



## **SAMPLE NEEDS ASSESSMENT**

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# **Addressing the Gap in Osteoporosis Screening for Younger Women**

### **Executive Summary**

This needs assessment highlights a significant gap in osteoporosis screening for women under 65, a group often at high risk despite common perceptions. Primary care providers (PCPs) are largely unaware of these high-risk groups, partly because current screening guidelines exclude criteria like fragility fractures and secondary causes for this age cohort. Additionally, PCPs exhibit limited communication and empathy skills regarding lived experiences of younger women at high risk of osteoporosis, leading to delayed diagnoses and dismissal of symptoms. Finally, there is low active use of clinical fracture risk assessment tools among PCPs, stemming from a lack of training. Addressing these educational needs will improve PCPs' ability to identify, communicate with, and properly screen at-risk younger women.



### Introduction

Osteoporosis is widely perceived as an age-related condition, primarily affecting women over 65. However, this needs assessment highlights a critical oversight: osteoporosis is not an exclusively age-bound disease, with peri- and postmenopausal women under 65 also experiencing significant bone density deterioration and fracture risk.<sup>1</sup> Factors increasing risk in younger women include fragility fractures, family history, low BMI, smoking, high alcohol use, and crucially, secondary causes such as glucocorticoid use or rheumatoid arthritis.<sup>2</sup> Despite this, primary care providers (PCPs) often give osteoporosis low priority in younger, high-risk patients.

A significant gap exists in osteoporosis screening for women under 65, stemming from several educational needs among PCPs. As a first gap, we identified that PCPs are largely unaware that several groups of women under 65 may be at high-risk of osteoporosis. This lack of awareness is partly reinforced by current screening guidelines, such as those from the USPSTF, which explicitly exclude fragility fractures and secondary causes as criteria for initiating screening for women under 65.<sup>3</sup> Consequently, without proper training, PCPs may miss opportunities for timely screening and treatment.

As a second practice gap, we identified that PCPs exhibit limited communication and empathy skills specific to younger women facing delayed osteoporosis diagnoses.<sup>4</sup> Patient testimonials reveal instances where symptoms like unexplained bone pain or requests for screening were met with skepticism or dismissal, attributing them to stress or normal aging. This limited training contributes to reduced patient satisfaction and poorer outcomes.

Finally, there is low active use of clinical fracture risk assessment tools among PCPs to identify high-risk women under 65. While validated tools exist (e.g., FRAX, OST, SCORE), PCPs often lack training on their effective use and implementation.<sup>5</sup> Addressing these three educational needs is crucial for improving PCPs' ability to identify, communicate with, and adequately screen at-risk younger women, preventing missed opportunities for intervention and reducing fracture incidence.

**Intended audience:** Primary care Providers (PCPs), Nurse Practitioners, Nurses and Physician Assistants.



## Root Cause Analysis

Practice Gap	Root Cause	Educational Need	Learning Objective
Primary care providers are unaware that several groups of women under 65 may be at high-risk of osteoporosis	Current screening guidelines explicitly exclude fragility fractures and secondary causes of osteoporosis as criteria for initiating screening for women under 65	Improve PCPs knowledge on groups of women under 65 who are at increased risk of osteoporosis	Recognize the groups of women under 65 who are at risk of osteoporosis
Primary care providers have had limited exposure to the lived experiences of women under 65 who face delayed osteoporosis diagnosis	PCPs have low communication and empathy skills specific to younger, pre-menopausal or peri-menopausal women	Increase PCP's sensitivity towards the lived experiences of women under 65 with osteoporosis	Identify early clues from patient interactions that often precede an osteoporosis diagnosis in younger women.
Primary care providers are not actively using clinical fracture risk tools to identify women under 65 who may be at high-risk of osteoporosis	PCPs lack training on the use and implementation of fracture risk assessment tools	Increase PCP's confidence on the use and implementation of risk assessment tools	Adequately interpret clinical fracture risk assessment tool outputs within case-based scenarios to accurately identify women under 65 who are at high risk of osteoporosis



**GAP 1: PCPs are unaware that several groups of women under 65 may be at high-risk of osteoporosis**

Osteoporosis is not an exclusively age-bound disease. While bone mineral density (BMD) naturally decreases with age, peri- and postmenopausal women under 65 also experience clinically significant bone density deterioration and fracture risk.<sup>1</sup> In fact, osteoporosis affects about one in five women over 50.<sup>3</sup> Factors that increase osteoporosis risk in women under 65 include a history of fragility fractures, race, family history, low body mass index (BMI), smoking, and high alcohol use. Secondary causes of osteoporosis or other underlying conditions are more common in women under 65, thus requiring a thorough diagnostic approach<sup>2</sup>. These secondary causes include glucocorticoid use, hyperthyroidism, hypogonadism, chronic kidney disease, diabetes, anticonvulsant use, rheumatoid arthritis, malabsorption, and a history of anorexia nervosa.<sup>2</sup> Despite this, primary care providers (PCPs) often perceive osteoporosis primarily as a condition affecting postmenopausal women over 65, leading to it being given a low priority, even in younger, high-risk patients.<sup>6</sup>

The above clinical practice gap can be partially explained by a disconnect between current screening guidelines, and the needs women under 65 at high risk. The United States Preventive Services Task Force (USPSTF) guidelines on “Screening for Osteoporosis to Prevent Fractures” across both the 2018 and 2025 updates, explicitly exclude fragility fractures and secondary causes of osteoporosis as criteria for initiating screening for women under age 65.<sup>1,3</sup> These nuances, however, are not intuitive for busy clinicians. Without proper training, PCPs might be missing high-risk peri- and post-menopausal women under 65 years who would benefit from screening and prompt treatment. **Table 1** displays a comparison between the current standard recommendations (which target the overall, healthy population) and expert opinion targeting younger women at high risk.

**Table 1:** Comparison between the USPSTF 2025 guideline<sup>1</sup> and Ishimoto’s<sup>2</sup> recommendations for the screening of patients under 65.

	USPSTF 2025 guideline	Expert recommendation (Ishimoto, 2024)
Menopausal Status	Only postmenopausal	Consider <b>both peri- and post-menopausal</b>
Risk factors	<ul style="list-style-type: none"><li>• Parental history of hip fracture</li><li>• Smoking</li><li>• Excessive alcohol consumption</li><li>• Low BMI</li></ul>	<ul style="list-style-type: none"><li>• Parental history of hip fracture</li><li>• Smoking</li><li>• Excessive alcohol consumption</li><li>• Low BMI</li><li>• <b>History of fragility/low-trauma fractures</b></li><li>• <b>Genetic causes</b></li><li>• <b>Patients with potential secondary causes of osteoporosis</b></li></ul>

Despite the availability of validated osteoporosis risk assessment tools, their implementation in primary care remains low for women both under and over 65. However, *combining educational interventions with structured quality improvement initiatives has significantly improved the identification of high-risk women under 65 and increased appropriate referrals for dual-energy X-ray absorptiometry (DXA) screening.*<sup>7 8</sup>



## GAP 2: PCPs have deficits in communication skills to empathically respond to the lived experiences of women under 65 who develop osteoporosis

Many women under 65 are not screened for osteoporosis until after experiencing a fracture<sup>2</sup> —missing critical opportunities for prevention. Qualitative research consistently shows that PCPs tend to view osteoporosis as a condition that primarily affects postmenopausal women.<sup>9</sup> As discussed for Gap #1, this perception is reinforced by the USPSTF guidelines, which emphasize menopausal status as a screening criterion.<sup>1</sup>

When a fracture does occur, pain related to the fracture (such as back pain from a vertebral compression fracture) is often the first noticeable symptom. Patient accounts and advocacy group testimonials describe instances where women under 65 who sought help for unexplained bone pain, fractures, or requested screening were met with skepticism or were told their symptoms were due to stress or normal aging.<sup>6</sup> **Table 2** includes select testimonials from women under 65 who were diagnosed with osteoporosis due to secondary causes, after facing doubt or dismissal from primary care providers. Recent research indicates that limited training in communication and empathy contributes to reduced satisfaction and poorer outcomes for patients experiencing chronic conditions, including osteoporosis.<sup>10</sup> Without training on empathy and communication skills, PCPs are missing opportunities to partner with patients at high risk of osteoporosis and prevent fractures. A recent mixed methods (quantitative + qualitative) study revealed that *communication skill training improves empathic attitudes in medical education*,<sup>11</sup> which supports its potential application and benefits in the CME context.

**Table 2. Select testimonials from women under 65 diagnosed with osteoporosis**

Patient	Underlying cause of osteoporosis at a young age	Key testimonial
<b>Susan</b> , diagnosed in her late 40s after experiencing several fractures	<b>Secondary causes:</b> parathyroid tumors that caused high blood calcium levels at the expense of blood calcium; misdiagnosis of lupus with a subsequent high dose of steroids, and hysterectomy	After several encounters with different PCPs and specialists, she met an endocrinologist who finally addressed her concerns and <i>"was very up to date with things, listened to my concerns and listened to me cry about my pain that I was in"</i>
<b>Joan</b> , unintentionally diagnosed in her early 50s while participating in a research study	<b>Genetics:</b> family history of osteoporosis (mother) and personal history of a fracture	After her personal experience managing the disease Joan points out that <i>"I remind all my friends to have their bone density tested at 65, or younger if they had a fracture like I did. It's something I encourage everyone to talk to their doctor about"</i>
<b>Tien</b> , diagnosed in her late 40s, after receiving a Rheumatoid Arthritis diagnosis	<b>Secondary causes:</b> Rheumatoid Arthritis as a concurrent condition	<i>"I needed knee replacement from my 30s but it wasn't until I was falling down while walking that they said oh okay well we might as well give you knee replacements so I was in my 40s but it took them that long to go ahead and give me those"</i>



### GAP 3: PCPs are not actively using clinical fracture risk tools to identify women under 65 who may be at high-risk of osteoporosis

Primary care providers underestimate osteoporosis risk in women under 65,<sup>12</sup> in part due to perceived suboptimal performance of the currently recommended fracture risk assessment tools for this age group.<sup>5</sup> Five risk assessment tools are recommended by the USPSTF (see text box). All tools have limitations in sensitivity, specificity, and applicability to diverse patient populations. The primary and most widely used is the FRAX. In

comparison, OST, ORAI and OSIRIS tend to have lower sensitivity and specificity. A 2025 study comparing the performance of ORAI and OSIRIS with OST in detecting osteoporotic BMD in *younger postmenopausal women*, found that all three tools performed sub optimally when osteoporosis was defined by the lowest BMD

#### Available Fracture Risk Assessment Tools<sup>1</sup>

Fracture Risk Assessment Tool	(FRAX)
Osteoporosis Self-Assessment Tool	(OST)
Osteoporosis Risk Assessment Instrument	(ORAI)
Osteoporosis Index of Risk	(OSIRIS)
Simple Calculated Osteoporosis Risk Estimation	(SCORE)

at the hip or lumbar spine.<sup>5</sup> Despite their limitations, fracture risk assessment tools are critical for implementing current screening guidelines,<sup>1</sup> improving early identification of high-risk women under 65, and preventing missed opportunities for intervention, but their use and implementation in primary care settings is still low for all age groups. Data from a study conducted from 2008-2014 indicates overall screening rates were low among women, specifically 21.1% for ages 50–64, 26.5% for 65–79, and 12.8% for 80+ years.<sup>4</sup> A study conducted in 2020 reported that the implementation of a 1-hr osteoporotic fracture prevention workshop for PCPs, increased their awareness and intent to screen younger postmenopausal women for osteoporosis. All attendees reported improved ability to identify at-risk younger females and 90.9% of participants reported a plan to implement the use of the (SCORE) tool into their practice as a pre-screening instrument<sup>7</sup>. Therefore, *education interventions are promising strategies to improve PCP's understanding of clinical fracture risk assessment tools and their implementation into daily practice*.



## References

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