

Making the Connection

As we pass the halfway point in CAHO's five-year Strategic Plan we want to celebrate our successes to date, as well as pause to reflect and ensure that we are using our resources most effectively to maximize the potential arising from our innovative health research enterprise in Ontario.

CAHO's first strategic priority is to facilitate the translation of research evidence into practice in a systematic and sustainable way. The CAHO Adopting Research to Improve Care (ARTIC) Program is the embodiment of this focus on moving research evidence into practice.

The ARTIC Program has harnessed the collective research and innovation strengths of the CAHO community by implementing four projects focusing on:

- Promoting mobilization and preventing functional decline in older patients
- Optimizing the use of antimicrobials to improve patient outcomes while minimizing antimicrobial resistance and costs
- Reducing ED wait times and increasing efficiencies by maximizing the use of inter-professional resources by facilitating the adoption of the Canadian C-Spine Rule
- Increasing reliability of hand hygiene auditing and enabling better comparisons of hand hygiene within and between institutions

CAHO is proud that the ARTIC Program has matured and refined itself over the last few years. We believe that using the ARTIC program to focus on priority areas for the health care system as a whole is one of the ways we can make a valuable contribution to the improvement of the health care system.

In 2012, the CAHO ARTIC Program is seeking projects to address quality improvement *Transitions in Care*, which is the movement patients make between health practitioners, services or settings as their needs change throughout the course of their treatment.

Our second strategic priority is to advance the stability of and investment in health research and innovation in Ontario. Health research requires sustainable investment to ensure hospitals can continue to use research to make health care as innovative, efficient and effective as possible.

Having said this, the health research enterprise is facing significant resourcing challenges. External resources for hospital-based research have not kept pace with rising demand and output, increasing the risk faced by CAHO members as they shoulder a growing portion of research costs.

CAHO has expressed its concerns to the Ontario Government and is working with the government to address the challenges members face and to ensure the best possible outcome over the second half of our Strategic Plan. In the meantime, CAHO is developing a roadmap through its Fuelling the Innovation Engine report to address the significant resourcing challenges member hospitals face.

To achieve the recommendations made in this report, five separate task forces have been established. An illustrative financial model is being developed to increase transparency and accuracy in reporting of research financials, and to facilitate the determination of the full cost of hospital-based health research.

Our new task forces and the financial model will give CAHO a much better picture of the work needed to ensure health research is stable in Ontario and receives the proper investment to ensure the our members can thrive in the current environment and the outcomes are positive for the health care system.

Our work with the Ministries of Economic Development and Innovation and Health and Long-Term Care, plus stakeholders such as Clinical Trials Ontario, the Ontario Health Technology Assessment Committee, MaRS Excellence in Clinical Innovation and Technology Evaluation (EXCITE) and CHIR's Strategy on Patient-Oriented Research, demonstrates the strong commitment of the CAHO community to collaborate and leverage our relationships to ensure we provide the maximum benefit for Ontario to transform the health care system.

In the second-half of the five-year CAHO Strategic Plan, we must build on what has been achieved and continue our progress. We will remain focused on ensuring health research is stable an innovation remains the focus of our work in order to contribute to improved quality and sustainability in the health care system.

In the Spotlight

Dr. David Hill holds the Lawson Professorship in Diabetes Research, and the Weinstein Chair for Diabetes Research, and is a Professor in the Departments of Medicine, Physiology and Paediatrics, at The University of Western Ontario.

Educated at the University of Nottingham and at Worcester College, University of Oxford, he has published over 200 scientific papers and maintains an active program in diabetes research and stem cell biology. Dr. Hill has previously served as Chair for both Research Canada and the National Board of the Canadian Diabetes Association (CDA). He is a recipient of the CDA's Frederick G. Banting Award, as well as of the Medal of the Society for Endocrinology from the UK. Dr. Hill is a member and Past Board Chair of the Diabetic Pregnancy Study Group (DPSG), an affiliate of the European Association for the Study of Diabetes. He is also Co-Chair of the Vice-Presidents Research Committee of the Association of Canadian Academic Healthcare Organizations (ACAOH). Dr. Hill was inducted as a fellow of the Canadian Academy of Health Sciences (CAHS) in 2011.

Dr. Hill's research centres on the generation of new insulin producing beta cells in the pancreas as a strategy for the reversal of diabetes. Currently, he is researching the ability to manipulate stem cells to become beta cells, which could increase the supply of tissue available for human islet transplantation in those suffering from type 1 diabetes, but also the possibility of inducing targeted regeneration of new beta cells within the pancreas removing the need for transplantation. Other projects include looking at the linkage of low birth weight to an increased risk of diabetes in later life, and the ways in which environmental factors, such as nutrition might trigger or protect against diabetes.

CAHO Catalyst recently sat down with David and asked him to reflect on his career and the current challenges facing health research in Ontario.

1. To date, you have had a tremendous career as both a professor and a researcher. What are you most proud of in your career?

Helping to grow Lawson Health Research Institute as a scientific community of over 1200 scientists, staff and trainees who gather a research budget of over \$100 million each year. Through partnership, London has created an almost seamless health research community with Lawson and the Schulich School of Medicine and Dentistry at Western University as the major partners. Seeing our trainees utilize this network and grow into independent researchers makes me immensely proud. We will pass the flame to them.

2. What do you see as the biggest challenges in your current role?

Maintaining the momentum of health research we have established in Ontario's teaching hospitals. Over the last 10 years Ontario has become a powerhouse for health research, creating hundreds of jobs and attracting some of the smartest scientists from around the world to base themselves in our province. If the supply of investment from governments and industry is not maintained, this community of scientists could easily disperse elsewhere. Research and development in health is an investment with high returns to the Province.

3. As Chair of the Research Hospital Resourcing (RHR) Coordination Task Force, how do you think the CAHO community can be a catalyst for creating a stronger health research enterprise for Ontario?

A healthy publically-funded health system is one that constantly evolves and improves to meet the changing environment and needs of Ontario residents. CAHO hospitals' research is the engine of innovation that can drive the evolution of hospital-based care from within. Innovation in health care must be shared throughout the complicated network of care providers, and CAHO is ideally placed to play a lead role.

4. Can you share with CAHO Catalyst some of the research priorities of the Lawson Health Research Institute?

Lawson is constantly refocusing its research priorities to adapt to the external needs and environment. Our platforms of strength from which we create multi-disciplinary teams to address goals and opportunities include hybrid and molecular imaging, disease-focused cancer research teams, personalized medicine, early development and children's health, surgical health technologies, healthy aging and mental health research.

5. When you are not at Lawson or the University of Western Ontario, what do you like to do in your spare time?

Watch soccer – my team got relegated.

CAHO News**HandyAudit® makes progress after completing CAHO ARTIC Program**

The first CAHO ARTIC Project, the CAHO HandyAudit® ARTIC Project, is now complete. The completion of the HandyAudit® project is a significant step in the development of the CAHO ARTIC Program. As one of the first projects, HandyAudit® provided the first opportunity to speed the translation of research evidence into practice.

During the year-long ARTIC Project, an Ontario-based company, HandyMetrics, was created to hold the license to market and distribute HandyAudit®.

HandyAudit® is an innovative mobile touchscreen tool for iPad, Android and similar devices, designed to improve on the paper-based observation system that many hospitals use. The paper system requires an auditor to monitor hand washing practices of several health care workers and assess any errors made. HandyAudit® saves time and eases auditor's workload by having them to simply record the hand hygiene actions they observe, and allowing the software to analyze these actions and calculate compliance rates. This new methodology reduces subjective interpretation of the rules, eliminates the need for manual transcription and simplifies report creation.

The completion of the HandyAudit® ARTIC project has not hindered worldwide adoption of the tool. The Catalyst recently followed up with the HandyAudit® team – Dr. Geoff Fernie, Michael Tsang and Cesar Marquez Chin - to find out how HandyAudit® has spread and its progress since the ARTIC project was completed.

"The company [HandyMetrics] is growing", said Geoff Fernie, Director, Rehabilitation Research, Toronto Rehab/UHN. "We have received a massive inflow of data – close to a million data points - from the HandyAudit® system. Each data point responds to a particular action [of hand hygiene] during an audit."

"As we go through this data, we're starting to find trends and patterns which allows us to add even greater value to our clients, especially for education and facilitating changes in behaviour," said Michael Tsang, Managing Director of HandyMetrics. The collection of this data allows the HandyMetrics team to work with hospitals to improve practices and make suggestions based on the results.

Currently, HandyAudit® is being used in over 100 hospital sites in Canada and abroad. The ability to capture objective hand hygiene auditing data in a way that adheres to multiple standards around the world has piqued international interest driving HandyMetrics to translate their system. The team is currently working on translations to be used in hospitals across South America, Mexico and Italy. HandyAudit® has already been adopted for research and education at several leading hospital sites in the U.S. and South America.

Back in Ontario, HandyMetrics has seen an increase among hospitals using the tool. Additional features allow users to explore hand hygiene analytics and provide them with a deeper understanding of hand hygiene trends. These features have been developed to give hand hygiene educators the tools they need to promote better practices in their facilities. Compliance rates and comparisons can then be provided online for hospital staff to access. Community hospitals in Southwestern Ontario have also started using the program, showing growth in the adoption of the program by non-CAHO hospitals post-ARTIC.

Many in the health care sector develop successful best practices within their own organizations, but that knowledge never leaves the organization that created it. The CAHO ARTIC Program facilitated the sharing of these best practices and information between hospitals to ensure this information was available as each site implemented the HandyAudit® program.

"Some of our best features come from clients," said Tsang, as he discussed the collaboration between his team and communities of practice set up across the hospitals using HandyAudit®. "Our [cross-hospital] working groups give us great feedback and offer a different dynamic than if we sat with hospital groups individually. We allow our communities to generate topics and discuss difficult and sometimes controversial issues, but we also bring forward new features and items to the table. This is not a top-down environment; it offers a more conducive way to talk about issues."

The HandyMetrics team has developed processes that ensure hospitals understand what needs to be done to make the adoption of their new methodology effective among auditors and other staff. These processes include understanding the sequence of care at a hospital, offering hospitals pre-training workbooks, understanding inconsistencies and best practices at each site, using this knowledge to customize training materials, developing follow up action plans after training, assisting with practice and adoption to ensure consistency and improving hand hygiene compliance. This is done to assist with the improvement, automation and to ease the process of collecting data and measure time savings while ensuring the focus also stays on patient safety.

Now that the CAHO HandyAudit® ARTIC Project has wrapped, it has provided CAHO and the ARTIC Program with great experience on how to deal with challenges such as communications between hospitals and adoption and implementation. The lessons learned from this project will benefit future ARTIC Projects and help create the foundation for a provincial-wide pathway to accelerate the adoption of research evidence into practice and drive quality improvement in the health care system.

CAHO News**CAHO collaborates to help build stronger ARTIC Program**

The journey of the CAHO ARTIC Program is an interesting and exciting one as the CAHO community looks to develop a systematic and sustainable implementation pathway for evidence adoption across the province.

The first two rounds of selection for CAHO ARTIC Projects were based on criteria that focused on innovation, quick implementation, cost-effectiveness, system impact and the robustness of the evidence.

In 2012, and for the first time, the CAHO ARTIC Program is selecting projects focusing on a system priority. In consultation with system partners such as the Ministry of Health and Long-Term Care and Health Quality Ontario, CAHO chose a theme of *Transitions in Care*, which refers to the movement patients make between health care practitioners, clinical services and/or settings as their needs change throughout the course of their treatment; with the goal of improving quality and/or reducing costs to the system.

With this process underway, on June 27 CAHO held an ARTIC Applicant Information Session with applying project leads who have submitted successful letters of intent to address the theme of *Transitions in Care*. This session was designed to give project leads the opportunity to learn more about the CAHO ARTIC Program, ask questions pertaining to the selection process for the full submission stage of review and understand the expectations of being selected in the next round of CAHO ARTIC Projects.

Because the ARTIC Program is not a research granting process, but rather offers a unique opportunity to take existing evidence and implement it through collaboration between project leads and practitioners, this session offered a great opportunity to create a dialogue. CAHO discussed this unique collaborative opportunity with project leads to ensure participants understood their roles and responsibilities if their proposal is approved for implementation.

Proposed CAHO ARTIC project submissions should present a novel innovation to address the *Transitions in Care* challenge, demonstrate high potential impact, be evidence-based and supported by robust, peer-reviewed research evidence, and have a feasible implementation and evaluation strategy that may be completed within a 1-2 year timeframe.

The collaboration between CAHO, its member hospitals, and the proposed *Transitions in Care* projects is vital to the success of the CAHO ARTIC Program. To ensure the proposed projects are set up to be as successful as possible, a key part of the selection process is a readiness assessment. For example, this includes determining the number of staff hospitals will need to dedicate to their project and the amount of time it will take to implement a project in hospitals.

The CAHO Practice and Education Committee will review the outcomes of the readiness assessment and make final recommendations to the CAHO Council in September as to which projects should be adopted. Applicants will be notified of Council's decision by the end of September.

Once new CAHO ARTIC Projects have been selected, CAHO will meet with the successful applicants to begin the process of developing and implementing these new projects, which are expected to launch in January 2013. CAHO is looking forward to partnering with researchers and care providers across Ontario and use existing evidence to make a difference in *Transitions in Care* and build on the success of the CAHO ARTIC Program.

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