



A Care Gap in Postmenopausal Bone Health

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DNP Project Dissemination



Agenda

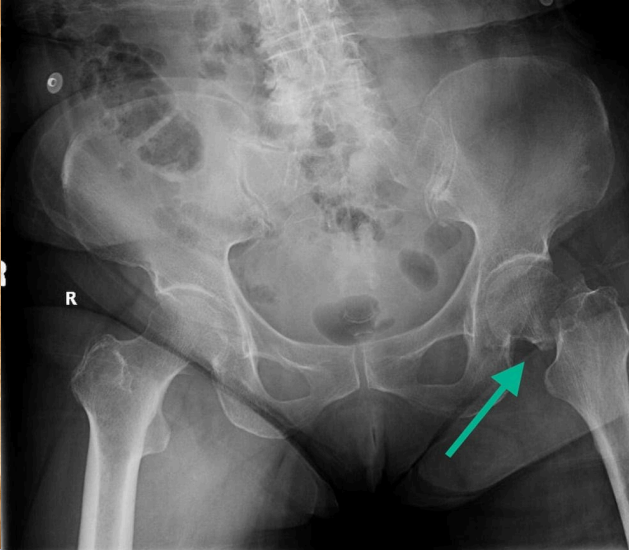
- Introduction to Osteoporosis
- Care Gap Background
- Objective of the Project
- Research Question
- Methods/Design
- Project Results
- Conclusions
- Implications for Nursing Practice





Postmenopausal Bone Health

- Osteoporosis, or brittle bones, is a silent disease that increases fracture risk.
- In the U.S., 54 million people have osteoporosis or low bone mass, and 1.8 million fractures occur annually due to weakened bones.
 - Spine, hip, and wrist fractures are the most common
- At least half of all women aged 50 and older will develop osteoporosis and sustain a fracture sometime in their lives
- Fracture is the primary complication to and typically the first sign of osteoporosis
- Hip fractures are the most serious complication
 - 50% will not return to normal activities
 - 20% mortality rate within a year after hip fracture
- Postmenopausal osteoporosis is underdiagnosed and undertreated.

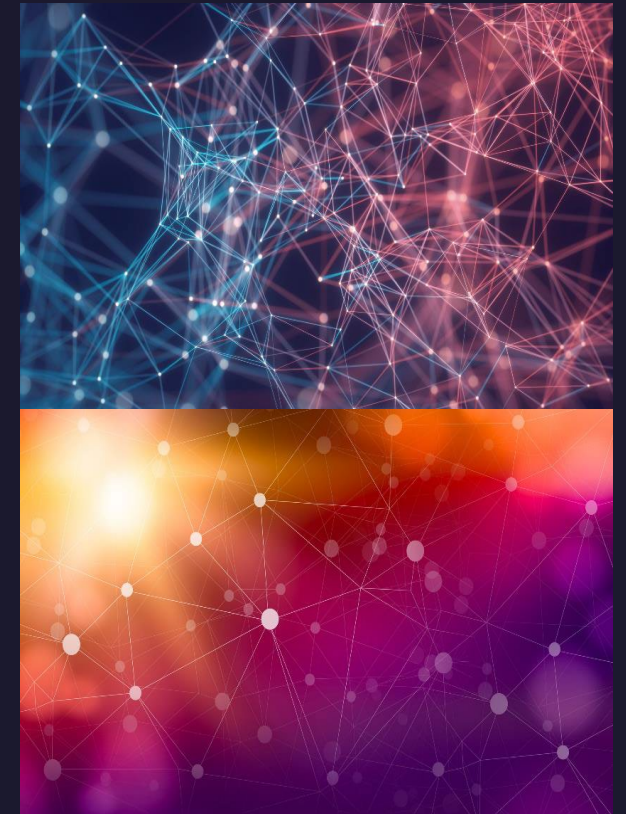


What contributes to the Postmenopausal Osteoporosis Care Gap?

- Studies have shown treatment for osteoporosis has decreased significantly, despite clearly established diagnostic criteria, risk assessment tools, and FDA approved medications
- There is a lack of awareness about bone health from both providers and patients
- Inaccurate data or hyperfocus on side effects instead of benefits of osteoporotic medications
- Notable discrepancy in the perceived and actual risks to this disease unless a fracture has already occurred.
- Because primary fracture prevention is so scarce, there has been a development of fracture liaison services (FLS) training to help target secondary fracture prevention for more immediate improvement in patient outcomes and cost.

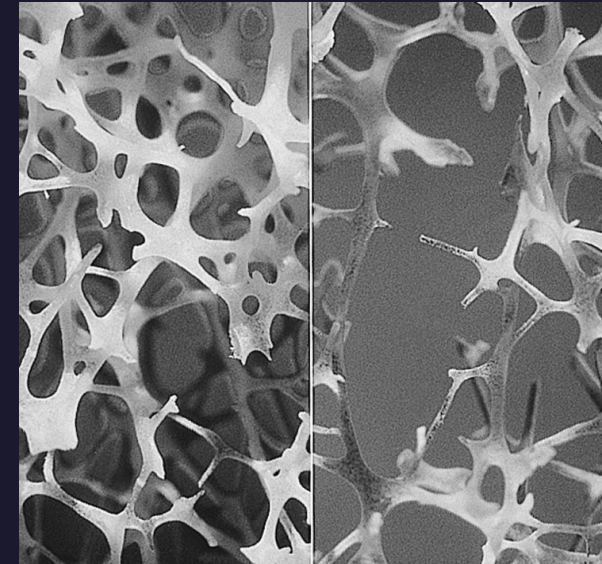
Evidence of the Care Gap

- A large international study found over 50% of those diagnosed with osteoporosis were NOT prescribed fracture reducing medications in all eight countries included (McCloskey et al., 2020).
- Only 35% of women diagnosed with osteoporosis were prescribed osteoporotic medications in attempt to prevent an initial fracture and there was **NO** increase in use after a fracture was sustained to prevent secondary fractures (Camp et al., 2023).
- Another large observational study, analyzing over 9000 patients, found approximately 80% of the participants who had prior fractures had never taken an osteoporosis medication (Axelsson et al., 2017).
- A systematic review found only 5% of health care providers were utilizing osteoporosis screening within the practice setting, while over 75% of the providers voiced a time constraint as the issue for not implementing osteoporosis screening in clinical practice (Chin et al., 2022).
- A large international study in the primary care setting found only 20% of women aged 55 and older with a fragility fracture was treated with osteoporosis medications (Greenspan, et al., 2012).



More Evidence of the Care Gap

- A large systematic review concluded that additional training is a necessity for providers and patients to better understand and manage bone health (des Bordes, et al., 2020).
 - Primary concerns were inadequate knowledge, misconceptions, concerns about the prescriptive medications, and lack of information from providers.
- Increased awareness and early detection of osteoporosis should be incorporated into the clinical practice setting to help close care gaps (Chin et al., 2022).
- Sethuram et al. (2023) gathered reoccurring questions found among primary care providers regarding osteoporosis care and should be the focus for future educational programs for healthcare providers. Those questions were:
 - Should treatment be started? What treatment should be initiated? How frequent should bone density testing be done?
- Sattari et al. (2017) concluded by emphasizing the need for interventions such as osteoporosis based clinical education programs to lessen the knowledge gap for general practitioners.
- Even 20 years ago, the Surgeon General issued a statement that emphasized the lack of knowledge that healthcare providers have with bone health contributes to the gap in care (HHS, 2004).



Objectives:



- To assess the existing knowledge of healthcare professionals on osteoporosis care
- To increase overall awareness of postmenopausal osteoporosis care including common screening and treatment recommendations, gaps in care, and secondary prevention strategies
- To evaluate the effectiveness of an educational seminar given to healthcare professionals on postmenopausal osteoporosis to determine if improvements in knowledge and competency are obtained.



Research (PICO) Question:

For *healthcare professionals (P)*, does an *educational seminar (I)* on osteoporosis care and Fracture Liaison Service (FLS) programs *improve competency and knowledge (O)* of this topic in comparison to *no training (C)*?



P – Population
I – Intervention
C – Comparison
O – Outcome

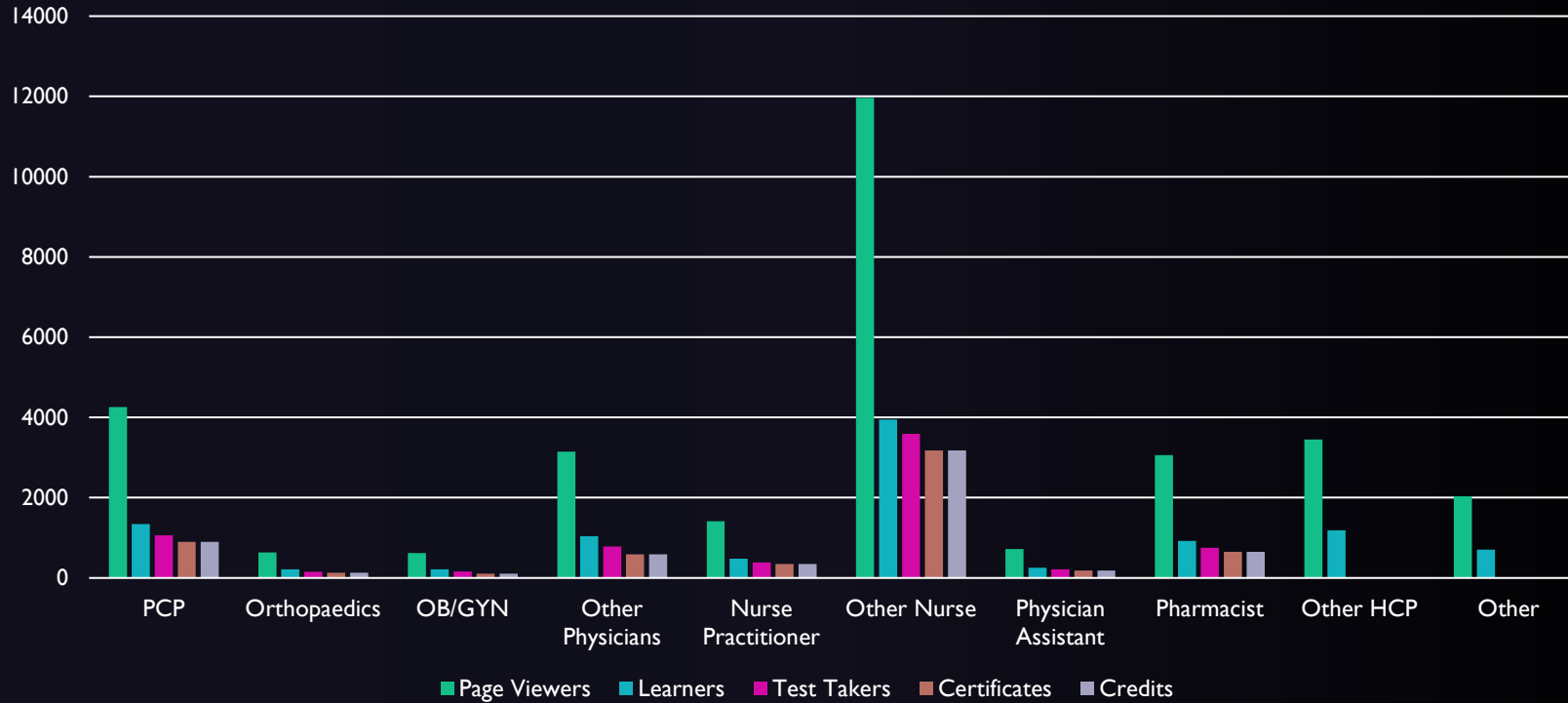
Design, Methods, and Tools

- **Design** - A quality improvement educational research project was divided into two parts:
 - A cross-sectional study on professional demographics
 - A quasi-experimental pre- and post- test design
- **Methods** – Medscape™, a global online platform for healthcare professionals, is the primary method for this project
- **Tools** - All tools and surveys had to be either approved by or provided by Medscape™
 - **Three pre- case study questions** – developed by myself, approved by Medscape™, utilized to evaluate current knowledge on postmenopausal osteoporosis
 - **One-hour slide show presentation and webinar** – developed by myself, approved, recorded, and digitally published by Medscape™
 - **Same three case study questions given as a post-test**, a repeat measures design, used to determine if improved knowledge due to the webinar
 - **Post-activity evaluation** – provided by Medscape™, standard practice for Medscape Education, survey is the same for all Medscape™ activities.

Project Results

- **Data collected from digital publication date on May 9, 2024, to July 9, 2024**
- **Traffic Summary**

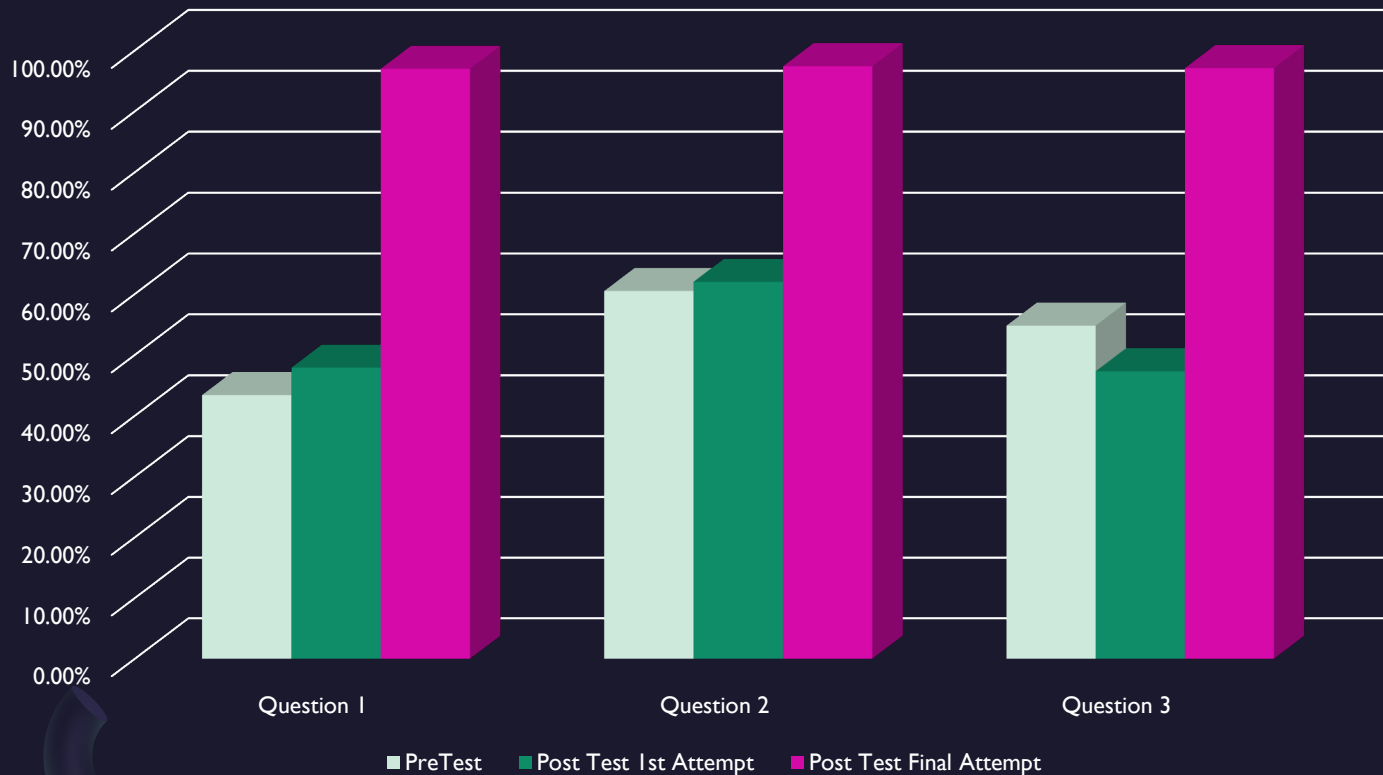
Traffic Summary Data by Profession



- **Page Viewers – $N = 31,302$**
 - Over one-third were nurses ($n = 11,961$; 38.2%)
 - Second largest group were PCPs ($n = 4,257$; 13.6%)
- **Certificates – $N = 6,083$**
 - Over half were nurses ($n = 3,174$; 52.8%)
 - Second largest group were PCPs ($n = 899$; 14.8%)

More Project Results

Pre- and Post-Test Correct Answers by Percentages



➤ Pre-Test Answers

- 7,731 participants
- ✓ Question 1
 - 53.6% Incorrect or Unsure
 - 46.4% Correct
- ✓ Question 2
 - 39.5% Incorrect or Unsure
 - 60.5% Correct
- ✓ Question 3
 - 54.8% Incorrect or Unsure
 - 45.2% Correct

➤ Post-Test Answers

- 6,559 participants (with 15.2% missing)
- ✓ Question 1 – 82.3% Correct
- ✓ Question 2 – 82.6% Correct
- ✓ Question 3 – 82.4% Correct

More Project Results

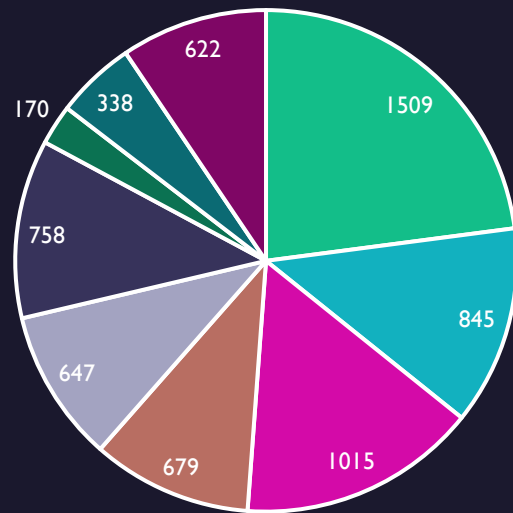
➤ **Independent T-tests** were conducted to compare pre-test choices to post-test choices.

- Question 1
 - ✓ Pre-Test (M = 2.197, SD = 1.122); $t(7730) = 232.588, p < .001$
 - ✓ Post-Test (M = 3.95, SD = .322); $t(6558) = 994.331, p < .001$
- Question 2
 - ✓ Pre-Test (M = 2.29, SD = .856); $t(7730) = 235.269, p < .001$
 - ✓ Post-Test (M = 2.03, SD = .250); $t(6558) = 657.151, p < .001$
- Question 3
 - ✓ Pre-Test (M = 2.66, SD = .922); $t(7730) = 253.952, p < .001$
 - ✓ Post-Test (M = 2.99, SD = .195); $t(6558) = 1,244.748, p < .001$



More Project Results

Frequencies of Practice Change Selections from Participants



- Modify Treatment Plan
- Change Screening/Prevention Practices
- Use Alternative Communication
- Other
- None - Not Currently In Practice
- Refer Patients Appropriately
- Incorporate Different Diagnostic Strategies
- Collaborate Differently with Team
- None - Validates Current Practice

➤ Post Activity Evaluation Data (participants' self assessment)

- Increased competency – $N = 4,306$
✓ Yes ($n = 4,112$; 95.5%)
- Increased confidence – $N = 4,318$
✓ Yes ($n = 4,135$; 95%)
- Improved performance – $N = 4,290$
✓ Yes ($n = 4,011$; 93.5%)
- Improved patient outcomes – $N = 4,265$
✓ Yes ($n=3,949$; 92.6%)
- Consider a practice change – $N = 6,583$
✓ Yes ($n = 5,453$; 82.8%) –

✓ Over half selected one of the following: modify treatment plan, change screening plan, refer patients appropriately

Conclusion

- Greater than 50% of participants answering pre-test question 1 and 3 incorrectly/unsure and over 45% answering pre-test question 2 incorrectly/unsure.
- There was a statistically significant differences in scores for all pre- and post-test results as shown by the independent t-tests.
- Using the descriptive statistics gathered on the post-activity evaluation:
 - Over 92% of all participants reported having an increase in competency and confidence with osteoporosis and anticipate improved performance and patient outcomes due to this activity.
- Almost 83% of participants plan to consider a change in practice
- To answer the PICO research question presented, an educational seminar on postmenopausal osteoporosis care and FLS services DOES increase the knowledge and competency of healthcare professionals.

This study adds to the large body of research already completed on the osteoporosis care gap and further demonstrates the need for more education for healthcare professionals on postmenopausal osteoporosis care to help improve patient outcomes and lessen the care gap.



Implications for Nursing Practice

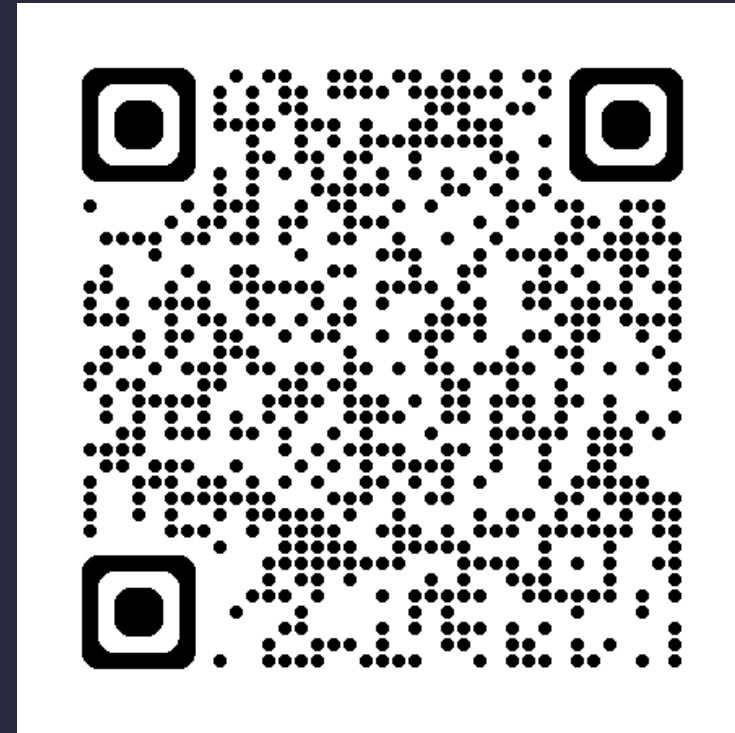
- A Quality Improvement (QI) project is used to encourage advancements to the delivery of healthcare, reduce variations in clinical practice, and improve overall practice outcomes by using scientifically proven literature (Morrissey & Strupp, 2021).
- According to American Nursing Association (ANA), “Change is a process of altering or replacing existing knowledge, skills, attitudes, systems, policies, or procedures” (n.d., p. 1).
- Kurt Lewin’s three-step Change Theory was utilized as a framework for this project. It includes 1) unfreezing, 2) implement change, and 3) refreezing (ANA, n.d.).
- Bringing awareness to a problem, such as the care gap in postmenopausal osteoporosis, and engaging individuals in identifying the problems and developing solutions is how change becomes effective (Asirifi et al., 2022).
- Continue seeking further education to improve healthcare practices and patient outcomes.



Thank You

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[QR code to Medscape™](#)

Postmenopausal Osteoporosis: Closing the Care Gap

Developed and funded by Medscape™

Faculty/Author: Tara Knight

Free 1-hour of continuing nursing education awarded for RNs and APNs (0.25 hour of pharmacology awarded) with approval valid until May 8, 2025.