For Health Systems Using Cerner

Bone Health EHR Resource

Automated Cerner Electronic Health Record (EHR) Solutions to Identify and Address Patients With Osteoporotic Fractures

PATIENT LISTS

Use clinical criteria to generate Patient Lists of patients potentially eligible for post-fracture care follow-up

DISCERN ALERTS

Use Discern Alerts to remind providers to consider taking measures to identify osteoporotic fractures

INVITATIONS

Use Invitations to encourage patients to seek post-fracture care

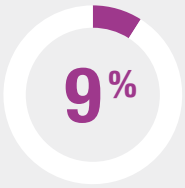
About This Guide

Amgen has developed this overview guide for educational purposes only, to assist health systems in configuring their Cerner capabilities to help identify post-fracture care patients in need of additional care. Please see the important statistics about osteoporosis care on the next few pages, followed by an overview of what your Cerner EHR can do to help ensure appropriate follow-up with post-fracture osteoporosis patients. Amgen does not endorse specific EHR systems.

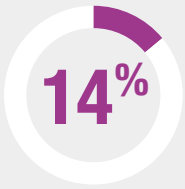
This resource provides insights and examples to help clinical decision makers implement automated EHR functionalities as part of a bone health EHR initiative that can facilitate post-fracture care for patients experiencing an osteoporosis related fracture for follow-up within their organizations. It does not constitute guidance for medical advice or treatment.

The information listed in this resource is based upon Cerner's 2018 version. Functions and features may change as new software versions are released. This resource is meant to serve as summary information only and should not replace detailed instructions provided to you by your internal or external EHR support resources. Screen images shown within represent hypothetical screens in Cerner. Amgen makes no claims or warranties about the applicability or appropriateness of this information.

Some Evidence Suggests That the Rate of Bone Density Testing to Identify At-Risk Individuals Is Low and May Be Declining[1]



of female Medicare FFS beneficiaries **were evaluated for osteoporosis** with a bone mineral density (BMD) test within 6 months **following a new osteoporosis-related fracture**[1,*]



of female Medicare beneficiaries **received a dual-energy x-ray absorptiometry (DXA) scan in 2010**[2]

1 in 2 women over the age of 50 will experience a fracture related to osteoporosis in her remaining lifetime.[3]

<20% of women with postmenopausal osteoporosis who experienced a fracture **received treatment** for the underlying disease of osteoporosis within 6 months following a fracture.[4,†]

Once postmenopausal women have their first fracture due to osteoporosis, they are **5x more likely to fracture again** within a year and the risk remains elevated over time.[5,‡]

When considering men and women, hip fracture can result in as much as 80% of patients unable to return to their functional independence (as measured by ability to walk independently and walking speed).[6]

Experts acknowledge that there is a **decrease in diagnosis and treatment of osteoporosis**, even in patients who have suffered a fracture[1]

- Evidence shows **low usage rates** for testing and treatment among high-risk populations[1]
- **Even after fracture**, most Medicare beneficiaries do not receive treatment for osteoporosis[1]

*Data are based on osteoporosis fractures that occurred in 2015 in the Medicare FFS population using information from a large administrative medical claims database.[1]

†Study period July 1, 2010 through June 30, 2014, and included women 67-85 years of age who experienced one or more fracture and received a prescription for antiosteoporosis medication with or without a BMD test. Patients had continuous Humana MAPD enrollment 12 months prior and 6 months after the fracture.[4]

‡Data represent a population-based study of 4140 postmenopausal women aged 50-90.[5]

Provider Organizations Are Urged to Prioritize Post-Fracture Care Follow-up to Close the Gap in Osteoporosis Care

The 2020 American Association of Clinical Endocrinology (AACE) guidelines recommend **BMD testing and osteoporosis treatment** for postmenopausal women who have suffered an osteoporotic fracture.[7] Note: according to these guidelines, DXA is not required for osteoporosis diagnosis among patients who have experienced a low trauma fracture of the hip or spine.

Osteoporosis management quality measures such as the **Healthcare Effectiveness Data and Information Set (HEDIS) Osteoporosis Management in Women Who Had a Fracture (OMW)*** and **Merit-based Incentive Payment System (MIPS) #418†** measure percentage of female patients receiving osteoporosis testing or treatment within 6 months of a fracture.[8,9]

In 2018 and 2019, the osteoporosis management quality measure has been ***one of the lowest quality measures*** of all the Part C measures. The average 2021 plan Medicare Star Rating was 3.1‡ out of 5[10]

‡ 3.1 equates to 48% receiving testing or treatment within 6 months of a fracture.[8]

EHR Capabilities Can Help to Identify Patients

Clinical Champions within an organization can advocate for the configuration of EHR capabilities such as **Patient Lists**, **Discern Alerts**, and **Invitations** that can serve as automated methods to identify and address patients who may require post-fracture care follow-up.

PATIENT LISTS

Identify patients who may require post-fracture care follow-up

DISCERN ALERTS

Alert providers to patients who may require a BMD test or osteoporosis treatment

INVITATIONS

Notify patients who recently had a fracture to consider a follow-up for osteoporosis assessment

Actions for Clinical Champion as Part of Bone Health EHR Initiative

* Medicare Advantage women enrollees age 67-85.[8]
† Women age 50-85.[9]

Patient Lists

Role of Patient Lists

Patient Lists are Cerner system reports that can be used to identify women who may have experienced an osteoporotic fracture. A Cerner Patient List can be created using Discern Analytics 2.0, and saved to the requester's Reports folder for on-demand running or scheduling.

Patient Lists can be used to demonstrate and champion the need for post-fracture care follow-up within an organization. They can also be used for planning purposes to understand which patients could be flagged for Discern Alerts and Invitations.

Available criteria to generate these reports can include patient gender, age, diagnosis, and whether patients have already been treated or screened for osteoporosis using a DXA scan.

Patient at Risk for Future Fracture

Current Selections

Fields	Values
Diagnosis	M84.30XA

Patients -1,322

Last Name	First Name	Sex	Encounter Date	Diagnosis
Smith	Mary	M	07/15/2020	M84.30XA
Jones	Donna	M	03/01/2020	M84.30XA
Washington	Jane	M	01/18/2020	M84.30XA
Lincoln	Thelma	F	12/09/2020	M84.30XA
Truman	Flo	F	02/12/2020	M84.30XA

Hypothetical example of a Patient List

Requesting Patient Lists From the EHR Support Team

Clinical Champions must provide key information for Patient Lists before the setup can be managed by the EHR support team as part of a typical process for requesting, approving, and implementing EHR changes.

Inclusion and Exclusion Criteria for Patient Lists

See Appendix Table 1 for example inclusion and exclusion criteria.

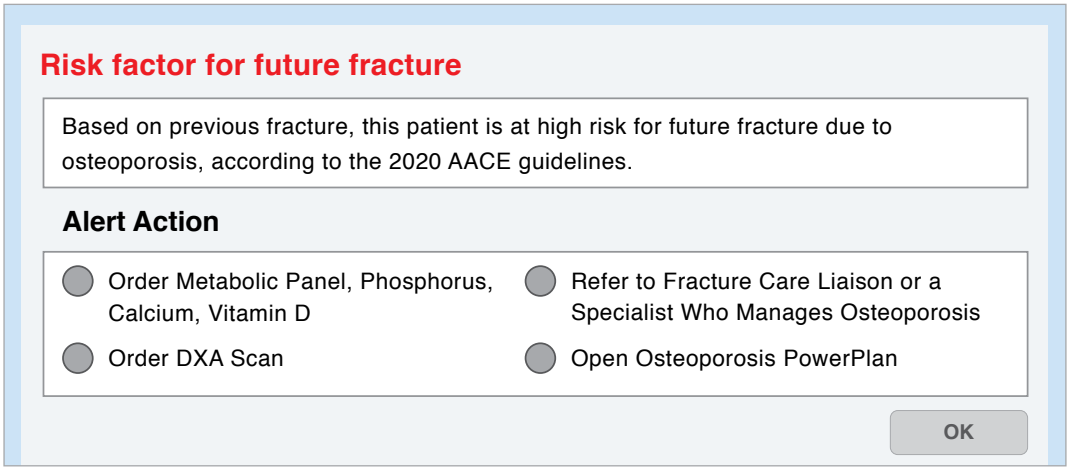
Discern Alerts

Role of Discern Alerts

Discern Alerts are alerts displayed at the point of care to remind or flag providers to consider taking measures to identify osteoporotic fractures.

As part of an organization's bone health EHR initiative, Discern Alerts can help proactively catch at-risk patients when they come in for an appointment.

Discern Alerts can be configured in a meaningful way which specifies the patient criteria, milestones within the EHR workflow, provider types (eg, health care professionals, Fracture Care Liaisons), and clinical action. Note that the 2020 AACE guidelines state that a DXA is not required for a diagnosis of osteoporosis when patients experience a low trauma fracture of the hip or spine.[6]



Hypothetical example of a Discern Alert

Suggested Request to the EHR Support Team: Discern Alerts

Similar to Patient Lists, Clinical Champions must provide key information for Discern Alerts before the setup can be managed by the EHR support team.

Inclusion and Exclusion Criteria for Discern Alerts

Evoke: Defines what triggers the **Discern Developer** rule to run.

See Appendix Table 1 for example inclusion and exclusion criteria.

And/Or Logic that Determines Which Patient Charts Display Discern Alerts in the Workflow

Logic: Defines when to display the Discern Alert. For example: Display when the data in the chart meet the criteria

Display Restrictions

Display Discern Alert for health care professionals and Fracture Care Liaisons, based upon User Position

Example of Specific Information to Be Displayed in Discern Alerts

Action: Defines the Discern Alert message, for example:
Message text: Based on previous fracture, this patient is at high risk for future fracture due to osteoporosis, according to the **2020 AACE guidelines**.

Actions to Take Based Upon the Discern Alert Recommendation

Action: Defines the actions the viewer can take in the Discern Alert, for example:

- Order DXA Scan
- Order Metabolic Panel, Phosphorus, Calcium, Vitamin D
- Refer to Fracture Care Liaison or a specialist who manages osteoporosis (eg, endocrinologist, orthopedic, rheumatologist)
- Open Osteoporosis PowerPlan

Invitations

Role of Invitations

Invitations are used to engage the patient for follow-up care. Invitations are based on a Health Maintenance Expectation of appropriate patients and used to initiate direct patient communication. Invitations can be letters sent either electronically via the HealtheLife patient portal or by mail to patients who have had an osteoporotic fracture without the appropriate follow-up evaluation.

Invitations can be used as the basis to proactively reach out to specified patients identified as part of an organization's bone health EHR initiative. The communication can indicate the reason for follow-up along with a call-to-action, such as to schedule an appointment for evaluation.

These communications are recorded in the patient's chart for reference.

Invitations

Schedule | Status | Export | View Documents | View History | Generate Communications | Find | Customize

Program: Post-Fracture Care Evaluation Display: Patients

Patients

Consumer	Name	DOB	Tracking Status	Recommendation Status
☐	Mary Smith	4/6/1949	Qualified for Invitation	
☑	Donna Jones	3/28/1967	Qualified for Invitation	
☐	Jane Washington	4/23/1969	Qualified for Invitation	
☐	Thelma Lincoln	6/18/1955	Qualified for Invitation	
☐	Flo Truman	6/18/1955	Qualified for Invitation	
☐	Elizabeth Robinson	5/12/1959	Qualified for Invitation	

Hypothetical Example of a Health Maintenance Expectations List

Suggested Request to the EHR Support Team: Invitations

Similar to the other EHR capabilities, Clinical Champions must provide key information for Invitations before the setup can be managed by the EHR support team.

Inclusion and Exclusion Criteria for Invitations

See Appendix Table 1 for example inclusion and exclusion criteria.

Message Body to Be Included in Invitations

Hi [[Patient Name]]:

Preventive medicine plays an important part in your health and overall well-being. Given the risk factors for osteoporosis and your history of fracture, you may be at elevated risk for another fracture. It's important to schedule an appointment for follow-up evaluation and to discuss your bone health plan.

To schedule your bone health appointment, contact your specialist who manages osteoporosis or a post-fracture care program.

Sincerely,
[[Organization Name]]

For the EHR Support Team

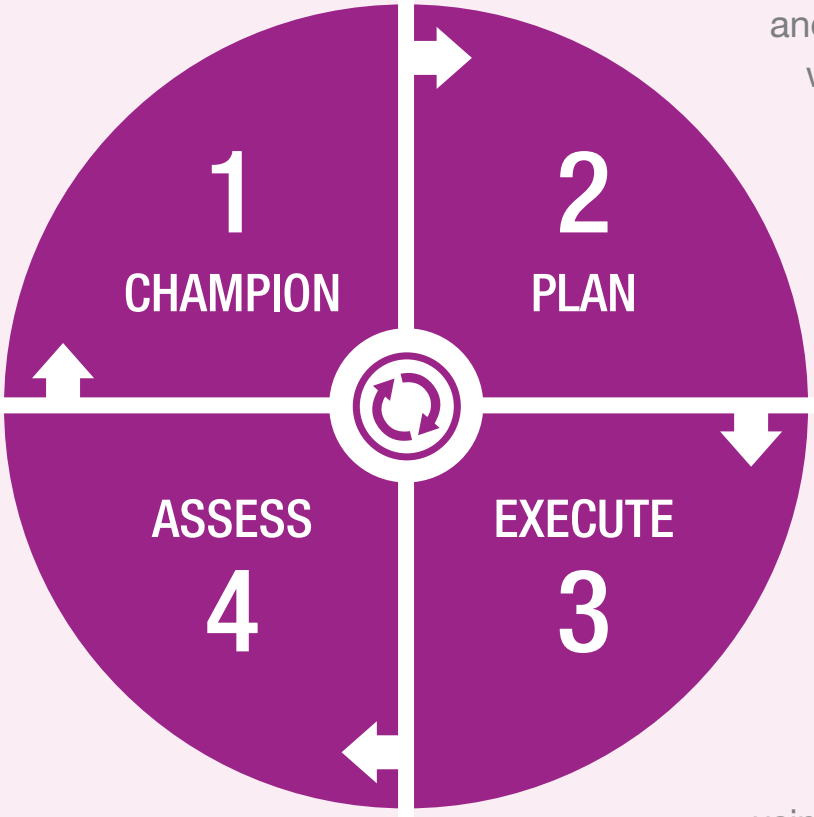
The following steps illustrate the process to create Invitations to communicate with patients who may be eligible for post-fracture care follow-up:

- Create a **Health Maintenance Expectation** based upon appropriate criteria
- Create an Invitation to be sent to patients meeting the Health Maintenance Expectation
- Create an Invitation workflow which includes status such as **Letter Sent**, **Follow-up Appointment Made**, **Call to Patient**, as appropriate to confirm the Expectation is met

A Bone Health Initiative Can Use Automated EHR Solutions to Help Identify Patients Following an Osteoporosis-related Fracture[11]

Raise awareness of **low usage rates for testing and treatment among high-risk populations**

Generate **Patient Lists** to identify patients who may benefit from a bone health initiative within the organization



Identity a risk-stratified patient group that is most likely to benefit from a bone health initiative

Use **Patient Lists** capability to evaluate which inclusion and exclusion criteria will yield this viable patient group

Evaluate BMD testing rates and medication use

Further customize and determine additional or alternative inclusion/exclusion criteria to refine patient population to be targeted for **Discern Alerts** and **Invitations**

Identify at-risk patients when they come in for appointments by using the **Discern Alert** capability

Proactively reach out to at-risk patients using the **Invitations** capability

APPENDIX

Table 1: Example Request to EHR Support Team to Identify Patients Who May Be Eligible for Post-Fracture Care Follow-up

Inclusion and exclusion criteria can be adjusted to make the list of patients broader or narrower, depending on the organization's preference (see Appendix Tables 2 and 3 for a listing of ICD-10 and CPT codes).

EXAMPLE INCLUSION CRITERIA	EXAMPLE EXCLUSION CRITERIA
Female, between 50 and 85 years of age on date of encounter	BMD scan (eg, CPT Code **77080**)
Diagnosis codes to identify patients who may have had an osteoporotic fracture (eg, **M80.XXX** [age-related osteoporosis with current pathological fracture] or **S32.XX** [fractures of lumbar spine and pelvis]) - *Organizations might decide to initially prioritize specific diagnosis codes based on risk stratification and adjust the criteria based on evaluation of its impact*	
Timeframe within which to capture recent fractures (eg, **within the past year**) - *Individual organizations can determine the timeframe that **works best for them*** - *Evidence suggests that once postmenopausal women have the first osteoporotic fracture, risk of sustaining a subsequent fracture **remains elevated over time**[5]* - *HEDIS OMW* and MIPS#418† measure percentage of female patients receiving osteoporosis testing or treatment **within 6 months of a fracture**[8,9]*	Timeframe within which to capture recent BMD scans (eg, **within the past year**) - *Individual organizations can determine the timeframe that **works best for them*** - *HEDIS OMW* and MIPS#418† measure percentage of female patients receiving osteoporosis testing or treatment **within 6 months of a fracture**[8,9]*

CPT = Current Procedural Terminology
* Medicare Advantage women enrollees age 67-85.[8]
† Women age 50-85.[9]

Table 2: CPT Codes to Identify Bone Mineral Density Studies[12,*]

77078	Computed tomography, bone mineral density study, 1 or more sites; axial skeleton (eg, hips, pelvis, spine)
77080	DXA bone density study, 1 or more sites; axial skeleton (eg, hips, pelvis, spine)
77081	DXA bone density study, 1 or more sites; appendicular skeleton (peripheral) (eg, radius, wrist, heel)
77085	DXA bone density study, 1 or more sites; axial skeleton (eg, hips, pelvis, spine), including vertebral fracture assessment
0554T	Bone strength and fracture risk using finite element analysis of functional data, and bone-mineral density, utilizing data from a computed tomography scan; retrieval and transmission of the scan data, assessment of bone strength and fracture risk and bone mineral density, interpretation and report
0555T	Bone strength and fracture risk using finite element analysis of functional data, and bone-mineral density, utilizing data from a computed tomography scan; retrieval and transmission of the scan data
0556T	Bone strength and fracture risk using finite element analysis of functional data, and bone-mineral density, utilizing data from a computed tomography scan; assessment of bone strength and fracture risk and bone mineral density
0557T	Bone strength and fracture risk using finite element analysis of functional data, and bone-mineral density, utilizing data from a computed tomography scan; interpretation and report
0558T	Computed tomography scan taken for the purpose of biomechanical computed tomography analysis

CPT = Current Procedural Terminology

*Codes are intended to guide provider efforts to identify patients potentially eligible for post-fracture follow-up. They are provided for reference purpose only and may not be all-inclusive. The responsibility to determine coverage and reimbursement parameters, and appropriate coding for a particular patient and/or procedure, is always the responsibility of the provider or physician.

Table 3: ICD-10 Codes Potentially Indicative of a Fracture Requiring Fracture Liaison Service (FLS) Follow-up (Outpatient)[13,*]

S22.XX	Fractures of rib(s), sternum	S72.XX	Fracture of femur
S32.XX	Fractures of lumbar spine and pelvis	S79.XX	Other injuries of hip and thigh
S42.XX	Fractures of shoulder and upper arm	S82.XX	Fracture of lower leg
S52.XX	Fracture of forearm	M80.XXX	Age-related osteoporosis with current pathological fracture
S62.XX	Fracture at wrist and hand level	M84.30XA	Stress fracture, pathological fracture

*Codes are intended to guide provider efforts to identify patients potentially eligible for post-fracture follow-up. They are provided for reference purpose only and may not be all-inclusive. The responsibility to determine coverage and reimbursement parameters, and appropriate coding for a particular patient and/or procedure, is always the responsibility of the provider or physician.

References: 1. Hansen D, Bazell C, Pelizzari P, Pyenson B. Milliman Research Report. http://assets.milliman.com/ektron/Medicare_cost_of_osteoporotic_fractures.pdf. Accessed December 1, 2020. **2.** King AB, Fiorentino DM. Medicare payment cuts for osteoporosis testing reduced use despite tests' benefit in reducing fractures. *Health Aff* (Millwood). 2011;30:2362-2370. **3.** U.S. Department of Health and Human Services. Bone Health and Osteoporosis: A Report of the Surgeon General. Rockville, MD: U.S. Department of Health and Human Services, Office of the Surgeon General, 2004. **4.** Boytsov NN, Crawford AG, Hazel-Fernandez LA, et al. Patient and provider characteristics associated with optimal post-fracture osteoporosis management. *Am J Med Qual.* 2017;32:644-654. **5.** van Geel TACM, van Helden S, Geusens PP, Winkens B, Dinant G-J. Clinical subsequent fractures cluster in time after first fractures. *Ann Rheum Dis.* 2009;68:99-102. **6.** Orwig DL, Chan J, Magaziner J. Hip fracture and its consequences: differences between men and women. *Orthrop Clin N Am.* 2006;37:611-622. **7.** Camacho PM, Petak SM, Binkley N, et al. American Association of Clinical Endocrinologists/American College of Endocrinology Clinical Practice Guidelines for the diagnosis and treatment of postmenopausal osteoporosis–2020 update. *Endocr Pract.* 2020;26(supp1):1-46. **8.** Centers for Medicare and Medicaid. 2021 Part C & D Star Ratings Technical Notes. Published online 2020. https://www.cms.gov/files/document/2021technotes20201001.pdf. Accessed December 1, 2020. **9.** Centers for Medicare and Medicaid. Quality ID #418 (NQF 0053): Osteoporosis management in women who had a fracture. https://qpp.cms.gov/docs/QPP_quality_measure_specifications/Claims-Registry-Measures/2020_Measure_418_MedicarePartBClaims.pdf. Accessed December 1, 2020. **10.** Centers for Medicare and Medicaid. Fact Sheet 2021 Part C and D Star Ratings. https://www.cms.gov/files/document/2021starratingsfactsheet-10-13-2020.pdf. Accessed December 1, 2020. **11.** Chow S. Health information technology is transforming osteoporosis care management. *CareManagement.* December 2017/January 2018:12-17. **12.** UnitedHealthcare. Medicare Advantage Policy Guideline: Bone (Mineral) Density Studies (NCD 150.3). https://www.uhcprovider.com/content/dam/provider/docs/public/policies/medadv-guidelines/b/bone-mineral-density-studies.pdf. Accessed December 1, 2020. **13.** National Osteoporosis Foundation. Fracture Liaison Service (FLS) Coding Guide. http://www.nof.org/wp-content/uploads/FLS-CodingGuide-FINAL.pdf. Accessed December 1, 2020.

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