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# Fall Prevention for Primary Care Providers: A Model Program from British Columbia

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## Background

An estimated one in three persons over the age of 65 is likely to fall at least once each year.<sup>1</sup> In Canada, this translates to over 1.6 million seniors experiencing a fall in 2011. With the anticipated increase in the number of older persons in Canada,<sup>2</sup> this will increase to approximately 3.7 million by 2036.

Falls are the most costly source of injury among all ages, and falls among seniors were responsible for over 30 percent of total injury-related costs in Canada in 2004.<sup>3</sup> Even more important are the costs to society and individuals who sustain a fall. These include immobility due to a fear of future falls, pain, disability, financial hardships for persons injured by a fall and their families, dependence on others, premature admission to long term care, and premature death due to fall-related injuries. In 2004, adults aged 65 years and older accounted for approximately 13% of the Canadian population, and direct health care costs for fall-related injuries were \$2.0 billion.<sup>3</sup> Without concerted fall prevention efforts, these costs are expected to more than double by 2031.<sup>3</sup>

The good news is that there is strong evidence to show that falls and resulting injuries can be prevented through changes in behavior, health service delivery, and the built environment.<sup>4,6</sup>

The most successful programs are those that include a comprehensive risk assessment followed by multiple proven interventions tailored to individual risk profiles.<sup>4,7</sup>

A number of clinical fall prevention guidelines exist to assist health care professionals in their assessment of fall risk and in their management of older adults who have fallen or are at risk of falling. Examples are guidelines by the Registered Nurses Association of Ontario, the American Geriatrics Society and British Geriatrics Society, the National Institute for Clinical Excellence, and the American Medical Directors

Association.<sup>8,4,9,10</sup> However, the application of such guidelines to clinical practice is lacking.<sup>11-13</sup> The challenges to integrating evidence into practice are many, including time limitations and competing demands, knowledge and skill deficits, lack of coordination, and inadequate reimbursement.<sup>12-15</sup>

Recommendations for improving fall prevention practices include providing physician and other primary care providers with training and resources such as screening guides, educational materials, environmental and home safety checklists, and resources to support referrals.<sup>11</sup> To address this issue, a partnership of fall prevention experts, health care policy makers, and primary care physicians from across British Columbia (BC) developed a user-friendly, evidence-based fall prevention multi-media training program for primary care providers in BC. This paper describes the process used to develop this program, the results of an evaluation of its application by physicians, and the dissemination plan.

## Development

Development of the Primary Care Fall Prevention (PCFP) materials was funded by the BC Ministry of Health. The effort was led by fall prevention experts at the Ministry's Centre of Excellence on Mobility, Fall Prevention and Injury in Aging (CEMFIA), in partnership with the General Practice Services Committee (GPSC) Practice Support Program (PSP), the BC Medical Association (BCMA), and the BC Injury Research and Prevention Unit (BCIRPU).

The BC Ministry of Health has the overall responsibility for ensuring the quality, appropriateness, cost effectiveness and timeliness of health services that are made available for all British Columbians.<sup>16</sup> CEMFIA represents a unique collaborative of researchers, health care providers, and policy makers with a shared goal of improving the health and safety of older British Columbians.<sup>17</sup> The GPSC offers an expanded role for physicians in BC in determining the future direction of health care through mutually identified initiatives around quality patient care and system-wide improvements.<sup>18</sup> The PSP, offered through the GPSC, is focused training for physicians and their medical office assistants to help improve practice efficiency and to support enhanced delivery of patient care.<sup>19</sup> The PSP was launched in 2007 with two objectives: to improve care for patients throughout the province and to increase job satisfaction among BC's general practitioners. The BCMA is a voluntary association of British Columbia's physicians, medical residents, and medical students. Governed by an

elected body of physicians, the BCMA represents the collective view of the BC medical profession and negotiates on behalf of physicians for their compensation.<sup>20</sup> The BCIRPU is a government funded research agency whose key objectives include reducing the burden of injury in BC; leading research and knowledge development; improving surveillance; guiding evidence-based prevention; supporting professionals and practitioners; providing awareness, education, and public information; and saving lives, reducing disability, and promoting safety.<sup>21</sup>

A development committee provided expertise on the proposed components of the PCFP multimedia package, the contents of each element, appropriateness for application to primary care practice in BC, and on best the means for dissemination and implementation. In addition, a core team of fall prevention experts and multimedia program designers worked to ensure that the PCFP materials were consistent with proven evidence for fall prevention, applicable to primary care practice, and packaged for ease of use.

The development committee included government divisions that guide policy for injury prevention, health promotion, and care for seniors in BC (BC Ministry of Health: Chronic Disease, Built Environment and Injury Prevention Branch, Division of Integrated Primary and Community Care, and the Seniors Healthy Living Secretariat), divisions and organizations that provide education and training for physicians (BCMA, and BC Ministry of Health, Primary Care Division), as well as practicing physician and seniors' representatives. The development committee held monthly meetings over a period of three months, and the final package was edited by the authors of this article and approved by the BC Ministry of Health in June 2011.

The evidence-based framework used to guide the development of this package was the American and British Geriatric Society's (ABGS) clinical practice guidelines for physicians (2010).<sup>4</sup> The ABGS guidelines are considered by leaders in the field to be the "gold standard" for clinical approaches to the prevention of falls among older adults. These guidelines integrate evidence on fall and fall injury risk into the routine medical examination of older adults with the goal of uncovering and addressing the compounding effect of common health conditions that lead to exponential levels of risk. Additional components of the package were added to reflect the need for a team approach to fall prevention, with content relevant to medical office assistants, nurses, nurse practitioners, therapists, and other health care providers who work with older adults.

The PCFP package consists of the provider resources, assessment tools, a training video, and patient education materials. The provider resources include five fact sheets designed as quick reference on the following key areas:

1. Providing a context for falls and fall-related injuries
2. Identifying risk factors related to falls and fall injuries
3. Incorporating assessments and interventions to reduce

fall risk

4. Information about and a list of medications linked to falls
5. An algorithm outlining the pathway for fall prevention in older persons

The assessment tools include a validated 12-item checklist to assess the risk for falling,<sup>22</sup> and instructions for performing three validated tests of balance and mobility.<sup>23-26</sup> The checklist is designed to be completed in the waiting room by the patient. The balance and mobility tests are the Timed Up and Go (TUG) test, Tandem Stance test, and Chair Stand test, and are to be conducted by the office assistant or physician.

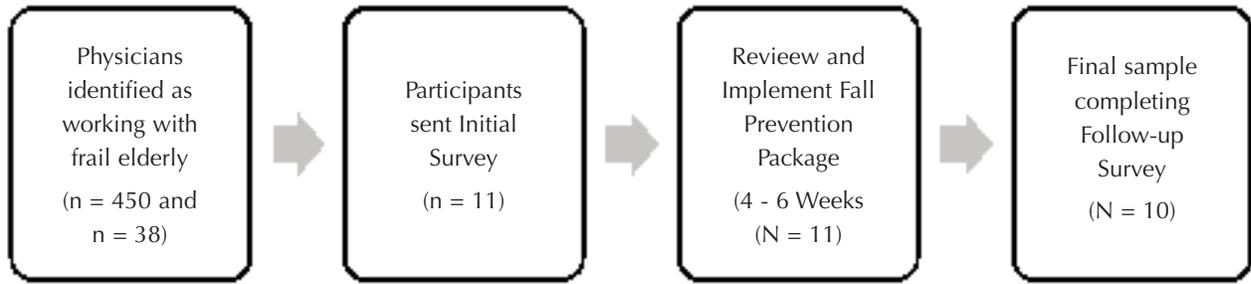
The 11-minute training video for primary care providers applies a case study approach involving a frail older adult in the community. The video depicts how the different components of the package can be incorporated into a routine physician visit, including a demonstration of the standardized balance and mobility tests. The education materials for clinicians to give to older adult patients include 1) a fall risk assessment checklist; 2) a brochure on fall risk factors and ways to improve the home environment to reduce fall risk; 3) a handout on safe and easy to follow exercises to do at home; and 4) recommendations for good sleep habits.

### **Field testing the multi-media package**

Field testing of the package consisted of an independent evaluation<sup>27</sup> in 2011 to determine the effectiveness of the resources in increasing knowledge and/or bringing about changes in physician practice, and to identify strategies to promote the integration of the package into the routine care of physicians and other primary care providers across BC.

The field testing included a pre/post survey on fall-related knowledge and the use of the PCFP resources. Family physicians from the five regional health authorities in BC (Fraser, Interior, Northern, Vancouver Coastal and Vancouver Island) were approached about reviewing and evaluating the materials in the fall prevention package. A convenience sample of family physicians targeted for the evaluation were chosen from among those who have a substantial number of older patients who may be at risk of falling using two recruitment methods. First, 450 family physicians were sent a letter of invitation from among those who had participated in a workshop on the frail elderly or who had participated in the PSP Chronic Disease Module training. A second recruitment method consisted of connecting with potential participants through key contacts identified by the development and research team members and their networks of people who had substantial contact with family physicians. The research team sent invitation letters to 38 physicians identified as potential participants (Figure 1). Interest in participation was expressed by a number of physicians from both recruitment arms, with a final commitment from 11 physicians to participate in the full evaluation.

**Figure 1. Evaluation steps**

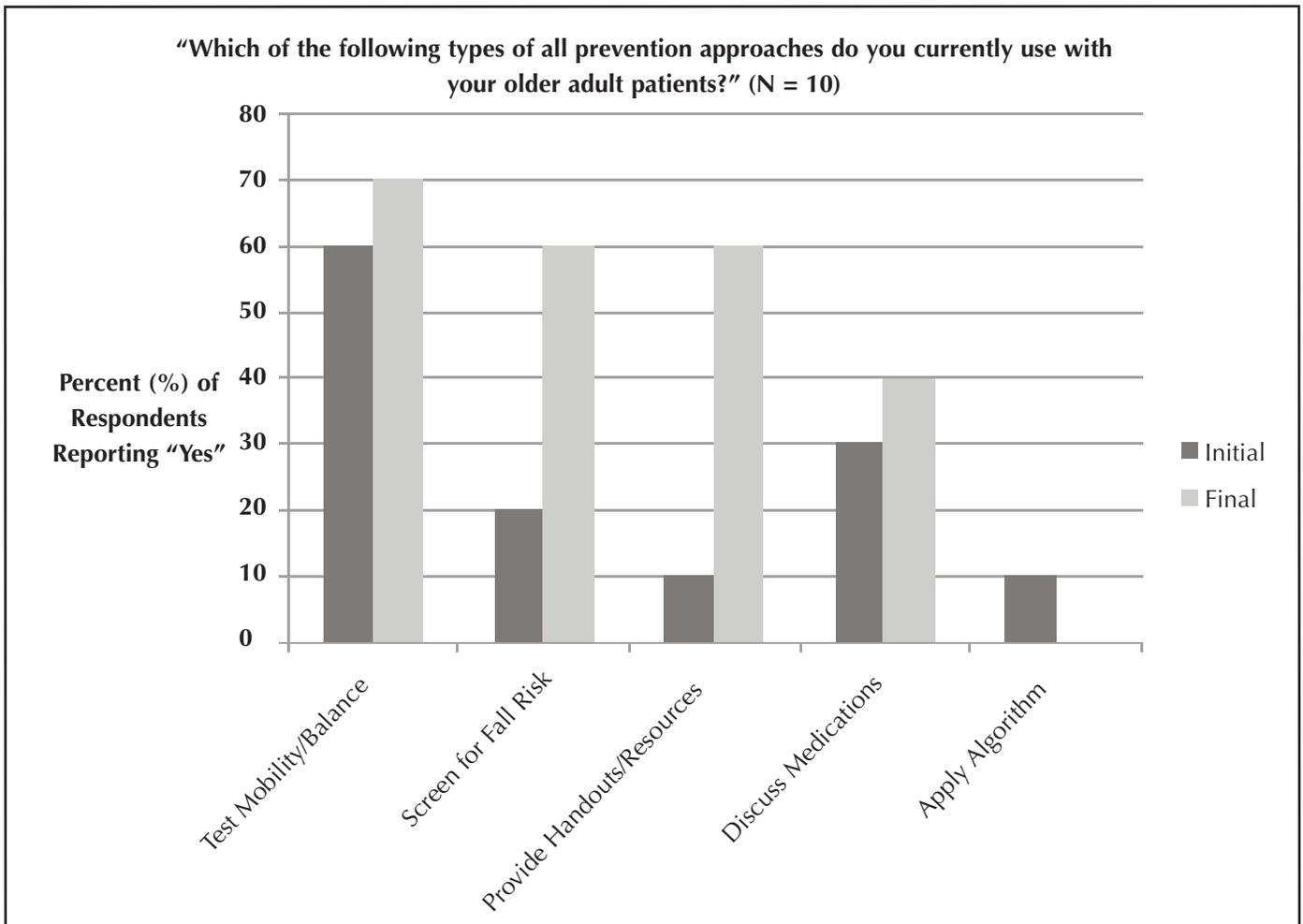


After completing an initial survey and applying the package over 4 - 6 weeks, the physicians participated in in-depth phone interviews and provided a follow-up telephone survey (Figure 1). Participants were asked if they found the information in the PCFP package helpful, what suggestions (if

any) they had for improving the package, and whether there were any additional topics they would like to see covered, either in the existing materials or in a supplementary resource.

Findings from the evaluation revealed that overall, participants' awareness of falls among seniors improved

**Figure 2. Use of Fall Prevention Approaches**



significantly as a result of reviewing the fall prevention materials. In addition, after receiving the PCFP package, several participants made practice changes to help reduce the risk of falls (Figure 2). All participants indicated that they would recommend the fall prevention package to other family physicians as well as non-physician primary care providers.<sup>19</sup>

Participants who reviewed the fact sheets said that they provided good information and increased and/or reinforced physicians' knowledge of falls, but suggested that reducing the number of fact sheets may be beneficial. Participants who reviewed the video reported that it had a professional look, and was clear and informative, helpful, and a good length. Suggestions for improvement included streamlining the information on-line and including full demonstrations of the three balance and gait tests. Examples of quotes from evaluation respondents included the following:

“The fact sheets are very helpful and provide information about a wide variety of topics in one spot. They are good to have when I need to approach patients who are at risk of falling.”

“Seniors are often prescribed medications which are inappropriate because of their age, their disease state or drug/drug interactions. The importance of medications in falls needs to be emphasized more, and the medication list needs to be a bigger feature in the package.”

“Using the [balance and mobility] tests shows us and patients that they have issues related to falls. Patients find it motivating if they are told they don't meet the average.”

Participants felt that the resources designed for patients could be used to start conversations with patients regarding their risk of falling; reinforce concepts discussed with either the physician or an allied health professional (such as a physiotherapist); and serve as a resource for seniors regarding fall risks and prevention strategies. Suggestions for additional resources were identified, such as a handout on assistive devices and a poster on fall prevention.

Findings from the evaluation resulted in immediate revisions and will inform future improvements to the PCFP package, with a focus on components that are most useful for incorporating fall prevention into routine practice.

### Dissemination

A dissemination plan was developed based on information gathered from the planning phase, the evaluation, and from a scan of current structures and programs in BC to support family physicians. It consists of four components: 1) increasing awareness of the existence of the PCFP Multimedia Package; 2) increasing awareness among primary care

providers of the contents of the package; 3) encouraging use of the materials in the package as well as fall prevention approaches in general; and 4) incorporating the PCFP package into the development and maintenance of fall prevention programs for seniors throughout BC. This work is on-going in partnership with physicians and other primary care providers. To support this plan, the PCFP resources are made publicly available at the GPSC Chronic Disease Management website under the following two links:

Written resources:

[www.gpsc.bc.ca/psp-learning/chronic-disease-management/tools-resources](http://www.gpsc.bc.ca/psp-learning/chronic-disease-management/tools-resources)

Primary care fall prevention video (11 minutes):

[www.gpsc.bc.ca/psp-learning/clinical-management/videos-chronic-disease-management-cdm](http://www.gpsc.bc.ca/psp-learning/clinical-management/videos-chronic-disease-management-cdm)

### Conclusion

There is a need for standardized interventions designed for primary care providers to avoid missed opportunities to reduce the risk of falls and fractures among seniors. Physicians and other primary care providers often interact with older patients who have experienced a fall or fall-related event and are therefore well placed to play an important role in influencing health behaviors through increasing awareness about reducing their risk of fall and related injuries. Effective fall prevention involves not only tailoring interventions for older adults, but also tailoring resources and training for ease of access and application by specific health care professionals. The PCFP package is an evidence-based fall prevention resource specifically targeted for primary care providers to incorporate fall prevention into routine care.

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