



Newsletter - Ontario Osteoporosis Strategy

2021 Understanding the changes ahead

The Impact of COVID-19 on Fragility Fracture Patient Care

It has been over a year since the World Health Organization declared the spread of COVID-19, the disease caused by the virus SARS-CoV2, a pandemic¹. Globally, healthcare services have been impacted by the sudden and unparalleled challenges presented to an already overburdened system¹.

Hospital departments have relocated to allow for COVID testing centres and, more recently, vaccination clinics. Healthcare teams have restructured and many healthcare providers redeployed to respond to the large number of affected patients^{1, 2}. “Our old fracture clinic area was taken over by ER for extra space, so now we are spread out over two or three areas. I am now further away from the fracture clinic staff, so it has been an adjustment,” says a Fracture Prevention Coordinator, Fracture Screening and Prevention Program.

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In this issue:	LTC and Falls	Covid-19 Impact	Fracture Risk Tool	Fracture Screening Cost
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THE IMPACT OF COVID-19 ON FRAGILITY FRACTURE PATIENT CARE



Fuggle, N.R., Singer, A., Gill, C. et al suggest, “the health impacts of COVID-19 are both direct, as a consequence of the infection itself, and indirect, due to interruption in routine and preventive health care services and in the management of chronic diseases³.”

A global survey, conducted by the International Osteoporosis Foundation (IOF) and the National Osteoporosis Foundation (NOF) (Fuggle, N.R., et al), looked at the impact of COVID-19 on the assessment and management of osteoporosis patients. Healthcare workers from 53 countries, who managed patients at risk of fragility fractures during the pandemic, were surveyed³.

57% of offices, clinics or hospitals were open for both emergency and routine appointments, while 7% were closed to all visit types³. The survey results highlighted that lock-downs and self-isolation precipitated the move from in-person or ‘face to face’ appointments to alternative modes such as telemedicine³.

When patients were seen, approximately 2/3 of healthcare workers surveyed reported delays in obtaining a BMD and 11% reported use of clinical risk assessment tools alone, without BMD testing³.

43% of healthcare respondents reported challenges in arranging for osteoporosis medications emphasizing patients’ reluctance to attend appointments for subcutaneous injections or intravenous infusions. Along with this, travel restrictions, self isolation and primary care closures also impacted patients’ ability to attend office visits for administration of medications³.

The Fracture Screening and Prevention Program (FSPP)* is a secondary fracture prevention program and was active in 36 hospital sites in Ontario prior to the onset of the pandemic. Similar to respondents’ reports in the global survey, the FSPP also experienced interruptions in care due to the impact of COVID-19.

Designed to improve the care of people who have had a fragility fracture and to reduce their risk of having another fracture, Fracture Prevention Coordinators (FPCs) screen fragility fracture patients while working with orthopaedic surgeons, allied health professionals, diagnostic imaging, fracture clinic staff and primary care providers to help improve patient access to integrated and appropriate post-fracture care such as Bone Mineral Density testing and/or follow up with an osteoporosis specialist.



THE IMPACT OF COVID-19 ON FRAGILITY FRACTURE PATIENT CARE

The immediate impact on the FSPP was a suspension of the program due to the lockdown across Ontario at all participating hospitals in March 2020. The FPCs were redeployed to assist with the COVID-19 containment efforts with the help of the Ministry of Health. Gradually, over summer, as hospital policies and protocols allowed, FPCs started to return to fracture clinics. However, several sites remain suspended due to restrictions in hospital COVID-19 protocols inhibiting their return to the clinics.

The absence of FPCs in the clinics as well as other contributing factors saw the number of FSPP screened fragility fracture patients drop by 50% over the past fiscal year (April 2020 – March 2021). Additionally, there was a decrease in the number of eligible patients agreeing to or completing a Bone Mineral Density test and/or attending appointments with primary or specialist care.



Limited or delayed access to Bone Mineral Density (BMD) testing, critical for determining 10-year fracture risk, was observed at some sites, impacting timely assessment and treatment decisions. For those FSPP patients who attended their appointments in the fracture clinics, many were reluctant to return to the hospital or attend an outside lab for a BMD test. “Patients are willing to be screened from a distance, but are hesitant to go for a BMD,” reports a Fracture Prevention Coordinator.

Referrals to primary care and osteoporosis specialists were impacted at some sites with the temporary or permanent closure of offices, transition to virtual appointments and patients’ hesitation for face-to-face appointments. As alluded to in the article by Fuggle, N.R. et al, the absence of patient access to appropriate osteoporosis medication may impact the patient’s future fracture risk³.

The IOF suggests “the COVID-19 epidemic is imposing a major burden on hospitals and health care professionals, causing some disruptions in the usual care of patients with non-COVID disorders².”

Given the increased rate of refracture associated with a current fragility fracture, it is concerning when patients do not attend the fracture clinic or when patients are screened, but are not able to complete diagnostic testing and are reluctant or unable to attend further appointments to discuss their bone health. Without appropriate diagnosis and treatment, these patients remain at substantial risk for recurrent, debilitating and life threatening osteoporotic fractures^{4, 5}.

Further investigation will be needed to analyze the medium and long-term impact COVID-19 has had on the levels of care and outcomes for fragility fracture patients.



*Developed through the Ontario Osteoporosis Strategy, the FSPP is operated by Osteoporosis Canada in collaboration with the Ontario Orthopaedic Association, the Ontario College of Family Physicians, the Ministry of Health and participating hospital sites. the Ontario Osteoporosis Strategy, the FSPP is operated by Osteoporosis Canada in collaboration with the Ontario Orthopaedic Association, the Ontario College of Family Physicians, the Ministry of Health and participating hospital sites.

References:

1. Stephens, A., Rudd, H., Stephens, E., Ward, J. (2020). MRS BAD BONES: Service Evaluation of Osteoporosis Secondary Prevention in Hip Fragility Fractures during COVID-19 Pandemic [Unpublished manuscript submitted to JMIR Aging].
2. International Osteoporosis Foundation Capture the Fracture 2021, COVID-19 & FLS Centers, viewed March 2021, <<https://www.capturethefracture.org/covid-19-all-ctf-fls-centers>>.
3. Fuggle, N.R., Singer, A., Gill, C. et al. How has COVID-19 affected the treatment of osteoporosis? An IOF-NOF-ESCEO global survey. *Osteoporos Int* 32, 611-617 (2021). <https://doi.org/10.1007/s00198-020-05793-3>
4. Hajcsar EE, Hawker G, Bogoch ER. Investigation and treatment of osteoporosis in patients with fragility fractures. *CMAJ* 2000;163(7):819-822.
5. Bessette L, Ste-Marie LG, Jean S et al. The care gap in diagnosis and treatment of women with a fragility fracture. *Osteoporos Int* 2008;19(1):79-86*

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Beyond the Break is an inter-professional and continuing education series for health professionals across Ontario. Improve your knowledge on: emerging best practices, screening, diagnosis, treatment and management of osteoporosis. Find out more [here](#).

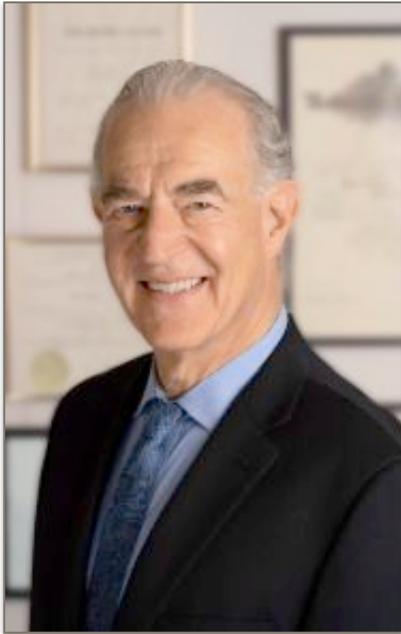
The challenges of safely and effectively achieving vitamin D adequacy for Canadians

Presented by Dr. Susan Whiting

Thursday, December 2, 2021 at 12p.m. ET

[Register for this webinar](#)

DR. EARL BOGOCH APPOINTED THE INAUGURAL HOLDER OF THE BROOKFIELD CHAIR IN FRACTURE PREVENTION



This University of Toronto chair, a global first of its type, has been established at the University of Toronto and St. Michael's Foundation through the generosity of Brookfield Partners Foundation, which provided a \$3 million grant.

Dr. Earl Bogoch, an orthopaedic surgeon at St. Michael's Hospital and Professor in the Department of Surgery, said: *“The new Brookfield Chair provides an exciting avenue to advance fracture prevention programs into the 7 provinces and 3 territories in Canada where none yet exist. Every year 130,000 Canadians sustain serious fragility fractures, including 30,000 hip fractures and only 20% of them receive the necessary treatment they need to prevent the next catastrophic fracture. I am honoured to be appointed The Brookfield Chair in Fracture Prevention, and excited to enhance our partnership with Osteoporosis Canada to fulfil their vision of a Canada without osteoporotic fractures”.*



For more information, visit: www.osteostategy.on.ca



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SAVING LIVES**

The Ontario Osteoporosis Strategy (OOS) is a population-based initiative to improve quality of care for people living with osteoporosis in Ontario.

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**FRACTURE
PREVENTION**



**HEALTHCARE
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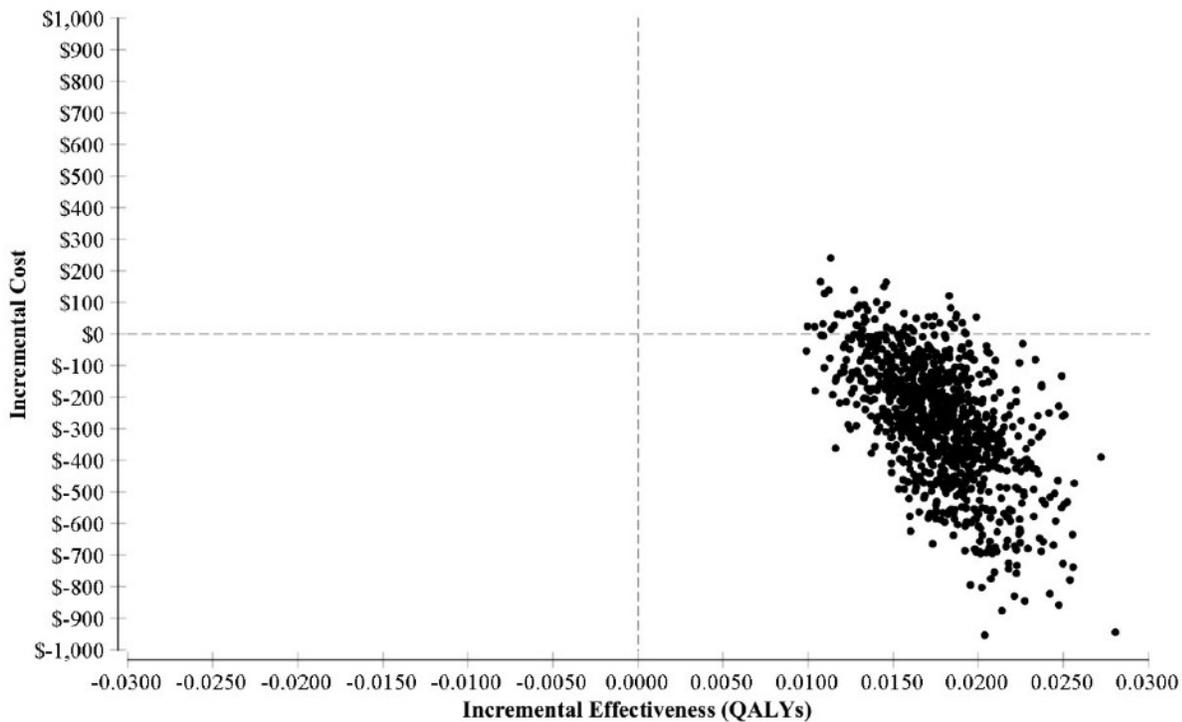
**PATIENT EDUCATION &
SELF-MANAGEMENT**

THE ONTARIO FRACTURE SCREENING AND PREVENTION PROGRAM IS COST-SAVING

In collaboration with Osteoporosis Canada, the evaluation team and economic analysts from St. Michael's hospital completed a cost-effectiveness (value for money) analysis of the Fracture Screening and Prevention program (FSPP). The objective of the analysis was to compare the current model of the FSPP to usual care (no program) from the perspective of the payer, the Ontario Ministry of Health and Long-Term Care.

The economic model simulated a cohort of fragility fracture patients starting at 71 years of age over their lifetime. Model parameters were obtained from the FSPP as well as the published literature, where the information could not be obtained from the program itself. The analysis showed that the FSPP had lower expected costs (\$274 less) and higher expected effectiveness than usual care over patients' lifetimes.

The Figure below shows that 94% of the 10,000 simulations demonstrated lower costs and higher effectiveness of the FSPP (lower-right quadrant).



Reference: Saunders H et al. (2021) Cost-Utility Analysis of the Ontario Fracture Screening and Prevention Program. Journal of Bone & Joint Surgery. Accepted for publication.

For more information, visit: www.osteostategy.on.ca



STRATEGIES FOR IMPLEMENTING A FRACTURE RISK ASSESSMENT TOOL IN LONG TERM CARE HOMES



Yuxin Bai
BHSc, McMaster
Research student (2019-2021)



Fractures hurt and increase frailty in older adults. Up to 85% of long-term care (LTC) residents have osteoporosis, which is a condition characterized by low bone density, is especially common among older adults living in long-term care (LTC) homes, and leads to increased fracture risk. Despite the seriousness and pervasiveness of fractures, fracture risk assessment and management tools are often underutilized in this setting.

To decrease fracture rates in LTC homes, the team at GERAS developed the Fracture Risk Scale and a Fracture Risk clinical assessment protocol (CAP). Both are decision-making tools that have been integrated into routine electronic medical record software in LTC homes across Canada. Based on health information stored in the electronic medical records, the Fracture Risk Scale identifies LTC residents at high risk for fractures and the Fracture Risk CAP provides risk-specific recommendations for management that are appropriate for LTC homes. To learn more about the Fracture Risk CAP see: <https://doi.org/10.1016/j.jamda.2020.08.015> (McArthur et al, JAMDA, 2021; 22(8), 1726-1733)

BRIEF CLINICAL REFERENCE GUIDE:
interRAI Fracture Risk Scale (FRS)
 Identifies fracture risk in the next year. Scored from 1 (lowest risk) to 8 (highest risk).
 Located in the Outcome Summary Report Page (PointClickCare®: MDS 2.0, interRAI LTCF).

FRS Score	LOW RISK			HIGH RISK				
	1	2	3	4	5	6	7	8
Hip Fracture (yearly incidence)	0.6%	1.8%	2.5%	3.1%	5.0%	6.8%	7.8%	12.6%
% LTC Residents at Fracture Risk	13.5%	18.3%	24.1%	17.0%	16.6%	2.1%	8.0%	0.5%
	56% of all LTC residents			44% of all LTC residents				
Treatment Considerations	<ul style="list-style-type: none"> Vitamin D: 800-2000IU Calcium: 1200mg (daily total diet & supplement) Exercise: functional strength & balance 			<ul style="list-style-type: none"> Vitamin D: 800-2000IU Calcium: 1200mg (daily total diet & supplement) Exercise: functional strength & balance Osteoporosis medications Hip protectors 				

Agarwal et al. Recommendations for preventing fractures in long-term care. JAMA 2015; 314(15): 1528-1540
 Agarwal et al. Development and validation of the Fracture Risk Scale (FRS) that predicts fracture over a 2-year time period in institutionalized frail older people
 JGIM in Canada: an advance in personalized geriatric patient safety. BMC Geriatr 2017; 17(10):1077
 McArthur et al. Developing a Fracture Risk Clinical Assessment Protocol for Long-Term Care: A Modified Delphi Consensus Process. JAMDA
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STRATEGIES FOR IMPLEMENTING A FRACTURE RISK ASSESSMENT TOOL IN LONG TERM CARE HOMES

In a recent study, we held a meeting with 32 researchers, clinicians, LTC staff and residents, and other fracture prevention or LTC experts to discuss how the Fracture Risk CAP can be best implemented in routine practice in LTC homes. From these discussions, we identified 14 strategies to increase usage of the Fracture Risk CAP and consequently improve identification and care of LTC residents at high fracture risk. After an evaluation of the 14 strategies, we concluded that the following four recommendations may be most useful:

Recommendations	Description
1. Minimize any increase in workload	Use standardized processes and integrate the Fracture Risk CAP into existing LTC processes.
2. Training on CAP usage	Training local trainers on how to use the Fracture Risk CAP during mandatory onboard training.
3. Education for residents and families	Educating residents and families on the importance of guidelines and how to advocate for following guidelines.
4. Persuasion through stories	Highlighting patient and staff narratives to show the impact of fractures and the value of using the Fracture Risk CAP.

Bai et al. BMC Geriatrics, **21**,467 (2021). <https://doi.org/10.1186/s12877-021-02388-3>

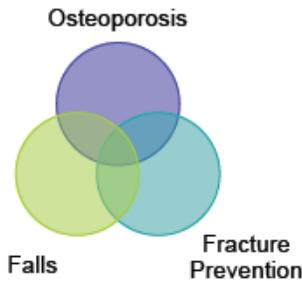
Some of these strategies can be supported by existing decision support tools for LTC clinicians, videos on fracture prevention aimed at front-line workers, and awareness-raising tools for residents and families. Visit:

<https://www.gerascentre.ca/osteoporosis-strategy-for-long-term-care/>

to access these tools and videos.

A clinical trial led by Dr. Alexandra Papaioannou will work with LTC homes to implement the PREVENT (Person-centered Routine Fracture PrEVENTion) program, which includes use of the FRS and Fracture Risk CAP. This pragmatic randomized controlled trial will examine if the program is effective for decreasing hip fractures in LTC homes. For more details, please visit: <https://clinicaltrials.gov/ct2/show/study/NCT04947722>.

RNAO: PARTNER IN FALL INJURY PREVENTION FRACTURE RISK SCALE IN LONG TERM CARE HOMES



It's important that osteoporosis, fracture prevention and falls are recognized as a trio of interrelated health issues and any intervention targeting one of these three health issues should acknowledge the other two.

In collaboration with the RNAO LTC Best Practice Program, staff from term care homes in the province were presented with the evidence based FRS tool for fall and fracture reduction.

Further follow up on the current use of the FRS tool in LTC homes trained will be presented in our next issue in 2022.

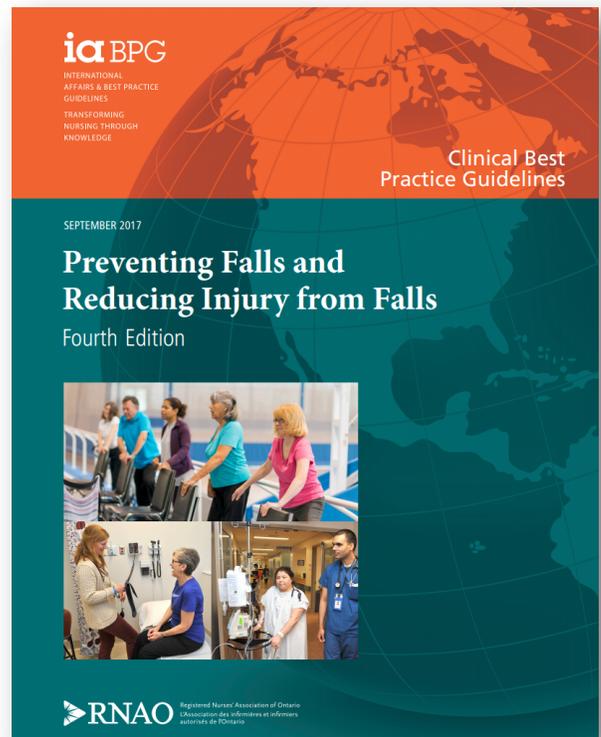
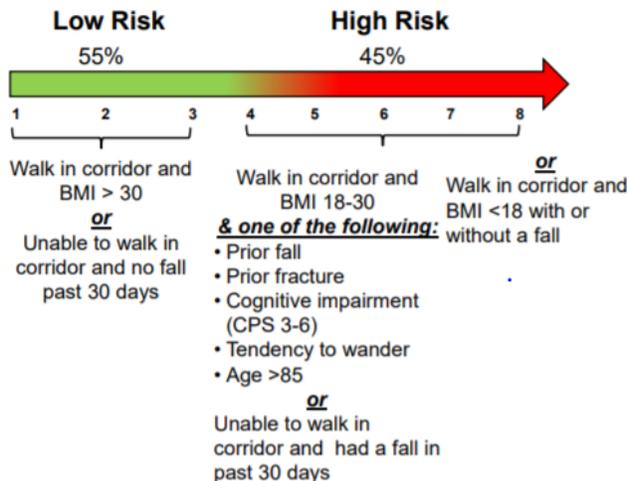


PARTNERS IN FALL INJURY PREVENTION: FRACTURE RISK SCALE AND FALLS BEST PRACTICE GUIDELINE

RNAO LTC Best Practice Program and the
Ontario Osteoporosis Strategy
Mar 24, 2021
1:30 - 2:30 PM



Fracture Risk Scale Scores – Hip Fracture Risk



CARE GAP - PROVINCIAL PERFORMANCE DATA FOR OSTEOPOROSIS MANAGEMENT

Ontario Osteoporosis Strategy

Care Gap ACHIEVEMENTS

The Ontario Osteoporosis Strategy (OOS), is a population-based initiative to improve the quality of care for osteoporosis in Ontario. The strategy aims to reduce morbidity, mortality, and costs from osteoporotic fractures. Monitoring data from a health system perspective provides opportunities for improving the quality of care.

OUR METHODOLOGY

This indicator framework has been aligned to the principles of the Quadruple Aim.

improving the health of populations

reducing per capita cost of healthcare

The Quadruple Aim

improving patient & caregiver experience

improving provider experience

Improving the Health of Populations

Fracture Screening and Prevention Program (FSPP)

(rate of patients, treatment-naïve at baseline who were prescribed treatment within 12 months from baseline)



49%

Treatment initiation in **HIP FRACTURE PATIENTS** (66 years & over)



45%

Treatment initiation in **ALL FRACTURE PATIENTS** (66 years & over)



58%

Treatment initiation in **HIGH RISK PATIENTS** (60 years & older)

Provincial Data

Fracture Per 10,000 People

Age-standardized fracture rate in adults, aged 50 years and older (2017/18)

OVERALL 102.7

17.3

SPINE

18.8

SHOULDER

18.6

PELVIS

39.9

WRIST

21.6

HIP

42.4

COMMUNITY HIP FRACTURE (AGE 66+)

(PER 10,000)

184.9

LONG-TERM CARE

(PER 10,000)

TREATMENT INITIATION (2016/17)

32% (66 years & over)

In treatment naïve hip fracture patients who received treatment within one year of hip fracture

FOLLOW-UP AFTER HIP FRACTURE (2016/17)

68% of this population were **NOT** investigated or treated

Rate of identification (BMD testing) and/or treatment (medication) of osteoporosis in adults age 66 and older who have had a hip fracture

TREATMENT PERSISTENCE (2016/17)

54%

Rate of adults, 66 years and older, who were initiated on pharmacological treatment for osteoporosis during the year and were still taking their medication one year later

Trends in BMD Testing

BMD TESTING IN ADULTS

Aged 50 years & older (2017/18)

OVERALL NUMBER 402,541

RATE (PER 100) **7.6%**

BMD ASSESSMENT FOLLOWING WRIST FRACTURE (2016/17)

Aged 50 years & older, who had a fracture and receive a BMD test within 12 months **29%**

BMD TESTING IN ELIGIBLE SENIORS (2017/18)

Eligible seniors (aged 68 to 70) who had a BMD test **23%**

Visit ostestrategy.on.ca for full infographic

Reducing Per Capita Cost of Healthcare

Provincial Data

TOTAL COSTS

\$255,773,130

HEALTHCARE UTILIZATION COST OF HIP FRACTURE

in adults 66+ at the time of their fracture

MEDIAN COST PER SINGLE EPISODE OF CARE

\$25,015

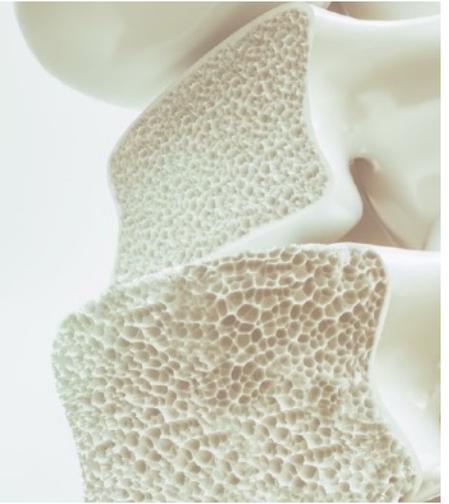
Ontario Osteoporosis Strategy Provincial Performance Data for Osteoporosis Management Technical Report



Dr. Susan Jaglal
Cathy Cameron
Ruth Croxford
Dr. Crystal MacKay
Farzana Yasmin

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IMAGES FROM AROUND THE PROVINCE





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Contact your Regional Integration Lead (RIL)

RILs cultivate partnerships in communities across Ontario to integrate fracture prevention pathways and establish bone health educational collaborations. They develop and disseminate tools and resources for healthcare professionals, patients and caregivers.

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Look for the next issue of Fracture Link in spring 2022.

If you would like to be featured in the upcoming issue of Fracture Link please contact Marq Nelson mnelson@osteoporosis.ca

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