# Implementation and evolution of a regional chronic disease self-management program

Clare Liddy, MD, MSc,<sup>1,2</sup> Sharon Johnston, MD,<sup>1,2</sup> Kate Nash, MSc,<sup>1</sup> Hannah Irving, MSc,<sup>3</sup> Rachel Davidson, BScHK, CK, CSEP-CEP<sup>1</sup>

# ABSTRACT

**OBJECTIVE:** To establish a comprehensive, community-based program to improve and sustain self-management support for individuals with chronic diseases and complement office-based strategies to support behaviour change.

PARTICIPANTS: Health service delivery organizations.

SETTING: The Champlain Local Health Integration Network (LHIN), a health district in Eastern Ontario.

**INTERVENTION:** We created Living Healthy Champlain (LHC), a regional organization providing peer leader training and coordination for the group Stanford Chronic Disease Self-Management Program (CDSMP); skills training and mentorship in behaviour change approaches for health care providers; and support to organizations to integrate self-management support into routine practice. We used the RE-AIM framework to evaluate the overall program's impact by exploring its reach, effectiveness, adoption, implementation and maintenance.

**OUTCOME:** A total of 232 Stanford CDSMP sessions (63 during the pilot project and 169 post-pilot) have been held at 127 locations in 24 cities across the Champlain LHIN, reaching approximately 4,000 patients. The effectiveness of the service was established through ongoing evidence reviews, a focus group and a pre-post utilization study of the pilot. LHC trained over 300 peer volunteers to provide the Stanford CDSMP sessions, 98 of whom continue to actively host workshops. An additional 1,327 providers have been trained in other models of self-management support, such as Health Coaching and Motivational Interviewing. Over the study period, LHC grew from a small pilot project to a regional initiative with sustainable provincial funding and was adopted by the province as a model for similar service delivery across Ontario.

**CONCLUSION:** A community-based self-management program working in partnership with primary care can be effectively and broadly implemented in support of patients living with chronic conditions.

KEY WORDS: Self-management; self-care; chronic disease; behavior change

La traduction du résumé se trouve à la fin de l'article.

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In Canada, approximately half the population lives with at least one chronic condition.<sup>1</sup> To optimally manage chronic conditions, patients must make long-term health behaviour changes alongside day-to-day decisions related to their chronic conditions. In other words, they must self-manage.<sup>1,2</sup> While patients often need help developing the skills necessary to manage their own care, physicians can assist in this matter by providing self-management support, defined as a) a portfolio of techniques and tools that help patients choose healthy behaviours and b) a fundamental shift of the patient-caregiver relationship into a collaborative partnership.<sup>3</sup> Family physicians are well positioned to offer self-management support;<sup>4</sup> however, clinicians are often constrained by the length of a typical office visit and struggle to provide ongoing support and follow-up to patients, given other competing demands.<sup>5</sup>

One solution is to refer patients to community-based resources that can help them develop the skills and knowledge they need to live well with one or more chronic conditions. Studies have found that such programs can improve patients' quality of life, knowledge of their condition and self-efficacy,<sup>6</sup> and lead to improvements in

health outcomes such as reduced rates of hospitalization and emergency room visits.<sup>78</sup>

In recent years, a number of regional programs have been developed across Canada to deliver self-management support to patients with chronic diseases.<sup>9–11</sup> However, these programs lack coordination and are often only available in certain pockets, situated within other initiatives or targeted at specific chronic diseases or subpopulations, limiting their potential reach and accessibility.<sup>1,9,12</sup> Furthermore, primary care providers exhibit low rates of referral to self-management programs, less than one quarter

**Author Affiliations** 

<sup>1.</sup> C.T. Lamont Primary Health Care Research Centre, Bruyère Research Institute, Ottawa, ON

<sup>2.</sup> Department of Family Medicine, University of Ottawa, Ottawa, ON

<sup>3.</sup> Care of the Elderly Research Program, Bruyère Research Institute, Ottawa, ON **Correspondence:** Dr. Clare Liddy, C.T. Lamont Primary Health Care Research Centre, Bruyère Research Institute, 43 Bruyère Street, Annex E, Room 106, Ottawa, ON K1N 5C8, Tel: 613-562-6262, ext. 2928, E-mail: cliddy@bruyere.org

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of eligible patients being referred to a specific self-management group or class.<sup>13</sup> There is a need across Canada to implement regional programs that support a culture of self-management and improve access to self-management support for patients with chronic diseases.

This article describes how an innovative regional selfmanagement program called Living Healthy Champlain (LHC) was created in a large health region of Ontario. LHC coordinates, promotes and facilitates a variety of self-management programs across our region.<sup>14</sup> The impact of the program is described through the lens of the Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) framework.<sup>15</sup> Our results will be highly relevant for other health regions that are seeking to introduce and/ or support chronic disease self-management programs.

# PARTICIPANTS

The target population for LHC is health and/or social service delivery organizations, providers and people living with chronic conditions in the Champlain Local Health Integration Network (LHIN).

#### SETTING

The Champlain LHIN is a large health region of  $18,000 \text{ km}^2$  located in eastern Ontario with a population of 1.2 million people. The region is culturally and linguistically diverse, with a francophone population substantially larger than the Ontario average (19.2% vs. 4.7%), and significant Aboriginal (1.4%) and recent immigrant (3.3%) populations. The proportion of seniors in the region is in line with the Ontario average (12.5% vs. 12.8%). Likewise, the frequency of chronic disease in the Champlain LHIN is comparable with the rest of Ontario, with a significant number of individuals suffering from high blood pressure (13.6% of people over age 12), diabetes (4.6% of people over age 12) and heart disease (6.5% of people over age 30).<sup>16</sup>

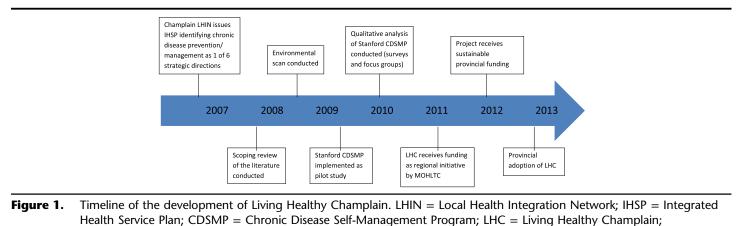
# INTERVENTION (CREATION OF THE LIVING HEALTHY CHAMPLAIN PROGRAM)

We partnered with local health and social care organizations throughout the Champlain LHIN to create the LHC program (see Figure 1 for a timeline of its development) in response to a new, integrated health services plan<sup>17</sup> for the region, which included a greater focus on chronic disease prevention and management.

The program began with a planning phase to 1) examine the evidence for self-management support programs, 2) understand the current scope of self-management support resources in the region and 3) form key partnerships with policy-makers and health care organizations. This planning process has been described in full detail elsewhere.<sup>18–20</sup>

After reviewing the literature,<sup>20</sup> our team found that group Chronic Disease Self-Management Programs (CDSMPs), specifically the Stanford CDSMP,<sup>21</sup> showed promising results in teaching selfmanagement skills. The CDSMP is licensed and has standardized training modules and several validated evaluation tools.<sup>20</sup> Additionally, it can be held in accessible locations throughout the region (e.g., community health centres, primary care practices).<sup>18</sup> Concurrent with the evidence review, an environmental scan was conducted in order to assess the needs and perspectives of local health care providers. Using a mixed purposeful sampling method (including maximum variation and snowball sampling techniques) to achieve a diverse range of perspectives, we interviewed 38 key informants working in the fields of health and social care within the Champlain LHIN. Respondents suggested that there was some confusion between patient education and self-management support, and expressed doubt about the effectiveness and sustainability of selfmanagement programs and concern that existing programs were not well integrated into chronic disease care.<sup>19</sup>

Between November 2007 and October 2009, the lead family physicians on the project (SJ and CL) made 10 major presentations about self-management support to health and social care organizations in the region in order to identify potential partners. We then established a partnership between the Champlain LHIN, the Bruyère Research Institute, Bruyère Continuing Care and the Champlain Community Care Access Centre. Together, these groups formed LHC, which now provides peer leader training and organizational infrastructure for the Stanford CDSMP and other self-management support programs; training and mentorship for health care providers; and help to organizations in integrating self-management support into routine practice.<sup>18</sup> A steering committee meets every two months in order to facilitate communication between the central planning team





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and the many community-based partners.<sup>18</sup> We also organize an annual self-management support conference for health care providers. This first conference took place in September 2008 and attracted 130 participants. Attendees expressed a growing community interest in self-management programs.<sup>18</sup>

#### **CDSMP** pilot project

Sixteen individuals were drawn from partner organizations identified in the planning phase to receive CDSMP leadership training in May 2009. Once their training was complete, we launched a small pilot project of the Stanford CDSMP in autumn of 2009. To guarantee fidelity, the pilot workshop was presented as is, with no adaptation to local circumstances. The pilot included an initial six workshops, two conducted in rural settings and four in urban settings. Each workshop consisted of six 2.5-hour weekly sessions facilitated by two trained leaders, who could be either health care providers or peers. Leaders promoted the development of skills that enable the person to adopt healthier lifestyle behaviours, interact and communicate with health providers and family, and understand and use medications appropriately. Patients were invited to complete two evaluation surveys, one at the time of their workshop and another six months later. As well, focus groups were held with patients in order to gauge their reactions to the program in more detail and capture the types of community and health resources they used and how often they used them.<sup>22</sup> The Ottawa Hospital Research Ethics Board provided ethical approval for all evaluation components of the pilot project.

We established the feasibility of implementing a central coordination model of self-management support programming through these initial activities and then proceeded to broadly implement the CDSMP group program concurrently with provider training. Once these activities had been accomplished, other types of self-management support training and programs were implemented as part of LHC.

# **OUTCOMES**

Our outcomes include data and events occurring between autumn of 2009 and March 31, 2015. Figure 2 displays a graphical representation of LHC's expansion during this period.

We present our results using the RE-AIM framework as a guide.<sup>15</sup> RE-AIM assists in capturing a comprehensive picture of program implementation undertaken in complex, "real-world" settings through evaluation of five dimensions: 1) Reach into the target population; 2) Effectiveness of the program; 3) Adoption of the intervention by target settings, institutions and staff; 4) Implementation of the intervention on a provider and system level, noting how consistently the program is implemented across settings and how much it costs; and 5) Maintenance of the intervention (i.e., the extent to which the intervention becomes institutionalized).

#### Reach

A total of 232 Stanford CDSMP sessions have been held since the creation of LHC, reaching over 4,000 individuals living with a chronic condition; 63 of the workshops were held during the pilot

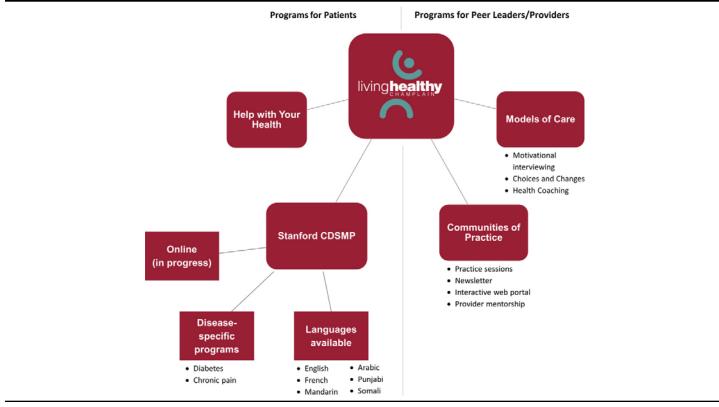
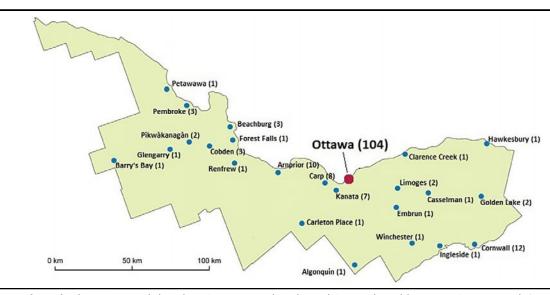


Figure 2. Model of the Living Healthy Champlain program



**Figure 3.** Map of Stanford CDSMP workshop locations across the Champlain Local Health Integration Network (number of workshops held in each city indicated in parentheses). Map modified from the University of Ottawa Heart Institute, http://www.ottawaheart.ca/images/7.2.6-LHIN-map-large.jpg

study period (2009–2011). Upon completion of the pilot, LHC offered an additional 169 workshops, reaching 1,449 patients. Workshops have taken place at 127 locations (typically clinics or community centres) across the health region, providing broad reach for patients and caregivers from a number of communities. Figure 3 illustrates the distribution of the workshops across 24 cities in the Champlain LHIN.

LHC has also expanded its Stanford CDSMP program to include various disease-specific workshops and languages in order to improve its ability to reach specific subpopulations (Figure 2). LHC now offers diabetes and chronic pain workshops in response to community needs. Eight leaders have been trained and are actively providing diabetes-specific workshops, and 22 leaders are actively providing chronic pain workshops. Workshops are offered in Mandarin, Arabic, Punjabi and Somali (in addition to English and French). There is also considerable interest in an Internet-based version of the CDSMP, especially from sparsely populated areas of our region, and it is hoped that the province will fund this resource in the near future.

# Effectiveness

We have endeavored to measure LHC's effectiveness at the patient level using a number of different methods, including a scoping review,<sup>20</sup> a systematic review,<sup>9</sup> a focus group with workshop participants,<sup>22</sup> a pre-post study examining the CDSMP's impact on health care utilization,<sup>23</sup> surveys completed at baseline and six months post-workshop, and program costs.

## Scoping Review

Members of the LHC team conducted a scoping review synthesizing the existing evidence on self-management in order to inform the creation of LHC's self-management support services.<sup>20</sup> The evidence showed a positive effect of self-management support programs on patients' self-efficacy, knowledge of their condition and quality of life, though reports on programs' effectiveness in improving measures of health care utilization (e.g., hospitalization rates, follow-up visits) were mixed. The review identified the characteristics most commonly associated with successful interventions, which included proper training for workshop leaders, a focus on patient motivation and a multi-pronged approach.

#### Systematic Review

We conducted a systematic review of qualitative studies examining the perspectives of patients living with multiple chronic conditions in order to capture their attitudes about and experiences with selfmanagement. Patients mentioned several barriers, which were common across different diseases.<sup>9</sup> Patients struggled less with the "skill-based" aspects of self-management (e.g., injecting insulin, monitoring blood pressure) than they did with the physical and emotional symptoms of their illnesses. They also struggled to acquire adequate information about self-management, citing confusing or contradictory information given by health care providers. Programs such as the Stanford CDSMP can help patients deal with symptoms and provide tools to facilitate better communication between patients and providers.<sup>9</sup>

# Focus Groups

Attending the CDSMP reduced participants' sense of isolation and enhanced their coping skills.<sup>22</sup> Participants also experienced several common barriers to successful self-management, the most frequently cited of which were poor patient-physician communication, long wait times to see specialists and lack of access to allied health professions. An examination of the resource surveys suggested that after attending the workshop respondents increased their use of community resources such as dieticians, health food store staff, the Internet and bookstores.<sup>22</sup>

#### Utilization Study

Our team used health care administrative data from 186 individuals who participated in the Stanford CDSMP between September

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2009 and January 2011 in order to determine whether the program was associated with changes in health care utilization. Overall, participation in the CDSMP did not reduce patients' number of physician visits, hospitalizations or use of the emergency department.<sup>23</sup> The service's low impact was attributed to a number of potential causes, including low utilization rates of the service at baseline, an insufficiently long follow-up period and a relatively healthy patient population.

#### Surveys

In addition to the studies discussed above, we attempted to measure the effectiveness of the pilot project using surveys. Of the 669 patients who participated in the pilot study, 228 completed baseline surveys and 80 completed follow-up surveys, accounting for 34.1% and 12% of the patient population respectively. Of the 80 patients who completed both baseline and follow-up surveys, 75% were female, over half were between 50 and 69 years of age, and 70% were living with two or more chronic conditions. No statistically significant trends were found at 12 months because of the small number of returned surveys.

# Adoption

Over 300 peer volunteers have been trained to lead the Stanford CDSMP. Of this group, 98 remain active leaders, meaning they lead at least one workshop per year. In addition, 43 certified Master Trainers have been trained. These individuals can teach peers to provide the Stanford CDSMP sessions, further supporting the adoption of the service.

In addition to the Stanford CDSMP, LHC now provides training for health and social care providers in other models of selfmanagement, namely Motivational Interviewing, Choices and Changes, and Health Coaching. (Figure 2) Over 1,300 providers have been trained to provide support using these models (Table 1).

#### Motivational Interviewing

Motivational interviewing is a method of one-on-one, patientcentred communication designed to encourage changes in patient behaviours in a collaborative and non-coercive manner.<sup>24</sup> Through

Table 1.Target goals and actual nu providers trained in addition (Motivational Intervention, Health Coaching) and attempractice sessions	onal models of care , Choices and Changes or
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Activity	Target	Actual
2011 2012 fiscal year		
2011–2012 fiscal year Providers trained in additional models of care	200	517
	300	517
Providers attending community of practice sessions	150	452
2012–2013 fiscal year		
Providers trained in additional models of care	300	336
Providers attending community of practice sessions	150	220
2013–2014 fiscal year		
Providers trained in additional models of care	200	226
Providers attending community of practice sessions	200	63
	-	05
2014–2015 fiscal year		
Providers trained in additional models of care	200	248
Providers attending community of practice sessions	-	152
Total		
Providers trained in additional models of care		1327
		887
Providers attending community of practice sessions		00/

reflective listening and by asking a series of open-ended questions, motivational interviewers help patients reflect on their conditions and come to their own conclusions about what behaviours they should change and what solutions would best help to change them.<sup>25,26</sup> The aim of Motivational Interviewing is to downplay the paternalistic, prescriptive side of health care, and instead allow interviewers to act as guides or facilitators.

## Choices and Changes

The Choices and Changes Program teaches health care professionals a range of strategies to support behavioural change in patients. The course consists of a workshop for 15–20 health care providers, held over one 4.5-hour session or two 2-hour sessions. Participants are instructed on methods to assess patients' level of readiness for change, skills to influence change and techniques to promote adherence to treatment plans for use in clinical settings.<sup>27</sup>

#### Health Coaching

In the Health Coaching model, mentors (or "health coaches") work one-on-one with patients to establish a rapport, create a wellness vision and set goals allowing patients to achieve this vision.<sup>28</sup> Health coaches can be professional health care providers or peers, and they utilize a number of strategies to help patients achieve and sustain behavioural changes, including Motivational Interviewing.

# Implementation and maintenance

LHC began as a small pilot program supported by a finite block of funding from 2009 to 2011. Its goal was to implement and evaluate a self-management support program in the region. The pilot was highly successful, exhibiting great facility at reaching individuals with chronic diseases and receiving positive feedback from patients and providers. As a result, the Ontario Ministry of Health and Long-Term Care provided LHC with funding through its Ontario Diabetes Strategy, establishing it as a regional initiative. This funding was vital in allowing LHC to continue beyond the pilot period and grow into a broader, more effective service. The program received sustainable funding from the province in 2012, further extending its capacity to offer self-management services throughout the Champlain LHIN. The annual costs for all aspects of LHC (including patient workshops, community of practice, and provider training) have ranged from \$242,235 (for fiscal year 2011/ 2012) to \$324,542 (for fiscal year 2013/2014), for a total cost of \$1,413,144. This works out to an estimated average cost of \$216.94 per LHC participant. In 2013, Ontario adopted LHC as a model of self-management support delivery. Services using LHC's framework are now available across the province. The program's successful expansion from a pilot project to a province-wide initiative underscores its capacity to integrate with organizations and providers, and help them to deliver high quality selfmanagement support.

LHC has also formed a community of practice in order to help health care providers and coaches develop and maintain their skills. Activities include practice sessions focusing on a specific selfmanagement support skill (e.g., introduction to health literacy, revision and practice of behaviour change skills acquired through previous training, and application of behaviour change skills to practice scenarios) and tailored to the needs of the team. A total of 887 providers have attended community of practice sessions (Table 1). These sessions were initially held through video conferencing exclusively, but the service expanded to include onsite sessions starting June 2013 in response to user feedback. A total of 17 on-site sessions have been delivered. LHC also distributes a monthly newsletter and hosts an interactive web portal with discussion boards and resources for self-management support.

Attrition is a common problem among self-management workshops, as patients with chronic conditions can often find it difficult to commit to attending six weekly sessions of 2.5 hours each. In response, LHC has developed a new program called Help with Your Health, which offers stand-alone sessions that are only 1.5 hours long, making them more accessible. These sessions employ principles of adult learning, such as multi-modal approaches and contextualizing knowledge, and are designed to be accessible to individuals at all levels of health literacy. Maintaining behavioural change is also a common challenge for self-management workshops. Therefore, LHC offers 2.5-hour "Reconnect and Refresh" sessions, providing participants with an opportunity to revisit core skills introduced in the workshop and discover new ones.

# **INTERPRETATION**

LHC has been successfully implemented and sustained in the Champlain LHIN. Through central coordination, training, refresher courses and continuous community and primary care engagement, approximately 4,000 patients and 2,500 providers have accessed the program's resources and participated in hundreds of workshops to date. LHC's expansion is a dynamic process, with some partners having developed advanced self-management skills and providing their own suggestions for improvements, while others invited LHC to provide initial training in behaviour change skills or self-management support to their staff.

The success of LHC's provincial expansion and its ability to provide improvement in access to self-management support for people with chronic disease are comparable with achievements described in other regions, such as British Columbia, Alberta and the UK.<sup>29-32</sup> For instance, the Alberta Healthy Living Program is a community-based chronic disease management program encompassing multiple strategies, including the Stanford CDSMP, to improve chronic disease care.<sup>32</sup> The program has expanded through provincial funding and is now available in 108 communities across Alberta.

Our team used the RE-AIM framework to evaluate the impact of the LHC program across the Champlain LHIN. While we lacked sufficient data to report on all five dimensions equally, we demonstrated the program's ability to reach providers across the region who can deliver workshops to patients with chronic conditions; the program's effectiveness at improving self-efficacy and coping skills; its adoption by regional providers; its implementation throughout the Champlain LHIN; and its maintenance through provincial and regional support. Implementation and maintenance were presented as one dimension. We lacked the data necessary to report on maintenance at a patient level and so discuss the dimension solely on a system level. This limitation is fairly common: systematic reviews of studies evaluated according to the RE-AIM framework have reported that measures of patient-level maintenance were among the least reported.<sup>33,34</sup>

Given the global prevalence of chronic disease, it is a challenge for self-management programs to reach all individuals who may benefit from them. Therefore, it is all the more important to maximize the use of available programming.<sup>6</sup> Reluctance by physicians to refer patients to self-management programs has been identified in the literature and may result in part from uncertainty as to which of their patients might benefit.<sup>35,36</sup> This reluctance underlines the need for developing a dialogue between self-management programs and family physicians. LHC continues to market the program to health care providers in secondary and primary care, as well as other health and social care organizations. Through LHC, hundreds of primary care providers have been trained in self-management techniques that they can use in any suitable patient visit. This has the potential to extend the reach of the program considerably. However, training does not always lead to routinization. Therefore, the program is developing a community of practice for health care providers and improving access to change management expertise. Attrition of providers has been a challenge in implementing the program, and our team has begun screening leaders and participants more carefully to help ensure that there is adequate participation.

# **Limitation of findings**

Our paper has several limitations. Our team encountered some challenges when attempting to measure the pilot's effectiveness from a patient perspective. Patients who participated in the pilot were asked to complete surveys at baseline and six months poststudy in order that changes in health behaviours and attitudes could be measured. Unfortunately, only one third of patients completed a baseline survey and one tenth completed a follow-up survey. This low response rate restricted our ability to measure patient-level outcomes. Ontario is in the process of implementing a standard evaluation tool for chronic disease self-management programs. This will allow consistent data to be drawn from LHC's multiple workshops, providing a more complete picture of the service's impact on patient health.

We did not have any data on provider attitudes towards LHC, which limits our ability to gauge physician and program leader perspectives. Our plans include conducting surveys/interviews with these providers in order to mitigate this gap in our knowledge.

Service developers have noted some limitations of the RE-AIM framework when designing and evaluating interventions, such as the fact that it does not directly address stakeholder engagement.<sup>37</sup> Our successful connections with stakeholders in the Champlain LHIN and across Ontario are a significant marker of our success, a fact that the RE-AIM framework may not adequately reflect. Furthermore, while the impact of self-management programs on clinical outcomes provides a helpful and tangible measure of their effectiveness, these data can be hard to acquire and in many cases cannot be reported.<sup>38</sup> A recent study measured adherence to the RE-AIM framework in a dozen public health programs in Mexico aiming to improve physical activity. It found that only a quarter of included studies actually measured outcomes of increased physical activity among participants.<sup>39</sup>

#### **Further research**

Planning is underway to evaluate the program at the provincial level by asking participants to complete the Patient Activation Measure at the first session, at the sixth and final session and at six months post-program. This survey includes items related to general health, quality of life, activities of daily living, physical activities, fatigue, pain and health care utilization. While this approach has the capacity to increase the number of completed evaluations and in doing so provide a more reliable sense of the impact of the program on the lives of participants, it cannot provide information about the potential clinical impacts of the program. Some studies have looked at the impact of the diabetes self-management program on glycated hemoglobin levels,<sup>40,41</sup> but the CDSMP is open to participants with any chronic condition and it would thus be challenging to track clinical outcomes relevant to each participant. However, within the context of quality improvement, family practices could choose to monitor the clinical outcomes of a specific group of patients who had attended a CDSMP workshop. This effort could provide practices with a clearer picture of which patients would be more likely to benefit from self-management.

# CONCLUSION

Since its initial planning phase in 2009, LHC has successfully grown from a small pilot project into a regional program reaching thousands of patients. LHC programs have trained over 1,600 peers and health care providers to deliver a number of self-management interventions, including the Stanford CDSMP, Motivational Interviewing, Choices and Changes, and Health Coaching. The service has expanded to reach new communities by offering disease-specific programs and training in six different languages, and developed a community of practice in order to support program providers. We launched single-session "Help With Your Health" classes to improve the program's flexibility and established "Reconnect and Refresh" courses to reduce attrition. More research is needed to explore LHC's impact on patient-level outcomes.

# REFERENCES

- Kitts J. Self-Management Support for Canadians with Chronic Health Conditions: A Focus for Primary Health Care. Toronto, ON: Health Council of Canada, 2012. Available at: http://cameroninstitute.com/attachments/063\_HCC\_ SelfManagementReport\_FA.pdf (Accessed July 8, 2014).
- Bodenheimer T, Lorig K, Holman H, Grumbach K. Patient self-management of chronic disease in primary care. *JAMA* 2002;288(19):2469–75. PMID: 12435261. doi: 10.1001/jama.288.19.2469.
- Bodenheimer T, MacGregor K, Sharifi C. Helping Patients Manage Their Chronic Condition. Oakland, CA: The California Healthcare Foundation, 2005. Available at: http://www.chcf.org/publications/2005/06/helping-patientsmanage-their-chronic-conditions (Accessed May 6, 2015).
- Kaner EFS, Dickinson HO, Beyer F, Pienaar E, Schlesinger C, Campbell F, et al. The effectiveness of brief alcohol interventions in primary care settings: A systematic review. *Drug Alcohol Rev* 2009;28(3):301–23. PMID: 19489992. doi: 10.1111/j.1465-3362.2009.00071.x.
- Bodenheimer T. Coordinating care A perilous journey through the health care system. N Eng J Med 2008;358(10):1064–71. PMID: 18322289. doi: 10. 1056/NEJMhpr0706165.
- Johnston S, Liddy C, Mill K, Irving H. Building the evidence base for chronic disease self-management support interventions across Canada. *Can J Public Health* 2012;103(6):e462–67. PMID: 23618029.
- Ory MG, Ahn S, Jiang L, Smith ML, Ritter PL, Whitelaw N, et al. Successes of a national study of the Chronic Disease Self-Management Program: Meeting the triple aim of health care reform. *Med Care* 2013;51(11):992–98. PMID: 24113813. doi: 10.1097/MLR.0b013e3182a95dd1.
- 8. Jaglal SB, Guilcher SJ, Hawker G, Lou W, Salbach NM, Manno M, et al. Impact of a Chronic Disease Self-Management Program on health care utilization in

rural communities: A retrospective cohort study using linked administrative data. *BMC Health Serv Res* 2014;14(1):198. PMID: 24885135. doi: 10.1186/1472-6963-14-198.

- 9. Liddy C, Blazkho V, Mill K. Challenges of self-management when living with multiple chronic conditions: Systematic review of the qualitative literature. *Can Fam Physician* 2014;60(12):1123–33. PMID: 25642490.
- Living Well South-East Ontario. Self-Management Ontario. Kingston, ON: Self-Management Program of Southeastern Ontario, 2015. Available at: http://www.livingwellseontario.ca/about/self-management-ontario/ (Accessed March 25, 2015).
- 11. Welcome to Self-Management BC. Victoria, BC: Self-Management British Columbia, 2015. Available at: http://www.selfmanagementbc.ca/ (Accessed March 25, 2015).
- Morgan M, Zamora N, Hindmarsh M. An inconvenient truth: A sustainable healthcare system requires chronic disease prevention and management transformation. *Healthc Pap* 2007;7(4):6–23. PMID: 17595546. doi: 10.12927/ hcpap.
- 13. Health Council of Canada. *Helping Patients Help Themselves: Are Canadians with Chronic Conditions Getting the Support They Need to Manage Their Health?* Ottawa, ON: Canadian Health Care Matters, 2010.
- 14. Living Healthy Champlain (LHC) About Us. Ottawa, ON: LHC, 2014. Available at: http://www.livinghealthychamplain.ca/aboutUs/index.aspx (Accessed May 6, 2015).
- Glasgow RE, Vogt TM, Boles SM. Evaluating the public health impact of health promotion interventions: The RE-AIM framework. *Am J Public Health* 1999;89(9):1322–27. PMID: 10474547. doi: 10.2105/AJPH.89.9.1322.
- Bains N. Population Health Profile: Champlain LHIN. Toronto, ON: Ministry of Health and Long-Term Care. Available at: http://www.health.gov.on.ca/ transformation/providers/information/resources/profiles/profile\_champlain. pdf (Accessed July 15, 2014).
- Champlain Local Health Integration Network (LHIN). Working Together for Healthy Communities: Champlain LHIN Annual Report 2006–2007. Ottawa, ON: Champlain LHIN, 2008. Available at: www.champlainlhin.on.ca/WorkArea/ showcontent.aspx?id=1074 (Accessed May 6, 2015).
- Liddy C, Johnston S, Irving H, Nash K. The Community Connection Model: Implementation of best evidence into practice for self-management of chronic diseases. *Public Health* 2013;127(6):538–45. PMID: 23701813. doi: 10.1016/j.puhe.2013.02.005.
- Johnston SE, Liddy CE, Ives SM. Self-management support: A new approach still anchored in an old model of health care. *Can J Public Health* 2011; 102(1):68–72. PMID: 21485969.
- 20. Johnston S, Liddy C, Ives S, Soto E. Literature Review on Chronic Disease Self-Management. Ottawa, ON: Champlain Local Health Integration Network, 2008. Available at: http://www.livinghealthychamplain.ca/documents/pages/ ReviewChronicDisease.pdf (Accessed May 6, 2015).
- Stanford University School of Medicine. Stanford Chronic Disease Self-Management Program. Stanford, CA: Stanford University School of Medicine, 2014. Available at: patienteducation.stanford.edu/programs/ cdsmp.html (Accessed May 6, 2015).
- 22. Johnston S, Irving H, Mill K, Rowan MS, Liddy C. The patient's voice: An exploratory study of the impact of a group self-management support program. *BMC Fam Pract* 2012;13:65. PMID: 22748018. doi: 10.1186/1471-2296-13-65.
- 23. Liddy C, Johnston S, Guilcher S, Irving H, Hogel M, Jaglal S. Impact of a chronic disease self-management program on healthcare utilization in eastern Ontario, Canada. *Prev Med Rep* 2015;2:586–90. PMID: 26844122. doi: 10. 1016/j.pmedr.2015.07.001.
- American Physical Therapy Association. Motivational Interviewing Techniques Can Improve Patient Self-Management. Alexandria, VA: APTA, 2015. Available at: http://www.apta.org/next/news/2014/6/14/motivationalinterviewing/ (Accessed October 29, 2015).
- 25. Miller W, Rollnick S. *Motivational Interviewing: Preparing People for Change*, 2nd ed. New York, NY: The Guilford Press, 2002.
- Miller WR, Rollnick S. Ten things that motivational interviewing is not. *Behav* Cogn Psychother 2009;37(2):129–40. PMID: 19364414. doi: 10.1017/ S1352465809005128.
- Living Well Self-Management Program of Southeastern Ontario. Choices and Changes. Kingston, ON: Self-Management Program of Southeastern Ontario, 2013. Available at: http://www.livingwellseontario.ca/health-care-providers/ choices-and-changes/ (Accessed October 29, 2015).
- Starr J. The Coaching Manual: The Definitive Guide to the Process, Principles and Skills of Personal Coaching. New York, NY: Pearson Education, 2007.
- 29. Vadiee M. The UK Expert Patient Program and self-care in chronic disease management: An analysis. *Eur Geriatr Med* 2012;3(3):201–5. doi: 10.1016/j. eurger.2012.02.003.
- McGowan P. Chronic Disease Self-Management Program in Vancouver and Richmond: Program Evaluation. Victoria, BC: British Columbia Ministry of Health, 2003. Available at: http://www.health.gov.bc.ca/library/publications/ year/2003/cdm/cdsmpeval2003.pdf (Accessed May 6, 2015).

- 31. Turner AP, Anderson JK, Wallace LM, Kennedy-Williams P. Evaluation of a self-management programme for patients with chronic obstructive pulmonary disease. *Chron Respir Dis* 2014;11(3):163–72. PMID: 24980127. doi: 10.1177/1479972314539979.
- 32. Morrin L, Britten J, Davachi S, Knight H. Alberta Healthy Living Program A model for successful integration of chronic disease management services. *Can J Diabetes* 2013;37(4):254–59. PMID: 24070890. doi: 10.1016/j.jcjd.2013.04. 001.
- 33. Harden SM, Gaglio B, Shoup JA, Kinney KA, Johnson SB, Brito F, et al. Fidelity to and comparative results across behavioral interventions evaluated through the RE-AIM framework: A systematic review. *Syst Rev* 2015;4(1):1–13. PMID: 26547687. doi: 10.1186/s13643-015-0141-0.
- 34. O'Brien J, Finch CF. The implementation of musculoskeletal injury-prevention exercise programmes in team ball sports: A systematic review employing the RE-AIM framework. *Sports Med* 2014;44(9):1305–18. PMID: 24986117. doi: 10.1007/s40279-014-0208-4.
- 35. Kirby SE, Dennis SM, Bazeley P, Harris MF. What distinguishes clinicians who better support patients for chronic disease self-management? *Aust J Prim Health* 2012;18(3):220–27. PMID: 23069365. doi: 10.1071/PY11029.
- 36. Packer TL, Boldy D, Ghahari S, Melling L, Parsons R, Osborne RH. Self-management programs conducted within a practice setting: Who participates, who benefits and what can be learned? *Patient Educ Couns* 2012;87(1):93–100. PMID: 21992799. doi: 10.1016/j.pec.2011.09.007.
- 37. Glasgow RE, Dickinson P, Fisher L, Christiansen S, Toobert DJ, Bender BG, et al. Use of RE-AIM to develop a multi-media facilitation tool for the patient-centered medical home. *Implement Sci* 2011;6(10):118. PMID: 22017791. doi: 10.1186/1748-5908-6-118.
- 38. Ory MG, Altpeter M, Belza B, Helduser J, Zhang C, Smith ML. Perceived utility of the RE-AIM framework for health promotion/disease prevention initiatives for older adults: A case study from the U.S. evidence-based disease prevention initiative. *Front Public Health* 2015;2:143. PMID: 25964897. doi: 10.3389/ fpubh.2014.00143.
- 39. Jauregui E, Pacheco AM, Soltero EG, O'Connor TM, Castro CM, Estabrooks PA, et al. Using the RE-AIM framework to evaluate physical activity public health programs in Mexico. *BMC Public Health* 2015;15(1):162. PMID: 25881249. doi: 10.1186/s12889-015-1474-2.
- 40. Deakin TA, McShane CE, Cade JE, Williams R. Group based training for self-management strategies in people with type 2 diabetes mellitus. *Cochrane Database Syst Rev* 2005;18(2):CD003417. PMID: 15846663.
- Norris SL, Engelgau MM, Narayan KV. Effectiveness of self-management training in type 2 diabetes: A systematic review of randomized controlled trials. *Diabetes Care* 2001;24(3):561–87. PMID: 11289485. doi: 10.2337/ diacare.24.3.561.

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# RÉSUMÉ

**OBJECTIF**: Établir un programme communautaire global pour améliorer et soutenir l'appui à l'auto-prise en charge des personnes atteintes de maladies chroniques, en complément des stratégies d'appui à la modification du comportement élaborées dans les unités de santé.

**PARTICIPANTS :** Des organismes de prestation de services de santé.

**LIEU :** Le réseau local d'intégration des services de santé (RLISS) de Champlain, un district de santé de l'Est de l'Ontario.

**INTERVENTION :** Nous avons créé Vivre en santé Champlain (VSC), un organisme régional qui : assure la formation et la coordination de pairs animateurs selon le programme d'auto-prise en charge des maladies chroniques (programme CDSMP) de l'Université Stanford; offre aux dispensateurs de soins de santé de la formation axée sur les compétences et du mentorat sur les approches de modification du comportement; et aide les organismes à intégrer l'appui à l'auto-prise en charge dans leurs pratiques courantes. Nous nous sommes servis du cadre RE-AIM pour évaluer l'impact global du programme en explorant sa portée, son efficacité, son adoption, sa mise en œuvre et le maintien de ses effets.

**RÉSULTATS :** En tout, 232 séances CDSMP de Stanford (63 pendant et 169 après le projet pilote) ont été tenues dans 127 établissements situés dans 24 villes du RLISS de Champlain, soit un bassin d'environ 4 000 patients. Nous avons évalué l'efficacité du service au moyen d'examens continus des données probantes, d'un groupe de discussion et d'une étude d'utilisation avant et après le projet pilote. VSC a formé plus de 300 pairs bénévoles à offrir les séances CDSMP de Stanford; 98 de ces bénévoles offrent encore activement des ateliers. En outre, 1 327 dispensateurs ont été formés selon d'autres modèles d'appui à l'auto-prise en charge, comme le coaching santé et la technique d'entrevue motivationnelle. Au cours de la période de l'étude, VSC est passé d'un petit projet pilote à une initiative régionale bénéficiant d'un financement provincial durable, et la province en a fait un modèle pour la prestation de services semblables ailleurs en Ontario.

**CONCLUSION :** Un programme communautaire d'auto-prise en charge mené en partenariat avec les soins primaires peut être mis en œuvre efficacement et à grande échelle pour appuyer les patients vivant avec des maladies chroniques.

**MOTS CLÉS** : auto-prise en charge; autosoins; maladie chronique; modification du comportement