A successful withdrawal from life sustaining therapy was completed in the home. This case has created the impetus for the PICU to explore current end of life practices, staff education and future planning.
The Effectiveness of a Community Based Pediatric Asthma Education Program

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Rational:
The purpose was to evaluate the effectiveness of a community based asthma education program.

Methods:
Family physicians were recruited and children referred to be seen in the office setting. Families were seen and assessed by a Certified Asthma Educator at baseline, 2 months and 6 months. Juniper's Asthma Control, Pediatric Quality of Life and Pediatric Asthma Caregiver's Quality of Life questionnaires as well as work and school productivity questionnaires were completed. Spirometry was performed if possible. Standardized education was provided each session. Individualized mail outs reinforcing key messages were sent at 1 and 4.5 months.

Results:
195 children were referred from 9 offices, 107 were enrolled, 83 (31 females; 52 males) 6 months – 17 years and/or caregivers completed the program. There was significant improvement in all quality of life domains for children (total score p≤0.0001, activity p=0.02, emotional p≤0.0001, symptoms p=0.0005), caregiver's quality of life (total score p=0.003, emotional domain p=0.001, activity domain p=0.04); and asthma control (p=0.03). Families reported a high level of program satisfaction (especially sense of improved knowledge, skills, awareness, and quality of life; benefits for the child and convenience).

Conclusions:
Certified Asthma Educators play an important role in providing asthma education in primary care physician offices. This can increase accessibility for families who otherwise could not participate in education.
From Land to Air... Sustaining Medication Reconciliation During Transition from Paper to Electronic Worlds

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Hamilton Health Sciences (HHS) is an academic health care centre comprised of seven centers providing acute, long-term, pediatric and cancer care.

Medication reconciliation (MedRec) is a formal process of developing a complete and accurate list of home medications and comparing these to physician’s orders on admission, transfer and discharge. McMaster Children’s Hospital and McMaster University Medicine Centre are the two centres of HHS to implement MedRec using a paper order form; in 2010 the transition into electronic health records (EHR) started.

Quantitative, retrospective audits of paper and EHR identified system challenges which impact the sustainability of MedRec during this transition. Physicians document on paper as computerized prescriber order entry is not presently available; nurses and pharmacists document electronically creating a disconnect in information sharing. Duplications in documentation were identified, even thought clear instructions were provided. Building MedRec into the electronic documentation standards for each area is essential as EHR spreads. Electronic software that interfaces with other HHS databases would decrease staff workload and facilitate sharing of the electronic medication list with timely access.

Regardless of paper or EHR, dedicated staff is essential to the success of MedRec. Clinical Pharmacy Technicians, supervised by pharmacists, has increased MedRec uptake. A Project Facilitator would also help oversee the implementation and integrity of the project. These roles could potentially increase staff engagement by role-modeling, timely accessible support and efficient utilization of human resources.
Optimization of Medication Reconciliation on Admission for Pediatric Inpatients
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**Rationale:** Medication reconciliation (MR) is a process designed to provide the most complete and accurate list possible of all medications during transfer of care. The pharmacy department is reviewing the existing MR process completed by a team of Pharmacy Assistants (PA's) to optimize patient care and capture all inpatient admissions.

**Description of concept:** At its conception, MR was performed by a single PA. However, the process is now supported by a team of 4 PA's 7 days a week. In an effort to harmonize the MR process, the process is being reviewed to establish best practice and improve the ability to capture all inpatient admissions. Specific objectives include: 1) prioritizing patients requiring MR based on unit/diagnosis; and 2) creating a decision tree to identify the need for pharmacist involvement.

Steps taken to implement new program:
1. Observe current practice of MR as performed by each PA.
2. Diagram current process and propose changes for quality improvement.
3. Audit successes and barriers to revised MR process.
4. Re-assess for additional training or educational needs.

**Evaluation of project:** From January to March 2010, over 1810 admissions to hospital in which 865 medication history interviews were conducted (57.5% of 1504 eligible admissions (defined as >24hrs admissions, non-oncology patients, non-neonates). The number of MR per PA varied from 50.3% to 66.2%. The number of MR greatly varied between them (7.6-10.8/day), as did the number of medication histories completed prior to admission (2.3-7.2%).

**Concept's importance and usefulness to current and/or future practice:** A harmonized MR process upon admission is intended to increase efficiency and effectiveness in obtaining and documenting medication histories. The decision tree will help reduce the number of clarifications requiring intervention by a pharmacist and improve timeliness in reconciliation of medication discrepancies.
Development of a standardized transcription process for a pediatric medicine unit: A safety improvement project

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Background:
A review of occurrence reports from a 16 bed acute pediatric medicine unit from January 1 to September 15, 2009 revealed that 26% of the occurrence reports included errors involving transcription of orders; including order writing, transcription, review and implementation. A root cause analysis was conducted to determine risk reduction strategies and develop action plans along with strategies to evaluate the effectiveness of the plans.

Objectives:
• To involve staff in creating a standardized transcription process and developing transcription guidelines
• To communicate the guidelines to staff including relief team and nurses that come from other units
• To continue documenting occurrences

Methods:
Approval was obtained from senior management to move forward with the process improvement project. All staff (nurses and nursing assistants) with a role in the transcription process were required to attend one of four mandatory 2-hour sessions. The purpose of the sessions was to investigate the underlying causes and contributing factors of the errors. Physicians and pharmacists were invited to attend.

Results:
• Three overall themes related to transcription errors were identified.
• Three separate processes were developed to address different orders sets: STAT orders, discontinued medications and general transcription of orders
• Two algorithms were developed for each transcription process. The first algorithm involves transcription of an order by a nursing assistant that is checked by the bedside and charge nurse. The second algorithm involves transcription by two nurses.
• Since implementation on January 19, 2010, the number of occurrence reports that included transcription errors has decreased to 1.2%.

Conclusion:
The transcription process was shown to be a highly complex process that can lead to many errors. Having standardized methods for transcription process is an important way to improve safety and care for our patients.
A Transition Program for Adolescents with Allergies and Asthma: A Model for Management of Chronic Complex Disease

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Transfer from Pediatric to Adult care can lead to difficulties with continuity of care and follow-up, particularly for children with chronic, complex disease. This is a major concern in adolescent asthmatics deemed to be at high risk of severe exacerbation because of PICU admission, repeated ER visits, non-compliance, social circumstances, or food allergy.

In 2006, to ease their transfer to adult care, the Pediatric Allergy team at Children's Hospital in Winnipeg developed a transition process for children at high risk because of asthma and allergy. The transition team consists of pediatric allergists, a clinical nurse specialist, nurse clinicians, social workers, an administrative assistant, and an adult allergist with cross appointment to Pediatrics and Child Health. Initially the transition process involved 11 adolescents aged 16 -17 years meeting once or twice with the transition team followed by transfer to adult allergy care. Post-transfer, 10/11 have attended follow-up visits in the adult allergy clinic.

Currently, the process is begun at 14-15 years. An introductory information package is given to each family prior to enrolment. An Adolescent Transition Readiness Assessment tool has been developed. At each pediatric allergy appointment, items from the assessment list are discussed with the adolescent. Further resources are provided if a specific need is identified. Once the adolescent is 16 years old, the adult allergist assumes care, with the transition team, in the Pediatric Allergy Clinic. When the team and family believe that the transition needs have been met, transfer to the adult environment is made. Three predominantly high risk asthmatic adolescents have completed the expanded transition process, with 2 maintaining regular follow-up care at the adult allergy clinic. An additional 7 are in the final stages of the transition process.

Monthly transition team meetings are held, and each adolescent in the program is reviewed. A dedicated Pediatric Allergy Transition Clinic is planned.
Mise à jour sur l’interprétation des niveaux de contamination en médicaments dangereux

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Contexte : Depuis la publication de l’alerte du National Institute for Occupational Safety and Health (NIOSH) en 2004, le domaine de la santé s’intéresse activement à l’utilisation sécuritaire de médicaments dangereux.

Objectif : Compte tenu du nombre important d’articles publiés depuis un premier état des lieux et de l’intérêt croissant pour la surveillance environnementale, biologique et médicale, nous présentons une mise à jour des données pertinentes au 31 janvier 2010.

Résultats : Nous avons recensé un total de 212 articles dont 56 portant sur la contamination de surface, 23 sur la contamination de l’air, 9 sur la contamination des fioles de médicaments, 19 sur l’impact de la technique de nettoyage des fioles, 51 sur la contamination urinaire, 31 sur la documentation de dommages génétiques, 7 sur la contamination au sein d’autres liquides biologiques, 8 sur les impacts reliés à la reproduction, 4 sur les impacts à long terme et 4 sur d’autres impacts documentés.

Conclusion : Comme le suggère cette mise à jour documentaire, il n’existe aucun consensus sur le niveau acceptable de contamination. S’il est souhaitable de viser un niveau aussi bas que possible, la présence épisodique de traces demeure incontournable, qu’il y ait ou non utilisation de circuit fermé encadrant la préparation et l’administration de médicaments dangereux par un grand nombre d’intervenants.
Quality Improvement in the NICU: Providing Safe Feedings to the High Risk Neonate

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Background:
Breast milk is recommended as the optimal source of nutrition for infants, but as a body fluid, it carries a risk for transmission of many infectious diseases. There is tremendous potential for inappropriate handling of formula and human milk as there are an estimated 250 feeds prepared daily in our Neonatal Intensive Care Unit (NICU) at St. Joseph’s Health Care, London, Ontario. Powdered infant formulas and fortifiers are not commercially sterile products as they are unable to withstand high enough temperatures during processing compared to sterile liquid products. As such, stringent preparation and handling is essential for these non-sterile products.

Purpose:
The NICU embarked on a project to reduce and/or eliminate breast milk errors. Another goal was to minimize the potential adverse patient outcomes associated with the preparation and handling of powdered nutritional products in our health care facility. Other patient safety goals included
- Following ADA & FDA recommendations
- Leveraging existing technology
- Increasing RN time at the bedside

Methods:
A multidisciplinary working group was established in 2007 to interface the Timeless Medical Inc’s electronic Mothers Own Milk System™ (MOMS) with our hospital based Cerner system. This process also involved the hiring and training of specialized Infant Nutrition Technologists (INT’s) to prepare and deliver all feeds to our NICU clinical areas and the establishment of a centralized infant nutrition preparation area utilizing a laminar flow hood.

Results:
There have been no reports of breast milk administration incidents since implementation of unit dose feeds for the entire unit. There was one reported incident of the wrong collection labels being given to a mother by a nurse outside of the NICU. Incidents are shared immediately, via a transparent process, with the parents and staff; near miss reports are shared with the staff monthly.
 Genetic Counseling in a Busy Pediatric Metabolic Practice.

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Patients with metabolic conditions and their families require unique clinical care including management of acute illnesses, screening for long term complications, discussion of the etiology of the condition, connections to social supports, and clarification of the recurrence risks and prenatal options. Our multidisciplinary pediatric metabolic clinic combines the skills of metabolic geneticists, pediatric dieticians, social workers, clinical pharmacists, nurses and genetic counselors to provide optimal and wellrounded care for our patients and their families. Given the inherited nature of most inborn errors of metabolism and the necessary long-term management for these disorders, the genetic counselor’s role in this clinic setting is integral in providing ongoing support and education for patients and their families. This includes coping with the disease burden, helping them adapt to a condition in the family and ensuring adequate understanding of the recurrence risk and the available prenatal diagnostic and reproductive choices. Our clinic provides services to a large geographic area with many isolated populations where unique metabolic diseases are highly prevalent secondary to a founder effect. In this commentary, we share our experience in providing comprehensive care to children with complex medical needs due to metabolic disorders and highlight the role of the genetic counselor in this clinic setting.
The Developmental Services Worker: A New Talent pool for Children Receiving Home Health Care Services

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Background:
Health human resource limitations continue to challenge the community health care sector. This has created an urgent need for openness and innovation, especially for the creation of interdisciplinary teams to meet the health care needs of children with chronic conditions receiving services at home.

Design:
A six month pilot program was initiated through collaboration between a Community Care Access Center, a Service Provider Agency, and a local Community College to test the integration of a new category of unregulated care provider, the Developmental Services Worker (DSW) as part of the pediatric interdisciplinary home care team. The pilot was designed to define the role and understand the benefits that the DSW brings to one segment of the pediatric population traditionally cared for by nurses.

Outcomes:
To date, three DSWs have been hired and integrated into the community based health care teams of four children and their families. An evaluation matrix, with elements of interest for each of the stakeholders, has been established. Early outcomes are promising:

- Improved meeting of anticipated client milestones;
- Family/client, nursing and DSW satisfaction;
- Learning opportunities for nurses in the area of childhood growth and development;
- Learning opportunities for the DSW in traditional health care; and
- Improved capacity to provide services.

Other critical outcome elements of the pilot include maximizing the DSW scope of practice as well as developing orientation and ongoing professional development for the DSW and the infrastructure for building effective interdisciplinary teams.

Learning:
This poster will focus on sharing the process, experience, and outcomes of the DSW pilot. Recommendations about the positioning of the DSW with the home health care sector will be shared. The benefits of working with organizations within the sector to achieve outcomes of importance for each stakeholder with be highlighted.
Process Engineering: Paving a Pathway for Kidney Transplantation in Children

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Historically, the assessment of children and adolescents at Children's Hospital, Health Sciences Centre Winnipeg for kidney transplantation was organized via the adult kidney recipient coordinators from the Health Sciences Centre. In 2005/2006 Transplant Manitoba was reconfigured resulting in the separation of adult and pediatric, and donor and recipient programs, presenting a unique opportunity for the formalization of the transplant process for pediatrics using Process Engineering as a framework for development.

The Transplant Manitoba-Pediatric Kidney Program, working with a process quality engineer, has developed a formalized pathway identifying the critical steps to ensure patient safety, family involvement, quality care and, time effectiveness in the pre-transplant assessment of children and adolescents. The identification of these critical steps along with associated standard operating procedures, forms, letters and educational materials is described by this poster. In addition the poster describes the role of Process engineering in a health care setting.
“What’s Working in Telehealth?” - Results of 2010 National Scan of Paediatric Clinical Telehealth

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Introduction
The explosion of health care delivered with the assistance of telehealth technologies across Canada has impacted access to paediatric specialized services in an unprecedented fashion.
The structure of health care services within provincial boundaries has resulted in unique network configurations, protocol development and interprovincial partnerships. In order to outline these silo’d pockets of excellence a national scan was undertaken in 2009.

Description
All provinces and territories were invited to participate in the national scan by way of participating in a telephone interview/ survey. Initial data collection was updated and additional questions relating to leading practices, governance structure and accreditation experiences were asked. Feedback demonstrated a matrix of efficient models of care aimed at improving access to specialized services for Canadian children and youth.

Conclusions
General consensus determined that the document provided a satisfactory broad overview of telehealth activity. Group members were able to determine specific areas of clinical practice and propose national liaisons based upon these findings. Determining the impact and effects of a national accreditation process provided a valuable resource for others who were preparing for their initial assessment or responding to updated changes to the accreditation process.

It was noted however that the data from participants had been collated in a variety of methods and therefore its use to analyze operational activity would be unreliable.
Little Heroes: How We Live With Kidney Disease: Supporting children and families with chronic kidney disease through story telling

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Assisting children and families living with chronic kidney disease (CKD) to manage their illness and its impact on their daily lives is a major goal for professionals working in pediatric nephrology. The literature suggests many strategies for helping those living with CKD to manage; strategies such as support groups, camps, and story telling. Story telling has a long history of assisting those “telling the story”, and those “exposed to the story”, to understand and accept their own experience living and managing with chronic illness.

Due to the large geographic area we serve and the relative rarity of pediatric kidney disease, traditional strategies, such as support groups, were largely unsuccessful. In response to this gap in care, the section of Nephrology at the Children’s Hospital, Health Sciences Center Winnipeg asked our families to share their stories, which we would publish and share with other families. We collected 25 stories from children and families describing what it is truly like to live and cope with CKD and published them into a book called: Little Heroes: How We Live With Kidney Disease. To date over 3000 books have been distributed, free of charge, across Canada, the United States and internationally.

This poster describes our experience in publishing Little Heroes, its international distribution, varied use and, feedback from institutions, professionals, children and families. Little Heroes has been successful in educating students and professionals, increasing public awareness of CKD and, assisting children and families manage life with CKD through the medium of story telling.
L’hospitalisation d’un nouveau-né à l’unité néonatale se prolonge souvent pendant plusieurs semaines. La séparation prolongée de l’enfant avec ses parents cause des difficultés d’attachement. Diverses stratégies ont été développées afin de favoriser le contact des parents avec leur enfant. Cependant, ces mesures sont souvent limitées par l’éloignement des parents, particulièrement dans les centres tertiaires desservant un très vaste territoire.

En 2008, nous avons mis en place au Centre mère-enfant du CHUQ, un site Web sécurisé permettant aux parents, demeurant à plus de 100 km de l’hôpital, d’interagir avec leur enfant. Le site Web contient des photos et des renseignements sur leur enfant. Le site permet aussi aux parents de voir leur bébé en temps réel à l’aide d’une webcaméra. Les parents désireux de bénéficier de ce service doivent réserver, par courriel ou téléphone, une session d’un maximum de 30 minutes par jour. En 2008, à la première année du projet, 2,4 sessions étaient réalisées quotidiennement. En 2010, nous réalisons 5,7 visionnements par jour représentant plus de 1000 sessions par année. Cette année, nous prévoyons desservir plus de 70 familles. En moyenne de 15 à 20 bébés et leur famille sont inscrits simultanément au programme CLICK, ce qui correspond à 25-35 % des enfants hospitalisés à l’unité néonatale. La webcaméra permet non seulement à papa et maman de voir leur enfant, mais aussi aux frères et sœurs et grands-parents de connaître le bébé. Nous notons une très grande satisfaction de la clientèle. Actuellement, des projets sont en cours afin d’ajouter le son pour permettre à bébé d’entendre la voix de ses proches et aux parents de voir l’enfant réagir à leur voix. L’outil devrait être aussi adapté afin d’enseigner aux parents les gestes à poser avec leur enfant.
Small Bundles Require Great Care....CVL Bundles in the Neonatal Nurseries

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The McMaster Children’s Hospital Neonatal Nurseries recently implemented a CVL (central venous line) bundle, which is an intervention to help improve quality & decrease blood stream infection (BSI) rates within the neonatal population in our unit. Bundles are defined as a collection of interventions needed to efficiently and safely care for patients undergoing particular treatments with inherent risks. Several interventions are “bundled” together and when combined, significantly improve patient care outcomes. These interventions are all evidence based practices combined together to give consistency in practice and improve patient safety.

Our CVL bundle consists of three components: handwashing, checklists for insertion, access & maintenance and a tracking tool. Following implementation of the bundle in October 2009, our infection rates have started to decline, but we have not yet met our goal. Additional strategies are being created by our Neonatal Infection Control Group. Therefore, we feel this project fulfills your theme of “best care, every patient, every time, every where”