



Bone Health Post-Fracture Care EHR Worksheets

EHR = electronic health record.



Post-Fracture Care EHR Worksheets

The Post-Fracture Care EHR Worksheets are meant to provide health system clinical decision makers with a resource to use as they work to configure their EHR capabilities to help identify post-fracture care patients in need of additional care. It outlines the criteria that clinical decision makers need to define for creating Patient Reports, setting Reminders or Health Maintenance Reminders, and sending appropriate Patient Follow-ups and PCP Communications.

The worksheets can help health systems translate their desired clinical parameters for identifying post-fracture care patients into the categories and values needed to identify appropriate patients in the EHR. Once a worksheet is completed by the appropriate clinical decision maker, it can be shared with the health system's IT personnel for implementation. Then, the health system can reuse or edit the worksheet where appropriate if the criteria selected results in a patient population that is too broad or too narrow.

The diagnostic and treatment codes included are intended as examples for clinical decision makers to identify patients potentially eligible for post-fracture follow-up. ***They are provided for reference purposes only and may not be all inclusive.*** It is always the responsibility of the physician to determine coverage and reimbursement parameters and appropriate coding for a particular patient and/or procedure.

The worksheets include categories of selection criteria that health systems may consider when seeking to identify, evaluate, and engage with appropriate patients. Health system clinical decision makers can take the following steps as they utilize the worksheets:

1. Start by selecting the desired **Inclusion and Exclusion criteria** to define the specific search parameters for finding post-fracture care patients.
2. Then, specify the data that will be displayed on the **Patient Report** by selecting outputs for provider evaluation and review. After reviewing the list of patients on the Patient Report generated by their EHR, clinical decision makers may wish to broaden or narrow the categories and values to refine criteria to better align with their preferences.
3. Next, choose the language, display rules, and clinical actions for the **Reminder** that will prompt post-fracture care follow-up action by care team members.
4. Select the **Patient Follow-up** criteria to communicate with patients and caregivers about important post-fracture care.
5. Finally, select the **Primary Care Provider Communication** criteria to advise the identified patient's PCP of any post-fracture follow-up care.

Post-Fracture Care EHR Worksheet for Clinical Decision Makers

POTENTIAL INCLUSION CRITERIA:

These inclusion criteria are provided as an example and all categories can be altered to meet health system needs.

POTENTIAL INCLUSION CRITERIA	CATEGORY	✓	VALUES		
	Patient status		Alive		
	Population (select one)		Only my patients		
			Seen in my department		
			All patients who meet the criteria		
			My clinical practice		
			Alternate population		
	Patient gender		Female		
			Male		
			Not specified		
		Unknown			
Age (eg, 50 to 85 years) ¹	>		<		
Fractures/ Diagnoses	✓	Description	Diagnoses Codes ^{2,*}	SNOMED Codes ^{3,*}	
Osteoporosis diagnoses		Age-related osteoporosis with current pathological fracture	M80.0-M80.8A	443165006 (parent)	
		Age-related osteoporosis without current pathological fracture	M81.0	64859006	
Fractures ^{4,5}		Clinical vertebral (Spine and Pelvis)	S32.0-S32.9; M84.454	125608002 (parent-spine) 77493009 (parent-pelvis)	
		Femur (Hip)	S72.0-S72.9 S79.0-S79.9; M84.45-M84.453; M84.459	71620000 (parent) 125600009	
		Humerus/Clavicle	S42.0-S42.9; M84.42-M84.429	16250001000004107 (parent) 66308002 (parent)	
		Radius/Ulna (forearm)	S52.0-S52.9; M84.43-M84.439	65966004 (parent) 263208005 (parent) 208388003 (parent) 20511007 (parent)	
		Tibia/Fibula (including ankle)	S82.0-S82.9; M84.46-M84.469; M84.471-M84.473	414292006 (parent)	
Fracture/Diagnosis Date Range Timeframe for capturing recent fractures (eg, within the past 6 months is [m - 6]).		Lookback period: (starting today)			
		or Date range:			

*Codes are provided as potential ways providers can identify patients who may be 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.

POTENTIAL INCLUSION CRITERIA (CONT):

CATEGORY	VALUES	
Location of service		Inpatient
		Emergency Department
		Outpatient ambulatory
Treatments (to be completed by the health system only)		Medication Name

POTENTIAL INCLUSION CRITERIA

POTENTIAL INCLUSION CRITERIA (CONT):

CATEGORY	VALUES			
Patients who've had certain procedures⁶	✓ ✗			
		Description	CPT Code ^{2,*}	SNOMED ^{3,*}
		Dual-energy x-ray absorptiometry (DXA) bone density scan	77080, 77081, 77085-77086	241686001
		Vertebral Fracture Assessment (VFA) via dual-energy x-ray absorptiometry (DXA)	77086	385690008
		Computed tomography, bone mineral density study, 1 or more sites; axial skeleton (eg, hips, pelvis, spine)	77078	22059005
		Computed tomography scan taken for the purpose of biomechanical computed tomography analysis	0558T	71040008
		Trabecular bone score (TBS), structural condition of the bone microarchitecture; using dual X-ray absorptiometry (DXA) or other imaging data on gray-scale variogram, calculation, with interpretation and report on fracture-risk ⁷	77089	...
		Bone Mineral Density Studies	0508T, 0691T, 3095F-3096F, 76977-77078, 77080-77081, 78350-78351	312681000, 23572007, 82066000
		Vertebroplasty	22510-22512	401226007
		Kyphoplasty	22513-22515	431995006
Procedure date range Timeframe for capturing recent procedures (eg, within the past 6 months is [m - 6]). (consider if different date ranges are needed by code)	Lookback period: (starting today)			
	or Date range:			

*Codes are provided as potential ways providers can identify patients who may be 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.

POTENTIAL EXCLUSION CRITERIA:

These exclusion criteria are provided as an example and all categories can be altered to meet health system needs.

CATEGORY	VALUES			
	Fractures/ Diagnoses	✓	✗	
		Description	Codes ^{2*}	SNOMED Codes ^{3,*}
		Osteitis deformans [Paget's disease of bone]	M88.0-M88.9	2089002
		Pathological fracture of bone at site of neoplasm (disorder)	M84.5	203449003
		Pathological fracture of ankle at site of neoplasm (disorder)	M84.57, M84.571-M84.573	704255005
		Pathological fracture of bone of foot at site of neoplasm (disorder)	M84.57, M84.574-M84.576	704251001
		Pathological fracture of bone of hand at site of neoplasm (disorder)	M84.54	704250000
		Pathological fracture of shoulder (clavicle, scapula) at site of neoplasm (disorder)	M84.51	704254009, 704246007
		Pathological fracture of femur at site of neoplasm (disorder)	M84.55, M84.551-M84.553	704253003
		Pathological fracture of fibula at site of neoplasm (disorder)	M84.56, M84.563-M84.564	704252008
		Pathological fracture of humerus at site of neoplasm (disorder)	M84.52	704248008
		Pathological fracture of pelvis at site of neoplasm (disorder)	M84.55, M84.550	11307961000119106
		Pathological fracture of radius at site of neoplasm (disorder)	M84.53, M84.533-M84.534	704247003
		Pathological fracture of tibia at site of neoplasm (disorder)	M84.56, M84.561-M84.562, M84.569	704245006
		Pathological fracture of ulna at site of neoplasm (disorder)	M84.53	704244005
		Pathological fracture at site of neoplasm, other specified sites (disorder)	M84.58	11311681000119101
		Finger	M84.44	18171007
		Toe	M84.47	21351003
		Skull	M84.48	71642004
	Face	S02-S02.9	157176002	
Fracture/Diagnosis Date Range Timeframe for capturing recent fractures (eg, within the past 6 months is [m - 6]).	Lookback period: (starting today)			
	or Date range:			

*Codes are provided as potential ways providers can identify patients who may be 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.

POTENTIAL EXCLUSION CRITERIA (CONT):

CATEGORY	VALUES			
	Patients who've had certain procedures⁶	✓ ✗		
		Description	CPT Code ^{2,*}	SNOMED ^{3,*}
		Dual-energy x-ray absorptiometry (DXA) bone density scan	77080, 77081, 77085-77086	241686001
		Vertebral Fracture Assessment (VFA) via dual-energy x-ray absorptiometry (DXA)	77086	385690008
		Computed tomography, bone mineral density study, 1 or more sites; axial skeleton (eg, hips, pelvis, spine)	77078	22059005
		Computed tomography scan taken for the purpose of biomechanical computed tomography analysis	0558T	71040008
		Trabecular bone score (TBS), structural condition of the bone microarchitecture; using dual X-ray absorptiometry (DXA) or other imaging data on gray-scale variogram, calculation, with interpretation and report on fracture-risk ⁷	77089	...
		Bone Mineral Density Studies	0508T, 0691T, 3095F-3096F, 76977-77078, 77080-77081, 78350-78351	312681000, 23572007, 82066000
		Vertebroplasty	22510-22512	401226007
		Kyphoplasty	22513-22515	431995006
Procedure date range Timeframe for capturing recent procedures (eg, within the past 6 months is [m - 6]). (consider if different date ranges are needed by code)	Lookback period: (starting today)			
	or Date range:			

*Codes are provided as potential ways providers can identify patients who may be 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.



GENERATING A PATIENT REPORT

Clinical decision makers can select the data to be displayed on the Patient Report. After viewing the report, the report output fields can be adjusted to capture a broader or more specific population segment.

REPORT OUTPUT FIELDS	CATEGORY	✓	✗	VALUES		
	Patient demographics				Patient ID (MRN)	
				Name		
				Date of Birth		
				Gender		
Payer				Insurance coverage name		
Labs					TSH	
					Vitamin D	
					Calcium	
					CBC calcium, phosphate, total protein, albumin, liver enzymes, alkaline, phosphatase creatinine, electrolytes	
					Comprehensive Metabolic Panel (CMP)	
Most recent fracture					Fracture type/Diagnosis	
					ICD-10 code	
				Date		
Primary Care Provider						
Recent visit				Date		
				Encounter type of most recent visit		
				Care team member		
Osteoporosis Medications (to be completed by the health system only)	✓			✓	Name	
Additional data elements to include:						

HOW TO USE THE PATIENT REPORT TO HELP IMPROVE POST-FRACTURE CARE



CREATING REMINDERS

Clinical decision makers can choose whether to create a reminder. You can then use this worksheet as a place to write the appropriate message for the reminder, indicate who will see it, and specify clinical actions to prompt post-fracture care by care team members.

	CATEGORY	VALUES
REMINDER CONTENT	Reminder topic name (eg, Post-fracture care)	
	Message included in reminder (eg, Based on previous fracture, this patient is at high risk for future fracture due to osteoporosis, according to the 2020 AACE guidelines .) Message may include hyperlinks to important references	
	Display Restrictions	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Care team member <input type="checkbox"/> Fracture liaison coordinator <input type="checkbox"/> Other staff role: <input type="text"/>
	Clinical actions to take based on the reminder dependent on what is built in your system	<input type="checkbox"/> Order DXA Scan
		<input type="checkbox"/> Order laboratory tests, eg, metabolic panel, calcium, phosphorus, vitamin D
		<input type="checkbox"/> Refer to Fracture Care Liaison or a specialist who manages osteoporosis
		<input type="checkbox"/> Open osteoporosis Order Set*
<input type="checkbox"/> Other additional clinical actions: <input type="text"/>		

*Clinical decisions makers have the option to include links within a Reminder that open specific Order Sets created by the health system.



SENDING TARGETED PATIENT FOLLOW-UPS

Clinicians can communicate with patients and caregivers about the importance of post-fracture follow-up care.

CATEGORY		✓	VALUES
Patients to exclude			Received previous osteoporosis communication
			Patient refusal
Methods of communication			Mail
			Patient Portal (Patient portal status = Activated)
Preferred language			English
			Spanish
			Additional language: <input type="text"/>
When to Send		Qualifier	
		Days after	Previous fracture
		Months after	Patient's last encounter
Message to Patients			
Subject (Create new subject line in the box to the right).			
Message body (Create your own message in the box to the right). For example: [[Patient Name]]: Preventive medicine plays an important part in your health and overall well-being. Because of your history of fracture, or risk factors for 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 osteoporosis treatment plan. To schedule your osteoporosis appointment, contact a healthcare provider who manages osteoporosis or a post-fracture care program. Sincerely, [[Organization Name]]			
Reply options			Call for appointment
			Reply to this message to request an appointment
			Schedule BMD test [include link to self scheduling tool for patient]
			Do not contact on this topic again
Attachment options			

PATIENT FOLLOW-UP CONTENT



SENDING TARGETED PCP COMMUNICATIONS

Clinicians can communicate with the patient’s primary care provider about the need for specific osteoporosis follow-up care.

CATEGORY		✓	VALUES
Patients to exclude			No PCP on file
			Patient refusal
Methods of communication			Direct messaging
			Internal message
When to Send		Qualifier	
	Days after		Previous fracture
	Months after		Patient’s last encounter
	Upon discharge		
Message to Primary Care Provider			
Subject (Create new subject line in the box to the right).			
Message body (Create your own message in the box to the right). For example: [[PCP Name]]: Regarding: [[Patient Name]], [[DOB: DOB]] Your patient was seen at the Emergency Department on XX/XX/XXXX and was diagnosed with a humerus fracture. We recommend follow-up for possible osteoporosis for this patient. Follow-up may include a DXA scan and evaluation for treatment to reduce the possibility of a secondary fracture. For your review, we have attached pertinent information regarding the care provided at this facility. Sincerely, [[Facility contact information]]			
Attachment options			Procedure notes
			Lab results
			Imaging interpretations
			Discharge summary

PCP COMMUNICATION

References: **1.** 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 August 17, 2022. **2.** Medical billing codes search. Codify by AAPC. <https://www.aapc.com/codes/code-search/>. Accessed June 24, 2022. **3.** Health terminology code search. SNOMED CT Browser: National Library of Medicine. <https://browser.ihtsdotools.org/>. Accessed August 11, 2022. **4.** LeBoff M, Greenspan S, Insogna K, et al. The clinician’s guide to prevention and treatment of osteoporosis. *Osteoporos Int*. 2022 Jul 28. **5.** Balasubramanian A, Zhang J, Chen L, et al. Risk of subsequent fracture after prior fracture among older women. *Osteoporos Int*. 2019;30:79-92. **6.** 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. **7.** Trabecular Bone Score Reimbursement Guide 2022. Medimaps Group. Published January 1, 2022. <https://www.medimapsgroup.com/doc/trabecular-bone-score-reimbursement-guide/>. Accessed August 17, 2022.