



1. IDENTIFICATION

IMPACT:

In a meta-analysis, programs that addressed Identification showed that 25% of patients receive BMD testing, and 13% receive osteoporosis treatment.¹ No study has been conducted on BMD testing or treatment in programs that did not focus on identification

MONITORING:

Percentage of patients with a fragility fracture identified by a post-fracture care program within defined time frame²

EXAMPLE APPROACHES:

- Diagnostic/fracture codes (ICD-10 M80) used to query for fragility fractures in target populations, such as those age 50 or older^{3,4}
- Flags in EMR systems used to help identify patients at risk⁵
- EMR and billing systems reviewed for OP- or fracture-related discharge diagnoses or procedures
- Patient lists generated by residents, advanced practice practitioners, nursing staff, or a hospital census used to identify post-fracture care program candidates⁵



2. INVESTIGATION

IMPACT:

In a pilot study in 3 open systems, after 6 months, 92.9% of patients enrolled in a PFC program received BMD testing compared to 21.2% of those not enrolled⁶

MONITORING:

- % of identified patients who have a bone health assessment (e.g., DXA scan) within 3 months of incident fracture²
- % of identified patients who have a falls risk assessment within 3 months of incident fracture²

EXAMPLE APPROACHES:

- Specific patient groups (e.g., age 50+ with a history of fragility fractures) have been targeted for BMD testing⁴
- Peripheral screening technology (e.g., heel ultrasound machine) was used if there was limited access to central BMD testing^{3,8}
- Evidence-based screening algorithms, standardized order set, or other referral processes to ensure screening and appropriate diagnosis were used^{3,8}
- Uniform interpretation packages developed for both heel ultrasound and DXA to ensure interpretation accuracy⁹



3. INTERVENTION

IMPACT:

In a pilot study of PFC in 3 open systems, patients received individualized treatment plans and after 6 months, 54% of program patients received therapy vs 20% of those not in the program

MONITORING:

- % of assessed patients offered bone-protection treatment within 3-6 months of incident fracture^{2,7}
- % of assessed patients referred for falls assessment or intervention within 3-6 months of incident fracture^{2,7}

EXAMPLE APPROACHES:

- Treatment algorithms and guidelines developed to assist providers in making personalized, informed decisions for patients^{5,8}
- Seminar sessions utilized to educate HCPs on intervention options and guidelines⁸
- Booklets with osteoporosis algorithms, diet information, secondary causes of osteoporosis, BMD measurement, medications, developed and distributed to HCPs⁸
- Discharge sheets for patients with fragility fractures have been developed that include prescriptions for calcium and vitamin D, as well as a referral to physical medicine or physical therapy for fall-prevention education⁷

After implementing the three “I”s, consider acting on these elements

In addition to improving quality of care for patients, these elements can help document and validate the success of your PFC.



4. INFORMATION

Develop a program to educate patients about OP, the risks of fractures, and risks/benefits of OP treatment.

Offer relevant information about OP, risk factors for fracture, lifestyle interventions (e.g., nutrition, exercise), treatment options and their risks/benefits, and fall prevention on your web site, in brochures or leave behinds (possibly large print), and in languages appropriate to your patient base.¹⁰

- Review whether patients are given OP information during discussions with their HCPs
- Provide OP educational materials at discharge



5. INTEGRATION

Take a system-wide approach to manage each patient’s long-term OP care plan across multiple providers, and track patient outcomes.

Through the integration of patient care and information across multiple sites/providers within your system, your program can improve outcomes, and demonstrate the value and sustainability of PFC. This integration will also support and encourage patient compliance.

- Assign a post-fracture point of contact to communicate with other providers in your institution
- Conduct survey for post-fracture patients to ascertain their level of satisfaction with care



6. DATABASE

Develop a database to manage patients who have had a fragility fracture.

Align your data capabilities and data structure to help understand gaps in care and population health over time.

- Review data currently collected by your institution relative to post-fracture patients, such as lab tests, results, medical and pharmacy interventions
- Ensure multiple providers are able to share post-fracture patient information



7. QUALITY

Develop a method to annually track the quality of post-fracture care.

Establish baseline for post-fracture patients to encourage iteration and improvement of PFC service.

- Choose a QA framework that includes audit cycles, peer review, and patient care influencer experience measures
- Compare your current program to the Healthcare Effectiveness Data and Information Set (HEDIS), which has been used to track post-fracture care programs

Amgen can provide additional educational materials for your PFC.

Contact your account manager for more resources.



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References: **1.** Seibel M, Mitchell P. *Secondary Fracture Prevention an International Perspective*. California, United States: Elsevier Academic Press; 2018. **2.** Secondary Prevention of Fragility Fractures: Clinical Standards for Fracture Liaison Services. <https://nos.org.uk/media/2082/clinical-standards-for-fracture-liaison-services.pdf>. Accessed April 9, 2018. **3.** Oates MK. Invited commentary: fracture follow-up program in an open healthcare system. *Curr Osteoporos Rep*. 2013;11(4):369-376. **4.** Curtis J, Silverman SL. Commentary: The five Ws of a Fracture Liaison Service: why, who, what, where, and how? In osteoporosis, we reap what we sow. *Curr Osteoporos Rep*. 2013;11(4):365-8. **5.** Miller AN, Lake AF, Emory CL. Establishing a fracture liaison service: an orthopaedic approach. *J Bone Joint Surg Am*. 2015;97(8):675-681. **6.** Greenspan SL, Singer A, Vujevich K, Marchand B, Thompson DA, Hsu YJ, Vaidya D, Stern LS, Zeldow D, Lee DB, Karp S, Recker R. Implementing a fracture liaison service open model of care utilizing a cloud-based tool. *Osteoporos Int*. 2018;29(4):953-60. **7.** Dell R, Greene D, Schelkun SR, Williams K. Osteoporosis disease management: the role of the orthopaedic surgeon. *J Bone Joint Surg Am*. 2008;90(Suppl 4):188-194. **8.** Newman ED, Ayoub WT, Starkey RH, Diehl JM, Wood GC. Osteoporosis disease management in a rural health care population: hip fracture reduction and reduced costs in postmenopausal women after 5 years. *Osteoporos Int*. 2003;14(2):146-151. **9.** Newman ED. Perspectives on pre-fracture intervention strategies: the Geisinger Health System Osteoporosis Program. *Osteoporos Int*. 2011;22(Suppl 3):S451-S455. **10.** National Osteoporosis Society. Quality Standards for Osteoporosis and Prevention of Fragility Fractures. <https://nos.org.uk/media/99099/op-standards.pdf>. Accessed April 9, 2018.