

SPOTLIGHT ON INNOVATION



Modernizing Home Care

A Process to Evaluate and Adopt Innovation

Facilitating consistent access to, and use of, innovative wound care products can have a tremendous positive impact on the efficiency and effectiveness of home care service delivery and patient quality of life. The Mississauga-Halton Community Care Access Centre (MH CCAC) has successfully achieved this goal by using a structured collaborative approach to testing, measuring and adopting the geko™ device for rapid wound healing.

Embracing Innovation

The Ontario Health Innovation Council, established in November 2013 by the ministries of Research and Innovation, Health and Long-Term Care, and Government and Consumer Services, identified the need to expand the adoption of innovative new technologies in all health care settings, including home care. In their 2013 report, *The Catalyst Towards an Ontario Health Innovation Strategy*, the council recommended the following:

- actions to support strategic, value-based procurement;
- evidence-based review of emerging health technology innovations; and
- coordinated pathways for the adoption and diffusion of innovative health technologies.

Innovative health technologies offer many opportunities to improve patient experience, achieve better outcomes and reduce health care costs. One application is wound care. Annually Canada spends \$3.9 million (3 percent of total public health care expenditures) on wounds. In home care, 50 percent of nursing visits involve wound care and approximately 35 percent of home care patients have a chronic wound [CIHI, 2012].

Chronic wounds impact patients and their families, who may experience pain, disability, depression, anxiety, hospitalization, financial burden and death [Graham et al., 2003]. For the MH CCAC, the cost of managing wounds in the home is significant. In 2014/15, the MH CCAC spent at least \$260,000 managing the most challenging wounds: arterial leg ulcers (ALUs), venous leg ulcers (VLUs) and diabetic foot ulcers (DFUs). This amount does not include medical supplies, rehabilitation and personal support worker services.

To address this challenge, in 2015, the MH CCAC identified an opportunity to develop a strategic, value-based approach for the systematic adoption and use of an innovation for wound care. The project would become the nucleus for strategic procurement and adopting a new way to manage the medical supply and equipment formulary. This presented a chance to address the current unstructured approach that had resulted in an extensive formulary supply listing, confusion among frontline staff, inconsistent practice and potential waste. Development of a strategic, value-based approach would reinforce the adoption and diffusion of new health technologies the MH CCAC, in addition to addressing current operational challenges.

Testing Innovation

The following actions were fundamental to this work:

- 1. Alignment of technology and priorities.** Ensure the innovative technology addressed a strategic priority for the Mississauga-Halton population.
- 2. Structured collaboration.** Facilitate a collaborative and shared approach with a frontline service provider organization.
- 3. Comprehensive measurement.** Evaluate based not only on price, but include clinical efficacy and measures of value such as reduced service use and patient satisfaction.
- 4. Strategic procurement and process improvement.** Engage a broad range of key stakeholders in defining and refining the MH CCAC procurement approach and creating an evidence-informed algorithm to guide future additions to the medical supply and equipment formulary.

Thank you to our **SPOTLIGHT ON INNOVATION** sponsor Perfuse Medtec Inc, the distributor of geko™. A true wound care innovation, these self-contained devices increase venous return by over 100 percent, arterial flow by over 75 percent and microcirculatory flow by 400 percent. The geko™ device actuates nature's mechanism (calf/foot muscle pumps) once per second to heal wounds and modulate edema. It replicates the blood pumping action (60 percent) of continuous walking.

For more information on the geko™ device and its application, visit www.gekodevices.com



ALIGNMENT OF TECHNOLOGY AND PRIORITIES

Successfully trialed in two Ontario regions, the geko™ device (manufactured by FirstKind Ltd, UK) was identified as a promising wound care innovation. The geko™ muscle pump activator device is lightweight, wrist-watch sized, easy to use, self-contained, self-adhesive and battery-operated. By stimulating the common peroneal nerve at the knee, it replicates at least 60 percent of the blood flow normally generated by walking, thus supporting wound healing in the lower limb. Once trained, patients and families can easily manage their care at home, with minimal support and follow-up.

With evidence to support its wound healing capabilities, this innovative technology was viewed as a viable solution to the MH CCAC wound care challenge. The geko™ device could potentially play a role in accelerating patient discharge and provide an adjunct to the traditional approach to managing wounds in the home. Testing the geko™ device was approved in June 2015 and occurred between September 2015 and April 2016.

**The geko™ medical device is
lightweight, wrist-watch sized, easy
to use, self-contained, self-adhesive
and battery-operated.**

Identifying objectives and a target population was the starting point for testing and adopting the geko™ device wound innovation. The MH CCAC considered what the product should accomplish and the challenge or trigger to merit a trial. Patients with diabetic foot ulcers (DFUs), venous leg ulcers (VLUs) and arterial leg ulcers (ALUs) were identified as a priority population due to the complexity of wounds, high costs of nursing services and long lengths of stay on service.

Senior management approval was obtained for a small scale assessment of the geko™ device to:

- Determine the efficacy and suitability of the geko™ device to close wounds (DFUs, VLUs and mixed VLU/ALU)
- Assess the cost of using the geko™ device as an adjunctive therapy to treat DFU, VLU and mixed VLU/ALU patients
- Evaluate the degree of patient comfort, including pain reduction and satisfaction.

STRUCTURED COLLABORATION

The testing of the geko™ device was co-led by the MH CCAC wound care program manager and an enterostomal therapist (ET)/wound care clinical specialist from CarePartners. CarePartners provides contracted nursing and personal support services within the Mississauga-Halton region. CarePartners' ability to include wound photographs in existing ET documentation supported their selection as a partner in this collaborative venture.

The frontline team consisted of ETs, wound care advisors (WCAs), an RN supervisor, a clinical specialist from Perfuse Medtec Inc and a regional director from the service provider. MH CCAC care coordinators acted as extended team members, providing support to the patients and families and redirecting any patient concerns or questions back to the evaluation team. Under the direction of co-leads, the team was responsible for:

- designing the testing protocol and methodologies (pilot design, inclusion/exclusion criteria, evaluation metrics);
- developing a wound evaluation tool (or adapting existing tools);
- providing training and support for the geko™ device (staff and patient education);
- selecting patients and obtaining consent (verbal);
- informing patients' primary care physicians of involvement with the pilot; and
- analyzing the data.

Implementing the Pilot

The following criteria were used to identify three to five patients for each type of wound (DFU, VLU and mixed VLU/ALU):

- Less than 30 percent wound reduction following best practice for 30 days
- May or may not be able to tolerate compression
- May or may not have a fixed ankle joint or other indicators of delayed healing
- Ankle-brachial pressure index greater or equal to 0.6
- Aged 19 years or older
- Able to be taught and understand the application/removal of the device
- Evidence of adherence to prescribed plan of care
- Involvement of a physician who agrees with the plan of care

During the nine-month pilot, Perfuse Medtec Inc provided the geko™ device free of charge and patients were monitored in the community according to standard assessment and re-assessment practice. Patients remained part of the study until wound closure was achieved or therapy was discontinued. Reasons for ending therapy included lack of response, non-adherence to protocol or onset of comorbidity that resulted in hospitalization.

A trained wound care specialist nurse and clinical specialist from Perfuse Medtec Inc participated in the initial client visit. Patients and family members were provided with training specific to the geko™ device and a Patient Information Package (information sheets, consent forms, skin care guide).



Adopting Innovation

Sustainable adoption of the wound innovation required the involvement and input from senior leadership, operational management and clinical teams. The MH CCAC Wound Care Practice Group and Medical Supply and Equipment Committee were consulted throughout the process to ensure alignment with strategic goals, policies and practices. Each group brought a unique perspective and contribution in accordance with their mandates.

The Wound Care Practice Group provided:

- Advice, evaluation and recommendations to improve patient care and the patient/family experience.
- Expertise on best practices in patient care.
- Guidance on collaboration and partnership among stakeholders.

The Medical Supply and Equipment Committee was consulted on key issues such as:

- Appropriateness of the geko™ device as a high quality, cost effective option for the MH CCAC.
- Strategies to evaluate and introduce the wound innovation to the MH CCAC formulary.
- Confirmation that the geko™ device enhanced formulary offerings for wound care (e.g. no duplication or waste).

STRATEGIC PROCUREMENT

As the opportunity to develop a strategic procurement strategy emerged, each committee provided important information to formulate the pilot testing and evaluation of a new health technology. For example:

- The clinical practice committee vetted the initial proposal for relevancy and applicability to population health needs.
- The senior management team ensured alignment with strategic financial, directional policies and resource allocation.
- The Medical Supplies and Equipment Committee provided oversight and expertise in purchasing and resource management.
- The geko™ device pilot project team, under the direction of the co-leads, reflected on the testing protocol and frontline experience of using a structured collaboration for implementation and the impact of strategic procurement.

Adding the new geko™ device innovation to the medical supply and equipment formulary required a number of critical actions to support and guide appropriate use and widespread dissemination:

- Establish a policy and procedure to support decision-making and identify appropriate use of the geko™ device.
- Implement a tracking process to record product usage and utilization.
- Determine supply logistics to ensure the geko™ device is available and accessible to frontline providers.
- Provide training and communication packages for internal MH CCAC staff, service provider organizations, ET and wound care clinicians, nurses and patients.

Patients were tracked through CarePartners' existing electronic documentation practices. Using mobile devices, patient wounds were photographed and measured at the start of treatment, bi-weekly for eight weeks and then monthly until the end of treatment. Baseline information was collected during the initial visit. If there was any concern that the patient or family would not be able to manage independently, a second visit the following day was arranged. Nursing visits were scheduled in accordance with the care plan. Nurses were instructed to report any unexpected changes to the clinical specialist and to access technical support from the provider of the geko™ device.

Successful implementation of the pilot relied on the strength and skills of the team members involved. The project leads possessed a deep understanding of the local challenges and solutions offered by the innovation. The leads guided the team members in their activities. Implementing the pilot test required the team to develop, finalize and execute the protocol and methodology. This included identifying and/or developing the following:

- Target population and eligibility criteria
- Metrics
- Length of evaluation
- Data collection schedule and tools
- Documentation tools
- Training plan (includes responsibilities and resources)
- Communication plan

Throughout the implementation and evaluation process, regular communication and updates with leadership and other groups or regulatory committees within the organization was maintained. Keeping the leadership and guiding committees informed of progress, successes and challenges was necessary for their continued support and provided opportunities for guidance and advice.

COMPREHENSIVE MEASUREMENT

Evaluation of the innovative technology should include clinical outcomes, patient experience and financial impact. Specific measures for the geko™ device application included:

- wound healing (wound surface area, wound measurements)
- patient satisfaction, and
- length of stay.

In total, nine patients were identified to participate in the evaluation of the geko™ device technology. Seven patients experienced accelerated weekly healing rates while using the geko™ device. Overall, patients expressed satisfaction with the geko™ device therapy. Analysis of findings related to the frequency of nursing visits with geko™ device therapy is ongoing. This review is considering wound complexity as a key variable.

At the end of the pilot testing phase, the results of the evaluation were analyzed and reported. This summary included an evaluation of the objectives and outcomes, cost analysis and opportunities for improvement.

Developing a structured approach to testing and adopting innovations and technologies enabled the MH CCAC to resolve many of the challenges associated with how items previously came to be added to the formulary. Adoption of innovations based on demonstrated impact and efficacy from evidence in practice protects against the addition of items as a result of provider preference or subjective criteria.

MH CCAC's well-defined process for approving and implementing health technologies reinforces the organization's strategic approach to procurement. Implementing a systematic approach prompted the MH CCAC to consider how the organization identified and introduced innovation in their care delivery processes. Common experience was to trial new products and technologies that were brought to the organization from external providers.

Lessons Learned for Success

Establishing a process to evaluate and implement new health technologies has provided the MH CCAC with key insights into the adoption and diffusion of innovation. These include:

- A collaborative, joint venture with a dedicated service provider ensures accountability, streamlined processes and enhanced communication.
- Alignment of data collection with existing practice and documentation supports consistent measurement and follow-up.
- Patient education and empowerment through immediate follow-up (next day nursing visit) ensures skill development and comfort with the new technology.

- Measurements must include the patient experience pre- and post-pilot testing.
- A structured process for testing new health technologies helps manage the expectations of frontline users looking to apply the technology, and the manufacturer expectations of quick adoption.
- Developing and implementing a strategic procurement process provides an opportunity to proactively source and consider new health technologies.

What's Next?

The MH CCAC has received final approval to adopt the geko™ device as a new wound innovation. The innovation has been added to the medical supply and equipment formulary. The next step is to support the use and uptake of the innovation across the organization and with service providers. Work is currently underway to:

- develop policies and procedures to support appropriate use of the geko™ device; and
- design training modules for the MH CCAC, service providers and patients and families.

The new way to evaluate and adopt health care innovations at the MH CCAC continues to be refined. This experience has been shared with other regions across Ontario. In addition, the MH CCAC strategic procurement approach and process for evaluating new health care innovations is being considered in other CCACs. The geko™ device wound care innovation continues to provide promising outcomes that impact care delivery and, more importantly, the quality of life for patients dealing with complex, chronic wounds.

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The Canadian Home Care Association is a national not-for-profit membership association dedicated to ensuring the availability of accessible, responsive home care and community supports to enable people to safely stay in their homes with dignity, independence, and quality of life. The Canadian Home Care Association advances excellence in home care and continuing care through leadership, awareness, advocacy and knowledge.

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