A program to advance the science and practice of KT in a local hospital network: results of a three-year pilot

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1. BACKGROUND

- **Hamilton Health Sciences** (HHS), a hospital network in Hamilton, Canada, is an influential research and clinical community. At HHS, **gaps** remain between what is known from research evidence and what is done in practice.
- The **Centre for Evidence-Based Implementation (CEBI)** was established by HHS in 2016 as a 3-year pilot.
- CEBI's **goal** is to improve patient care by optimizing the use of clinical and implementation science research to address evidence-practice gaps in HHS hospitals and the surrounding community.

2. PROGRAM STRUCTURE

Figure 1. CEBI Organizational Chart.

- Core **funding** for CEBI is provided by HHS, supplemented by contributions from research grants when possible.
- An **advisory committee** comprising administrative leaders, clinical leaders, and researchers provides advice regarding strategic direction and project prioritization.
- CEBI **collaborates** with other HHS groups, including quality and value improvement, health information technology services, patient experience and safety, and communications.

3. CORE ACTIVITIES

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Projects	Lead or assist with implementation activities for hospital-based quality improvement projects
Consultation	Provide advice regarding project planning and implementation activities for hospital-based quality improvement projects
Training	Provide formal learning opportunities to increase the capacity of the HHS community to lead the application of evidence to solve quality challenges

4. METHODOLOGY

Figure 2. Knowledge to Action Cycle*.
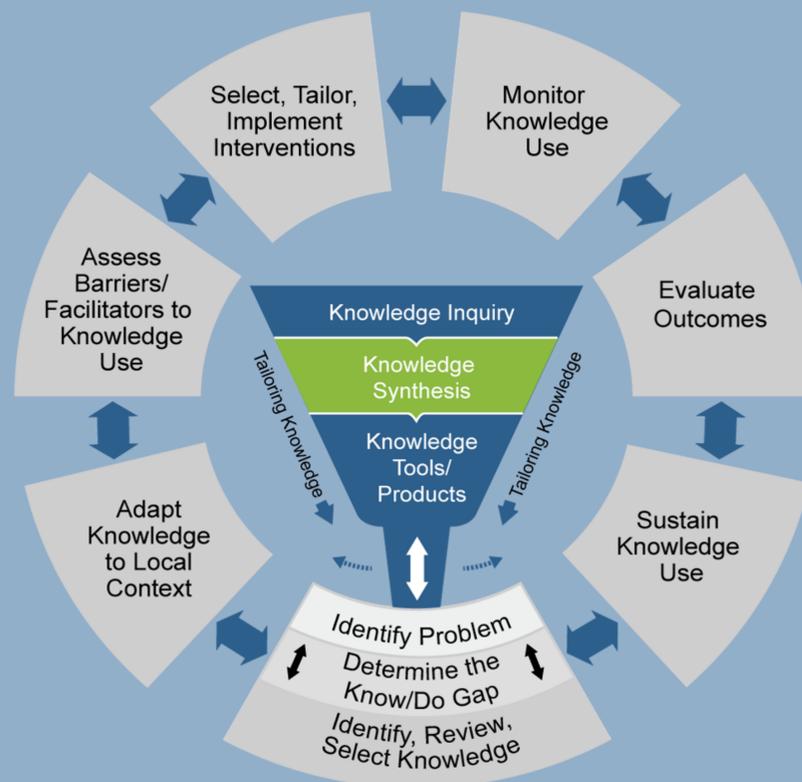
* Graham ID, et al. J Contin Educ Health Prof 2006;26(1):13-24.

- CEBI uses the **Knowledge to Action Cycle** (Graham et al.) as the overall framework to guide its work.
- The CEBI **website** (hhscebi.ca) includes an online resource with additional frameworks, models, and tools related to specific components of the Knowledge to Action Cycle.

Figure 3. CEBI Website (hhscebi.ca).
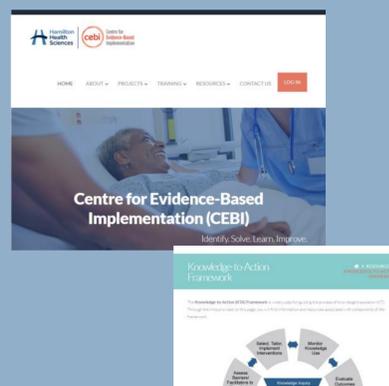
5. PROJECTS

Table 1. Examples of CEBI projects.

	Behaviour Safety Risk (BSR) Communication and Care Planning	Pediatric Intensive Care Unit Rehabilitation Care Bundle	Cardiac Research Study
Description	Implementation of a screening, communication, and care planning protocol to reduce violent, aggressive, or responsive behaviours by patients	Implementation of an evidence-based care bundle (Liber8) to reduce the incidence of pediatric intensive care unit (PICU)-acquired complications	Initiative to reduce rates of normal coronary angiograms (to reduce costs and improve patient safety) using centralized triage and optimal non-invasive cardiac imaging
Scope	Multiple hospital sites	One PICU	Regional health network
CEBI Role	Lead evaluation of program implementation and assist with tailoring implementation based on evaluation results	Lead barrier and facilitator assessment to identify opportunities for improvements to the intervention and its implementation	Lead evaluation of physician, patient, and staff perceptions and satisfaction with the intervention process and outcomes to inform sustainability and scaling

6. TRAINING

- **49** people attended CEBI's "Introduction to Knowledge Translation Learning Series" sessions during the 3-year pilot phase.
- **Participants** included quality specialists, patient safety specialists, clinical managers, clinical educators, project managers, physicians, nurses, allied health professionals, and graduate students.

7. CHALLENGES & NEXT STEPS

- **Challenges** encountered in the first 3 years of the CEBI program include:
  - building a culture that values implementation based on best evidence from implementation science;
  - unanticipated project delays (e.g., due to resource limitations, competing priorities of clinical teams);
  - limitations of data to assess clinical outcomes;
  - difficulty in measuring the direct impact of CEBI participation in hospital-based implementation projects.
- **Next steps** include continuing to build capacity and awareness among HHS stakeholders related to evidence-based implementation; building linkages to similar programs across Canada; and contributing to priority projects where practice does not align with best evidence.