

# Diabetes, Healthy Feet and You – Train-the-Trainer: A Quality Improvement Inquiry

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## Background to the Study

Diabetic self-management education focused on foot care and footwear, when provided in an organized and structured manner, is a cornerstone of preventing foot problems such as ulceration and other types of skin breakdown.<sup>1</sup> This is important because, as the global burden of diabetes increases, diabetic foot disease is of great concern to the health-care community. The number of adults living with diabetes worldwide has increased from 4.7% (1980) to 8.5% (2014).<sup>2</sup> In Canada, the prevalence of diabetes was 9.3% in 2015 and is estimated to rise to 12.1% by 2025 (one in three Canadians were living with diabetes or prediabetes in 2019).<sup>3</sup> Particularly worrying are the diabetes rates among Canadian Indigenous peoples, who are three to five times more likely to have diabetes than those in the general population.<sup>4</sup>

Foot complications lead to significant changes to an individual's quality of life; and for adults living with diabetes, foot ulceration is one of the most feared complications.<sup>5</sup> Overall, the economic costs of diabetic foot ulcers, or recurrence of a foot ulcer, pose a significant global burden to health-care systems.<sup>6–8</sup> In Canada, the estimated direct costs to the health-care system are \$3.8 billion, and are estimated to increase to \$4.9 billion by 2030.<sup>9–10</sup>

## What is Diabetes, Health Feet and You?

Diabetes, Healthy Feet and You (DHFY) is an innovative education program developed to address the learning needs of patients and their families/care partners around self-management of diabetes mellitus, foot care, footwear and prevention of foot ulcers and amputations.<sup>11–12</sup> Previously known as PEP Talk (“Peer-led Education Program” Talk), this community-based initiative was developed in 2013 and evaluated with funding from the Public Health Agency of Canada. DHFY is available via health regions/authorities, who license the program from Wounds Canada.<sup>13–15</sup> The program provides these regions with training, resources and ongoing support.

This article describes the Diabetes, Healthy Feet and You program (2014, 2017) and its associated Train-the-Trainer workshop and workbook. The aim of the quality improvement inquiry was to focus on the trainers using the workshop materials in a training event,\* and the results are reported here.

*\*As a result of the COVID-19 pandemic, the live components of the program are not currently being delivered. Wounds Canada plans to create a version of the program that can be delivered virtually, but with no changes to content.*

## How Diabetes, Healthy Feet and You Works

### Three Types of Trainers

To ensure the program maintains robust core integrity based on international best practice as well as meaning at the local level, the program was designed to have three levels of dispersal.

**Level 1:** Wounds Canada provides two-person teams to instruct potential community-based DHFY trainers. The Wounds Canada training team includes a person living with diabetes and a health-care professional, both of whom are experienced facilitators and knowledgeable and passionate about prevention of foot complications. This team delivers day-long instructional Train-the-Trainer workshops to health-care professionals who have been selected by their health-regions to deliver the program locally.

**Level 2:** The regional health-care trainers then deliver the program via a day-long workshop to selected individuals within the community, who will then be equipped to deliver the program to persons with diabetes and their families/care partners. These trainers also co-ordinate the scheduling and promotion of the 2.5-hour community DHFY workshops using training strategies and materials provided by Wounds Canada.

**Level 3:** The community-based trainers then provide the direct link to the community through 2.5-hour workshops attended by persons with diabetes and their families/care partners. These community-based trainers also work in teams of two: one person living with diabetes and one health-care professional.

### About the Workshop

During the Train-the-Trainer (Level 1) workshop, participants learned how to plan, implement and evaluate the eight-hour Level 2 workshop. The workshop is delivered using various teaching and training media (hardcopy, electronic) and in three components:

- How to effectively deliver a Level 2 community workshop. This includes having participants deliver sections of a “mock” workshop.

- Discussion and practice in the art and science of group facilitation
- Discussion on how to conduct community follow-up and evaluation of the community-based DHFY workshops

Participants use the following training materials:

- DHFY Train-the-Trainer Workbook
- Community Workshop Workbook
- Online DHFY resources
- Wounds Canada’s Wound Prevention and Management Cycle
- Inlow’s 60-Second Diabetic Foot Screen tool
- Daily Commitment Foot Care Card

Group discussions include the following topics:

- Adult education principles
- Communication strategies to improve patients’ self-efficacy or an individual’s belief in one’s capacity to carry out behaviours necessary to produce specific performance attainments<sup>16</sup>
- Empowerment principles
- Strategies to deal with conflict
- Strategies to increase daily foot-checking behaviour in persons with diabetes

As well, participants discuss the steps needed to implement a 2.5-hour community-based DHFY (Level 3) workshop.

**Janet L. Kuhnke** is an assistant professor of Baccalaureate of Nursing at Cape Breton University and an NSWOC with a strong background in community practice. Her recent studies include qualitative studies related to community members living with diabetes mellitus and being at risk for foot ulcerations. She is focusing on barriers and inequities in delivering best practices in skin and wound care in rural and remote communities. She is studying narrative inquiry and reflexive practice.

**M. Gail Woodbury** has retired from her adjunct position in the School of Rehabilitation Therapy at Queen’s University, Kingston, Ontario. Previously, she participated with wound colleagues in quantitative and qualitative wound care research studies.

## How the DHFY Program Addresses the Prevention of Foot Complications

The DHFY program offers patients and their families and care partners information and tools to help them maintain healthy feet and prevent foot complications. Proper self-management improves patient well-being, lowers direct health-care costs and reduces many of the negative societal impacts that often accompany chronic disease.

The program offers the following:

- Access to workshops in communities in each province
- Training using Wounds Canada resources to help trainers teach patients and their care partners how to prevent complication and manage day-to-day foot care issues
- Emailed foot care tips and information for community participants

The DHFY program is based on the Train-the-Trainer approach.<sup>17–18</sup> In a workshop, participants discuss and engage in activities that aid in understanding the role of adult education principles, facilitation strategies, conducting a training workshop in the community, communication strategies, giving and receiving feedback, and facilitating evaluation.

To implement the program, a health region or authority establishes licensing and fidelity agreements. Diabetes and chronic disease teams then recruit and enroll health-care professionals into the Wounds Canada DHFY Train-the-Trainer workshops (Level 1). Participants develop the knowledge and skills to train, in a Level 2 workshop, their own community-based teams to implement the DHFY program. Community workshops (Level 3) are then scheduled and delivered to persons with diabetes and their families and care partners.

The DHFY program targets and supports change for individuals living with diabetes who are at risk for foot ulceration and amputation. The underlying belief is that these education efforts will be effective if community-based health promotion activities are valued and supported by leaders, which is reflective of a population-health approach.<sup>19</sup>

Research on the original peer-led education program indicated that participants changed their behaviour as a result of having attended a DHFY workshop.<sup>12</sup>

## Methodology

### Quality Improvement Approach

Wounds Canada undertook a quality improvement initiative in 2017 to study the effectiveness of the program to develop DHFY trainers. An ethics review was completed by Cape Breton University Ethics Review Board. Utilization-focused evaluation (UFE) guided the qualitative evaluation.<sup>20–21</sup> Patton's (2014) work in quality improvement and evaluation reminds us that UFE begins with the understanding that the users of a program can give practical feedback based on the utility and use of the product being evaluated.<sup>20</sup> The PEP Talk: DHFY Train-the-Trainer (2014, V. 1.2) program operated for three years (2014–2017).<sup>22</sup> Wounds Canada updated the training materials in 2017, and they were therefore in need of evaluation.<sup>23</sup> The revised DHFY training program (V. 2.0) materials were tested in two training workshops, and feedback was obtained. Qualitative thematic analysis was used to generate key themes from the study feedback, which focused on the four evaluative components (listed on page 45).<sup>24</sup>

### Participants

Participants (n = 20) were health-care professionals attending the DHFY Train-the-Trainer workshops hosted by Wounds Canada. Participants attended a full-day (eight hours) DHFY Train-the-Trainer workshop, offered in two Canadian cities. The research letter of information and ethics were reviewed, quality improvement program evaluation processes were explained, and participants gave verbal and written consent. Workshop participants could choose to withdraw from the evaluation if they did not wish to participate.

## How the Workshop Was Evaluated

The DHFY workshop and Train-the-Trainer approach are based on Knowles's framework of adult learning (andragogy).<sup>25</sup> Bastable and

Myers state professionals, as adult learners, move from being dependent to independent learners. Professionals benefit from development of skills, knowledge and attitude through reading, listening, observing and role-modelling.<sup>26</sup> For this reason, we asked participants to actively engage in the Train-the-Trainer workshop activities and to pay attention to their individual and group experience. Participants were asked to provide feedback using qualitative open-ended surveys. They were asked to give feedback on the following:

1. The overall Train-the-Trainer workshop experience
2. Their experiences when delivering part of a mock DHFY workshop
3. Group facilitation and communication with technology, online and print materials
4. Answering diabetic foot knowledge questions pre- and post-workshop

## Study Results

Participants in the Train-the-Trainer workshop were registered nurses and licensed practical nurses, diabetes educators and program co-ordinators. Of the 24 participants, 20 completed the evaluation surveys. The researcher kept field notes, and thematic analysis was used to develop the four themes.

### 1. Growing Knowledge in Foot Screening

The two eight-hour training workshops were well-received by the participants. They discussed growing knowledge of the monofilament test and the role of foot screens as part of a holistic assessment. Written feedback from the participants included the following comments: “It was good to learn the clinical facts about diabetic foot ulcers being preventable”; “It was good to learn about loss of protective sensation (LOPS) that patients experience”; “It was good to learn about *not* soaking feet of persons with diabetes”; and “Learning about how to [draw] a patient’s foot and shoe as a teaching tool for prevention of foot ulcers” was worthwhile.

Two participants stated that before the Train-the-Trainer workshop, they were not aware that the monofilament test was only one part

of a complete foot assessment. After being taught a comprehensive foot assessment using a reliable screening tool, they described feeling more informed.

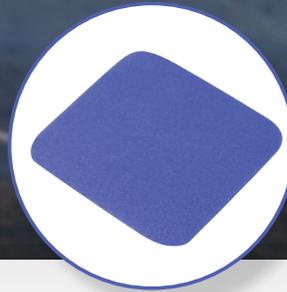
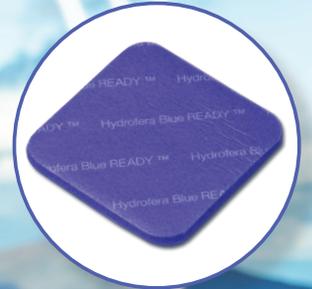
Overall, participants reported feeling excitement about being able to offer the DHFY preventative foot care training program in their communities. Participants recognized that to implement a DHFY program they needed to have permission from and to collaborate with the health region or authority DHFY co-ordinator. One participant stated, “It has been an honour to be part of this program; I am very excited to get this program started at my clinic, to educate our patients and to help others become educated about diabetic foot, and to share it with others.”

### 2. Engaging in Mock Workshop Training and Receiving Feedback

As part of the Train-the-Trainer workshop, participants had an opportunity to engage in a facilitated mock DHFY workshop. Participants described the benefits of practising a mock workshop during which time they received feedback from peer participants and the DHFY workshop facilitators. Participants stated: “Before this training workshop, I did not know how to use presentation software slides to educate”; “Being able to practise using workbooks and slides in a safe environment increased my confidence level.” Two participants stated that “watching a mock presentation modelled by the DHFY trainers helped [me] to understand how to operationalize a DHFY community workshop” and “learning from peers in the workshop was helpful.” Several stated they learned by watching the DHFY trainers role-model the mock workshop, including how to manage time in a workshop and how to adhere to an agenda.

### 3. Group Facilitation and Communication with Technology, Online and Print Materials

Participants discussed the benefits of reviewing adult education principles and teaching skills in a facilitated, safe learning environment. Two



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participants stated, “It was good to see how to be interactive in a group setting without putting participants on the spot” and “The trainers were knowledgeable and respectful and helped make the training fun—this made learning easier.”

Participants indicated the benefit of learning how to work with difficult or challenging participants. “Learning how to work with clients that are talkative or disruptive was helpful.” Another stated that learning how to respect “patients that may be quiet in a group setting or speak with an accent” was useful, and “I learned a great deal from the suggestions of the other nurses and co-ordinators in the workshop.”

#### **4. Experiencing Pre- and Post-Workshop Knowledge Questions**

To support the mock DHFY workshop, participants were asked to complete DHFY pre- and post-workshop foot care questions.<sup>26–28</sup>

This was purposeful, as it gave participants an opportunity to answer the same questions they would ask participants in a community-based DHFY workshop to answer. Twenty participants completed pre- and post-workshop foot care knowledge questions. Overall, the participants said they appreciated being offered this opportunity.

## **Discussion**

The results of this quality improvement study provided evidence that revisions made to the DHFY Train-the-Trainer manual (V. 2.0), training materials and delivery of the training workshop were effective. Feedback from the 20 participants has since been embedded in the DHFY workshop training materials. Engaging in a quality improvement initiative reinforced the importance of embedding regular program evaluation strategies in educative training workshops and programs.<sup>20–21</sup> Patton states that evaluators, or users, of a training program are in a strong position to give feedback.<sup>20</sup> As the DHFY training workshops were being planned, the UFE processes were identified for use at the training workshops to collect feed-

back; it was effective to plan the evaluations while planning workshops.

Overall, participants responded positively to the eight-hour training workshop. They indicated that the information shared there increased their knowledge of diabetes-related foot complications, foot risk screening,<sup>29</sup> and the role of shoes and insoles.<sup>30</sup> They benefited from practice teaching using presentation slides and a presentation clicker to move slides forward and back.<sup>16,30</sup> Participants, though initially uncertain, were able to participate in a small group activity and conduct a mock workshop together. As well, they benefited from having their technology device in hand and learning to access the Wounds Canada education materials online.

Participants recorded their opinions on the importance of observing a modelled, mock workshop and how to implement a DHFY training workshop. They indicated the value of role-playing and observing role-modelling as an instructional method.<sup>16,31</sup> By rehearsing and playing an assigned role in a mock workshop, participants experienced how it feels to function in that role. Participants described valuing the use of wide-ranging DHFY training materials (written, verbal, audio, visual) and various media types.

Participants described learning about themselves as speakers and future educators. They experienced speaking in front of a group, and presenting to a group of peers using media tools. In addition, participants stated they enjoyed the discussion on how to manage time during the workshop, use agendas, present as a group and work as a team. Fitzgerald states workshop participants are in a good position to identify further educational opportunities,<sup>16</sup> and this was evident from the feedback when participants identified the need for ongoing educative opportunities to continue to practise these skills.

For some participants, understanding principles of adult education was not new, yet for others this was part of a growing information base. Finally, participants readily shared with their peers what they knew about working with adults and identified what knowledge they had yet to learn.

Participants spoke to the workshop facilitators about feeling educative pressures to be current in their clinical knowledge of diabetes-related foot care and footwear. Giving educators current and relevant education resources is an important part of adult training. Trainers must be aware of the need to participate in self-learning activities. Participants were encouraged to access resources from Wounds Canada and Diabetes Canada.

Participants discussed the need to communicate in several languages and to be aware of specific cultural settings. Currently Wounds Canada offers the DHFY resources in Arabic, Chinese, English, French, Gujarati, Hindi, Japanese, Punjabi, Spanish, Tamil, Urdu and Vietnamese.<sup>32</sup> Participants shared how they developed translator resource lists to meet the need in each community. Finally, they discussed the importance of being part of cultural sensitivity training on a regular basis. They identified this as essential when recruiting community members and health-care professionals.

## Next Steps

This quality improvement initiative provided constructive information that has been used to improve the DHFY Train-the-Trainer program and DHFY resources available online.<sup>32</sup> Future DHFY training could include a greater focus on the role of public speaking, use of technology (such as presentation software) and communication with health managers and directors.

We are grateful to the participants for their rich feedback and support of this quality improvement initiative. ■

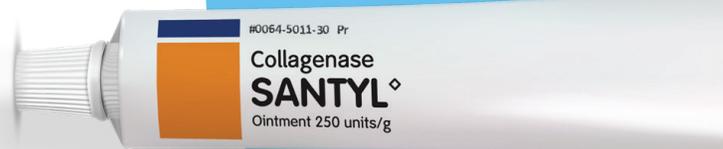
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