

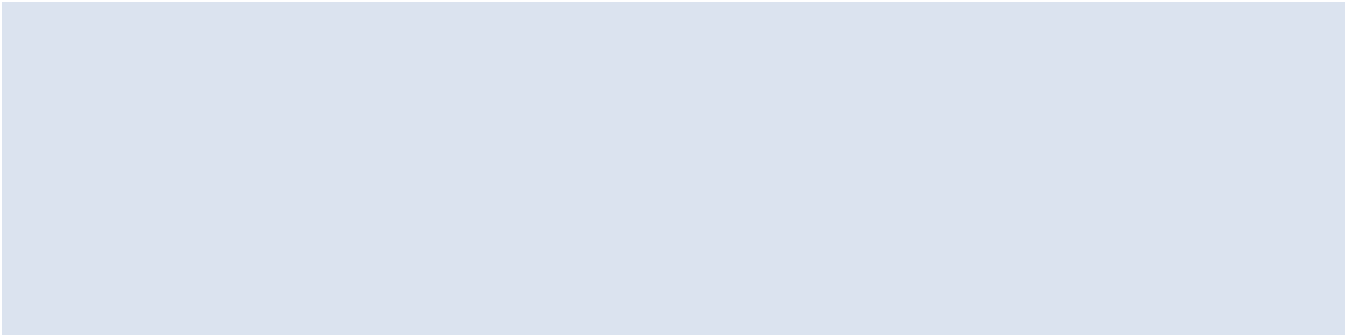
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# Self-Management Support: A Health Care Intervention



BC Ministry of Health

June 10th, 2011



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# Executive Summary

The British Columbia Ministry of Health has actively supported self-management for chronic health conditions since 2002. This support has been primarily directed to the delivery of evidence-based self-management programs for persons with chronic health conditions and training in self-management support strategies for health professionals.

British Columbia's "*Patients as Partners*" initiative has enabled coordination in both planning and evaluation aspects of self-management programming which has resulted in a comprehensive focused approach at the provincial level. In concert with this activity, the province has been facilitating a re-orientation in health care delivery for persons with chronic conditions. BC's *Patients as Partners* agenda has brought together community partners, the Ministry of Health Services, professional organizations, universities, individual practitioners and regional health authorities to advance participatory care.

The Primary Health Care Charter (2007) was developed by the Ministry of Health in consultation with multiple stakeholders representing the provincial philosophy for primary care to achieve the outcomes of better health, improved experience for professionals and patients at a sustainable cost. Since then provincial efforts have been aligned with the three priorities for *Patients as Partners*:

- 1 patients as partners in individual healthcare;
- 2 patients as partners in redesign;
- 3 and bringing in the community.

This document provides a synopsis of this ten-year journey. The first section describes how self-management is defined and explains how it interfaces with The Expanded Chronic Care Model. It provides a brief explanation of the differences between patient education and self-management and the main ways it is delivered by health care professionals in clinical practice and by peer leaders and health care professionals in groups. The document then describes the mapping project conducted between 2008–09 to investigate the types and scope of self-management programs and the types of training undertaken by health professionals. This is followed by a description of the development of a Self-Management Support Logic Model in 2009–10, and the provincial evaluation plan developed in the fall of 2010 by a sub-committee of the Provincial Patients as Partners Committee.

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Potential implications for policy-making, health care and primary health care may include the following:

### **Self-Management Programs**

- » Support wide-scale implementation of self-management programs in order to reach large population groups and to produce meaningful public health impact.
- » Add these ready-to-implement programs to menus of services provided in community and health care settings.
- » Create effective methods to identify and refer patients with low levels of health literacy.
- » Utilize self-management programs as strategies to help people with chronic disease become more physically active.

### **Self-Management Support Training for Health Professionals**

- » Encourage and support self-management support training for clinicians.

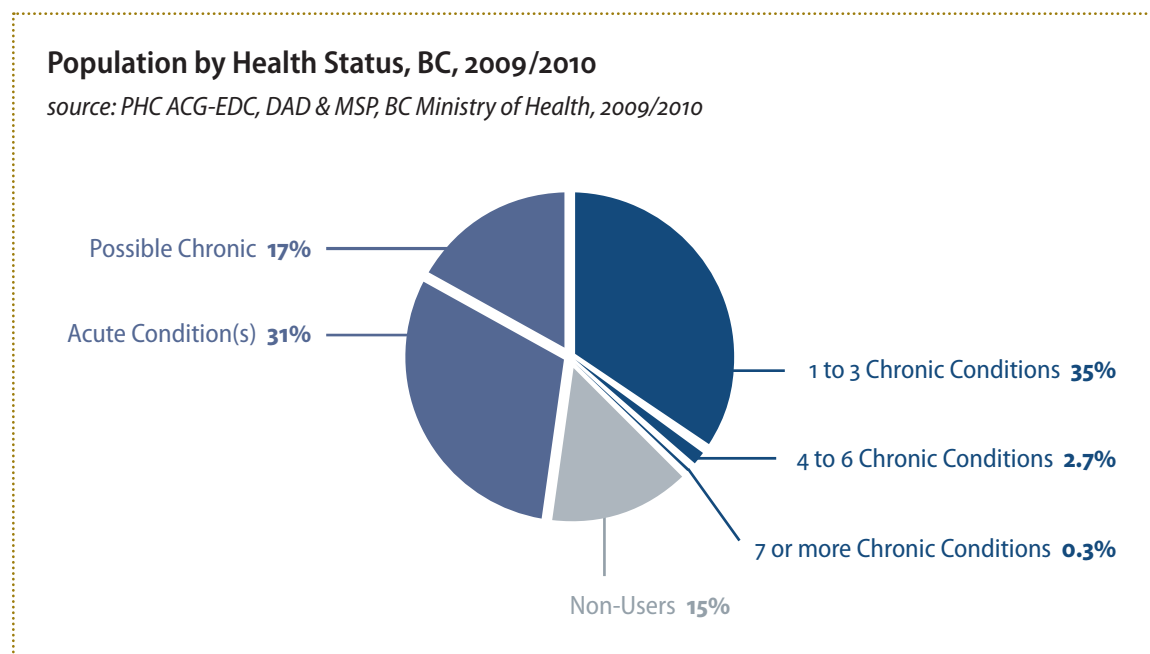
### **Health Care System**

- » Incorporate self-management program referral into standards of care, care protocols, and other provincial policies related to chronic disease care.
- » Integrate personal self-management goals into the care planning process.
- » Use feedback of the collective experiences of clinical teams and patients into the design of services that support patients to self-manage.
- » Encourage participation in self-management programs as part of routine care of individuals with chronic disease.
- » Facilitate ongoing program evaluation, using standardized outcome measures and data definitions and data gathered at the individual rather than group level, to identify populations most likely to benefit from these programs.
- » Promote patient engagement / participation / patient role in self-management (particularly in diverse and First Nations communities).

# Introduction

In British Columbia self-management programs for persons experiencing chronic health conditions have been available for more than a decade. The delivery of these programs was through non-profit organizations, universities, and through short-term funding support from municipal, provincial and national funding bodies. Starting in 2002, Primary Health Care within the Ministry of Health has been providing support for a variety of self-management programs and training for health care providers to engage in self-management in clinical practice.

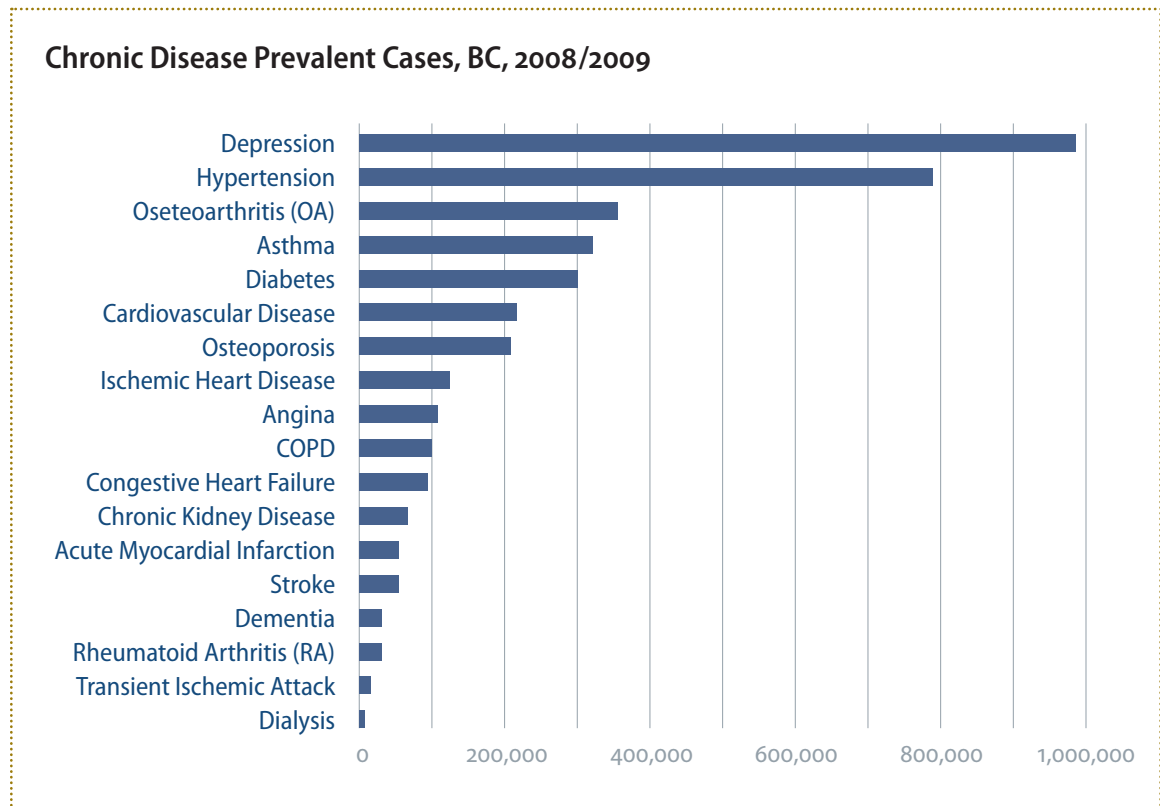
According to the most up-to-date provincial statistics, approximately 1.6 million or one in three British Columbians are experiencing at least one or more chronic health conditions (Health Services Planning Division, Ministry of Health Services). As the figure below depicts, one or more chronic illness affects 38% of people in BC.



In addition to the nearly one million persons experiencing depression and 350,000 with osteoarthritis:

- » 333,000 persons have diabetes;
- » approximately 830,400 BC residents live with diagnosed hypertension, a risk factor for stroke and heart failure;
- » more than 309,000 people have asthma; and
- » approximately 90,000 BC residents have congestive heart failure.

The following chart illustrates the prevalence of specific chronic health conditions during 2008/2009:



British Columbia's chronic disease prevalence rates have major implications for health policy and service delivery in that clinicians are present for only a fraction of the patient's life (Anderson & Funnell, 2010), and nearly all outcomes are mediated through the patient's own behavior (Bodenheimer, Lorig, Holman & Grumbach, 2002). Therefore self-management support, one component of BC's Expanded Chronic Care Model, may be an effective strategy to assist people to manage their lives.

This paper provides a description of self-management support in British Columbia. In this document, the term self-management support will be used in the context of persons living with one or more chronic health conditions and will focus on what various stakeholders can do to facilitate self-management.

# Definition of Self-Management

In British Columbia, self-management is conceptualized as an *intervention* used to bring about specific outcomes. Basically, these interventions consist of a) self-management programs, and b) strategies used by health care professionals in clinical practice. When self-management is referred to as an outcome it usually describes patient attitudes, skills, and behaviours, for example, the patient:

- » has knowledge of his/ her condition and /or its management;
- » adopts a self-management care plan agreed and negotiated in partnership with health professionals;
- » actively shares in decision-making with health professionals;
- » monitors and manages signs and symptoms of his/ her condition;
- » manages the impact of the condition on physical, emotional, occupational and social functioning;
- » adopts lifestyles that address risk factors and promotes health by focusing on prevention and early intervention; and
- » has access to, and confidence in the ability to use support services.

(source: National Health Priority Action Council, 2006)

In British Columbia we find the definition provided by Adams, Greiner, and Corrigan (2004) to be most helpful.

*Self-management relates to the tasks that an individual must undertake to live well with one or more chronic conditions. These tasks include gaining confidence to deal with medical management, role management, and emotional management. (p. 57)*

This definition envisions self-management as tasks, but includes the notion of “confidence” and embraces medical management as well as role and emotional management by the individual. This definition provides greater clarity in that the definition focuses on the person with the chronic condition, and further introduces Adams et al’s (2004) concept of “self-management support,” which specifies what health care providers can do to encourage self-management.

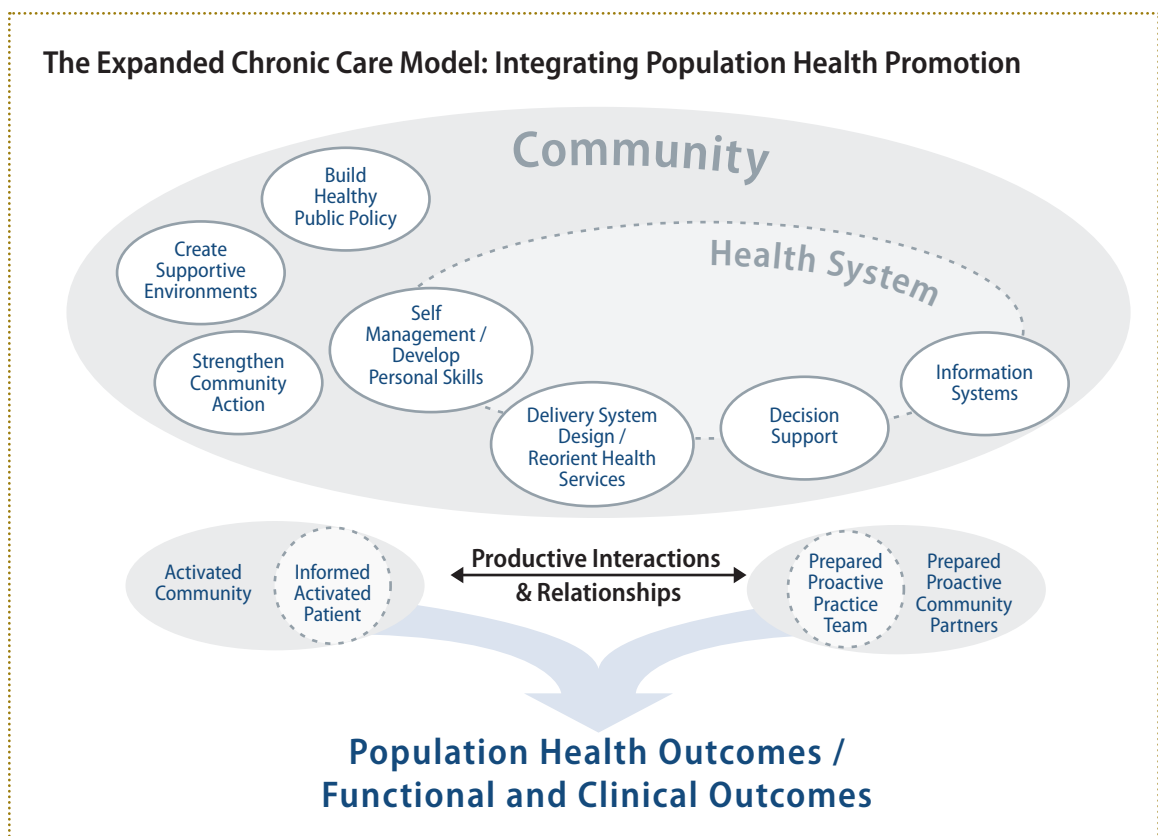
*Self-management support is defined as the systematic provision of education and supportive interventions by health care staff to increase patients’ skills and confidence in managing their health problems, including regular assessment or progress and problems, goal setting, and problem-solving support. (p. 57)*



By articulating self-management as tasks, skills and confidence to deal with medical, role, and emotional management and by using the term *self-management support* to describe what health care providers can do to facilitate it, Adams et al. (2004) have brought greater clarity to the picture.

The way self-management has been defined in Primary Health Care in BC is within the context of healthcare delivery and is consistent with the province's Expanded Chronic Care Model (Barr et al., 2003). In this way, the Ministry of Health, Primary Health Care has provided leadership on how self-management is implemented and evaluated. Purposefully, in this document, self-management has not been defined within the larger determinants of health and population health promotion framework, as the Ministry of Health PHC focus has been on health services to date through NGO's, university and PHC partnerships.

Another factor supporting the decision to use this definition of self-management is that it is congruent with the concept of self-management support incorporated into the Chronic Care Model (Wagner, Davis, Schaefer, Von Korff & Austin, 1999). In British Columbia, the model has been modified and re-named The Expanded Chronic Care Model (Barr et al., 2003), shown below.

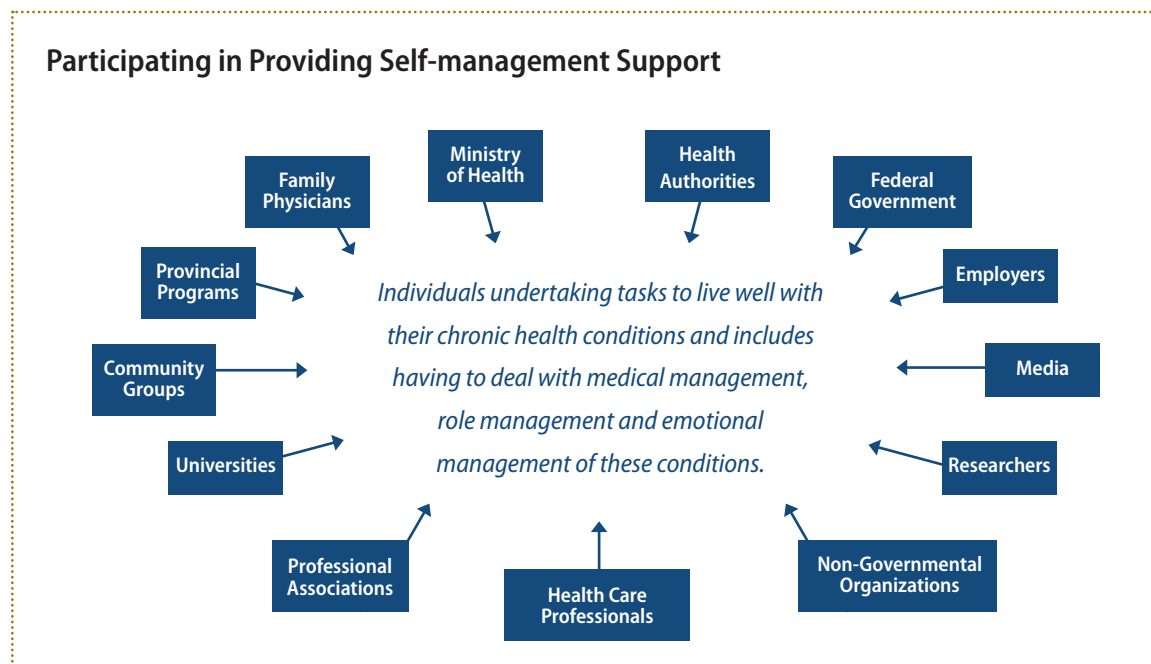


The model involves two overlapping realms, the community and the health care system, with self-management support as one of the four essential components within the health care system. “Self-Management / Develop Personal Skills” refers to “the support of self-management in coping with a disease, but also to the development of personal skills for health and wellness” (Barr et al., 2003, p. 77).

Ultimately, the model posits that when “Informed Activated Patients” interact with a “Prepared, Proactive, Practice Team” the result is improved “Functional and Clinical Outcomes”. To encourage these outcomes, the health care delivery system provides inputs to strengthen and maximize the efficiency of each component — including “Self-Management Support.”

The Ministry of Health also acknowledges the integral role of health literacy in chronic disease management. Health literacy refers to “the ability to access, understand, evaluate and communicate information as a way to promote, maintain and improve health in a variety of settings across the life-course (Rootman & Gordon-El-Bihbety, 2008) as well as “the capability of professionals and institutions to communicate effectively so that community members can make informed decisions and take appropriate actions to protect and promote health” (Tassi & Ashraf, 2008). Health literacy is conceptualized as foundational support for self-management.

In addition to local and provincial health departments, self-management support is also provided by other constituents. The diagram below places the definition of self-management in the middle and locates several bodies with responsibility for self-management support around the circumference. Several initiatives are currently underway involving family physicians, provincial telehealth services, community lay-led programs, universities and health professional training associations.



## Patient education and self-management

Traditionally, patient education has involved the provision of disease-specific information, teaching specific disease-related skills (e.g., how to monitor glucose levels and how to use asthma medication), and contingency planning (i.e., what to do if a situation occurs). Self-management education focuses more on teaching generalized skills that patients can use to manage their condition. These include: learning how to solve problems; finding and using community resources effectively, working with one's health care team; and learning how to initiate new behaviours. The major differences between patient education and self-management education have been delineated by Bodenheimer, Lorig, Holman, and Grumbach (2002):

Traditional patient education provides information and teaches technical disease-related skills whereas self-management teaches skills on how to act on problems.

- » Problems covered in traditional patient education reflect widespread common problems related to a specific disease, whereas the problems covered in self-management education are identified by the patient.
- » Traditional patient education is disease-specific and offers information and technical skills related to the disease. In comparison, self-management education provides problem-solving skills that are relevant to the consequences of chronic conditions in general.
- » Traditional patient education is based on the underlying theory that disease-specific knowledge creates behaviour change, which in turn produces better outcomes. Self-management education, in contrast, is based on the theory that greater patient confidence in his/her capacity to make life-improving changes yields better clinical outcomes.
- » The goal of traditional patient education is compliance whereas the goal in self-management education is increased self-efficacy and improved clinical outcomes.
- » In traditional patient education the health professional is the educator, but in self-management education educators may be health professionals, peer leaders or other patients.

Both types of education, however, are useful in assisting patients achieve the best quality of life and independence. While necessary, traditional disease-specific patient education is generally not sufficient for people to manage a lifetime of chronic disease care (Gibson et al., 1998; Newman, Steed & Mulligan, 2004; Norris, Lau, Smith, Schmid & Engelgau, 2002; Krichbaum, Aarestead & Bueth, 2003). The evidence makes a strong case that the best type of education for patients experiencing chronic health conditions should include: a) disease specific education; b) general managing skills (e.g., problem-solving, finding and using resources, working with health care team); c) use of strategies that increase patients confidence (i.e., self-efficacy) in their ability to engage in behaviours that are needed to manage their condition on a daily basis; and d) adequate peer role models and support networks that help in the initiation and maintenance of the desired behavioural changes.

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Investigating the “process” of how self-management works, the recent evaluation of self-management support programs conducted by RAND Health (Agency for Healthcare Research and Quality, 2007) suggests a “chain of self-management support effect”, specifying that:

- 1 As patients participate in evidence-based self-management programs and interact with health professionals who use self-management support strategies, they become more knowledgeable and have higher self-efficacy;
- 2 This influences their behaviour as well of the behaviour of their health providers;
- 3 Patients attain better disease control leading to improved health outcomes and higher patient satisfaction; and
- 4 Better healthcare utilization takes place as well as improved workplace productivity and lower costs.

Effective self-management support programs not only involve changes at the clinician-patient level, but also require changes at multiple levels: office environment, health system, policy, and environmental supports (Battersby et al., 2010).

Self-management support can take place in several ways: on a one-to-one basis between the patient and health care professional, family member or peer; in disease specific group education programs; in group settings led by either peer leaders or health providers; and through interactive technology like the internet. In recent years, the main task of managing one’s chronic health condition has been shifting to the patient, yet a considerable responsibility still remains with health care professionals who can use their expertise to inform, activate and assist patients in the self-management of their condition.

In BC there is increasing interest in “stepped care” approaches for self-management support. In these approaches, patients with chronic health conditions are conceptualized at different levels of a pyramid depending on their level of disease and treatment complexity. Healthier members of the public are at the lower level of the pyramid where prevention and early diagnosis of disease are the priorities. Health literacy is an integral component at this level. At the second level, where patients have some form of chronic illness, the emphasis shifts to self-management, the appropriate administration of medication and health education. At the third level, patients experiencing complex disease and requiring complex care are assigned care plans guided by case management and advanced self-management support techniques.

## Self-management support provided by health care providers in clinical practice

Self-management interventions are delivered in a variety of settings and according to Barlow, Wright, Sheasby, Turner, and Hainsworth, 2002, the most popular locations in which health professionals deliver programs are clinical settings (e.g., hospitals). Today a greater emphasis is being focused on health care professionals to deliver self-management support and use behavioural techniques during routine clinic visits to enhance patients' abilities to be effective self-managers. These providers can use a variety of techniques such as: setting goals; checking the patient's readiness for self-management; breaking goals and tasks into small action plans; getting personalized feedback; self-monitoring; enlisting social support; and checking patient commitment to key tasks, and importantly, following up on patient goals achievement. All of these techniques may be used singly or in combination.

**For descriptions of the types of self-management support training for health care providers, see Appendix A.**

## Self-management support programs

The most familiar and common way that evidence-based self-management support is delivered is through specially designed programs that emerged during the last decade. These include both disease-specific and generalized programs led by health care professionals as well as by lay persons (Barlow et al., 2002; Lorig, Lubeck, Kraines, Seleznick & Holman, 1985; Lorig et al., 1999). The following self-management programs are offered in BC.

- » Chronic Disease Self-Management Program (English, First Nations, Chinese, Punjabi)
- » Online Chronic Disease Self-Management Program
- » Arthritis/Fibromyalgia Self-Management Program
- » Chronic Pain Self-Management Program
- » Diabetes Self-Management Program
- » Active Choices Program
- » A Matter of Balance Program
- » Bounce Back: Reclaim Your Health Program
- » InterCultural Online Health Network
- » Patient Voices Network Peer Coaching Program
- » Dietitian Services at HealthLink BC
- » Quit Now

**For descriptions of BC self-management programs, see Appendix B.**

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The Stanford Patient Education Research Center programs have been around since the mid 1980's and are currently being delivered in 24 countries. These self-management programs have undergone randomized controlled trials (Gifford, Laurent, Gonzales, Chesney & Lorig, 1998; Lorig et al., 1985, 1999), dissemination studies (Sobel, Lorig & Hobbs, 2002), follow-up and cost analysis studies (Lorig et al., 2001), and have demonstrated external validity through successful implementation and producing similar results in different countries and with different populations (Fu, Ding, McGowan & Fu, 2006; Fu et al., 2003; Griffiths et al., 2005; McGowan & Green, 1995; Swerissen et al., 2006). The US Centers for Disease Control and Prevention (in press) conducted a meta-analysis of two popular self-management programs developed at the Stanford Patient Education Center, namely: The Arthritis Self-Management Program and the Chronic Disease Self-Management Program.

**For excerpts from the Executive Summary, see Appendix C.**

# The Self-Management Support Mapping Project

British Columbia's approach to fostering collaborative practitioner/patient relationships is strengthened by the Expanded Chronic Care Model, in which "self-management support/develop personal skills" is a key component. At the policy level, BC's philosophical orientation to care is highlighted in the provincial BC Primary Health Care Charter which calls for the development and delivery of policies, provider education and regional supports in efforts to implement "a patient as partner" systems approach.

During 2009 the Ministry of Health PHC Branch collaborated with many health care providers, health authorities, and researchers in all the health regions and their outlying communities, to support a Self-Management Support Mapping Project.

The goal of the Mapping Project was to:

- » compile a list of self-management programs delivered in each health region; and to
- » estimate the number of health professionals that received training on using self-management support strategies with patients.

In the Mapping Project self-management was defined as the tasks that individuals must undertake to live well with one or more chronic conditions. These tasks include having the confidence to deal with medical management, role management and emotional management of their conditions (Adams et al., 2004). For a program to be identified as a "self-management program" it must teach patients a variety of essential skills, specifically:

**Problem solving** — Because self-management is problem based, problem solving is a core self-management skill. The process involves teaching patients basic problem-solving skills; these include problem definition, generation of possible solutions — including the solicitation of suggestions from friends and health care professionals, solution implementation, and the evaluation of results.

**Decision making** — A second self-management skill is decision making; patients with chronic conditions must make day-to-day decisions in response to their disease conditions. For example, how to know when one has exercised too much or not enough? How to know when a symptom is medically serious? Or, should one continue taking a medication when one has a fever? To do this, people must have the knowledge necessary to meet common changes. It is based on having enough and appropriate information. Patients need to be able to identify warning signals when caring for their symptoms, have suitable guidelines to follow, and make appropriate choices to manage their symptoms properly.

**Resource utilization** — A third self-management skill is to be able to seek out and use resources. Many programs tell patients about resources; however, it's important to teach them how to use resources effectively. It's better to gather as much information from as many sources as possible, rather than just obtaining information from one source.

**Patient-provider relationships** — A fourth self-management skill is be able to build relationships with health care providers. While the health care provider's role is that of a teacher/partner as well as a professional supervisor, the patient's role is that of a partner who reports the trends and tempo of the disease and makes informed decisions about treatment and discusses these with the health care provider.

**How to take action** — The final self-management skill is taking action. The most important part of taking action is making a short-term action plan and carrying it out.

Programs needed to teach a minimum of three of the five skills to be considered self-management; however, programs and interventions that taught less than three skills were included for program enhancement purposes. The template was then sent to approximately 30 individuals across BC, including those identified as self-management leaders in the health regions and organizations such as the British Columbia Medical Association, BC Mental Health Association, The University of Victoria and Simon Fraser University to determine what self-management programs had been offered in BC during 2008–09.

Step 5. The findings itemized the number of self-management programs delivered and the number of health professionals that received self-management support training at that point in time.

**SELF-MANAGEMENT PROGRAMS, 2009**

**University of Victoria**

<i>Self-Management Programs</i>	<b>26</b>	4-day trainings
	<b>270</b>	leaders trained
	<b>129</b>	6-session programs
	<b>1408</b>	participants

**Canadian Mental Health Assoc**

<i>Bounce Back Tel Coaching</i>	<b>736</b>	participants
<i>Bounce Back DVD's</i>	<b>8369</b>	DVD's distributed



## SELF-MANAGEMENT SUPPORT TRAINING FOR HEALTH PROFESSIONALS, 2009

### University of Victoria

<i>5As</i>	<b>25</b>	training workshops
	<b>630</b>	professionals

### Lion's Gate Hospital

<i>Motivational Interviewing &amp; SMS</i>	<b>210</b>	professionals
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### Vancouver Coastal Health

<i>SMS training workshops</i>	<b>3</b>	workshops
<i>Adult Older Program</i>	<b>28</b>	professionals
<i>Infant Child Youth Program</i>	<b>35</b>	professionals
<i>Three Minute Empowerment</i>	<b>16</b>	professionals

### Healthy Heart Society / Impact BC

<i>Motivational Interviewing</i>	<b>86</b>	professionals
<i>Heart Manual Training</i>	<b>8</b>	professionals

### BC Medical Association

<i>Practice Support Program</i>	<b>316</b>	professionals
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### Integrated Health Networks

<i>Motivational Interviewing</i>	<b>22</b>	professionals
<i>Health Coaching</i>	<b>21</b>	professionals
<i>Three Minute Empowerment</i>	<b>3</b>	professionals
<i>SM Pilot (VGH)</i>	<b>27</b>	professionals

### Primary Health Care

<i>Motivational Interviewing</i>	<b>200</b>	professionals
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### Chronic Disease Management

<i>Health Coaching</i>	<b>145</b>	professionals
<i>Cue Questions</i>	<b>190</b>	professionals
<i>5As</i>	<b>194</b>	professionals
<i>Stages of Change</i>	<b>71</b>	professionals
<i>Three Minute Empowerment</i>	<b>77</b>	professionals

# Development of the Self-Management Support Logic Model

The next major activity, completed by the Provincial Patients as Partner PHC Committee in May 2010, was the development of a “Self-Management Support Logic Model.” Logic models depict how interventions (such as a project, a program, or a policy) are understood or intended to produce particular results (Rogers, 2005). The purpose of this logic model was to provide stakeholders with a road map describing the sequence of related events connecting the need for the planned program(s) with the program’s desired results. The logic model developed encompassed a number of programs, policies and activities intended to enhance self-management provincially. As well, the Patients as Partners PHC Committee had been contemplating a provincial self-management support evaluation strategy, and therefore the logic model would be integral in the development of this evaluation.

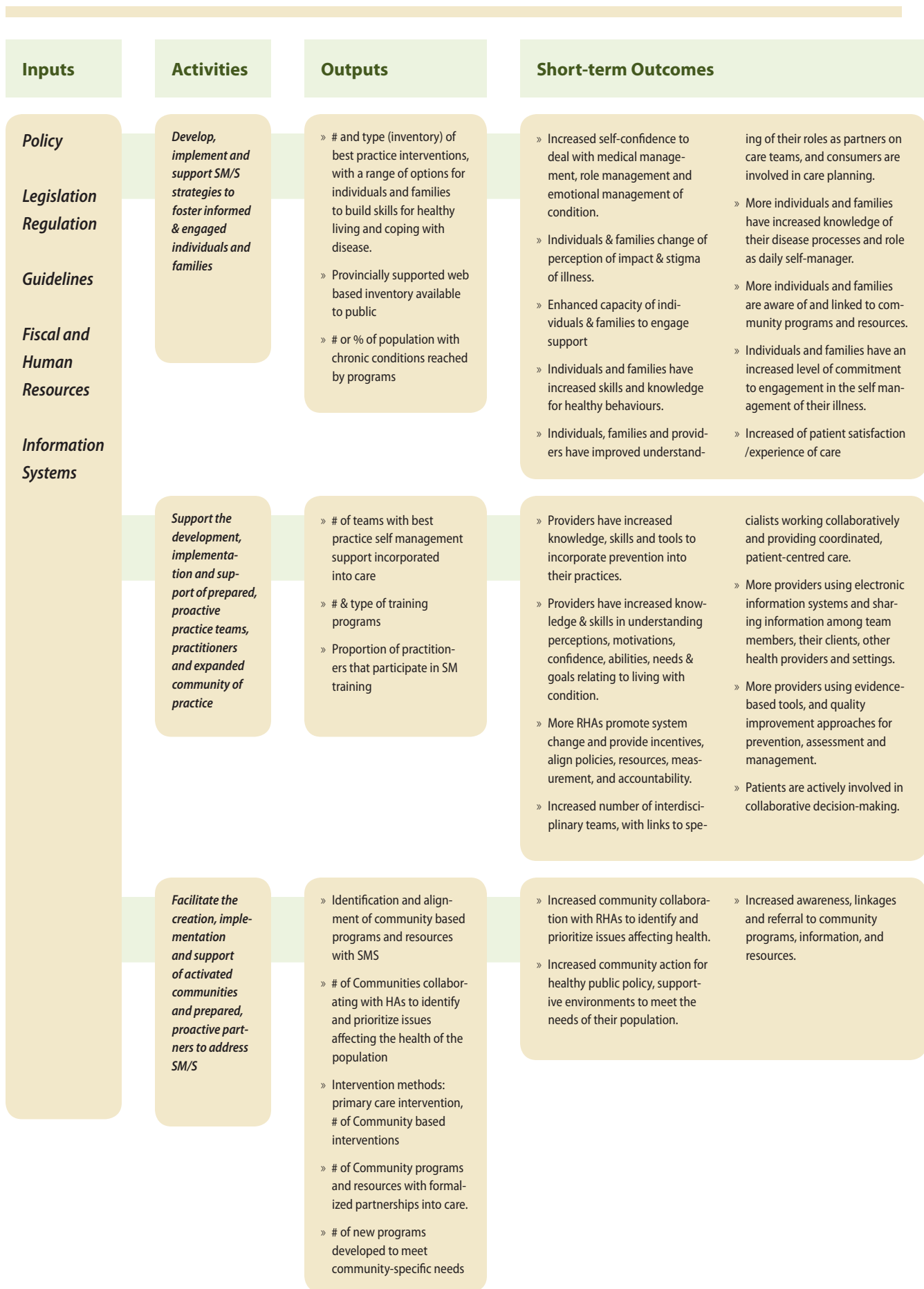
Six concepts were used in the Logic Model: Inputs, Activities, Outputs, Short-term Outcomes, Intermediate Outcomes, and Long-term Outcomes. Following is a brief description of the concepts.

- » **Inputs.** Inputs is a list of what is needed to carry out the strategy program (e.g., human resources such as staff, volunteers, consultants; material resources such as information systems, program expenses, capital expenditure; and policy resources such as legislation, regulations, and guidelines).
- » **Activities.** Activities will be achieved with the inputs. Common headings include: promotion / public relations, training, mentoring, facilitating, education, policy development, information systems design, resource design and development, networking, partnership building, and service coordination). Under the heading one can write a short paragraph describing what the strategy is doing.
- » **Outputs.** Outputs are the direct “products” or “deliverables” of the activity. Usually each output relates to one activity. Outputs are the most immediate results of the project activities and they occur at the completion of each activity. Each output relates directly to an activity (should have at least as many outputs as activities, and often an activity has more than one output). Outputs illustrate the volume of work done under the activity. Examples: a poster, people contacted, a policy submission, a training session. These are often stated using numbers, such as number of participants or programs or number of materials produced. Outputs create the conditions for Project Outcomes (short, intermediate and long term).

- » **Short-term Outcomes.** Short-term outcomes are the first impacts of an activity and occur immediately after the activity, usually in one to three years. They describe the potential created by the product and relate directly to an activity and its output(s). There are as many short-term outcomes as there are activity-output combinations. They may describe an immediate benefit among people directly participating in an activity (e.g., the knowledge or ideas that participants take away from the session) or how people use a product to create the key changes sought by the strategy (e.g., using the information in a personal care plan and tracking daily activities). They capture the “potential” for continued change created through activities and their outputs. They often describe the potential for staff/ participants to know or do something different following an activity and sometimes describe what users of a product or audiences of a message do or know that they did not do or know before the activity.
- » **Intermediate Outcomes.** Intermediate outcomes are more than one step removed from Activities and usually occur within three to six years. They are fewer in number (usually two to four) and flow from the unleashing of the potential contained in a combination of several short-term outcomes and point to the key changes that directly relate to the strategy. They are the changes that are believed to be created by the project, and are related to the individuals who directly participate in activities, but go beyond those individuals to include families, friends, staff relations or community partners connected to those individuals.
- » **Long-term Outcomes.** Long-term outcomes represent the goal or vision that the strategy is aiming for; it describes the bigger picture and longer term changes which can be achieved in seven to ten years. It is the vision of a preferred future and underlines why the strategy is important to the broader system and why it affects a wide population. It represents the aim for one statement that describes this preferred future.

The Committee developed a Logic Model containing three Activities:

- 1 *Develop, implement and support self-management support strategies to foster informed and engaged individuals and families.*
- 2 *Support the development, implementation and support of prepared proactive teams, practitioners and expanded community of practice.*
- 3 *Facilitate the creation, implementation and support of activated communities and prepared proactive partners to address self-management support.*



## Intermediate Outcomes

### Structure & process of SMS Program

- » Improved range and capacity for appropriate structures to support programs/services
- » Increased population coverage — access, reach
- » Interventions are tailored to population needs (literacy, models etc)
- » Increased participation in community programs and resources
- » Increased local capacity to address problems associated with CD on a community and individual basis
- » Increased coordination and linkage among primary care and community based programs

### Provider behaviour & guideline consideration

- » SMS is implemented as a core component of primary health care
- » HC providers are aware of the patients' role as self manager in their HC
- » Increase adherence to recommended best practices
- » PHC providers are using SMS strategies
- » Increased positive experience of providers with the delivery of care

### Patient self efficacy, knowledge & behaviour

- » Increased proportion of population aware/identify modifiable risk factors for disease
- » Individuals and family are aware of their role as a self manager in their HC
- » Individuals and families have the knowledge of manage their chronic conditions
- » Individuals and families have and use skills to manage their chronic conditions
- » Individuals and families have the confidence to manage their chronic conditions
- » Individuals and families are exhibiting healthy behaviours in a sustained way
- » Individuals and families have increased ability to engage a variety (clinical and non-clinical SM supports)
- » Individuals and families have increased self-confidence to request care that meets their needs

## Long-term Outcomes

### Triple Aim:

- » Improved CD population health outcomes
- » Enhanced CD patient and provider experience
- » Achieve sustainable per capita costs

### Disease Control & health outcomes

- » Reduction in self reported severity of symptoms
- » Improved emotional and functional status amongst those with CD
- » Improved quality of life amongst those with CD

### Patient experience

- » Increased overall positive experience of individuals and families with their health care

### Utilization & Productivity

- » Decrease in avoidable emergency room visits.
- » Decrease in avoidable hospitalizations.
- » Decrease in avoidable urgent care visits.

- » Decrease in avoidable readmissions.
- » Delayed residential care placement
- » Decrease in days that are less productive.
- » Decrease in days missed from work.
- » Decrease in work limitations.
- » Increased appropriate use of HC resources

### Cost Benefit

- » Decrease in overall health care costs.
- » Decrease in cost for hospitalization and emergency room visits with medical cost savings.
- » Improved population health indicators for co-morbidities.

# The Provincial Self-Management Support Evaluation Plan

With the completion of the Self-Management Support Logic Model, the next step was the development of a provincial evaluation plan. This task was completed during the Fall of 2010 by a sub-committee of the Provincial Patients as Partners Committee. The goal of the committee was to develop an evaluation strategy for provincial and regional self-management initiatives.

*The committee used the Self-Management Support Logic Model developed by the Provincial Self-Management Committee in the Spring of 2010 as the basis. The committee was asked to develop a strategy to monitor “Outputs” and to examine the achievement of “Short Term Outcomes”.*

## Evaluation plan for self-management programs

- A Each organization will prepare a two-three page description of each program. The description should include:
  - » a description how the program works, target population and recruitment;
  - » whether the program is written down (e.g., Program Manual);
  - » whether there are fidelity standards for training and implementation;
  - » a description of the program’s evaluation history; and the
  - » program costs (i.e., budget to operate the program).
- B Re: “Program Outputs”, during the evaluation period each organization will keep track of program implementation, for example:
  - » number of persons recruited and trained
  - » communities involved
  - » number of programs delivered
  - » number of clients involved
- C Re: “Short term Outcomes”, during the evaluation period (April 1, 2011 – March 31, 2012), the three organizations will request program participants to complete a questionnaire when they start. At six months an external evaluator will mail participants a second questionnaire. This will enable a comparison between time 1 and time 2 (six months later). Organizations may wish to participate in collecting, analysing and interpreting data.

The evaluation committee considered measures that were applicable to all programs. Two measures were selected:

- » Patient Activation Measure — Non Chronic Condition Version4
- » The General Health Question

The exact number of pre and post questionnaires to be collected by each organization will be calculated at a later date.

#### GENERAL POINTS

- » Programs will be evaluated separately (it is not feasible to use a Population Health Approach).
- » Organizations currently collecting evaluation data are encouraged to continue this activity.
- » Committee members acknowledged that it would be difficult to ask participants to provide their Personal Health Number.

### Evaluation plan for programs that train health care professionals

- 1 A survey of Health Regions to ascertain the number and types of SMS training courses and workshops delivered, and the number of staff that participated in these various types of training during 2010–2011.
- 2 A needs assessment survey involving “x” number of health care professionals will be conducted in each region to inquire about perceived SMS needs and suggestions about the types of training and support needed. Physicians will be asked to participate in the needs assessment survey — on a voluntary basis.

### Evaluation Plan for efforts that activate communities

- A Each program will collect information, namely:
- » a description how the program works, target population and recruitment;
  - » whether the program is written down (e.g., Program Manual);
  - » whether there are fidelity standards for training and implementation;
  - » a description of the program’s evaluation history; and the
  - » program cost (i.e., budget to operate the program).
- B Re: “Outputs”, each program will monitor:
- » number of persons recruited and trained;
  - » communities and volunteer stakeholders/partners involved;
  - » number of programs/services delivered; and the
  - » number of clients involved.

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C Re: “Short term Outcomes” during the evaluation period (April 1, 2011 – March 31, 2012), both organizations will request program participants to complete a questionnaire when they start, containing:

- » Patient Activation Measure
- » The General Health Question

At six months an external evaluator will mail participants a second questionnaire. Both organizations may wish to participate in collecting, analysing and interpreting data. The exact number of pre and post questionnaires collected by each organization will be calculated at a later date.

In 2011–2012 key self-management partners will use an improvement approach to test the evaluation plan, tools and processes and complete a provider survey. The aim will be to gain consensus on universal and program specific tools and measures to support provincial and regional reporting and to design provider supports required in Primary Health Care to advance self-management support in practice.



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## Appendix A –

# Self-Management Support Delivered by Health Professionals

## The 5A's

A unifying conceptual framework used on a one-to-one basis or in groups by health care professionals is known as the 5 A's construct (Goldstein, Whitlock & DePue, 2004). The 5 A's are Assess, Advise, Agree, Assist and Arrange. Basically, these are a set of behavioral strategies which encourage patients to engage in self-management and include:

- 1 Establishing rapport with patients to ensure patients have opportunities to express their priority concerns.
- 2 Setting a visit agenda with patients to ensure that both health professionals' and the patients' concerns are addressed in the visit.
- 3 Getting patients to complete a Health Risk Appraisal at home to provide an opportunity for patients to obtain independent objective information about their health and what they need to do to address these concerns. The information can be discussed with the health professional.
- 4 Assessing patients' readiness to change a behavior to enable the health professionals to use appropriate behavioral change strategies.
- 5 The "Ask-Tell-Ask" strategy is a technique to ensure that patients get the information they are after.
- 6 The "Closing the Loop" technique is used to ensure patients understand the information provided by health professionals.
- 7 Getting patients to make "Action Plans" is the process by which patients specify a particular behavior they will engage in.
- 8 The "Problem-Solving Process" teaches patients a process to solve problems when they arise in their daily lives.
- 9 Ensuring that "Follow-up" takes place facilitates the success of making action plans.

These activities are not necessarily linear with each step following the other sequentially. This construct has been applied to primary care interventions for a variety of behaviours (Goldstein, DePue & Kazura, 1998; Ockene et al., 1995; Pinto, Lynn, Marcus, DePue & Goldstein, 2001). The goal of the 5 A's is to develop a personalized, collaborative action plan that includes specific behavioural goals and a specific plan for

overcoming barriers and reaching those goals. The 5 A's are elements that are interrelated and are not designed to be used in isolation, and superior results will occur if a combination of interventions are used, especially for complex cases (Glasgow, Toobert, Barrera & Strycker, 2004).

Professional associations and major hospitals have used the 5A's construct as the basis of their evidence-based "Best Practice Guidelines" in providing self-management support to adults with chronic health conditions (RNAO, 2010) and in caring for children experiencing chronic health conditions (Cincinnati Children's Hospital, 2007).

The Registered Nurses' Association of Ontario has just released their newest Evidence-Based Practice Guidelines entitled: "Strategies to Support Self-Management in Chronic Conditions: Collaboration with Clients".

These Guidelines are based on the 5 A's Approach and are the techniques and strategies that nurses (and other health care providers) can use when interacting with patients with chronic health conditions. The document reviewed all the available research literature and gave each strategy a specific level of how strong the evidence is. The document can be downloaded at no cost by visiting [www.RNAO.org/Page.ASP?PageID=924&ContentID=3320](http://www.RNAO.org/Page.ASP?PageID=924&ContentID=3320).

## Motivational Interviewing

Motivational Interviewing (MI) is a patient-centred, directive method of communication used throughout self management support with the goal of enhancing motivation to change behaviour by exploring and resolving ambivalence (Miller & Rollnick, 2002). With widespread dissemination of a complex innovation such as MI it is likely that "reinvention" may take place reflecting practitioners' particular understanding and style, and this "reinvention" may further add or remove critical elements. Miller and Rollnick (2009) provide clarity with respect to what MI is and is not, specifically:

- » MI is collaborative and person-centred;
- » MI incorporates reflective listening to guide the resolution of ambivalence about change;
- » MI is intended to enhance patients' motivation for change ("change talk") and does not need to be based on the transtheoretical model of change (i.e., Pre-contemplative Stage);
- » MI honours the patient's autonomy and should never be used to coerce them into doing what you think they should;
- » MI is a complex clinical skill that requires practice to increase proficiency, rather than a step by step manual;
- » MI is a method to elicit solutions from the patient, rather than providing solutions for them in the assumption that they lack something necessary to be successful; and
- » MI is not necessary if the patient is ready for change.

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A recent meta-analysis by Rubak, Sandbaek, Lauritzen, and Christensen (2005) evaluated the effectiveness of using MI with patients who had various diseases. They found that MI produced significant effects in some areas (body mass index, total blood cholesterol, systolic blood pressure) but not in others (cigarettes per day and A1C levels). Lewin and colleagues (2001) recommended that motivational interviewing be used to counsel patients/families on health behaviour change. MI can be effective in brief encounters of fewer than 15 minutes, however, the “dose” of effectiveness is individualized, assuming that increased use increases the likelihood of favourable outcomes (Miller & Rollnick, 2009). As well, some studies have shown greater efficiency when combined with other treatment methods (Hettinga, Steele & Miller, 2005). MI outperforms traditional advice-giving for a broad range of behavioural problems and diseases in approximately 80% of studies (Rubak et al., 2005).

Studies show that any appropriately trained health professional (e.g., physician, nurse, psychologist and dietician) can successfully use MI skills with their patients (Rubak et al., 2005). Miller and Rollnick (2009) recognize that most health care professionals learn about motivational interviewing through self study or in short, one- or two-hour workshops and state that although this clinical method is simple, it is not as easy to master, requiring repeated practice with feedback and encouragement from knowledgeable guides to facilitate both skill and comfort of use.

Despite the promise that the technique holds for promoting behaviour change, there are few controlled studies evaluating its efficacy with health problems (Britt, Hudson & Blampied, 2004; Burke, Arkowitz & Menchola, 2003). This point of view is consistent with that of Bodenheimer and Grumbach (2007) that the effectiveness of MI in enhancing physical activity and managing chronic illness is inconclusive.

## Heart Manual Training

<http://www.healthyheart.bc.ca/rehabilitation/abouttheheartmanual>

The Heart Manual is a home-based self-management program for people with coronary artery disease and related conditions. Patients are guided through the Heart Manual program by a trained facilitator. Through the Heart Manual program, ImpactBC aims to increase availability of and access to cardiac rehabilitation services to patients. The Heart Manual is not simply a self-help booklet and relaxation CD, but is an evidence-based system for delivering cardiac rehabilitation, and as such, training is compulsory in order to facilitate with patients.

The key to effectiveness of the home-based self-management model of rehabilitation is facilitation of the process by trained healthcare professionals who work with patients and their caregivers. The course has been specifically designed to meet the requirements of skills, knowledge and competency necessary to facilitate the Heart Manual. It also recognizes the level of knowledge and experience that each of the participants contributes during the training process.

A certificate of attendance is awarded for successful completion of the course. This constitutes a license from ImpactBC permitting the holder to practice as a Heart Manual Facilitator with patients who have been prescribed the Manual.

## General Practice Services Committee Practice Support Program (PSP)

[www.gpsc.bc.ca/psp/practice-support-program](http://www.gpsc.bc.ca/psp/practice-support-program)

The program offers focused, accredited training sessions for physicians and their medical office assistants (MOAs) to help them improve practice efficiency and to support enhanced delivery of patient care. The goals of the PSP are to improve physician professional satisfaction and patient access to, and quality of, care. Includes accredited learning modules in Patient Self-Management and Group Medical Visits and Health Literacy. Six- to eight-week action periods follow each learning session and are a time when PSP participants try out what they've learned in their own practice with the Regional Support Teams available to provide ongoing support.

The goal of this learning module is to enable GPs and their staff to help patients take a bigger role in managing their own health. This requires building the patient's confidence in their ability to change and to adopt healthier behaviours. Through this module, physicians learn how to help patients identify behaviours they are prepared to change and how to help them develop a plan for changing those behaviours, one step at a time.

Physicians also learn how to: assist patients in setting goals for self-directed changes of behavior; provide consistent evaluation of patient self-management plans; and educate patients about healthy lifestyles and behaviours. After completing the Patient Self-management module, physicians and MOAs will be able to:

- » help patients set goals to facilitate self-directed behaviour change;
- » provide patient support for solving daily problems;
- » conduct consistent patient evaluation and follow-up of self-management plans; and
- » educate patients on healthy lifestyles and behaviours.

In addition to the self-management module itself, other modules also incorporate self-management support as an important change management component. For example, the Mental Health module includes a number of tools such as mood-enhancing practices, relaxation techniques, and other cognitive behavioural skills practices. Similar tools are also included in the Child and Youth Mental Health module, which emphasizes behavioural interventions over pharmaceutical approaches.

The Chronic Disease Management module is based on the Care Model, where self-management support is one of the major strategies to improve patient care and health outcomes.



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## **Chronic Disease Management / Self-Management Support — shifting the way we think**

The Chronic Disease Self-Management Support Program is a two-day educational training for professional staff. The goal of the session is to increase staff's knowledge and skills in working with their clients who have a chronic condition so they can support them in their self-management and behavioural change. Staff enrolled in the education is expected to complete a short self learning e-module prior to the day one session. This self-learning e-module provides an overview of chronic disease and self-management so that there is some minimal foundational knowledge.

Day one provides an introduction to chronic disease and introduces concepts and tools. They learn about the 5As, Stages of Change, behavioural change counseling and action plans. The course provides case studies and many opportunities to practice the skills. Day two is delivered a week to two weeks after day one. The reason for this is to provide participants opportunities to practice their skills. Day two focuses more on integrating their self-management strategies into their client assessments. They learn about disease specific strategies for self-management support.

Ongoing support for staff is provided by educators and clinical practice leads within the organization.

### **PROGRAM MANUAL**

A program manual is available for facilitators who are interested in delivering the two day workshop. A train-the-trainer workshop can be provided upon request. The manual comes complete with the objectives of the workshop and tools and resources to deliver the program. These materials are also available on the BC Academic Health Council Website <http://www.bcahc.ca>.

The professional staff take away a Chronic Disease Self-Management Support Toolkit with quick references on the tools that can be utilized.

### **FIDELITY STANDARDS FOR TRAINING AND IMPLEMENTATION**

This staff educational program has a facilitator's manual with resources. Evaluation of the course delivery is completed by each participant. Ongoing support of the learnt skills is provided by educators and clinical practice leads who have gone through the training.

### **PROGRAM'S EVALUATION HISTORY**

As part of the development of the curriculum, the program was evaluated by an evaluator. Ongoing staff evaluations are completed with each course delivery.

## PROGRAM COST

The program is free to staff working in the health authority where it is being implemented. The program has been delivered by Vancouver Coastal Health Authority and Fraser Health Authority facilitators.

## Three Minute Empowerment

This is a brief intervention to facilitate behavior change. Health professionals are trained to facilitate behavior change in patients by: introducing a practical clinical tool facilitating the mentorship of patients in modifying behaviours, structuring the clinical tool in an intervention platform that would be universally applicable to any behavior change and may be used by any healthcare professional who is part of the healthcare team and formatting the clinical tool to fit in a (realistic) short 3 minute intervention). It provides professionals with a universal intervention tool (a single technique that applies to all behaviours) which is part of a short three-minute empowerment process. The goal of this intervention is to accelerate and reinforce the natural process involved in the stages of behavior change. The two step tool involves assessing the stage of change and the level of conviction and confidence, and using motivational interviewing as the intervention technique.

## Stages of Change

The Stages of Change model is useful for selecting appropriate interventions. By identifying a patient's position in the change process, the physician can tailor the intervention. Thus, the focus of the office visit is not to convince the patient to change behavior but to help the patient move along the stages of change. Using the framework of the Stages of Change model the goal for a single encounter is a shift from the grandiose ("Get patient to change unhealthy behavior.") to the realistic ("Identify the stage of change and engage patient in a process to move to the next stage.") (Zimmerman et al., 2000).

## Health Coaching

[www.healthcoachingaustralia.com/health-coaching/about-health-coaching.htm](http://www.healthcoachingaustralia.com/health-coaching/about-health-coaching.htm)

Health Coaching is a practice in which health practitioners apply evidence-based health behavior change principles and techniques to assist their clients to adhere to treatment and lifestyle recommendations so that clients can achieve better health outcomes. Health coaching is an evidence-based model for health behavior change. It provides structured guidance for health professionals to help patients to adhere to medical and health recommendations and to make health enhancing lifestyle changes. Health coaching is typically conducted in the context of health behavior change for disease prevention and/or chronic condition self-management. Health Coaching interventions help health professionals to motivate patients toward readiness to change, assist them to change unhelpful thinking patterns, promote behaviour change and empower patients to achieve self-regulation and self-management of lifestyle risk factors and treatment regimes associated with chronic illnesses.

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## Appendix B –

# Descriptions of Self-Management Programs Delivered in BC

### **Chronic Disease Self-Management Program**

The Chronic Disease Self-Management Program is a lay-led patient education program. This program is led by pairs of trained lay leaders to groups of ten to sixteen people once each week for 2 and ½ hours for six consecutive weeks. Courses are held in community locations such as recreation centres, community centres, schools and churches. Workshops are facilitated by two trained leaders, one or both of whom are non-health professionals with a chronic diseases themselves.

The program includes the following topics: how to develop a suitable exercise program; cognitive symptom management; healthy eating; breathing exercises; problem solving; communication skills with family, friends and health care providers; use of medication; and how to deal with emotions of chronic illness (anger and depression). Each participant in the workshop receives a copy of the companion book, *Living a Healthy Life with Chronic Conditions*, 3rd Edition. It is the process in which the program is taught that makes it effective. Classes are highly participative, where mutual support and success build the participants' confidence in their ability to manage their health and maintain active and fulfilling lives.

The Chronic Disease Self-Management Program will not conflict with existing programs or treatment. It is designed to enhance regular treatment and disease-specific education such as cardiac rehabilitation or diabetes instruction. In addition, many people have more than one chronic condition. The program is especially helpful for these people, as it gives them the skills to coordinate all the things needed to manage their health, as well as to help them keep active in their lives.

Course participants include persons living with chronic health conditions, as well as their family, friends and caregivers. The program is available in select communities in Punjabi, Cantonese and Mandarin languages. Participants must be able to function in a group setting and set goals. Program participants are self-referred. Recruitment strategies include a website and toll-free line, brochures, flyers, and posters, newspaper and television advertisements, and presentations to the public.

## PROGRAM MANUALS

The Chronic Disease Self-Management Program is a standardized program with program manuals for leaders (facilitators of the six-session workshop), Master Trainers (trainers of leaders), and T-Trainers (trainers of Master Trainers).

## FIDELITY STANDARDS FOR TRAINING AND IMPLEMENTATION

In 2010, Stanford University published a “Program Fidelity Manual” and “The Stanford Self-Management Fidelity Toolkit” for trainers and administrators. The Chronic Disease Self-Management Program follows a structured implementation and intervention model. The program is copyrighted by Stanford University and each organization wishing to implement the Chronic Disease Self-Management Program applies and purchases a license from Stanford. A contract is developed and licensees are obligated to deliver the program in the specified manner with no modifications or additions.

## PROGRAM'S EVALUATION HISTORY

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- » Lorig, K.R., Sobel, D.S., Stewart, A.L., Brown, Jr. B.W., Ritter, P.L., González, V.M., ... Holman, H.R. (1999). Evidence suggesting that a chronic disease self-management program can improve health status while reducing utilization and costs: A randomized trial. *Medical Care*, 37(1), 5–14.

#### PROGRAM COST

The service is available free of charge.

### Online Chronic Disease Self-Management Program

The Online Chronic Disease Self-Management Program is a six-week workshop offered on a dedicated web site. The workshop does not require “real time” attendance (i.e., there are bulletin boards rather than chat rooms). Trained peer facilitators work in pairs to moderate each workshop. Each week, participants are asked to log on at least three times for a total of about two hours. Weekly activities include reading and interacting via the Learning Centre, making and posting a weekly action plan, participating in problem solving and guided exercises on bulletin boards, and participating in any appropriate self-tests and activities. Participants are encouraged to post chronic disease-related problems on a bulletin board and help other group members with their problems. A workshop is formed when there are enough people expressing interest to fill a workshop (about 25 people). At least one of the two facilitators has a chronic condition. The facilitators do not teach content; rather, they see that participants log on to weekly learning modules and discussion areas, and send them emails if this does not happen. They also monitor discussion boards daily.

The program includes the following topics: how to develop a suitable exercise program; cognitive symptom management; healthy eating; breathing exercises; problem solving; communication skills with family, friends and health care providers; use of medication; and how to deal with emotions of chronic illness (anger and depression). Each participant in the workshop is mailed a copy of the companion book, *Living a Healthy Life with Chronic Conditions*, 3rd Edition. It is the process in which the program is taught that makes it effective. Classes are highly participative, where mutual support and success build the participants’ confidence in their ability to manage their health and maintain active and fulfilling lives. As in other self-management workshops, the Online Chronic Disease Self-Management Program will not conflict with existing programs or treatment. It is designed to enhance regular treatment and disease-specific education such as cardiac rehabilitation or diabetes instruction. In addition, many people have more than one chronic condition. The program is especially helpful for these people, as it gives them the skills to coordinate all the things needed to manage their health, as well as to help them keep active in their lives.

Course participants include persons living with chronic health conditions, as well as their family, friends and caregivers. It has been designed so that it can be used by almost anyone who has access to the Internet, including those that do not have access to broadband.

Program participants are self-referred and potential participants express interest through an online registration process. Recruitment strategies include a website and toll-free line, brochures, flyers, and posters, newspaper and television advertisements, and presentations to the public.

## PROGRAM MANUALS

The Online Chronic Disease Self-Management Program follow a protocol (Facilitator’s Manual) that provides detailed guidelines for the conduct of the program.

## FIDELITY STANDARDS FOR TRAINING AND IMPLEMENTATION

In 2010, Stanford University published a “Program Fidelity Manual” and “The Stanford Self-Management Fidelity Toolkit” for trainers and administrators. The Chronic Disease Self-Management Program follows a structured implementation and intervention model. The program is copyrighted by Stanford University and each organization wishing to implement the CPSMP applies and purchases a license from Stanford. A contract is developed and licensees are obligated to deliver the program in the specified manner with no modifications or additions. Mentors are responsible for the day-to-day support and oversight of the facilitators. They ensure that facilitators prepare for workshops by completing model action plans and problem postings. They review activity within the workshop for appropriateness and safety, providing feedback to facilitators if necessary. They delete inappropriate postings and remove problem participants from the workshops. They support the facilitators in resolving situations in which they are unfamiliar or uncomfortable.

## PROGRAM’S EVALUATION HISTORY

- » Jernigan, V.B. & Lorig, K. (2010). An internet diabetes self-management workshop for American Indians and Alaska Natives. *Health Promotion Practice, 12*(2), 261–270.
- » Case, S.M., Jernigan, V.B.B.J., Gardner, A.L., Ritter, P.L., Heaney, C.A. & Lorig, K.R. (2009). Content and frequency of writing on diabetes bulletin boards: Does race make a difference? *Journal of Medical Internet Research, 11*(2), e22.
- » Lorig, K.R., Ritter, P.L., Dost, A., Plant, K., Laurent, D.D. & McNeil, I. (2008). The expert patients programme online, a 1-year study of an Internet-based self-management programme for people with long-term conditions. *Chronic Illness, 4*(4), 247–256.
- » Lorig, K.R., Ritter, P.L., Laurent, D.D. & Plant, K. (2006). Internet-based chronic disease self-management: A randomized trial. *Medical Care, 44*(11), 964–71.

## PROGRAM COST

The service is available free of charge.

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## Arthritis / Fibromyalgia Self-Management Program

The Arthritis Self-Management Program is a lay-led patient education program. This program is led by pairs of trained lay leaders to groups of ten to sixteen people once each week for 2 hours for six consecutive weeks. Courses are held in community locations such as recreation centres, community centres, schools and churches. Workshops are facilitated by two trained leaders, one or both of whom are non-health professionals living with arthritis themselves.

The program includes the following content: 1) techniques to deal with problems such as pain, fatigue, frustration and isolation; 2) appropriate exercise for maintaining and improving strength, flexibility, and endurance; 3) appropriate use of medications; 4) communicating effectively with family, friends and health professionals; 5) healthy eating; 6) making informed treatment decisions; 7) disease related problem solving; and 8) getting a good night's sleep. Each participant in the workshop receives a copy of the companion book, *The Arthritis Helpbook*, 6th Edition. It is the process in which the program is taught that makes it effective. Classes are highly participative, where mutual support and success build the participants' confidence in their ability to manage their health and maintain active and fulfilling lives.

The Arthritis Self-Management Program will not conflict with existing programs or treatment. It is designed to enhance regular treatment and disease-specific education on arthritis. Program participants are people living with different types of rheumatic diseases, such as osteoarthritis, rheumatoid arthritis, fibromyalgia, lupus, and others. Family, friends and caregivers are also invited to attend. Participants must be able to function in a group setting and set goals. Program participants are self-referred. Recruitment strategies include a website and toll-free line, brochures, flyers, and posters, newspaper and television advertisements, and presentations to the public.

### PROGRAM MANUALS

The Arthritis Self-Management Program is a standardized program with program manuals for leaders (facilitators of the six-session workshop), Master Trainers (trainers of leaders), and T-Trainers (trainers of Master Trainers).

### FIDELITY STANDARDS FOR TRAINING AND IMPLEMENTATION

In 2010, Stanford University published a "Program Fidelity Manual" and "The Stanford Self-Management Fidelity Toolkit" for trainers and administrators. The Arthritis Self-Management Program follows a structured implementation and intervention model. The program is copyrighted by Stanford University and each organization wishing to implement the Arthritis Self-Management Program applies and purchases a license from Stanford. A contract is developed and licensees are obligated to deliver the program in the specified manner with no modifications or additions.

## PROGRAM'S EVALUATION HISTORY

- » Lorig, K., González, V.M. & Ritter, P. (1999). Community-based Spanish language arthritis education program: a randomized trial. *Medical Care*, 37(9), 957–963.
- » Lorig, K., Mazonson, P. & Holman, H.R. (1993). Evidence suggesting that health education for self-management in patients with chronic arthritis has sustained health benefits while reducing health care costs. *Arthritis and Rheumatism*, 36(4), 439–446.
- » Lorig, K., Lubeck, D., Kraines, R.G., Seleznick, M. & Holman, H.R. (1985). Outcomes of self-help education for patients with arthritis. *Arthritis and Rheumatism*, 28(6), 680–685.

## PROGRAM COST

The service is available free of charge.

## Chronic Pain Self-Management Program

The Chronic Pain Self-Management Program is a lay-led patient education program. This program is led by pairs of trained lay leaders to groups of ten to sixteen people once each week for 2 and ½ hours for six consecutive weeks. Courses are held in community locations such as recreation centres, community centres, schools and churches. Workshops are facilitated by two trained leaders, one or both of whom are non-health professionals living with chronic pain or other chronic health conditions.

The program includes the following content: 1) identifying common feelings; 2) debunking myths about chronic pain; 3) the differences between acute and chronic pain; 4) understanding the pain and symptom cycle; 5) making action plans; 6) physical activity and exercise; 7) pacing; 8) balancing activity and rest; 9) better breathing and progressive muscle relaxation; 10) the Moving Easy Program (the script for a set of 25 gentle range of motion and flexibility movements); 11) dealing with difficult emotions; 12) distraction; 13) fatigue and sleep management; 14) guided imagery relaxation; 15) communication; 16) healthy eating; 17) problem solving; 18) medications for chronic pain; 19) depression; 20) positive thinking; 21) visualization; 22) making informed treatment decisions; 23) working and communicating with health care professionals; and 24) looking back and planning for the future. Each participant in the workshop receives a copy of the companion book, *Living a Healthy Life With Chronic Conditions*, 3rd Edition and the *Chronic Pain Self-Management Program Workbook* (including the Easy Moving Program CD).

It is the process in which the program is taught that makes it effective. Classes are highly participative, where mutual support and success build the participants' confidence in their ability to manage their health and maintain active and fulfilling lives. The Chronic Pain Self-Management Program will not conflict with existing programs or treatment. It is designed to enhance regular treatment and disease-specific education on chronic pain.



Program participants include people experiencing chronic musculoskeletal pain (such as chronic neck, shoulder, back pain, etc.) whiplash injuries, chronic regional pain syndromes, repetitive strain injury, chronic pelvic pain, post-surgical pain that last beyond 6 months, neuropathic pain (often caused by trauma), or neuralgias (such as post herpetic pain, and trigeminal neuralgia), and post stroke or central pain. It may also be appropriate for those with conditions such as persistent headache, Crohn's disease, irritable bowel syndrome, people with diabetes who have neuropathy, and for individuals who have severe muscular pain due to conditions such as multiple sclerosis. Family, friends and caregivers are also invited to attend. Participants must be able to function in a group setting and set goals.

Program participants are self-referred. Recruitment strategies include a website and toll-free line, brochures, flyers, and posters, newspaper and television advertisements, and presentations to the public.

### **PROGRAM MANUALS**

The Chronic Pain Self-Management Program is a standardized program with program manuals for Leaders (facilitators of the six-session workshop), and Master Trainers (trainers of leaders)

### **FIDELITY STANDARDS FOR TRAINING AND IMPLEMENTATION**

In 2010, Stanford University published a "Program Fidelity Manual" and "The Stanford Self-Management Fidelity Toolkit" for trainers and administrators. The Chronic Pain Self-Management Program follows a structured implementation and intervention model. The program is copyrighted by Stanford University and each organization wishing to implement the CPSMP applies and purchases a license from Stanford. A contract is developed and licensees are obligated to deliver the program in the specified manner with no modifications or additions.

### **PROGRAM'S EVALUATION HISTORY**

- » LeFort, S., Watt-Watson, J., Webber, K. (2003, May). *Results of a Randomized Trial of the Chronic Pain Self-Management Program (CPSMP) in Three Canadian Provinces*. Poster session presentation at the Canadian Pain Society Annual Meeting. Abstract published in: *Pain and Research Management*, 2003, 8 (Supp. B), 47b, Abstract No: P-73.
- » LeFort, S.M. (2000). A test of Braden's self-help model in adults with chronic pain. *Journal of Nursing Scholarship*, 32, 153–160.
- » LeFort, S., Gray-Donald, K., Rowat, K.M. & Jeans, M.E. (1998). A randomized controlled trial of a community-based psycho-education program for the self-management of chronic pain. *Pain*, 74, 297–306.

### **PROGRAM COST**

The service is available free of charge.

## Diabetes Self-Management Program

The Diabetes Self-Management Program is a lay-led patient education program. This program is led by pairs of trained lay leaders to groups of ten to sixteen people once each week for 2 and ½ hours for six consecutive weeks. Courses are held in community locations such as recreation centres, community centres, schools and churches. Workshops are facilitated by two trained leaders, one or both of whom are non-health professionals living with diabetes themselves.

The program includes the following content: 1) techniques to deal with symptoms of diabetes, fatigue, pain, hyper / hypoglycaemia, stress, and emotional problems such as depression, anger, fear and frustration; 2) appropriate exercise for maintaining and improving strength and endurance; 3) healthy eating; 4) appropriate use of medication; and 5) working more effectively with health care providers. Participants will make weekly action plans, share experiences, and help each other solve problems they encounter in creating and carrying out their self-management program. Physicians and other health professionals both at Stanford and in the community have reviewed all materials in the course. The Canadian version has been reviewed by Certified Diabetes Educators. Each participant in the workshop receives a copy of the companion book, *Living a Healthy Life With Chronic Conditions*, 3rd Edition. It is the process in which the program is taught that makes it effective. Classes are highly participative, where mutual support and success build the participants' confidence in their ability to manage their health and maintain active and fulfilling lives.

The Diabetes Self-Management Program does not conflict with existing programs or treatment. It is designed to enhance regular treatment and disease-specific education on diabetes.

Program participants are people living with type 2 diabetes. Family, friends and caregivers are also invited to attend. Participants must be able to function in a group setting and set goals. Program participants are self-referred. Recruitment strategies include a website and toll-free line, brochures, flyers, and posters, newspaper and television advertisements, and presentations to the public.

### PROGRAM MANUALS

The Diabetes Self-Management Program is a standardized program with program manuals for Leaders (facilitators of the six-session workshop), Master Trainers (trainers of leaders), and T-Trainers (trainers of Master Trainers).

### FIDELITY STANDARDS FOR TRAINING AND IMPLEMENTATION

In 2010, Stanford University published a "Program Fidelity Manual" and "The Stanford Self-Management Fidelity Toolkit" for trainers and administrators. The Diabetes Self-Management Program follows a structured implementation and intervention model. The program is copyrighted by Stanford University and each

organization wishing to implement the Diabetes Self-Management Program applies and purchases a license from Stanford. A contract is developed and licensees are obligated to deliver the program in the specified manner with no modifications or additions.

#### PROGRAM'S EVALUATION HISTORY

- » Lorig, K., Ritter, P.L., Villa, F.J. & Armas, J. (2009). Community-based peer-led diabetes self-management: A randomized trial. *Diabetes Educator*, 35(4), 641–651.
- » Lorig, K., Ritter, P.L., Villa, F. & Piette, J.D. (2008). Spanish diabetes self-management with and without automated telephone reinforcement. *Diabetes Care*, 31(3), 408–414.

#### PROGRAM COST

The service is available free of charge.

### Active Choices Program

Active Choices is a personal telephone-support program to encourage regular physical activity. A telephone coach works with individuals through regular telephone contacts to develop an exercise routine customized to the needs, abilities and goals of each participant. Coaches teach self-management skills, such as goal setting and problem-solving, to help shape exercise habits.

The program involves a face-to-face introductory meeting followed by telephone contact (one week following the introductory meeting, four bi-weekly calls, and then calls once a month) for a six-month period. Counseling is tailored to the person's readiness for change and emphasizes key social cognitive theory constructs (e.g., social support, self-regulation, and self-efficacy).

During the face-to-face meeting, the coach establishes rapport with the participant and covers key programmatic material including a review of program expectations; the formulation of a physical activity plan and goals; a discussion of interests, motivation, perceived benefits, and perceived barriers to physical activity; and a discussion of exercise safety. A call schedule is established. During each call, the coach inquires about potential changes in health and exercise-related injuries. Then, the participant's physical activity since the last call is discussed as well as the participant's current stage of readiness for change. Based on this information, the coach chooses cognitive and behavioural topics for discussion (e.g., barriers/benefits, goal-setting, self-monitoring). Finally, the coach assesses whether the participant wishes to modify activity goals. Coaches can send tip sheets based on the call content. The program emphasizes building routine lifestyle activity into one's day. The program is suitable for adults who want to be more active and are medically safe and physically able to engage in aerobic or cardiovascular exercise without direct observation or supervision (e.g., not at high risk for falls or loss of consciousness, no acute heart condition or acute symptoms of cardiac disease, etc.).

Program participants are self-referred. Recruitment strategies include a website and toll-free line, brochures, flyers, and posters, newspaper and television advertisements, and presentations to the public.

#### PROGRAM MANUAL

Coaches receive a standardized Coach's Manual.

#### FIDELITY STANDARDS FOR TRAINING AND IMPLEMENTATION

Active Choices' coaches receive an initial one-day training and ongoing training with the provincial Program Coordinator, along with ongoing follow-up and support.

#### PROGRAM'S EVALUATION HISTORY

- » Baruth, M. & Wilcox, S. (2011). Effectiveness of two evidence-based programs in participants with arthritis: Findings from the Active for Life Initiative. *Arthritis Care and Research*. Advance Online Publication. Doi:10.1002/acr.20463.
- » King, A.C., Baumann, K., O'Sullivan, P., et al. (2002). Effects of moderate-intensity exercise on physiological, behavioral and emotional responses to family care giving: a randomized controlled trial. *The Journals of Gerontology Series A, Biological Sciences and Medical Sciences*, 57, M26–M36.
- » King, A.C., Pruitt, L.A., Phillips, W., et al. (2000). Comparative effects of two physical activity programs on measured and perceived physical functioning and other health-related quality of life outcomes in older adults. *The Journals of Gerontology Series A, Biological Sciences and Medical Sciences*, 55, M74–M83.
- » Stewart, A.L., Mills, K.M., Sepsis, P.G., et al. (1997). Evaluation of CHAMPS, a physical activity promotion program for older adults. *Annals of Behavioral Medicine*, 19, 353–361.
- » King, A.C., Haskell, W.K., Young, D.R., et al. (1995). Long-term effects of varying intensities and formats of physical activity on participation rates, fitness, and lipoproteins in men and women aged 50 to 65 years. *Circulation*, 91, 2596–2604.

#### PROGRAM COST

The service is available free of charge.

## A Matter of Balance Program

Many seniors experience fear of falling and restrict their activities. A Matter of Balance: Managing Concerns About Falls emphasizes practical strategies to reduce this fear and increase activity levels. It is based upon research conducted by the Roybal Center for Enhancement of Late-Life Function at Boston University.

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Participants learn to view falls and fear of falling as controllable; set realistic goals to increase activity; change their environment to reduce fall risk factors; and exercise to increase strength and balance. A Matter of Balance includes eight two-hour sessions for a small group led by trained coaches. Participants receive a Participant Handbook.

A Matter of Balance is a structured group intervention, which utilizes a variety of activities to address physical, social, and cognitive factors affecting fear of falling and to learn fall prevention strategies. The activities include group discussion, problem-solving, skill building, assertiveness training, videotapes, sharing practical solutions and exercise training. The ideal class size to facilitate discussion is 10–12 participants (minimum of 8, maximum of 14).

During the class, participants learn to: view falls and fear of falling as controllable (involves changing behavior with a focus on building falls self-efficacy, i.e. the belief that one can engage in an activity without falling); set realistic goals for increasing activity (by instilling adaptive beliefs such as greater perceived control, greater confidence in one's abilities, and more realistic assessment of failures); change their environment to reduce fall risk factors (uses a home safety evaluation and action planner to reduce fall risk hazards in the home and community); and promote exercise to increase strength and balance. Early sessions focus on changing attitudes and self-efficacy before attempting changes in actual behaviour. The exercise component, which begins in the third session, takes about 30 minutes of the session to complete.

The program was designed to benefit community-dwelling older adults who: are concerned about falls; have sustained a fall in the past; restrict activities because of concerns about falling; are interested in improving flexibility, balance and strength; and are age 60 or older, ambulatory and able to problem-solve. Program participants are self-referred. Recruitment strategies include a website and toll-free line, brochures, flyers, and posters, newspaper and television advertisements, and presentations to the public.

### **PROGRAM MANUALS**

A Matter of Balance is a standardized program with program manuals for Coaches (facilitators of the eight-session program) and Master Trainers (trainers of Coaches).

### **FIDELITY STANDARDS FOR TRAINING AND IMPLEMENTATION**

To ensure program fidelity, A Matter of Balance is delivered following a scripted and detailed manual. The detailed curriculum helps to ensure that participants understand and demonstrate the behaviours during the course. Other key components in the program include classroom and home-based exercises to reinforce new behaviours in both settings. The course also includes the development of a participant action plan, which is critical to reinforcing the participant's enactment of strategies learned. To further promote fidelity, the program's volunteer lay coaches receive a two-day training and then teach in teams, usually pairing experienced volunteer lay coaches with new ones. Master Trainers also observe lay leaders using a standardized observation tool. Coaches must complete eight hours of coach training to earn A

Matter of Balance certification. They also agree to facilitate two A Matter of Balance classes within one year of certification. Coaches must lead one eight-session program following their training. To remain certified, coaches must lead annually. The Healthy Aging Regional Collaborative of the Health Foundation of South Florida developed a Fidelity Observation Checklist for each session. The checklist includes information on the class, environment, content and instructors.

#### PROGRAM'S EVALUATION HISTORY

- » Healy, T.C., Peng, C., Haynes, P., McMahon, E., Botler, J. & Gross, L. (2008). The feasibility and effectiveness of translating A Matter of Balance into a volunteer lay leader model. *Journal of Applied Gerontology, 27*(1), 34–51.
- » Howland, J. & Lachman, M.E. (1998). Covariates of fear of falling and associated activity curtailment. *The Gerontologist, 38*(5), 549–555.
- » Tennstedt, S., Howland, J., Lachman, M., Peterson, E., Kasten, L. & Jette, A. (1998). A randomized controlled trial of a group intervention to reduce fear of falling and associated activity restriction in older adults. *The Journals of Gerontology Series B, Psychological Sciences and Social Sciences, 53*(6), 384–392.

#### PROGRAM COST

The service is available free of charge.

## Bounce Back: Reclaim Your Health Program

Bounce Back: Reclaim Your Health is designed to help adults experiencing mild to moderate symptoms of depression (with or without anxiety) that may arise from stress or other life circumstances. Bounce Back aims to support primary care by developing community-based infrastructure to deliver psycho-education and guided self help based on Cognitive Behavioural Therapy (CBT) principles. The program is led by the BC Division of the Canadian Mental Health Association (CMHA), delivered locally through 10 CMHA branches or regional sites across the province. It is funded by the BC Ministry of Health Services.

Bounce Back was launched in 5 Interior communities in June 2008. By April 2010 it was providing service to the whole province. At the end of October 2010 over 49,000 DVDs had been distributed and over 9100 participants referred for the telephone coaching intervention.

Bounce Back, an evidence-based program, offers two forms of help:

- » The first intervention is a DVD video, *Living Life to the Full* adapted, to the Canadian context, from the work of Dr. Chris Williams at the University of Glasgow. DVDs are distributed by family physicians and family practices as well as through Mental Health and Addictions

clinicians. Available in English, Mandarin, and Cantonese, they provide practical tips on how to recognize and deal with depressive symptoms.

- » The second intervention is a Guided Self-Help (with telephone coaching,) intervention, which incorporates self help workbook, *Overcoming Depression, Low Mood and Anxiety* modules. Bounce Back coaches provide telephone support to participants to help them complete a brief, effective mood improvement program. The program reinforces the ideas presented in the DVD and provides more thorough instruction in cognitive-behavioural approaches to depression and anxiety. Coaches tailor the focus of the program to the needs of the participant and provide three to five telephone sessions of guided self-help over a six to eight week period. Bounce Back Community coaches are not mental health specialists, but receive training and consultation from PHD level consultants. Access to the guided self-help program (available in English and Cantonese) requires a doctor's referral. The family physician maintains clinical responsibility for the participant; and is contacted by the community coach should the participant be unsuitable for the program or should a level of risk, beyond the scope of the program, arise.

Bounce Back is accessible throughout the entire province via 1-866-639-0522 & office hours are flexible on Monday to Friday. More information is available at: [www.bouncebackbc.ca](http://www.bouncebackbc.ca)

The target population is adults with the following characteristics:

- » Experiencing mild to moderate depression, with or without anxiety — scoring between 5 and 19 on the Personal Health Questionnaire PHQ-9
- » Not cognitively impaired
- » Not misusing alcohol or drugs
- » Does not have a personality disorder
- » Not severely depressed or at risk to self or others
- » Does not have a history of bipolar disorder or psychosis

### **PROGRAM MANUALS**

Bounce Back is a highly protocolized program. Program policies, procedures, training schedules and materials are written and available to coaches, electronically, on the Bounce Back Extranet. Not only changes, but the data supporting changes, is maintained on the extranet.

### **FIDELITY STANDARDS**

Bounce Back has developed standards for training, ongoing coach supervision, and for program implementation. This includes initial three day intensive training requirements for new coaches to practice coaching sessions, practice assessment of risk, and demonstrate competence in these areas prior to

coaching participants. Regular clinical consultation with registered psychologists takes place, as well as regular coach calls for the purposes of monitoring of program procedures and coach support.

Coaching sessions guide participants in using the Self Management written materials, helping them to identify ways to incorporate strategies into daily life, and helping them to identify and remove barriers to utilizing the self-management tools provided. *Living Life to the Full* and *Overcoming Depression, Low Mood and Anxiety* are licensed to CMHA BC Division.

### PROGRAM'S EVALUATION HISTORY

A three phase implementation evaluation was carried out by Jeanne Legare and Associates, with the final evaluation report, covering the period June 2008 to March 2010, completed in September 2010.

Kadler and Hollander 2010 addressed GP knowledge of and uptake of the Bounce Back Program in their evaluation of the Mental Health Learning Module, of which BB was one intervention available to family physicians for referral of patients with depressive symptoms.

CIHR Research — A randomized controlled trial evaluation of brief, telephone supported CBT self help in primary care patients with mild to moderate depression was designed to evaluate and provide direct evidence of effectiveness of the Bounce Back Program, and is being carried out with patients referred from two health regions in Alberta.

The program is presently developing a tool to measure the participant experience; and is interested, too, in measuring the provider experience (both the experience of the primary care personnel who refer to the program, and also the coach experience).

### PROGRAM COST

The service is available free of charge.

## InterCultural Online Health Network

(a program of the eHealth Strategy Office, Faculty of Medicine, University of British Columbia)

The InterCultural Online Health Network Program (iCON) makes available the latest, most up-to-date medical research and evidence on chronic disease management for patients in plain, non-scientific language. Materials are translated into patient-appropriate lay language, and culturally and linguistically enhanced for Chinese (Cantonese, Mandarin), South Asian (Punjabi) and First Nations communities, and distributed through a combination of web- and community-based initiatives.



Project goals and objectives: The iCON initiative piloted by the UBC Faculty of Medicine aims to build culturally appropriate, evidence-based, patient-centered materials with and for English, Chinese, South Asian, and First Nations communities in BC. To ensure the Health Authorities and Ministry of Health have all necessary tools to effectively synchronize and translate this knowledge for impactful health system transformation, data from these iCON experiences must be included in the current context of health service delivery and planning.

Vision: Helping BC multicultural and First Nations citizens, patients, and their care givers in chronic disease prevention and management through effective communication, knowledge exchange, and social support using modern information and communication technologies (ICT). Chinese- and Punjabi-speaking and Aboriginal communities in British Columbia; community members with chronic disease, their family, friends, caregivers, those interested in learning more about chronic disease prevention and management.

### EXPECTED OUTCOMES

iCON is designed to:

- » Address language marginalization on the Internet
- » Increase access to reliable and relevant health information within a BC context
- » Enable self-care and self-management
- » Promote health partnerships between health consumers and professionals, peer-to-peer, and across generations for collaborative health promotion

Websites and links to related materials (e.g., tools, resources, governance structures):

A web strategy ([www.iconproject.org](http://www.iconproject.org)) was simultaneously launched containing culturally appropriate, language-translated health information and local resources. UBC FoM eHealth is also engaged by the BC Ministry of Health to initiate a similar program for First Nations communities in BC starting September, 2010.

Target populations: Chinese- and Punjabi-speaking and Aboriginal communities in British Columbia; community members with chronic disease, their family, friends, caregivers, those interested in learning more about chronic disease prevention and management.

Geographical Scope: Nine public forums have been held on diabetes, vascular disease, dementia, and liver disease in Chinese and Punjabi languages in Metro Vancouver; four forums were made available across the province via multi-site videoconference and webcast. Community response has been extremely positive with 6,400 participants attending forums. At the most recent Punjabi Diabetes forum there were 900 attendees with an additional 35 connections made via live webcast. There were 600 in person and 218 online participants at the latest Chinese Diabetes forum. Participants joined the webcast from across the province, country and around the world.

Clinical Audience: A range of community based health professionals are engaged to guide, develop and deliver the clinical content (family physicians, specialists, nurses, dietitians, pharmacists, physiotherapists, clinical psychologists, etc.)

Supports for Patients: Culturally relevant, language translated resources (print, web and live / technology enabled forums)

Supports for GPs: Materials are available for health professionals to provide to patients

### PROGRAM'S EVALUATION HISTORY

Program / intervention Model: Core components include: linguistically and culturally appropriate public education forums; resources available via an interactive website; and evaluation exploring community priorities and change in patient knowledge, skills, and attitudes. A mixed method evaluation approach allows us to meet community members' needs. This includes: pre-forum online survey, on-site survey, post-forum focus groups and interviews, and ongoing feedback via our website through Q&A, blogs, tweet followers, participant submission of content, and messages. Google Analytics are used to track online participation.

Evaluation: There are seven measurement areas addressed by the evaluation to meet the stated objectives: 1) baseline and population data; 2) community and patient characteristics and needs; 3) community practitioner characteristics; 4) self-management and related behaviour change; 5) patient health outcomes; 6) experiential and perceptual data; and 7) implementation data. The methodological approach includes a variety of data collection tools, specifically onsite forum evaluation surveys, online website evaluation surveys, focus groups and follow-up surveys and interviews. These tools capture feedback about efficacy and usability of the materials immediately as users interact with the content at forum events or online, and provide an understanding about the value of the materials over time. Further to this, each evaluation acts as a needs assessment tool, feeding information back to the Community Advisory Committee and planning team to make improvements and alternations to future events, materials and Web 2.0 technology development that more accurately reflects the needs and desires of the community in question.

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- » Ho, K., Novak Lauscher, H., Stacy, E., Cordeiro, J. & Jagdis, R. (2010, May–June). *Intercultural Online Health Network: Multicultural public engagement in British Columbia*. Proceedings of e-Health Conference. Vancouver, BC.
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- » Ho, K., Novak Lauscher, H., Grajales III, F., Stacy, E. & Cordeiro, J. (2009, September). *Exploring patient perspectives on web-based education for effective self-management of chronic disease*. Technology Enabled Knowledge Translation Investigative Centre Workshop: Using ICTs for “Healthy” Public Engagement, Vancouver, BC.

#### PROGRAM'S COST

Available free to participants.

### Patient Voices Network Peer Coaching Program

The Peer Coaching Program is one component of the Activated Network of Patient Voices Network (PVN). PVN is led by ImpactBC in collaboration with Patients as Partners, Ministry of Health Services.

Its aim is to support people to set and achieve healthy living goals using a peer-led self-management approach. There is evidence that people benefit from being coached by their peers as this can offer more authentic support in a relationship that is equality based. This also helps people reconnect with their community. People are more likely to listen and change their behavior when working with a peer who is similar to themselves.

It is important to work on this now because preventing health problems, improving self-management skills and confidence are high priorities. Healthy weight, healthy eating, quitting smoking and physical activity are important contributors to good health and they are growing issues throughout the province. Making improvements will eventually decrease costs and improve health in BC.

It is a telephone-based peer-led program of approximately 6 sessions in length. Peers are specifically trained colleagues, not counselors or therapists. Peers are recruited, interviewed, selected and trained by a peer coach mentor through the Patient Voices Network. Any adult in BC may contact the program to learn if it is appropriate for their needs. The program does not address mental health issues such as anxiety and depression, substance use such as alcohol and drugs and employment or career coaching.

The recruitment of peer coaches is led by the Community Outreach Coordinator and Regional Liaisons, who are responsible in building and developing relationships with community agencies, other NGOs and health authorities to raise awareness of the Patient Voices Network and Peer Coaching.

Any adult in BC who would like to receive coaching (participants) may contact PVN. Participants can be referred by healthcare professionals or can be self-referred. Participants are required to participate in a telephone intake to assess their suitability for the program, based on their understanding and consent to the program guidelines, their readiness to change and stability in their life.

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To raise public awareness of the Peer Coaching Program and to attract participants into the program, efforts have been focused in working collaboratively with health authorities' healthy living / communities programs, local community health centres, healthy living networks, community recreation centres, neighbourhood houses, and in attending community health events. In addition, the PVN website and a toll-free number are included in the promotion of the program.

### **PROGRAM MANUAL**

A PVN Training Manual is provided to every peer coach who attends the training. The manual includes a description of Peer Support, the Peer Coaching Program Guidelines, Motivational Interviewing Principles, OARS interactive techniques, Goal-setting Guide, Session Guides and a List of Coaching Resources. In addition, peer coaches are required to complete and return a signed Code of Conduct, Confidentiality Agreement and Peer Coach Profile forms, all of which are also included in the training manual.

Peer coaching participants are also provided with the Peer Coaching Program Guidelines, Goal-setting Guide and Coaching Resources List upon their telephone intake.

### **FIDELITY STANDARDS FOR TRAINING AND IMPLEMENTATION**

During the training sessions, those who wish to coach are required to complete and return 'Code of Conduct,' 'Coach Profile' and 'Confidentiality Agreement' forms. Adherence to the policies of the program are also determined through ongoing communication with peer coaches through the monitoring of coaching sessions, monthly teleconferences, debrief sessions and the completion of feedback forms.

Participants are also required to complete and return a Participant Consent Form prior to being matched with a coach. Moreover, participants are contacted after the first coaching session to ensure that the match is suitable.

At the organizational level, a peer coaching advisory committee has been established to guide the development and progress of the Peer Coaching Program.

### **PROGRAM'S EVALUATION HISTORY**

To measure participant confidence in self-management and peer coaches' experience, all participants and peer coaches are required to complete feedback forms after their last coaching session. Participants will also be contacted 3–6 months after their last coaching session to assess their continued progress.

### **PROGRAM COST**

The service is available free of charge.

## Dietitian Services at HealthLink BC

Dietitian Services at HealthLink BC, formerly Dial-A-Dietitian, is a free of charge, telephone-based nutrition service, provided by the Province of BC, and available to citizens and healthcare professionals in British Columbia. Callers can ask to speak with a Registered Dietitian by simply calling 8-1-1. Dietitian Services is open Monday to Friday, 9am to 5pm. Translation services are available in over 130 languages. Specialty area services are available in the areas of food allergies, oncology nutrition and support for implementation of provincial food policy, guidelines and regulation. Evidence based nutrition information is easy to access from the public website [www.healthlinkbc.ca/dietitian](http://www.healthlinkbc.ca/dietitian).

Callers to Dietitian Service can receive the following services:

- » Nutrition education towards gaining and applying knowledge, interpreting results and building skills;
- » Nutrition counselling using strategies including goal setting and action planning, self-monitoring, problem solving and use of the 5A's construct;
- » Information about how to access nutrition related services, programs and referrals to programs such as community nutritionists, outpatient dietitians, diabetes education programs and other support lines such as the physical activity line;
- » Help with action plans, follow-up and ongoing advice and nutrition counselling;
- » Answers to specific nutrition and food questions; and,
- » Access to print materials on a wide range of nutrition topics by website, email or mail.

### PROGRAM MATERIALS

Evidence-based program print materials and professional counselling tools are developed by Dietitian Services' Registered Dietitians in collaboration with the Dietitians of Canada's Practice Based Evidence in Nutrition (PEN) development team, other HealthLink BC Services and advisory and stakeholder input.

### FIDELITY STANDARDS

All dietitians are registrants in the College of Dietitians of British Columbia. Dietitians are trained in and use the standardized Nutrition Care Process and International Dietetics & Nutrition Terminology of the American Dietetic Association. Evidence based consumer and professional resource tools provide standardized guidance to dietitians through the Customized PEN (CPEN) portal of the Dietitians of Canada PEN website. Dietitians provide feedback on all resources through an automated CPEN feedback mechanism. Documentation of nutrition care is in the HealthLink BC First Contact Dietitian electronic record. A routine call review process is in place to provide dietitians with performance feedback and for personal self-reflection and practice improvement.

## PROGRAM EVALUATION

- » Crawford, S. (March 28, 2000). *A Survey Evaluating the Dial-A-Dietitian Telephone Nutrition Information Service*. (Dial-A-Dietitian Nutrition Information Society of British Columbia Research Report). British Columbia, Canada.
- » Finlayson, J.M. (1983). *Dial-a-dietitian : an exploratory study of client use*. (Master's Thesis). Retrieved from <https://circle.ubc.ca/handle/2429/24127>

## PROGRAM COST

The service is available free of charge.

## QuitNow Services

QuitNow Services provides a suite of smoking cessation services FREE-of-charge to all British Columbians. The services include QuitNow by Phone, QuitNow Online, and QuitNow by TXT. Additional supports include healthcare provider referrals, Detailers and Quit Tools and Resources. Clients are recruited to QuitNow Services through the annual incentive-based QuitNow & WIN Contest, which to date has engaged approximately 35,000 British Columbians who have either entered as a smoker intending to quit, or as one of their support buddies.

QuitNow by Phone (1-877-455-2233) is a confidential, FREE-of-charge helpline, available 24/7 in 130 languages and staffed by specially trained Care Coaches, who help clients to develop a goal-oriented quit plan, guide clients through problem-solving for dealing with cravings, and provide on-going support through the quit process. Brief intervention (the 5 A's) and motivational interviewing techniques are employed to develop a therapeutic relationship between the client and the Care Coach throughout the 5 call series.

QuitNow Online ([www.quitnow.ca](http://www.quitnow.ca)) is an internet-based quit smoking service, available FREE-of-charge to all British Columbia residents that combines effective methods for quitting smoking with an individualized program that is available anytime and anyplace. Plus, users have access to a global online community designed to help members help each other quit smoking... for good!

QuitNow by TXT (Txt 'Join' to 654321) is a 14-week FREE-of-charge mobile texting service for BC residents; QuitNow By TXT delivers helpful quit smoking tips and motivational support straight to users' cell phones!

Quit Tools and Resources are available online for downloading or through the online order form. The library of tools, tips and resources, are designed to help those thinking, planning or starting to quit and remain tobacco-free — includes a dedicated section for health professionals ([http://www.quitnow.ca/healthcare\\_providers/index.php](http://www.quitnow.ca/healthcare_providers/index.php)).

- 1 Detailers (or health promoters) visit physicians, dentists/hygienists, pharmacists, public health nurses, mental health / addiction clinics, pregnancy outreach mentors and other health professionals to inform them about the range of QuitNow Services and encourage them to make referrals.
- 2 Social media, Facebook, Twitter, YouTube and blogs promote QuitNow Services to British Columbians. Currently there are close to 2,000 fans on Facebook who share their quit stories and provide ongoing support to others on the quit journey, is used to help engage and support those trying to quit smoking, to build awareness of QuitNow Services and to engage a younger audience.
- 3 Quit Stories from British Columbians who have struggled but survived the quit process, are also available for motivation and encouragement. Watch their videos and read their quit stories to learn how they have successfully quit smoking.

### **PROGRAM MATERIAL**

There are full descriptions of each of the services available at [www.quitnow.ca](http://www.quitnow.ca). Promotional and support material is available online for either ordering or downloading.

### **FIDELITY STANDARDS**

QuitNow Services is an evidence-based practice. The standards in tobacco cessation come from the US Public Health Service Guideline, Treating Tobacco Use and Dependence (Fiore MC et al, 2008). The 2008 update, places more emphasis on tailoring smoking cessation advice and treatment to the needs of the individual patient.

QuitNow by Phone also follows the standards set out by the North American Quitline Consortium which through the minimal data set (standard questions) establishes indicators to assist in assessing quitline performance, improving the quality of quitlines, identifying knowledge gaps and designing new strategies to fill the gaps. (Information retrieved on April 11, 2011 at <http://www.naquitline.org/?page=mds>)

Care Coaches are counselling professionals with special training on tobacco cessation through the Training Enhancement in Applied Cessation Counselling and Health through the Centre of Addiction and Mental Health in Toronto. (Information retrieved on April 11, 2011 at <http://www.teachproject.ca/about.htm>). All Care Coaches receive regular professional development training as new developments in the field of tobacco cessation are discovered.

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## EVALUATION

QuitNow by Phone was evaluated in 2009 by a third-party evaluator. A summary of this evaluation called BC QuitNow by Phone Evaluation Summary 2009 is soon to be available online at [www.quitnow.ca](http://www.quitnow.ca) but can be requested through [quitnow@bc.lung.ca](mailto:quitnow@bc.lung.ca). As a result of many enhancements to the service over the last 2 years there is a plan for an evaluation that will begin surveys on October 2011.

## PROGRAM COST

Free for British Columbians.



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## Appendix C –

# Excerpts from Executive Summary of Evaluation conducted by US Centers for Disease Control and Prevention

## Sorting Through the Evidence for the Arthritis Self-Management Program and the Chronic Disease Self-Management Program

### Background

Previous meta-analyses of chronic disease self-management programs have studied multiple types of self-management programs combined, examined a limited number of outcomes, and have been restricted to randomized controlled trials (RCT). Results have generally shown small to moderate short-term effect sizes.

### Purpose

These meta-analyses examined the specific effects of two self-management education programs developed at Stanford University: the Chronic Disease Self-Management Program (CDSMP), a 6-week series of classes designed to help people with chronic conditions gain confidence in their ability to control their symptoms and the impact their conditions have on their lives; and the Arthritis Self-Management Program (ASMP), an arthritis specific series of classes designed to achieve similar outcomes for people with arthritis. These investigations included all eligible and available studies of the effects of these two programs (both randomized controlled trials, and longitudinal program evaluations), and examined multiple outcomes reflective of physical and psychological health status (including self-efficacy), health behaviors, and health care utilization. An additional meta-analysis was conducted to examine whether the effects of the interventions varied by participant characteristics or implementation factors.

### Hypotheses

- 1 For each intervention, it was hypothesized that participation in the intervention improved health status, health behaviour, and health care utilization outcomes.

- 2 It was further hypothesized that the effects of the interventions differed by participant characteristics (age, race/ethnicity, education level) and implementation factors (intervention setting, leader characteristics, recruitment methods, delivery fidelity).

## Methods

### SEARCH STRATEGY

A literature search was conducted for the period 1984-September 30, 2009. Eight electronic databases were searched including Cochrane, CINAHL, ERIC, EMBASE, Medline, and PsychINFO. The search strategy identified relevant studies published in peer-reviewed journals, online publications, and grey literature (such as dissertations, conference abstracts, and unpublished reports). Subject matter experts and stakeholders convened to provide feedback on the project and to identify additional grey literature. The reference lists of all studies located were hand searched to identify other relevant studies. This search strategy identified 297 articles and reports.

*Inclusion/Exclusion Criteria:* Studies were included if they met all of the following inclusion and exclusion criteria.

- » **Inclusion Criteria:**
  - » Intervention was CDSMP or ASMP, regardless of mode of delivery.
  - » Intervention was implemented in an English-speaking country (United States, United Kingdom, Australia, Canada, New Zealand) regardless of language of implementation.
  - » Study contained at least one primary outcome measure (defined for this investigation as energy, fatigue, self-rated health, pain, self-efficacy, health distress, physician visits, or emergency room visits) and outcomes were from a randomized controlled trial or program evaluation with pre/post-test measures.
  - » Study or evaluation report was available in English.
- » **Exclusion Criteria:**
  - » Intervention was implemented in combination with another intervention.
  - » Intervention did not take place in a native English-speaking country.
  - » Instructors did not use program manual provided at leader training.
  - » New content (beyond the program manual) was introduced at intervention sessions.

## ELIGIBILITY REVIEW AND DATA COLLECTION

A team of two reviewers reviewed each article or report; 61 studies were determined to be eligible. The outcome, participant characteristic, and implementation factor data were abstracted from these studies by the same reviewers. Following abstraction, principal investigators were contacted to provide missing data (outcomes, participant characteristics and implementation factors) for 55 of the studies (three investigators could not be located). Additional data were received for 51 studies (93% response rate).

## DATA ANALYSIS

Unless otherwise noted, ASMP and CDSMP were analyzed separately. The majority of eligible studies for both interventions were conducted in an English-speaking small group setting; therefore the meta-analyses focused on this intervention delivery mode. In the small group English mode analyses, all outcomes were examined at two follow-up times (time elapsed between baseline and follow-up): short term (4–6 months) and long-term (9–12 months). Other intervention delivery modes were analyzed separately.

Following the primary analysis, an exploratory analysis was conducted to examine the potential moderating effects of both participant characteristics and implementation factors. In this analysis, all ASMP and CDSMP studies of small group delivery modes (in English, Spanish, or translated into another language) were combined.

*Meta-analytic Procedures:* For each meta-analysis of outcomes, pooled effect sizes (ES) were generated by combining the results of all eligible studies. For results from longitudinal evaluation studies, the effect size was the net difference between baseline and follow-up measures. For RCTs, the effect size was the net difference between the intervention and control groups. Pooled effect sizes were derived using a random effects model, which allows for both within study and inter-study variation of the intervention effects. The sign of the effect size was standardized to the direction associated with positive impact. For each outcome, the number of studies analyzed differed depending on the number of studies that reported that outcome. All analyses were conducted using Comprehensive Meta-analysis (Version 2) software. Using the convention established by Cohen for social and behavioral science studies, effects sizes of less than  $\pm 0.20$  were considered small,  $\pm 0.20$ – $0.80$  were considered medium, and greater than  $\pm 0.80$  were considered large.

*Evaluation of Heterogeneity:* Heterogeneity was tested to determine whether there was a statistically significant difference in effect sizes of outcomes across studies. It was evaluated using both the Q statistic and I squared statistic; a significant Q statistic ( $p \leq 0.05$ ) indicated significant heterogeneity (i.e., a statistically significant difference in effect sizes across studies). Heterogeneity was tested for the following:

- 1 To determine whether there was variation in effect sizes by study design (RCT vs. longitudinal evaluation). Statistically significant differences in effect size by design would suggest that at least some of the change in outcome is attributable to the study design.

- 2 To assess variation in the overall effect sizes for each outcome across the small group English mode of delivery studies.

## Key Findings of Arthritis Self-Management Program (ASMP)

*Studies Included:* A total of 24 studies were included in the analysis.

- » The majority (19 of 24) of ASMP studies were English speaking small group mode; these were used for the majority of the analyses.
- » There were 1–2 studies for each of the remaining intervention delivery modes (Spanish-speaking small group, French translation of English small group, Internet, self-tailored self study, and computer tailored self study). These were included in the analysis of heterogeneity by mode of delivery.
- » The 24 ASMP studies included 6812 participants (1962 were enrolled in RCTs and 4850 in longitudinal studies).
  - » 82% of participants were female.
  - » In studies where age was reported, 21 study arms had participants primarily under age 65; 9 study arms had participants primarily over age 65.
- » Funnel plots revealed no evidence of publication bias.

*Heterogeneity by Study Design:* The analysis of heterogeneity by study design (RCT and longitudinal) was based on data from the short-term follow-up (4–6 months) English-speaking small group interventions. Only 2 of 16 variables showed statistically significant heterogeneity indicating that it was statistically sound to analyse the overall effect sizes for each outcome by combining the effects of RCTs and longitudinal studies.

- » *Significant heterogeneity*
  - » *Pain:* Pain reduction was significantly higher in the longitudinal studies (ES= -0.225,  $p < 0.001$ ) compared with the RCTs (ES= -0.039,  $p = 0.495$ ).
  - » *Physician visits:* There was a small significant decrease in physician visits in longitudinal studies (ES. -0.120,  $p < 0.001$ ), but a non-significant (ns) increase in physician visits (ES = 0.141,  $p = 0.148$ ) for RCTs.
- » *RCT only results:* In the analysis of the six English small group intervention RCTs (4–6 months), significant effect sizes were small to moderate: self-efficacy (for pain and other symptom management; both ES = 0.34) and communication with physician (ES = 0.277) increased and fatigue, (ES = -0.21) and anxiety and depression (both ES = -0.20) decreased.

## ASMP OVERALL EFFECTS AT 4–6 AND 9–12 MONTHS

**Self-efficacy**, whether measured across multiple dimensions, or specific to managing pain and other symptoms, and whether measured in RCTs or longitudinal studies, increased moderately (statistically significant) in the short-term and persisted longer term (9–12 months).

- » Overall ES at 4–6 months and 9–12 months
  - » General self-efficacy = 0.24, and 0.20
  - » Self-efficacy for pain management = 0.383, and 0.325
  - » Self-efficacy for management of other symptoms = 0.353, and 0.336

**Psychological health status** outcomes (such as health distress, depression, and anxiety) showed consistent small to moderate improvements in overall analysis, RCTs and longitudinal studies. These benefits persisted at 9–12 month follow-up.

- » Overall ES at 4–6 months and 9–12 months:
  - » Health distress =  $-0.359$ , and  $-0.304$
  - » Depression =  $-0.171$ , and  $-0.210$
  - » Anxiety =  $-0.200$ , and  $-0.224$

**Physical health status** changes (such as fatigue, pain, and functional disability) were less consistent than the changes in psychological health status outcomes.

- » Fatigue was reduced significantly in the overall analysis at 4–6 months. These reductions persisted at 9–12 month, but effect sizes were small (ES =  $-0.146$  at 4–6 months;  $-0.214$  at 9–12 months).
- » Functional disability was significantly reduced at 4–6 months but the reduction was very modest (ES =  $-0.049$ ) and did not persist at 9–12 months.
- » There was not a significant reduction in pain in the overall analysis, although a modest change was seen in longitudinal studies at 4–6 months (ES =  $-0.225$ ).

**Health behaviors** (such as exercise, cognitive symptom management, and communicating with physicians) all increased moderately (statistically significant) at 4–6 months; at 9–12 months, the change in health behaviors persisted for all but exercise behaviors. This analysis included primarily longitudinal studies because only one RCT measured these health behaviors.

- » Overall ES at 4–6 months and 9–12 months:
  - » Cognitive symptom management = 0.533; 0.402
  - » Communication with physician = 0.255; 0.313
  - » Aerobic exercise = 0.209; ns at 9–12 months
  - » Stretching / Strengthening exercise = 0.179; ns at 9–12 months

**Limited health care** utilization data were available on ASMP. Only physician visits were measured; they did not decrease significantly in the 4–6 month overall analysis but there was a small and significant decrease (ES = -0.12) for the longitudinal studies.

Measures of **self-rated health** and **social and role limitations** did not change significantly.

## Key Findings of Chronic Disease Self-Management Program (CDSMP)

*Studies Included:* A total of 23 studies were included in the analysis.

- » 18 of the 23 used the English-speaking small group mode of delivery.
- » There were two studies for each of Spanish-speaking small group, and Internet delivered interventions and one for the each of the remaining delivery modes (translations of English small group, and home-based peer led).
- » The 23 studies included 8,688 participants (2,902 were enrolled in RCTs and 5,779 in longitudinal studies).
- » Funnel plots revealed no evidence of publication bias.

*Heterogeneity by Study Design:* There was no heterogeneity in effects by study design for any of the 16 outcomes at short-term follow-up (4–6 months) for the English-speaking small group interventions. Therefore it was statistically valid to analyse overall effect sizes for RCT and longitudinal studies combined.

- » *Results of RCTs Only:* In the short-term follow-up of the English small group studies, the analysis of the 5 RCTs demonstrated significant small to moderate effect sizes for self-efficacy (ES = 0.427), health distress (ES = -0.215), social and role limitations (ES = -0.209), aerobic exercise (ES = 0.197), cognitive symptom management (ES = 0.312), and days / nights hospitalized (ES = -0.138).

### CDSMP OVERALL EFFECTS AT 4–6 AND 9–12 MONTHS

**Self-efficacy** showed moderate and significant increases in the 4–6 month and 9–12 month analysis when measured across multiple dimensions or specific to managing pain and other symptoms, and whether examined overall or by study design.

- » Overall ES at 4–6 months and 9–12 months:
  - » General self-efficacy = 0.345, and 0.204
  - » Self-efficacy for disease management = 0.260, and 0.377
  - » Self-efficacy for management of other symptoms = 0.283, and 0.450

**Psychological health status outcomes** (such as health distress, and depression) also showed consistent small to moderate improvements in both the 4–6 month and 9–12 month follow-up in both overall effects and by study design.

- » Overall ES at 4–6 months and 9–12 months:
  - » Health distress =  $-0.282$ , and  $-0.227$
  - » Depression =  $-0.216$ , and  $-0.210$

Changes in **physical health status**, such as energy, fatigue, pain, and functional disability, and shortness of breath were less consistent than were the psychological health status variables.

- » Energy and fatigue showed small but significant improvements at 4–6 months (ES =  $0.158$ , and  $-0.138$  respectively), but these did not persist in the 9–12 month analysis.
- » There were non-significant changes in pain and shortness of breath at 4–6 months but small significant changes at 9–12 months ( $-0.126$ , and  $0.102$  respectively). In the 4–6 month analyses both outcomes had small but statistically significant changes in the longitudinal studies but not in the RCTs. These small changes are of questionable importance.
- » Functional disability showed no significant changes in overall effects in the 4–6 month and 9–12 month analyses.

Three of the four **health behaviors** evaluated (aerobic exercise, cognitive symptom management, and communicating with physician) showed small to moderate significant improvements in the overall analysis at 4–6 month; most persisted to 9–12 months.

- » Overall ES at 4–6 months and 9–12 months:
  - » Cognitive symptom management =  $0.261$ ;  $0.374$
  - » Aerobic exercise =  $0.118$ ;  $0.098$
  - » Communication with physician =  $0.256$ ; ns at 9–12 months
  - » Stretching/ Strengthening exercise = ns at 4–6 months;  $0.153$  at 9–12 months.

**Health care utilization** changed minimally. Three of the four variables measured showed no significant effect sizes at 4–6 or 9–12 months. There was a small but significant change in the fourth measure, days or nights in the hospital, at 4–6 months (ES =  $-0.088$ ). This did not persist at 9–12 months. It is noteworthy that the small but significant effect was seen in both RCTs and longitudinal studies at 4–6 months.

Measures of **self-rated health** improved modestly but significantly at 4–6 months (ES =  $0.143$ ), but did not persist to 9–12 months.

Measures of **social and role limitations** showed a small but significant effect at 4–6 months, which did persist at 9–12 months (ES =  $-0.167$ ;  $-0.141$ ). These significant effects were found in both RCTs and longitudinal studies at 4–6 months.

## Strengths, Limitations, and Discussion

The purpose of this study was to provide a quantitative synthesis of patterns across empirical studies to determine the effectiveness of ASMP and CDSMP interventions on health status, health behaviors, and health care utilization in both short term and longer term follow up, as well as to determine whether participant characteristics and contextual and implementation factors influenced the interventions' effectiveness. These meta-analyses used data from 24 studies of ASMP and 23 studies of CDSMP. The findings of these meta-analyses suggest the ASMP and CDSMP contribute to improvements in psychological health status, self-efficacy and select health behaviors with many of these improvements maintained over twelve months. While the effects were modest, their public health significance is great when considering the cumulative impact of small changes across a large population. Furthermore, if sustained, these shifts may have a substantial effect on health-related quality of life and the physical, psychological, and social impact of chronic health issues.

At the population level, these interventions have the potential to have a considerable public health effect due to the potential scalability of the interventions, relative low cost to implement, wide application across settings/audiences, and capacity to reach large numbers of people. In addition to medical management, these interventions provide individuals with chronic diseases opportunity to develop the knowledge, skills and confidence to appropriately address, or self manage, disease-related problems. Self-management, and the self-management supports provided by communities and health systems are essential components of the chronic care model that is reshaping how care is delivered to people with chronic conditions.

Several limitations are inherent in these meta-analyses. There was significant heterogeneity found in pooled effect sizes for some outcomes across studies (not accounted for by study design). We were unable to examine some obvious sources of variation such as medication use, co-morbidities, or disease/symptom severity. The inability to evaluate by disease type or to evaluate subgroups based on symptom severity may have masked the true effects of the interventions; subjects who did not report a symptom at baseline, and did not report a change over time attenuate the change of those who had the symptom and did change, resulting in smaller effect sizes. Not every study included each outcome, so the strength of the pooled effect sizes varied; this variation needs to be taken into account when interpreting results for those outcomes where few studies contributed to the analysis.

These analyses focused on studies conducted in English-speaking countries, and limited data were available on men or racial/ethnic groups other than Whites; results are not generalizable to these populations.



Despite these limitations, our study also has several strengths. This is the first comprehensive investigation of all studies, both RCT and longitudinal evaluations, that have assessed the effectiveness of the ASMP and CDSMP interventions; and the only systematic review to examine these two interventions alone and not in combination with other self-management or self management education programs. These analyses examined a wide variety of outcomes to identify the domains that are most affected by these interventions, rather than being limited to just a few outcomes as has been done in the past. We were able to evaluate follow-up not immediately post-intervention, but at 4–6 months and 9–12 months post-intervention to examine persistence of effects. The inclusion of both RCT data and longitudinal data from program evaluations conducted in the field, following the sensitivity analysis that showed limited heterogeneity due to study design, further strengthens the overall results and their generalizability to those populations most likely to enroll in these programs when offered in non-research settings.

## Implications and Strategies for Moving Forward

The findings from the meta-analyses of ASMP and CDSMP have implications for policy-making, health care and public health practice, and future research, and have been used to identify strategies to move forward in ASMP/CDSMP-related policy, practice, and research.

### MOVING FORWARD IN POLICY

*Include the small group English versions of CDSMP and ASMP in comprehensive chronic disease management and self management support initiatives.*

The robust findings of small to moderate improvements in self efficacy, psychological health status, and select health behaviors that persist through 12 months suggest these programs create health benefits for the individuals who participate in the small group English versions of CDSMP and ASMP. The combined evidence from RCTs (with strong interval validity) and longitudinal program evaluations (with strong external validity) increases confidence that benefits will occur as programs are delivered in practice.

The limited number of studies available on the alternative modes of CDSMP and ASMP delivery (such as the small group intervention developed to be culturally appropriate for Spanish-speaking people, translation of the English small group intervention into other languages, delivery via home-based self study or by internet) prevent formulation of recommendations, although some alternative modes appear promising, and have the potential to reach large and diverse populations.

*Invest public and private resources (financial and human capital) to support wide-scale delivery of CDSMP and ASMP in order to reach large population groups with chronic disease. Appropriate financing systems need to be identified.*

To make these low cost programs available to the over 125 million Americans with chronic diseases, wide-scale implementation will be necessary and both public and private financing will likely be required. Although very limited reductions in health care utilization were documented, health care organizations may incorporate CDSMP and ASMP into the services offered by their patient-centered medical home or accountable care organizations. These interventions could also be incorporated into the services offered by community-based aging services, adult education programs, and community/employer/faith-based organizations' health promotion and wellness programs.

*Incorporate CDSMP/ASMP recommendation or referral into standards of care, care protocols, and other policies that guide the provision of high quality chronic disease care.*

The Chronic Care Model recognizes self-management support as an essential element of high quality chronic care. Self-management education programs, such as CDSMP and ASMP, can serve as a standard part of self-management support services, and this meta-analysis clearly documents health benefits from participation in CDSMP and ASMP. Structured care protocols that incorporate CDSMP and/or ASMP as routine part of chronic disease care can assure all people with chronic diseases are offered access to these beneficial interventions.

*Utilize CDSMP, and possibly ASMP, as useful strategies to help people with chronic disease become more physically active.*

The importance of increasing physical activity is becoming increasingly evident, for general health benefits, health protection, and chronic disease management. Some people with chronic disease may have additional barriers to increasing their physical activity. Although CDSMP and ASMP do not incorporate exercise into class sessions, these interventions give much attention to increasing physical activity in the context of managing chronic disease. Results of this meta-analysis indicate that CDSMP creates a small but significant increase in aerobic exercise, which persists at 9–12 month follow up. ASMP also produces a short term significant increase in aerobic exercise, although it did not persist at 9–12 month follow-up.

## **MOVING FORWARD IN PUBLIC HEALTH AND CLINICAL PRACTICE**

*Support wide-scale implementation of CDSMP and ASMP to produce meaningful public health impact. Service delivery systems, in both community and health care settings, should consider adding these ready-to implement programs to their menu of services.*

Wide-scale implementation is critical to expanding public health impact by expanding the number of people reached by the intervention. By their nature, self-management education interventions, along with other individual behavior change interventions, have a smaller reach than a policy or environmental change. However, full penetration of the population — making attending self-management education programs a population norm — can have far reaching public health impact. At this time there is no evidence to suggest

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that these interventions are more or less effective when delivered in a health care organization in contrast to a community setting. Substantial population penetration will require wide-scale implementation through a variety of venues and organizations.

*Encourage participation in CDSMP or ASMP as part of routine care of individuals with chronic disease.*

Providing strong self-management support to their chronic disease patients can be particularly challenging to health care practitioners in the midst of all the competing demands of clinical practice. Encouraging patients with chronic diseases to attend CDSMP or ASMP can be a useful adjunct to the self-management support provided in the clinical visit, and can assure that patients receive consistent background information on chronic disease self-management. Based on the robust findings of these meta-analyses, health care practitioners can confidently recommend CDSMP and ASMP to their patients with the expectations that persistent improvements in self efficacy, psychological health status or well-being, and other quality of life factors will result.

*Provide both generic and disease-specific interventions to meet the needs of individuals with multiple chronic diseases and those with a single dominant chronic condition.*

CDSMP is likely to appeal to the widest number of people, including people with multiple chronic conditions. However, some individuals, particularly those with a single predominant disease, may prefer to attend a disease specific intervention. In this meta-analysis, ASMP produced similar improvements in self efficacy, and psychological health status and select health behaviors. ASMP also produced persistent improvements in fatigue, while the persistent decreases in social or role limitations seen in CDSMP were not evident in ASMP participants. Stanford University has developed diabetes- and HIV-specific interventions, similar in structure to CDSMP and ASMP, which were not studied in these meta-analyses.

