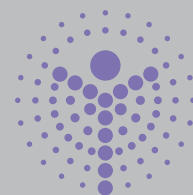


# Make the **FIRST** break the **LAST** with **FRACTURE LIAISON SERVICES**



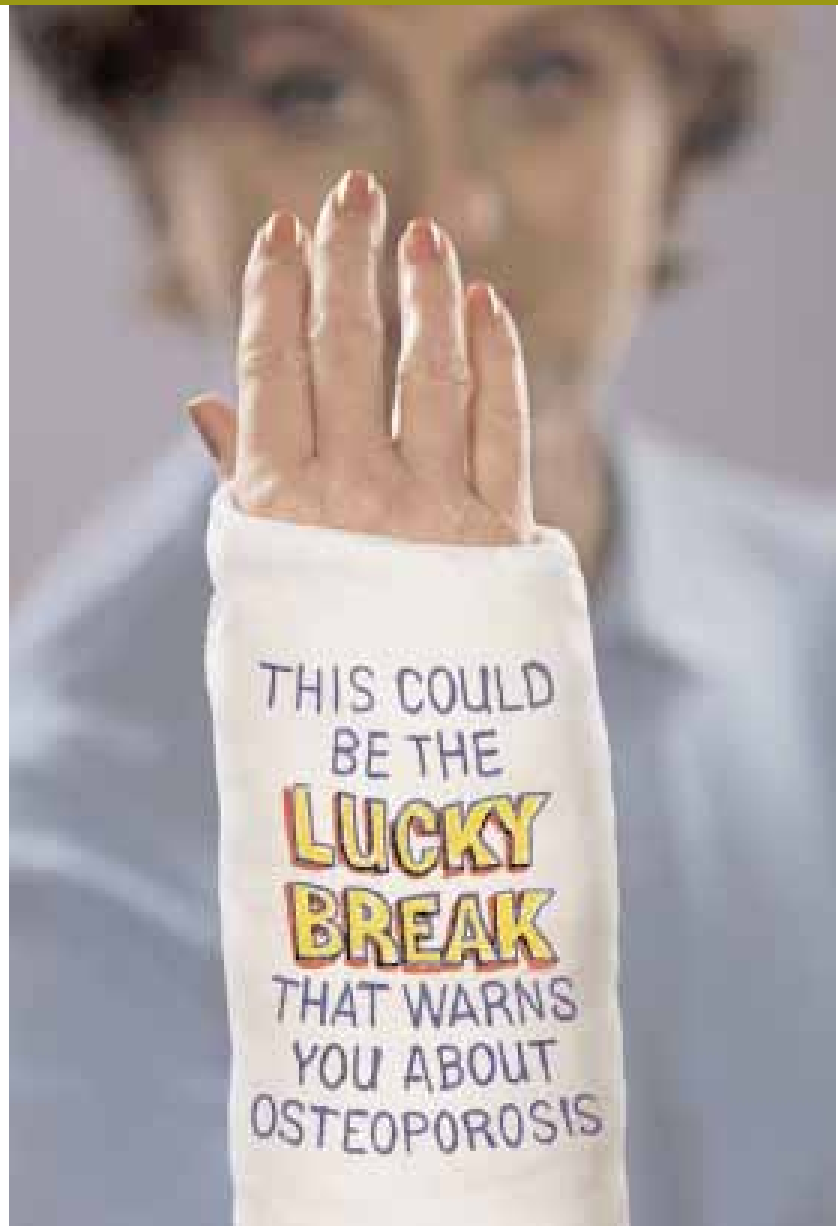
Osteoporosis Canada  
Ostéoporose Canada

# Executive Summary



Osteoporosis Canada  
urges all jurisdictions  
to implement FLS by

# 2015



## Introduction

Each year, hundreds of thousands of Canadians needlessly experience debilitating fractures because the underlying cause of their broken bones – osteoporosis – was undetected and untreated<sup>1-4</sup>. These fractures impose a tremendous burden on ageing Canadians, our health care and social systems, and the national economy as a whole<sup>1</sup>. This expert report examines the magnitude of this burden and describes a cost-effective model of care that has been proven to minimize the impact of osteoporosis and repeat fractures.

## Unnecessary Pain and Suffering

Approximately half of all patients who suffer a hip fracture warned us they were coming; they had previously broken another bone – a ‘signal’ fracture – before breaking their hip<sup>5-8</sup>. Effective drug treatments can reduce future fracture risk by 50% for patients presenting with fragility fractures<sup>9</sup>. These treatments have been available for 20 years and yet, 80% of Canadians who suffer a

fragility fracture still do not receive treatment for their underlying osteoporosis<sup>2, 3, 10</sup>. This is the post-fracture osteoporosis care gap which is allowing the cycle of recurring fractures to continue at great expense to both patients' quality of life and the healthcare system.

## Unnecessary Expenditures

The total cost of osteoporosis in Canada was \$2.3 billion in 2010<sup>1</sup>. This is not surprising given that the 30,000 Canadians who experience a hip fracture each year<sup>11</sup> spend an average of 23 days<sup>12</sup> in hospital and rehabilitation centres at an average acute care cost of \$20,000 per patient<sup>1</sup>. Nearly a quarter of these end up in long-term care facilities<sup>13, 14</sup> leading to \$600 million in annual costs<sup>1</sup> with additional costs attributable to the 170,000 other fragility fractures per year of the spine, wrist, shoulder, pelvis and other bones<sup>11, 15</sup>.

As Canada's baby boomers continue to age, the impact of this very common bone disease is only set to increase. Unfortunately, Canada is still lacking a systematic approach to reduce the incidence, burden and cost of osteoporotic fragility fractures.

## The Cost Effective Solution – Closing the Gap with Fracture Liaison Services

A growing number of innovators in Canada<sup>16-21</sup> and abroad<sup>22-26</sup> are establishing Fracture Liaison Services (FLS). FLS ensures that all patients who present with a 'signal' fracture receive the osteoporosis care they need to prevent future fragility fractures. The results are irrefutable: FLS significantly reduces the incidence and disability of repeat fractures and has been proven to be cost-effective.

## The Benefits of FLS

- Improved quality of life and enhanced independence of seniors
- Reduced incidence of avoidable – and often life-threatening – fractures
- Reduced disruption to patient flow in the health care system by:
  - decreasing pressure on already scarce orthopaedic resources
  - freeing up capacity for elective surgery
  - decreasing pressure on long-term care beds and demand for home care
- Significant cost-savings

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## The post-fracture osteoporosis care gap is:

- Allowing countless Canadians to needlessly suffer debilitating and life threatening repeat fractures
- A huge financial burden on healthcare budgets
- Readily eliminated by broad implementation of Fracture Liaison Services

# The post-fracture osteoporosis care gap in Canada

## A preventable burden on older Canadians and healthcare budgets




 In 2011, Osteoporosis Canada published the White Paper – *Towards a Fracture-Free Future*<sup>27</sup> – which highlighted a nationwide post-fracture osteoporosis care gap that is leaving older Canadians needlessly at risk of suffering future fractures.

### The human and economic burden of osteoporosis in Canada

**C**anada is entering a period of rapid ageing. By 2031 almost a quarter of our population will be seniors as compared to 15% in 2011<sup>28</sup>. Among these, at least 1 in 3 women and 1 in 5 men will suffer a fragility fracture in their lifetime due to osteoporosis<sup>29-31</sup>. A fragility fracture is one occurring spontaneously or following minor trauma such as a cough, a sneeze or a fall from standing height or less<sup>32</sup>. Fragility fractures, which occur mostly at the hip, wrist, upper arm, pelvis or spine, make osteoporosis the most common chronic bone disease<sup>33</sup> and a major source of diminished productivity and quality of life. Osteoporosis affects not only those afflicted with the disease, but their families, friends, employers and caregivers as well. Appendix A illustrates the faces of osteoporosis.

The most devastating of all fragility fractures are hip fractures. About 30,000 Canadians break their hip every year<sup>11</sup>; of these, 28% of women and 37% of men will die within the first year after fracture<sup>34</sup>.

The rest will experience a significant reduction in their quality of life<sup>35-37</sup>.

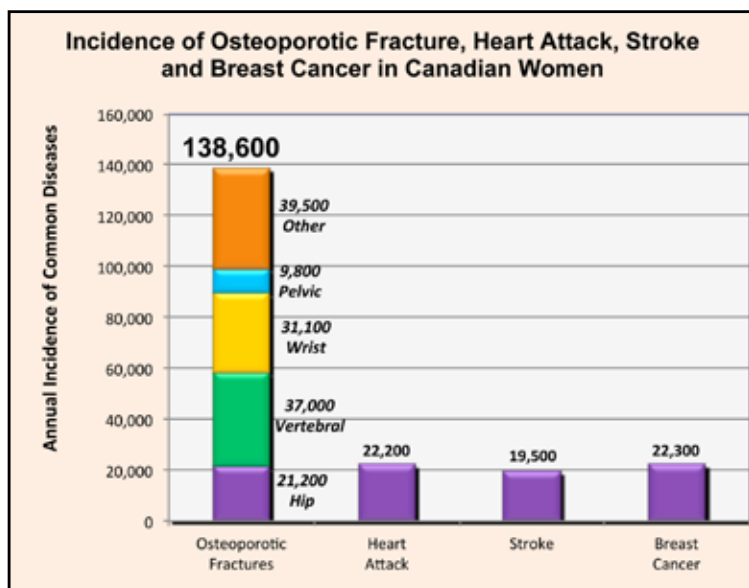
The total number of fragility fractures occurring in Canada is in the order of 200,000 cases per year among women and men<sup>11, 15</sup>. To put this in context for women, this considerably exceeds the combined number of heart attacks, strokes and new diagnoses of breast cancer annually (figure 1)<sup>11, 15, 38, 39</sup>.

In 2010, osteoporosis was estimated to cost \$2.3 billion in Canada<sup>1</sup>. The acute care cost of treating a single hip fracture is \$20,000. The total length of stay for hip fracture patients in Canada is of the order 23 days<sup>12</sup>. For the 15%-25% of hip fracture patients who subsequently require admission to a nursing home<sup>13, 14</sup> the total cost of care including costs for long-term care facilities is over \$44,000 in the first year for each fracture<sup>40</sup>. A summary of the direct costs for fracture care at the provincial level is provided in Appendix B.

In 2007/8, fractures caused by osteoporosis were responsible for >57,000 acute care admissions and >830,000 hospitalisation days<sup>1</sup>. For individuals



Figure 1. Incidence of osteoporotic fracture, heart attack, stroke and breast cancer in Canadian women<sup>11, 15, 38, 39</sup>



fractures occur. This is the post-fracture osteoporosis care gap.

Even though bone mineral density (BMD) testing is widely available; even though we can reduce fracture risk by 30-70% within the first year of treatment with a broad range of highly effective medicines; even though these medications are funded by provincial drug plans; even though the 2010 Osteoporosis Canada Clinical Practice Guidelines<sup>9</sup> clearly state that individuals aged over 50 who have suffered a fragility fracture should be

aged 50-69 years, over 3 million work days were missed, with days spent in hospital or receiving home care accounting for 90% of working days lost. Care givers lost a total of \$69 million in wages. Furthermore, 47% of fracture sufferers who participated in the Canadian Multicentre Osteoporosis Study (CaMos) reported using informal care provided by family members or friends<sup>41</sup>.

Osteoporosis imposes a tremendous financial burden on our healthcare system, fracture patients and their families. Enhancing patient flow in Canadian hospitals has been the subject of considerable activity in recent years<sup>42-44</sup>. Fragility fractures create a patient flow burden in terms of unscheduled acute care bed occupancy and subsequent demand for placement into alternative-level-of-care environments.

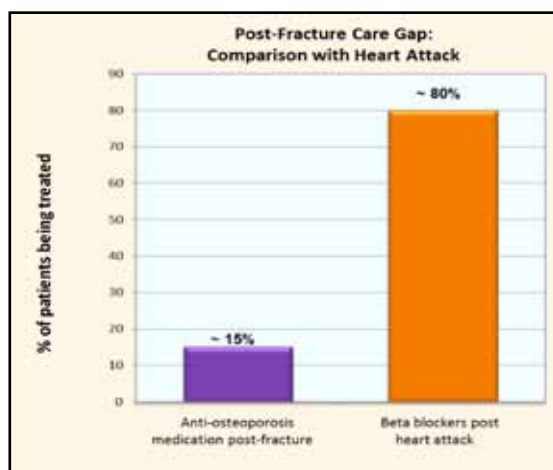
### The post-fracture osteoporosis care gap

Individuals who suffer a fragility fracture are at substantially increased risk of suffering second and subsequent fractures. Crucially, half of all patients who suffer a hip fracture had previously broken another bone – a ‘signal’ fracture – before breaking their hip<sup>5-8</sup>. In other words, half of hip fracture patients had already warned us they were coming when they had their signal fracture. Unfortunately, for the vast majority, osteoporosis is not diagnosed when ‘signal’

assessed for risk factors for osteoporosis and fracture, nevertheless, >80% who fracture are neither assessed nor treated. A pervasive care gap is still evident across Canada<sup>2-4, 10, 45-61</sup>.

This 80% post-fracture osteoporosis care gap is in stark contrast to the excellent rates of secondary preventive care offered to heart attack victims<sup>62</sup> as shown in figure 2. Given the major impact of osteoporotic fractures on individuals and healthcare budgets, we need to care for victims of ‘bone attacks’ just as well as we do victims of heart attacks.

Figure 2. Secondary preventive care after fragility fractures compared to heart attacks<sup>10, 62</sup>



Simply put,  
half of all  
hip fracture  
patients had  
already warned  
us they were  
coming



At least  
**1 in 3**  
**women** and  
**1 in 5** men  
will suffer  
a broken  
bone from  
osteoporosis  
in their  
lifetime

Broken bones  
from osteoporosis  
are more common  
than heart attack,  
stroke and breast  
cancer combined



### Why the care gap exists

A significant body of work has been undertaken in Canada and internationally to understand why the post-fracture osteoporosis care gap exists and how it can be eliminated<sup>63-70</sup>. Put simply, there is a disconnect between the management of the fracture, usually by orthopaedic services, and recognition and management of the underlying osteoporosis (BMD testing and/or osteoporosis treatment) as follows<sup>71</sup>:

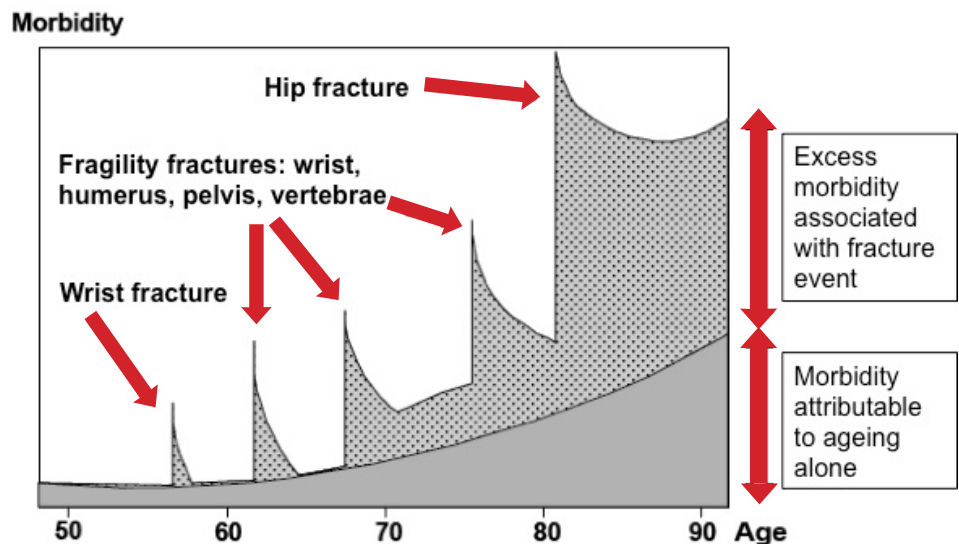
- The fracture is treated as an acute event by the orthopaedic surgeon or emergency physician who provide the best of immediate care for the fracture itself.
- The patient also treats their fracture as an acute event as he or she is unaware of his or her bone fragility/failure (a man who suffers a heart attack from shovelling snow blames his heart, not the snow bank – but a patient who breaks his/her wrist from a simple fall blames the floor).
- Thus, the opportunity for post-fracture intervention is missed.

Figure 3 provides an illustration of the multi-decade ‘osteoporotic career’ suffered by an individual who experiences several fragility fractures before breaking their hip. It is self-evident that every fracture which occurred before the hip fracture – every

‘signal’ fracture<sup>7</sup> – created an opportunity for osteoporosis assessment and treatment. Each time this opportunity was missed, the patient was left needlessly at risk and continued to suffer subsequent fractures until finally devastated by a hip fracture. This is why the post-fracture osteoporosis care gap must be eliminated.

Osteoporosis Canada is committed to working with all key stakeholders in Canada – policy makers, professionals in all relevant areas of medicine, patients and their families – to eliminate this unnecessary care gap which is costing older Canadians and the national economy so much. The purpose of this paper, *Make the FIRST break the LAST with Fracture Liaison Services*, is to provide practical guidance on the implementation of a clinically effective and cost-effective healthcare delivery solution that has been proven to close the care gap within Canada and many other countries. Widespread implementation of **Fracture Liaison Services**, described in the next section, will significantly reduce the incidence of repeat fractures and will create the infrastructure to deliver post-fracture care in accordance with Osteoporosis Canada’s Clinical Practice Guidelines<sup>9</sup>. This will also ensure that Canadian fracture patients receive globally endorsed standards of care<sup>73</sup>.

Figure 3. Osteoporosis and fragility fractures throughout the life course<sup>72</sup>



Each and every  
fracture was a missed  
opportunity to diagnose  
and treat osteoporosis  
to prevent the  
subsequent fractures

# CLINICALLY EFFECTIVE AND COST-EFFECTIVE SYSTEMS OF POST-FRACTURE CARE

Fracture Liaison Services  
are proven to close the  
care gap and reduce costs

Fracture Liaison Services are:

1. Systems of post-fracture care
2. Proven to be highly effective in reducing repeat fractures
3. Proven to be highly cost-effective
4. Eliminating the post-fracture osteoporosis care gap throughout the world

In 2011, Canadian investigators undertook a systematic review describing clinical models intended to close the post-fracture osteoporosis care gap<sup>74</sup>. Sixty-five percent of the world's literature described the critical role of dedicated personnel to proactively identify patients, to facilitate BMD testing and to initiate osteoporosis treatment. These service models have been referred to by a range of terms<sup>16, 17, 20, 22-26, 66, 75-117</sup>. In accordance with major international post-fracture care initiatives, this document will use the term Fracture Liaison Service (FLS)<sup>73, 118, 119</sup>.

The main objectives of a FLS include:

- **Identification:** All men and women

over 50 years of age who present with fragility fractures will be assessed for risk factors for osteoporosis and future fractures.

- **Investigation:** As per 2010 Osteoporosis Canada Guidelines, those at risk will undergo BMD testing.
- **Initiation:** Where appropriate, osteoporosis treatment will be initiated by the FLS.

These objectives are often referred to as the 3 "i's". The FLS will employ dedicated personnel, usually a nurse practitioner (NP) or a registered nurse (RN), to coordinate the fracture patient's care. The NP can

*The risk of having a fracture from osteoporosis can be reduced and valuable healthcare dollars saved*





The Fracture Liaison Service (FLS) model of care has been shown within Canada and many other countries to eliminate the post-fracture osteoporosis care gap, reducing the incidence of repeat fractures and resulting in significant cost savings. Osteoporosis Canada calls for implementation of FLS across all Canadian provinces as a matter of urgency.

**A Fracture Liaison Service (3 i model) to identify, investigate, and initiate appropriate osteoporosis treatment must be the standard of care across Canada. Osteoporosis Canada urges all jurisdictions to implement FLS by 2015.**

provide all 3 i's<sup>5</sup> whereas the RN can only provide the first 2 (leaving the initiation of treatment to the primary care provider). The FLS nurse(s) will work according to pre-agreed protocols within the particular institution, with input from a physician with expertise in osteoporosis.

In 2013, investigators from Australia published a systematic review and meta-analysis on post-fracture models of care which provides a useful framework for classification<sup>66</sup>. Models of varying intensity were classified as Types A to D, the description and outcomes for which are summarised in table 1.

**Table 1. Post-fracture models of care and improvement in patient care outcomes<sup>66</sup>**

Model	Description	Proportion receiving BMD testing*	Proportion receiving osteoporosis treatment
Status Quo <sup>54</sup>	Manitoba statistics for major osteoporotic fractures (2007/2008)	13%	8%
Type D (Zero i model)	Only provides osteoporosis education to the fracture patient. Primary care provider (PCP) is not alerted or educated.	No study on BMD testing	8%
Type C (1 i model)	1. Identification The PCP is alerted that a fracture has occurred and further assessment is needed. Leaves the investigation and initiation of treatment to the PCP.	43%	23%
Type B (2 i model)	1. Identification 2. Investigation Leaves the initiation of treatment for fragility fracture patients to the PCP.	60%	41%
Type A (3 i model)	1. Identification 2. Investigation 3. Initiation of osteoporosis treatment where appropriate.	79%	46%

\* Although BMD testing is an important aspect of post-fracture care, in and of itself it cannot impact the rate of repeat fractures. Osteoporosis medication is necessary in order to reduce the rate of repeat fractures.

Type A models deliver the 3 i's i.e. identification, investigation and initiation; Type B models deliver the 2 i's i.e. identification and investigation; Type C models deliver 1 i i.e. identification; Type D models could be classified as 'Zero i' models given that

<sup>5</sup>At the time of printing, Ontario nurse practitioners can prescribe osteoporosis medications but cannot requisition spine x-rays or BMDs independently. This is likely to change in the near future as a result of recent legislative changes.





no proactive case-finding occurs. The clear message from this analysis is that greater effectiveness is achieved by more intensive models of post-fracture care.

A Type B model can be easily expanded to a Type A model within the same infrastructure. There may also be hybrid models that combine both NPs and RNs that may prove to be more cost-effective (the lower costing RNs could do the work for identification and investigation, leaving the higher costing NPs to deliver initiation).

The Ganda systematic review reported that FLS significantly reduce repeat fracture rates<sup>66</sup>. Key findings included:

- **St. Michael's Hospital, Toronto:** Modelling of the FLS program reported a 9% reduction of secondary hip fracture rates **within the first year of operation**<sup>16, 17</sup>.
- **Concord FLS, Sydney, Australia:** Repeat fracture rates over a 4 year period were reduced by 80%; there were 4.1% new fractures in the intervention group compared to 19.7% in the control group<sup>22</sup>.
- **Glasgow FLS, Scotland, UK:** Between 1998 and 2008, hip fracture rates in Glasgow decreased by 7.3% compared to

a 17% increase during the same time period in England<sup>109</sup>, where only 37% of localities operated an FLS by late 2010<sup>120</sup>. The Glasgow FLS has provided comprehensive care for all fracture patients aged 50 and over since 2000<sup>24, 25</sup>.

In addition to reducing fracture rates, Fracture Liaison Services have been shown to be highly cost-effective in Canada<sup>17</sup>, Australia<sup>23</sup>, the United Kingdom<sup>25, 121</sup> and the United States<sup>85</sup>. These analyses are described in the next section titled 'A business case for access to Fracture Liaison Services throughout Canada'.

More details on the Type A and Type B FLS models considered in the systematic review and meta-analysis<sup>66</sup> are provided in Appendix C. A more comprehensive evaluation of the cost-effectiveness of FLS is also provided in Appendix C. An overview of Type C and Type D FLS models (interventions which have been found to be less effective in closing the post-fracture care gap in the meta-analysis<sup>66</sup>) is provided in Appendix D. Surprisingly, educational-based interventions (Type D - Zero i), the traditional solution for such care gaps, are found to be consistently ineffective at having any impact on the post-fracture care gap.



Broken bones  
can be  
warning signs  
of osteoporosis

# A business case for access to Fracture Liaison Services throughout Canada

The most expensive approach to post-fracture osteoporosis care is to allow the care gap to persist. Cost-effectiveness studies from FLS within Canada and in other countries demonstrate that FLS is associated with lower costs than the status quo.



Doing post-fracture osteoporosis care well is a lot cheaper than doing it occasionally, or not at all

## Clinically effective care needs to be cost-effective care

As increasing demands are placed upon the capacity of Canada's healthcare system by an ageing population, a finite budget must be deployed in the most cost-effective way. For a new model of care to be broadly adopted, the model must improve outcomes in the most cost-effective way possible. In this regard, FLS has been demonstrated consistently in Canada and other countries to do precisely that.

### FLS within Canada:

- **Toronto:** The Osteoporosis Exemplary Care Program at St. Michael's Hospital in

Toronto established that a hospital which hired an FLS coordinator who manages 500 patients with fragility fractures annually could **reduce the number of secondary hip fractures by 9% in the first year**, with net hospital cost savings of \$48,950 (2004 Canadian dollars)<sup>16, 17</sup>. Greater savings were anticipated after the first year and when additional costs such as rehabilitation and dependency costs are considered.

- **Edmonton:** A formal health-economic evaluation of a coordinator to improve osteoporosis treatment after hip fracture found that for every 100 patients assessed, 6 fractures (including 4 hip

fractures) were prevented, 4 quality-adjusted life years were gained, and \$260,000 (2006 Canadian dollars) was saved by the healthcare system<sup>18, 19</sup>. The intervention cost was just \$56 per patient and the intervention would break even within two years. A similar analysis which evaluated a nurse coordinating management after wrist fracture reported a cost per patient of \$44<sup>20, 21</sup>.

## FLS in other countries:

- **Australia:** A formal cost-effectiveness analysis of the Concord FLS in Sydney, Australia reported that the cost of the FLS was less than AU\$150 (CN\$146) per patient per year over the 10 year modelling period<sup>23</sup>. Furthermore, the incremental costs per quality adjusted life year (QALY) gained (incremental cost-effectiveness ratio - ICER) were AU\$17,291 (CN\$16,772), which is well below the Australian accepted maximum willingness to pay for one QALY gained of AU\$50,000 (CN\$48,500).
- **United Kingdom:** The Glasgow FLS<sup>24</sup> has provided comprehensive care for the 1 million residents of Glasgow since the turn of the century. In excess of 50,000 consecutive fracture patients have been assessed by the FLS. A formal cost-effectiveness analysis reported that, for every 1,000 patients managed by FLS versus 'usual care' in the UK, 18 fractures were prevented, including 11 hip fractures, and GBP21,000 (CN\$33,600) was saved<sup>25</sup>. The authors calculated that universal access to FLS could be provided across the UK for just 0.6% of the annual cost of hip fracture to the UK economy<sup>122</sup>.
- **United States of America:** The Kaiser Permanente Healthy Bones Program is arguably the most comprehensive fragility fracture prevention program in the world<sup>26, 84, 85, 89, 123</sup>. The Healthy Bones Program was led by orthopaedic surgeons with a highly focused objective from the project outset; to reduce the incidence of hip fracture by 20% in 5 years<sup>124</sup>. The program was developed in an incremental fashion, initially providing post-fracture

osteoporosis care to just hip fracture patients. As the program proved effective, more time and resources were allocated to provide care for patients with fragility fractures at any skeletal site, and subsequently a structured primary fracture prevention strategy was implemented. In 2009, 7 years after a fully integrated Healthy Bones Program was in place at all 11 Kaiser Southern California medical centres, hip fracture rates had been reduced by more than 40%<sup>26</sup>. A 2013 publication from leading health system CEOs in the United States highlighted the Healthy Bones Program as an effective strategy to lower costs, improve quality and engage patients<sup>125</sup>.

## FLS in government policy:

- **Department of Health, England:** In 2009, the Department of Health published *Falls and fractures: Effective interventions in health and social care*<sup>126</sup>. The policy called for a top-down approach to fracture care and prevention as advocated in figure 4 of this document. FLS was highlighted as the mechanism to

'Fracture prevention makes sense in Kaiser because it is considerably less expensive to prevent a hip fracture than to manage it, simple as that.'<sup>124</sup>

Richard Dell MD, Orthopaedic Lead, Kaiser Healthy Bones Program, U.S.A.





Fracture Liaison Services have been shown to be highly cost-effective in Canada



28% of women and 37% of men who suffer a hip fracture will die within the following year

deliver a response to the first fracture to prevent the next fracture. A subsequent economic evaluation concluded that localities operating an FLS would save GBP56,000 (CN\$89,600) for each year's cohort of fracture patients managed over a 5 year period, compared to localities not operating an FLS<sup>121</sup>. In 2012, secondary fracture prevention indicators were introduced into the UK general practitioners' contract with government, with the intention of improving the long-term care of osteoporosis for fragility fracture patients<sup>127</sup>.

The cost-effectiveness analyses of FLS described above are based primarily upon Type A models reviewed previously<sup>66</sup>. It is important to recognise that Type A and Type B models outperformed the less intensive Type C and Type D models by a considerable margin, in terms of the proportion of fracture patients undergoing bone density testing and those who received treatment for osteoporosis. Thus, Osteoporosis Canada refers to Type A and Type B models as FLS,

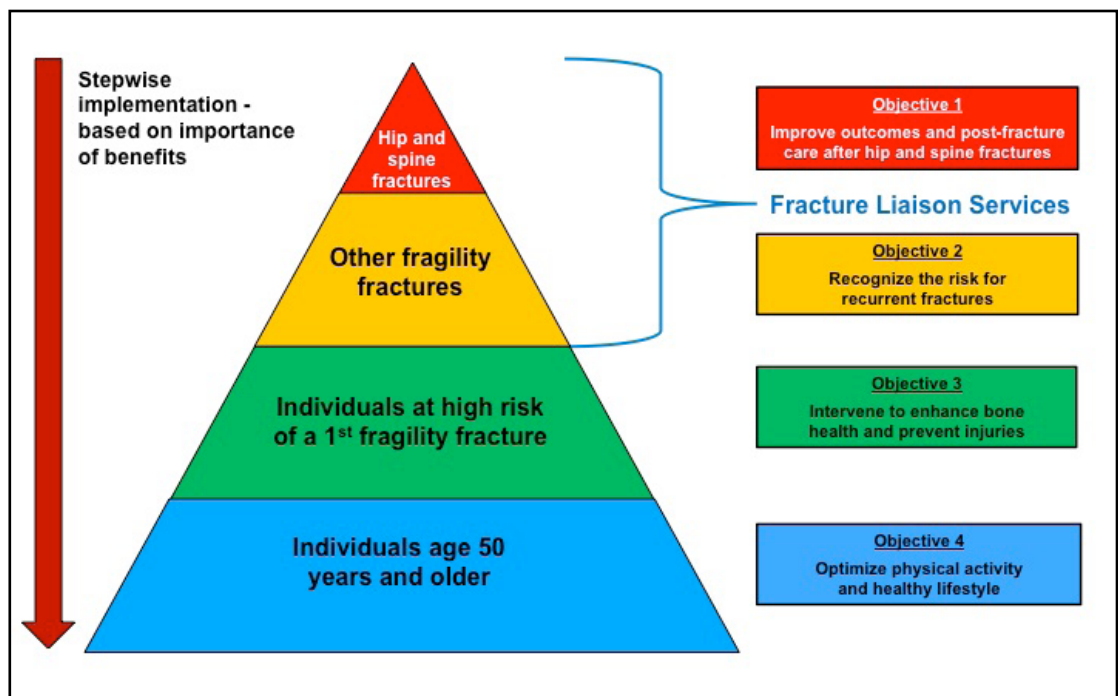
and strongly recommends Type A models as the preferred FLS for implementation in Canada.

A generic business case template for Fracture Liaison Services in Canada

To support implementation efforts, a generic FLS business plan template for use in the Canadian healthcare system is provided in Appendix E and potential cost savings from implementation of FLS by province in Appendix F.

Echoing Kaiser's Healthy Bones Program, Osteoporosis Canada's White Paper calls for Canada to target those individuals who have already suffered fractures for osteoporosis intervention because they are at highest risk of suffering more fractures<sup>27</sup>. As indicated in the Osteoporosis Canada 'fracture pyramid' in figure 4, FLS provides the healthcare delivery solution to close the post-fracture care gap.

Figure 4. A systematic approach to fragility fracture prevention for Canada<sup>27</sup>





# Key steps to implement a Fracture Liaison Service



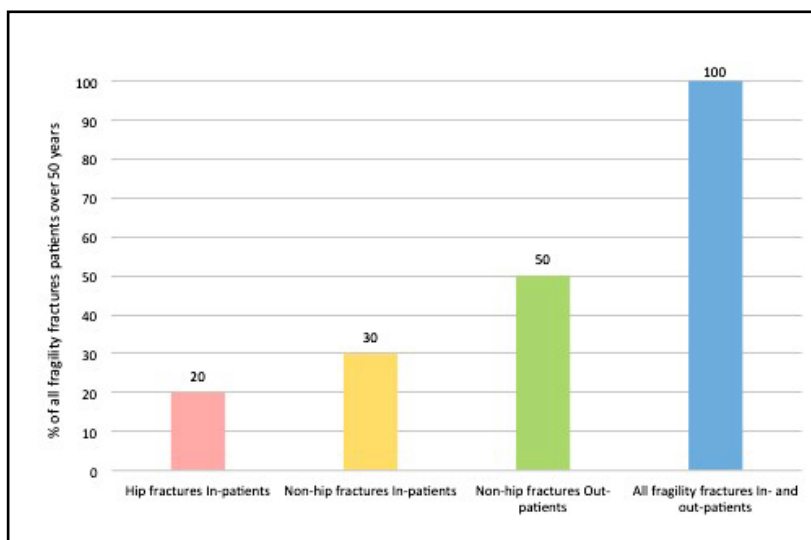
Year after year, across Canada, considerable financial resources are being committed to fund the costs of treating fragility fractures. Canada is spending \$600 million per year on direct costs associated with hip fracture care alone<sup>1</sup>. If this persistent drain on healthcare resources is to be reduced, plans must be developed - in every province - to fund fracture prevention through the implementation of FLS models of care.

Osteoporosis Canada recognises that provincial Ministries of Health may elect to stage implementation of FLS. One staged implementation strategy consists of initially targeting just hip fracture patients then all patients admitted with fragility fractures to hospital and finally those patients managed completely in the out-patient setting, as illustrated in figure 5. An alternate strategy would be to establish an initial centre of excellence within the province which could subsequently expedite sharing of best practice with other centres that receive fracture patients. In order to improve quality of post-fracture care for all fragility fracture patients - and so maximise associated cost savings - the most rapid path which leads to province-wide access to FLS must be

determined by local policy makers and healthcare professionals.

The globally endorsed standards for FLS developed in 2013 by the International Osteoporosis Foundation - with input from Osteoporosis Canada - provide a very useful starting point for service design<sup>73</sup>. A detailed description of practical steps in the initial development of an FLS is provided in Appendices G and H. Algorithms by fracture type and other practical tools for FLS are available in Appendices I to K.

Figure 5. The scope of an FLS can be expanded as time and resources permit<sup>73</sup>



The vast majority of local healthcare systems in Canada currently lack an FLS. Every provincial Ministry of Health must develop a plan to establish FLS across their province.



Making the  
FIRST break  
the LAST is  
an achievable  
goal through  
the widespread  
implementation  
of FLS



## Delivering globally endorsed standards of care

This decade has seen the development of initiatives intended to catalyse implementation of FLS by leading organizations across the world. All of the following organizations explicitly endorse widespread implementation of FLS:

- **International Osteoporosis Foundation:** ‘Capture the Fracture’ Campaign<sup>73, 118, 119, 128</sup>
- **American Society for Bone and Mineral Research:** Task Force on Secondary Fracture Prevention<sup>32</sup>
- **U.S. National Bone Health Alliance:** Fracture Prevention CENTRAL<sup>129</sup>

These organizations have developed extensive resources intended to share best practice and support those healthcare systems that are yet to broadly implement FLS<sup>128-130</sup>.

During 2012-13, the IOF developed internationally endorsed standards of best practice for FLS<sup>73</sup>. Given the variation in structure of healthcare systems throughout the world, IOF consulted with leading experts from many countries who have established FLS in their localities and undertook beta-testing to ensure that the standards were internationally relevant and fit-for-purpose. Osteoporosis Canada was a contributor to this process. The IOF Best Practice Framework (BPF) sets an international benchmark for FLS, which defines essential and aspirational elements of service delivery. IOF cites the reasons for creation of the BPF as<sup>131</sup>:

- **Empower Change:** For those who already have an operating FLS, the BPF is a tool to empower clinical champions and healthcare administrators to rationally evaluate and enhance provision of secondary fracture prevention in their healthcare system in the context of globally-endorsed standards.
- **Guidance:** For those healthcare systems that have yet to establish an FLS, the BPF describes the essential and aspirational elements of service delivery and can thus inform the business planning process for new FLS in a very specific way.
- **Recognition and fine-tuning:** The BPF also offers leaders of established FLS an objective means to identify where their service delivers optimal care – and to be recognised internationally for excellence – and identifies opportunities to refine the delivery and scope of care that could further improve outcomes.

The second point is most relevant in Canada where very few centres currently offer FLS. The BPF standards provide a practical road-map for those designing services from scratch to ensure that the FLS model they develop will be successful in improving outcomes (reducing fractures and their associated costs). More details are available in Appendix L.

# Summary and Recommendations



Currently, the vast majority of Canadians do not receive the globally endorsed standards of post-fracture care advocated by Osteoporosis Canada. This care gap can be readily eliminated by broad implementation of Fracture Liaison Services. FLS have been shown within Canada and throughout the world to eliminate the post-fracture osteoporosis care gap, reduce the incidence of repeat fractures and significantly reduce their associated costs to the healthcare system. FLS have been shown to be highly cost-effective in Canada<sup>17</sup>, Australia<sup>23</sup>, the United Kingdom<sup>25, 121</sup> and the United States<sup>85</sup>.

*A Fracture Liaison Service (3 i model) to identify, investigate, and initiate appropriate osteoporosis treatment must be the standard of care across Canada. Osteoporosis Canada urges all jurisdictions to implement FLS by 2015.*

Consensus exists amongst all relevant healthcare professionals and their organizations on the need for implementation of FLS in all provinces – and patients desperately want and need better care. Osteoporosis Canada calls upon all policy makers in every province with responsibility for the care of fragility fracture patients to work collaboratively to bring an end to avoidable fragility fractures. This opportunity to better care for our senior citizens and to save precious healthcare dollars is far too good to miss.



A nationwide post-fracture osteoporosis care gap exists throughout Canada which is leaving Canadians needlessly at risk of suffering future fractures and resulting in an enormous avoidable expenditure on fracture care. Access to Fracture Liaison Services for all Canadians will transform the delivery of post-fracture care and result in significant financial savings.

By implementing Fracture Liaison Services across our provinces we **CAN** make their FIRST break their LAST!



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*Make the FIRST break the LAST with Fracture Liaison Services* is the product of a diverse team of volunteers who all share a common objective: to make FLS the standard of care in Canada.

The FLS Working Group has generously donated their time and expertise to help ensure that the recommendations in this report are pragmatic, achievable and in the best interests of Canadian taxpayers. They are to be commended for their valuable contributions.

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**Dedicated to the  
hundreds of thousands  
of Canadians who  
needlessly fracture  
and suffer each  
year because their  
osteoporosis goes  
undiagnosed and  
untreated.**





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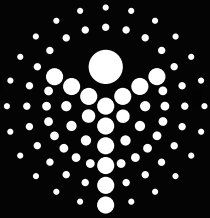
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