

## KNOWLEDGE TRANSLATION SESSION

KT is the umbrella term for all of the activities involved in moving research from the laboratory, the research journal, and the academic conference into the hands of people and organizations who can put it to practical use. Depending on the type of research being translated, the "practical user" might be a medical doctor, a nurse, a hospital administrator, a legislator, an epidemiologist, a community health worker, or a parent. KT is a spectrum of activities which will change according to the type of research, the timeframe, and the audience being targeted.

The 5 speakers illustrate a variety of KT methods using practical examples

### **Translation of evidence into policy: Sprinkles global health initiative**

Stanley Zlotkin, Canada is a paediatrician who was challenged by UNICEF to come up with a solution to combat iron deficiency, a nutritional problem affecting millions of children in non-developed countries. His solution, Sprinkles, took him on a journey around the world researching and advocating for the product and creating partnerships for production, delivery and implementation. The product comes in small sachets, like packages of sugar used in coffee, full of vitamins and nutrients. Zlotkin knew that in order to succeed at production and delivery of Sprinkles he needed partners with the capacity for implementation in countries around the world – organizations such as UNICEF, The World Food Program and the United Nations High Commission for Refugees. By 2009, four million children around the world had received packages of Sprinkles.

Zlotkin explains how he was able to advocate with the partners in order to get the product to the knowledge translation, implementation stages and now has achieved sustainability. Thanks to the great partnerships that were created during the initial phases of the project, many organizations are responsible for the production and delivery of Sprinkles. "The organizations that are now distributing Sprinkles have the infrastructure for wide-scale international delivery and more importantly have the infrastructure for sustainable delivery. These organizations have taken ownership to solve the problem of iron deficiency."

### **Improving pain outcomes for hospitalized children – translating knowledge into practice**

Fiona Campbell, Canada is a pediatric anesthesiologist and pain expert, with a passion for preventing and minimizing pain for children across the health care spectrum. Driven by poor inpatient satisfaction to pain questions on the NRCC survey (a national patient satisfaction survey), the Executive of our tertiary quaternary pediatric hospital had asked for this to be addressed. This program of research was born in 2004 with a benchmarking audit of pain outcomes in all inpatient units of our hospital to target areas for improvement. Following findings of substandard pain practices, and an unacceptable proportion of inpatients experiencing moderate to severe pain, various initiatives emerged. Initially, several knowledge translation (KT) strategies (audit and feedback, education, reminders) were implemented, resulting in some improvements. Subsequently Stevens et al studied the effect of a multidimensional knowledge translation intervention, Evidence-based Practice for Improving Quality (EPIQ), on procedural pain practices and clinical outcomes for children hospitalized in 32 medical, surgical and critical care units across Canada. This prospective cohort study found that the EPIQ intervention was effective in improving pain outcomes for hospitalized children. Currently pain is a key quality indicator for our hospital, and a robust Quality Improvement Plan for pain, utilizing KT strategies, has been implemented. Improvements have been sustained in pain practices and clinical pain outcomes, and appear to be linked to patient satisfaction.

Key references

Taylor EM, Boyer K, Campbell FA. *Pain in hospitalized children: a prospective cross-sectional survey of pain prevalence, intensity, assessment and management in a Canadian pediatric teaching hospital*. *Pain Res Manag*. 2008 Jan-Feb;13(1):25-32.

Stevens BJ, Yamada J, Estabrooks CA, Stinson J, Campbell F, Scott SD, Cummings G; CIHR Team in Children's Pain. *Pain in hospitalized children: Effect of a multidimensional knowledge translation strategy on pain process and clinical outcomes*. *Pain*. 2014 Jan;155(1):60-8. doi: 10.1016/j.pain.2013.09.007. Epub 2013 Sep 8.

### **Translation of safety principles into practice: high reliability teams**

David Cooper, USA, is the medical director of the Cardiac ICU at Cincinnati Children's Hospital and the Heart Institute Chief Safety Officer. His career has focused on the care of critically ill neonates through adults with complex congenital heart disease (CHD). In the past decade, there is has been an increased focus on quality and safety in health care. The cardiac intensive care unit (CICU), in particular, brings cardiovascular surgery, anesthesia, cardiology, critical care physicians and nurses together in a critical microsystem to deliver care at the "sharp end". This group must coalesce to form a team and culture in order to provide high quality and safe care. High-reliability organizations (HROs) create collective mindfulness through five principles/processes aimed at the anticipation and containment of the unexpected (i.e. errors and harm). A pediatric CICU would serve as a microcosm of an organization with environmental complexity in which high risk is the norm and the need for high reliability is essential to its operations. Application of these principles should promote the formation of a high-reliability cardiac team.

#### Key references:

1. Cooper DS, Klugman D, Kinstler AJ, Nelson DP, Muething S. *The Cardiac Intensive Care Unit and Operating Room Continuum: Quality and Safety in the Cardiac Intensive Care Unit*. In: PR Barach, JP Jacobs, SE Lipshultz, PC Laussen, eds. *Pediatric and Congenital Cardiac Care: Quality Improvement and Patient Safety*. London, UK: Springer; 2014:91-104.
2. Justice LB, Cooper DS, Henderson C, et al. *Improving Communication During Cardiac ICU Multidisciplinary Rounds Through Visual Display of Patient Daily Goals*. *Pediatr Crit Care Med*. 2016 May 12.
3. Jacobs JP, Wernovsky G, Cooper DS, Karl TR. *Principles of shared decision-making within teams*. *Cardiol Young*. 2015 Dec; 25(8):1631-6.

### **Translation of policy into practice: How families can escalate care in hospital**

Fenella Gill, Australia is a pediatric critical care nurse researcher awarded an Australian (NHMRC) Translating Research into Practice Fellowship. Her research focuses on early recognition and response to patient deterioration in children's hospital settings. Failure to recognise and treat patients whose condition is deteriorating is a significant cause of unintended harm. This is especially tragic for children who may not have other health problems. Rapid response systems (RRS) have been implemented to address this. Families are being acknowledged as being able to add value to RRS, the premise being that although families do not have responsibility for assessment of clinical changes in patient condition, their familiarity with their child places them at an advantage in recognising early signs of deterioration. The international move to involve parents in this way has been predicated by a number of high profile cases where outcomes were disastrous. The root cause of these cases was identified to be that health care providers did not appropriately act upon parents' concerns, resulting in patient deaths.

Subsequently policies and programs have been developed to assist health services to implement programs for parent involvement, yet evaluation has been minimal.

Gill's research is informing our understanding of what helps and hinders parent activation of RRS so that we can optimise the use of this strategy. The research illustrates using an

integrated knowledge translation approach and the Theoretical Domains Framework.

Key references:

Bowen, S., & Graham, I. (2013). *Integrated knowledge translation*. In, Straus SE, Tetroe J, Graham ID (Eds). *Knowledge Translation in Health Care: Moving from Evidence to Practice*: Wiley Blackwell.

Cane, J., O'Connor, D., & Michie, S. (2012). Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implementation Science*, 7(37) Retrieved from <http://www.implementationscience.com/content/7/1/37>

Gill, FJ, Leslie, GD , & Marshall, AM (2016). The impact of implementation of family initiated escalation of care for the deteriorating patient in hospital: A systematic review. *Worldviews on Evidence Based Nursing*, accepted 22 February.

### **Translation of evidence into practice: making integrated care pathways work**

Anne-Sylvie Ramelet, Switzerland is Nurse Research Consultant in the paediatric Department and Co-Director of the Health Research and Development Committee both at the Lausanne University Hospital. Pain being recognised as a nursing sensitive indicator, particular attention has been paid to pain management improvement within the hospital. In the paediatric department, research has tackled several aspect of the management of pain in infants, children and youths including concurrent point prevalence study, charts review, and a survey of health professionals' attitudes and knowledge of neonatal and paediatric pain, in order to depict a comprehensive picture of the quality of pain management within the department. Based on the sociological model of pain communication and the knowledge translation model, PARIHS, an integrated strategy of pain management, namely a bundle, has been developed and will be tested. By integrating contextual components and involving key players of the department, it is hypothesized that implementation of the bundle will be facilitated and fully integrated in standard practice.

Key references:

Harvey, G., & Kitson, A. (2016). PARIHS revisited: from heuristic to integrated framework for the successful implementation of knowledge into practice. *Implement Science*, 11, 33. doi: 10.1186/s13012-016-0398-2

Barr, J., & Pandharipande, P. P. (2013). The pain, agitation, and delirium care bundle: synergistic benefits of implementing the 2013 Pain, Agitation, and Delirium Guidelines in an integrated and interdisciplinary fashion. *Critical Care Medicine*, 41(9 Suppl 1), S99-115. doi: 10.1097/CCM.0b013e3182a16ff0