

Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs

EHR = electronic health record

Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs

The Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs provides health system clinical decision makers with a resource to use as they configure EHR Clinical Dashboards to help monitor and manage their post-fracture care patient populations. It outlines the criteria that need to be defined for creating clinical dashboards.

The worksheets can help health systems translate desired clinical parameters for chosen post-fracture care (PFC) key performance indicators (KPIs) into a Clinical Dashboard. 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.

The inclusion and exclusion criteria are intended as examples for clinical decision makers to consider when submitting EHR support team requests to create a Clinical Dashboard. All codes 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 following worksheets start with defining the post-fracture care patient population to be the focus for the Clinical Dashboard. They include categories of selection criteria for clinical decision makers to consider when creating Clinical Dashboards for post-fracture care patient population health management.

1. Start by selecting the inclusion and exclusion criteria of the patient population for the Clinical Dashboard on pages 2 through 7.
2. Next, there are 10 KPIs consistent with recommendations from osteoporosis experts in the Javaid et al. paper.¹ Health systems can review each and consider whether to include it in a PFC Clinical Dashboard.
3. The interactive worksheets and checkmark functionality may be used to choose appropriate KPI criteria. Graphs and KPIs are hypothetical examples for illustrative purposes only.

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*	SNOMED Codes*	
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 ²⁻⁴		Clinical vertebral (Spine and Pelvis)	S32.0-S32.9; M84.454	125608002 (spine) 77493009 (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 5 years is [m - 60]). (Consider if different date ranges are needed by code.)		Lookback period: (starting today)			
		or Date range:			

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Post-Fracture Care EHR Worksheet for Clinical Decision Makers (cont.)

Potential Inclusion Criteria (cont.)

POTENTIAL INCLUSION CRITERIA	CATEGORY	✓	VALUES
	Location of service	<input type="checkbox"/>	Inpatient
		<input type="checkbox"/>	Emergency Department
		<input type="checkbox"/>	Outpatient ambulatory
	Treatments (to be completed by the health system only)	<input type="checkbox"/>	Medication Name
		<input type="checkbox"/>	
		<input type="checkbox"/>	
		<input type="checkbox"/>	
		<input type="checkbox"/>	
		<input type="checkbox"/>	
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			

Post-Fracture Care EHR Worksheet for Clinical Decision Makers (cont.)

Potential Inclusion Criteria (cont.)

CATEGORY		VALUES			
POTENTIAL INCLUSION CRITERIA	Patients who've had certain procedures ²	✓	✗		
			Description	CPT Codes*	SNOMED Codes*
			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	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
			Spinal Arthrodesis	22532-22812, 22830-22848	55705006
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:				

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[†]As of January 2023, BCT is not reimbursed by CMS under bone mass measurement.

Post-Fracture Care EHR Worksheet for Clinical Decision Makers (cont.)

Potential Exclusion Criteria

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

CATEGORY		VALUES			
POTENTIAL EXCLUSION CRITERIA	Fractures/Diagnoses	✓ ✗			
			Description	Diagnoses Codes*	SNOMED Codes*
			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	Lookback period: (starting today)			
	Timeframe for capturing recent fractures (eg, within the past 6 months is [m – 6]). (Consider if different date ranges are needed by code.)	or Date range:			

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Post-Fracture Care EHR Worksheet for Clinical Decision Makers (cont.)

Potential Exclusion Criteria (cont.)

CATEGORY		VALUES			
POTENTIAL EXCLUSION CRITERIA	Patients who've had certain procedures ²	✓	✗		
			Description	CPT Codes*	SNOMED Codes*
			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	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
			Spinal Arthrodesis	22532-22812, 22830-22848	55705006
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:				

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[†]As of January 2023, BCT is not reimbursed by CMS under bone mass measurement.

Post-Fracture Care EHR Worksheet for Clinical Decision Makers (cont.)

Potential Exclusion Criteria (cont.)

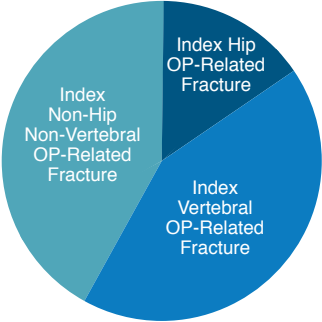
POTENTIAL EXCLUSION CRITERIA	CATEGORY		VALUES
	Patients with upcoming bone-health appointments Appointment type (Use the locally preferred health system appointment type)	<input type="checkbox"/>	Bone Density Scan
		<input type="checkbox"/>	
	Patients who have had a documented discussion about a bone mineral density (BMD) study or osteoporosis medication.	<input type="checkbox"/>	Discussion may be documented via a visit note, patient education, or referral. Documentation could occur using SmartText, SmartLink, or Notewriter template.
	Exclude patients with osteoporosis medications active as of today's date. (to be completed by the health system only)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
			Name



After selecting the inclusion and exclusion criteria for a post-fracture care (PFC) patient population, you can use the forms on the following pages to gather information to share with your EHR support team when requesting help to generate a PFC Clinical Dashboard.

Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs

EHR clinical dashboards can be configured to visualize quality performance based on Key Performance Indicators (KPIs) recommended by expert leaders in osteoporosis care.¹ The following pages include examples of KPI graphs and optional categories, values, and components to consider when configuring your Post-Fracture Care Clinical Dashboard. All of this content can be modified to meet health system needs.

KEY PERFORMANCE INDICATOR 1: TARGET POPULATION THAT MAY NEED POST-FRACTURE CARE				
This KPI Identifies All Patients Within the Target Population Who Have Had a Fracture and Segments Based on Type of Fracture				
<p>TARGET POPULATION THAT MAY NEED POST-FRACTURE CARE¹</p> <p>With Fracture</p> 	Category	✓	Value (to be completed by health system only)	
	Type of Graph Requested		Pie Chart	
			Line Graph	
	Title of Graph (eg, TARGET POPULATION THAT MAY NEED POST-FRACTURE CARE ¹)			
	Subtitle of Graph (eg, Total Patients With Fracture by Type)			
	Graph Components	✓	Label Examples	Label (to be completed by the health system only)
	1		Index Hip OP-Related Fracture	
2		Index Vertebral OP-Related Fracture		
3		Index Non-Hip Non-vertebral OP-Related Fracture		

Graph components are defined on the next 2 pages.

KPIs and graph components are provided as examples based on expert recommendations from the International Osteoporosis Foundation (IOF), National Osteoporosis Foundation (NOF), and Fragility Fracture Network (FFN).¹ All KPIs, categories, values, and graph components can be altered to meet the health system protocols.

Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs (cont.)

Graph Components Defined:					
Component	Label Name	✓	Description	Code*	Type
1	Index Hip OP-Related Fracture		Age-related osteoporosis with current pathological fracture, femur Age-related osteoporosis with current pathological fracture of hip	M80.05	ICD10
			Other osteoporosis with current pathological fracture, femur Other osteoporosis with current pathological fracture of hip	M80.85	ICD10
			Osteoporotic fracture of proximal femur (disorder)	704334005	SNOMED
			Osteoporotic fracture of neck of femur (disorder)	431031001	SNOMED
2	Index Vertebral OP-Related Fracture		Age-related osteoporosis with current pathological fracture, vertebra(e)	M80.08	ICD10
			Other osteoporosis with current pathological fracture, vertebra(e)	M80.88	ICD10
			Osteoporotic fracture of vertebra (disorder)	11311601000119100	SNOMED
			Osteoporotic fracture of lumbar vertebra (disorder)	203450003	SNOMED
			Osteoporotic fracture of sacral vertebra (disorder)	11311641000119100	SNOMED
			Osteoporotic fracture of thoracic vertebra (disorder)	203451004	SNOMED
			Osteoporotic fracture of cervical vertebra (disorder)	203452006	SNOMED
3	Index Non-Hip Non-vertebral OP-Related Fracture		Age-related osteoporosis with current pathological fracture, unspecified site	M80.00	ICD10
			Age-related osteoporosis with current pathological fracture, shoulder	M80.01	ICD10
			Age-related osteoporosis with current pathological fracture, humerus	M80.02	ICD10
			Age-related osteoporosis with current pathological fracture, forearm Age-related osteoporosis with current pathological fracture of wrist	M80.03	ICD10
			Age-related osteoporosis with current pathological fracture, hand	M80.04	ICD10
			Age-related osteoporosis with current pathological fracture, lower leg	M80.06	ICD10
			Age-related osteoporosis with current pathological fracture, ankle and foot	M80.07	ICD10
			Age-related osteoporosis with current pathological fracture, other site	M80.0A	ICD10
			Other osteoporosis with current pathological fracture, unspecified site	M80.80	ICD10
			Other osteoporosis with pathological fracture, shoulder	M80.81	ICD10
			Other osteoporosis with current pathological fracture, humerus	M80.82	ICD10

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Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs (cont.)

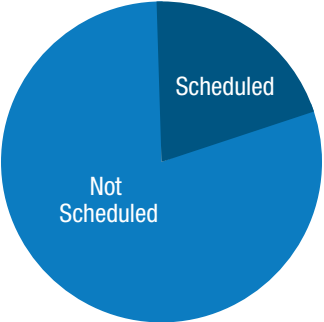
Graph Components Defined (cont.):					
Component	Label Name	✓	Description	Code*	Type
3	Index Non-Hip Non-vertebral OP-Related Fracture (cont.)		Other osteoporosis with current pathological fracture, forearm Other osteoporosis with current pathological fracture of wrist	M80.83	ICD10
			Other osteoporosis with current pathological fracture, hand	M80.84	ICD10
			Other osteoporosis with current pathological fracture, lower leg	M80.86	ICD10
			Other osteoporosis with current pathological fracture, ankle and foot	M80.87	ICD10
			Other osteoporosis with current pathological fracture, other site	M80.8A	ICD10
			Osteoporotic fracture of bone (disorder)	443165006	SNOMED
			Osteoporotic fracture (morphologic abnormality)	46675001	SNOMED
			Osteoporotic fracture of hand (disorder)	704333004	SNOMED
			Osteoporotic fracture of ulna (disorder)	704339000	SNOMED
			Osteoporotic fracture of bone of foot (disorder)	704332009	SNOMED
			Osteoporotic fracture of ankle (disorder)	704328003	SNOMED
			Osteoporotic fracture of tibia (disorder)	704338008	SNOMED
			Osteoporotic fracture of femur (disorder)	704330001	SNOMED
			Osteoporotic fracture of fibula (disorder)	704331002	SNOMED
			Osteoporotic fracture of radius (disorder)	704336007	SNOMED
			Osteoporotic fracture of humerus (disorder)	704335006	SNOMED
			Osteoporotic fracture of scapula (disorder)	704337003	SNOMED
			Osteoporotic fracture of clavicle (disorder)	704329006	SNOMED
			Osteoporotic fracture of left rib (disorder)	11874341000119100	SNOMED
			Osteoporotic compression fracture (morphologic abnormality)	1003500000	SNOMED
	Osteoporotic fracture of right rib (disorder)	11874381000119100	SNOMED		

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Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs (cont.)

KEY PERFORMANCE INDICATOR 2: FOLLOW-UP SCHEDULED IN A TIMELY MANNER

This KPI Measures the Total Number of Patients Who Are Scheduled for Follow-Up Care Within 3 Months* of Their Fracture

<p>FOLLOW-UP SCHEDULED IN A TIMELY MANNER¹</p> <p>Total Patients Scheduled for Initial Visit</p> 	Category	✓	Value (to be completed by health system only)		
	Type of Graph Requested			Pie Chart	
				Line Graph	
	Title of Graph (eg, FOLLOW-UP SCHEDULED IN A TIMELY MANNER ¹)				
	Subtitle of Graph (eg, Total Patients Scheduled for Initial Visit)				
	Graph Components			Label Examples	Label (to be completed by the health system only)
	1			Scheduled	
2			Not scheduled		
3					

Graph Components Defined:

Component	Label Name	Percent of patients who met with their HCP within 12 weeks of initial fracture ¹
1	Scheduled	Patients with encounter scheduled within 12 weeks of the fracture dx code
		Reason for visit of Osteoporosis, Bone Health, Bone Health evaluation Follow-up or a diagnosis of Osteoporosis
2	Not Scheduled	Patients with no encounter scheduled within 12 weeks of the fracture dx code
		Absence of appt statuses above

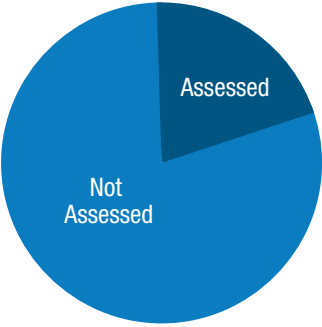
*Or other timeframe.

KPIs and graph components are provided as examples based on expert recommendations from the International Osteoporosis Foundation (IOF), National Osteoporosis Foundation (NOF), and Fragility Fracture Network (FFN).¹ All KPIs, categories, values, and graph components can be altered to meet the health system protocols.

Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs (cont.)

KEY PERFORMANCE INDICATOR 3: FOLLOW-UP OSTEOPOROSIS RISK ASSESSMENT

This KPI Measures the Total Number of Patients Who Met With an HCP Within 3 Months* of Their Fracture for an Osteoporosis Risk Assessment¹

<p>FOLLOW-UP OSTEOPOROSIS RISK ASSESSMENT¹</p> <p>Total Patients Who Met With HCP for Osteoporosis Risk Assessment</p> 	Category	✓	Value (to be completed by health system only)		
	Type of Graph Requested			Pie Chart	
				Line Graph	
	Title of Graph (eg, FOLLOW-UP OSTEOPOROSIS RISK ASSESSMENT ¹)				
	Subtitle of Graph (eg, Total Patients Who Met With HCP for Osteoporosis Risk Assessment)				
	Graph Components			Label Examples	Label (to be completed by the health system only)
	1			Assessed	
2			Not Assessed		
3					

Graph Components Defined:

Component	Label Name	Percent of patients who met with their HCP within 12 weeks of initial fracture ¹
1	Assessed	Patient Encounter within timeframe
		Reason for visit of Osteoporosis, Bone Health, Bone Health evaluation Follow-up or a diagnosis of Osteoporosis
2	Not Assessed	Absence of appt statuses above

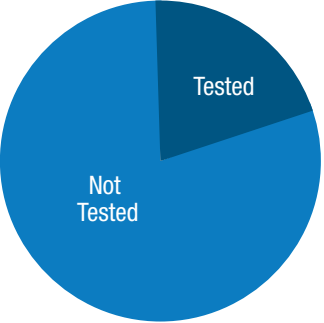
*Or other timeframe.

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Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs (cont.)

KEY PERFORMANCE INDICATOR 4: BMD TEST IN A TIMELY MANNER

This KPI Measures the Number of Patients Who Have Had a Bone Mineral Density Test Within 3 Months* of Their Fracture⁵

BMD TEST IN A TIMELY MANNER⁵ Bone Mineral Density Test 	Category	✓	Value (to be completed by health system only)	
		Type of Graph Requested		Pie Chart
			Line Graph	
	Title of Graph (eg, BMD TEST IN A TIMELY MANNER ⁵)			
	Subtitle of Graph (eg, Bone Mineral Density Test)			
	Graph Components		Label Examples	Label (to be completed by the health system only)
	1		Tested	
	2		Not Tested	
	3			

Graph components are defined on the next page.

*Or other timeframe.

Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs (cont.)

Graph Components Defined:					
Component	Label Name	Percent of patients with a Study performed within 12 weeks of initial fracture ¹			
1	Tested	✓	Description	CPT Codes*	SNOMED Codes*
			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	77089	...
			Bone Mineral Density Studies	0508T, 0691T, 3095F-3096F, 76977-77078, 77080-77081, 78350-78351	312681000, 23572007, 82066000
2	Not Tested		Absence of codes above		

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Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs (cont.)

KEY PERFORMANCE INDICATOR 5: PRESCRIPTION FOR TREATMENT IN A TIMELY MANNER

This KPI Measures the Number of Patients Who Were Prescribed Treatment With an Osteoporosis Medication Within 4 Months* of Their Fracture¹

<p>PRESCRIPTION FOR TREATMENT IN A TIMELY MANNER¹ Post-Fracture Treatment Rate</p> 	Category	✓	Value (to be completed by health system only)		
	Type of Graph Requested		Pie Chart		
			Line Graph		
	Title of Graph (eg, PRESCRIPTION FOR TREATMENT IN A TIMELY MANNER ¹)				
	Subtitle of Graph (eg, Post-Fracture Treatment Rate)				
	Graph Components		Label Examples	Label (to be completed by the health system only)	
	1		Treated		
2		Not Treated			
3					

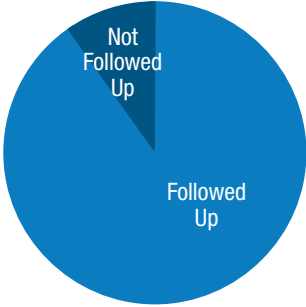
Graph Components Defined:

Component	Label Name	Percent of patients that were referred or were prescribed treatment within 16 weeks of initial fracture. ¹ Health system to add list of osteoporosis medications.	
1	Treated		
2	Not Treated	absence of any of the above medications	

*Or other timeframe.

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Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs (cont.)

KEY PERFORMANCE INDICATOR 6: FOLLOW-UP TO ENSURE PATIENTS HAVE INITIATED RECOMMENDED TREATMENT				
This KPI Measures the Total Number of Patients That Were Prescribed Treatment and Received Follow-Up Care to Ensure Treatment Initiation				
<p>FOLLOW-UP TO ENSURE PATIENTS HAVE INITIATED RECOMMENDED TREATMENT¹</p> <p>Total Patients With Follow-Up</p> 	Category	✓	Value (to be completed by health system only)	
	Type of Graph Requested			Pie Chart
				Line Graph
	Title of Graph (eg, FOLLOW-UP TO ENSURE PATIENTS HAVE INITIATED RECOMMENDED TREATMENT ¹)			
	Subtitle of Graph (eg, Total Patients With Follow-Up)			
	Graph Components		Label Examples	Label (to be completed by the health system only)
	1		Followed Up	
2		Not Followed Up		
3				

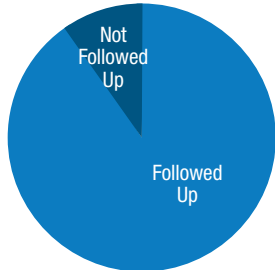
Graph Components Defined:			
Component	Label Name	Percent of patients with Patient encounter within 16 weeks of initial fracture ¹	
1	Followed Up	Patient Encounter within timeframe	
		Reason for visit of Osteoporosis, Bone Health, Bone Health evaluation Follow-up or a diagnosis of Osteoporosis	
2	Not Followed Up	absence of above codes	

KPIs and graph components are provided as examples based on expert recommendations from the International Osteoporosis Foundation (IOF), National Osteoporosis Foundation (NOF), and Fragility Fracture Network (FFN).¹ All KPIs, categories, values, and graph components can be altered to meet the health system protocols.

Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs (cont.)

KEY PERFORMANCE INDICATOR 7: FOLLOW-UP TO DETERMINE ADHERENCE TO RECOMMENDED TREATMENT

This KPI Measures the Total Number of Patients That Were Prescribed Treatment and Received Follow-Up Care to Ensure Adherence¹

<p>FOLLOW-UP TO DETERMINE ADHERENCE TO RECOMMENDED TREATMENT¹</p> <p>Total Patients With Follow-Up</p> 	Category	✓	Value (to be completed by health system only)		
	Type of Graph Requested		Pie Chart		
			Line Graph		
	Title of Graph (eg, FOLLOW-UP TO DETERMINE ADHERENCE TO RECOMMENDED TREATMENT ¹)				
	Subtitle of Graph (eg, Total Patients With Follow-Up)				
	Graph Components		Label Examples	Label (to be completed by the health system only)	
	1		Followed Up		
2		Not Followed Up			
3					

Graph Components Defined:

Component	Label Name	Patients taking anti-osteoporosis medications 52 weeks after the initial fracture ¹
1	Followed Up	List of medications or group rx date within initial fracture diagnosis
2	Not Followed Up	Absence of medication order within 1 year of initial fracture dx

KPIs and graph components are provided as examples based on expert recommendations from the International Osteoporosis Foundation (IOF), National Osteoporosis Foundation (NOF), and Fragility Fracture Network (FFN).¹ All KPIs, categories, values, and graph components can be altered to meet the health system protocols.

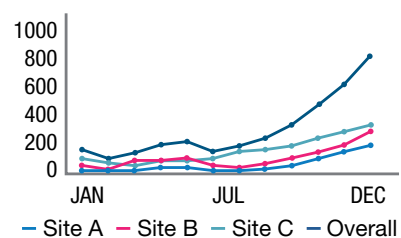
Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs (cont.)

KEY PERFORMANCE INDICATOR 8: OVERALL TREND OF BMD TESTING AND TREATMENT

This KPI Measures the Total Number of Patients Who Received BMD Testing or Treatment With an Osteoporosis Medication Within a Set Timeframe⁵

OVERALL TREND OF BMD TESTING AND TREATMENT⁵

Total Patients With Testing or New Rx Since 1/1/2022



Category	✓	Value (to be completed by health system only)	
Type of Graph Requested		Pie Chart	
		Line Graph	
Title of Graph (eg, OVERALL TREND OF BMD TESTING AND TREATMENT ⁵)			
Subtitle of Graph (eg, Total Patients With Testing or New Rx Since 1/1/2022)			
Graph Components		Label Examples	Label (to be completed by the health system only)
1		Site A	
2		Site B	
3		Site C	
4		Overall	
x axis		months	
y axis		number of patients	

Graph components are defined on the next 2 pages.

Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs (cont.)

Graph Components Defined:					
Component	Label Name	✓	Number of patients with a Study performed within 12 weeks of initial fracture ¹		
For Each Site/Overall	With Any of the Codes to the Right OR any of the medications on the next page		Description	CPT Code*	SNOMED*
			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	77089	...
			Bone Mineral Density Studies	0508T, 0691T, 3095F-3096F, 76977-77078, 77080-77081, 78350-78351	312681000, 23572007, 82066000

Medication components can be listed on the next page.

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

[†]As of January 2023, BCT is not reimbursed by CMS under bone mass measurement.

Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs (cont.)

Graph Components Defined:		
Component	Label Name	
For Each Graph Component	With New Rx Medication Listed to the Right	

Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs (cont.)

KEY PERFORMANCE INDICATOR 9: RE-FRACTURE RATE

This KPI Measures the Number of Patients Who Have a Subsequent Fracture Within a Set Timeframe After the Initial Fracture⁴

<p>RE-FRACTURE RATE⁴ Percentage of Patients With Re-Fracture</p>	Category	✓	Value (to be completed by health system only)	
	Type of Graph Requested		Pie Chart	
Title of Graph (eg, RE-FRACTURE RATE ⁴)		Line Graph		
Subtitle of Graph (eg, Percentage of Patients With Re-Fracture)				
Graph Components		Label Examples	Label (to be completed by the health system only)	
All				
1		Age-related osteoporosis with current pathological fracture		
2		Clinical vertebral (Spine and Pelvis)		
3		Femur (Hip)		
4		Humerus/Clavicle		
5		Radius/Ulna (forearm)		
6		Tibia/Fibula (including ankle)		
x axis		Years		
y axis		Cumulative incidence of subsequent fracture		

Graph components are defined on the next page.

Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs (cont.)

Graph Components Defined:					
Component	Label Name	Subsequent Fractures - Inclusion criteria for this graph should contain all patients with a fracture in the last X years. (eg, 5 years) Possible osteoporosis-related fractures recorded at separate times over x years. ⁴ For each patient with a subsequent fracture, identify the month and year of the subsequent fracture. Then calculate the cumulative percentage of each secondary fracture for each month after the original fracture.			
1	All	✓	Description	Diagnoses Codes*	SNOMED Codes*
			Age-related osteoporosis with current pathological fracture	M80.0-M80.8A	443165006 (parent)
			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)
2	Age-related osteoporosis with current pathological fracture		Age-related osteoporosis with current pathological fracture	M80.0-M80.8A	443165006 (parent)
3	Clinical vertebral (Spine and Pelvis)		Clinical vertebral (Spine and Pelvis)	S32.0-S32.9; M84.454	125608002 (parent) 77493009 (parent)
4	Femur (Hip)		Femur (Hip)	S72.0-S72.9 S79.0-S79.9; M84.45-M84.453; M84.459	71620000 (parent) 125600009
5	Humerus/Clavicle		Humerus/Clavicle	S42.0-S42.9; M84.42-M84.429	16250001000004107 (parent) 66308002 (parent)
6	Radius/Ulna (forearm)		Radius/Ulna (forearm)	S52.0-S52.9; M84.43-M84.439	65966004 (parent) 263208005 (parent) 208388003 (parent) 20511007 (parent)
7	Tibia/Fibula (including ankle)		Tibia/Fibula (including ankle)	S82.0-S82.9; M84.46-M84.469; M84.471-M84.473	414292006 (parent)

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

Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs (cont.)

KEY PERFORMANCE INDICATOR 10: TRACKING OF HEDIS MEASURE																			
This KPI Tracks Quarterly Adherence to the Osteoporosis Management Quality Measures in the Healthcare Effectiveness Data and Information Set (HEDIS) ^{6,7}																			
<p>TRACKING OF HEDIS MEASURE^{6,7}</p> <p>HEDIS Measure 2022</p> <p>MEDICARE ADVANTAGE - HEDIS</p> <table border="1"> <tr> <td></td> <td>Q4</td> <td>Q1</td> <td>Q2</td> <td>Q3</td> </tr> <tr> <td>Osteoporosis Management in</td> <td>21</td> <td>22</td> <td>22</td> <td>22</td> </tr> <tr> <td>Women Who Have Had a Fracture</td> <td>%</td> <td>%</td> <td>%</td> <td>%</td> </tr> </table>		Q4	Q1	Q2	Q3	Osteoporosis Management in	21	22	22	22	Women Who Have Had a Fracture	%	%	%	%	Category	✓	Label (to be completed by health system only)	
		Q4	Q1	Q2	Q3														
	Osteoporosis Management in	21	22	22	22														
	Women Who Have Had a Fracture	%	%	%	%														
	Type of Graph Requested			Pie Chart															
				Line Graph															
				Table															
	Title of Graph (eg, TRACKING OF HEDIS MEASURE ^{6,7})																		
	Subtitle of Graph (eg, HEDIS Measure 2022)																		
	Table Columns			Column Examples	Label (to be completed by the health system only)														
1			Q4 21																
2			Q1 22																
3			Q2 22																
4			Q3 22																

Graph components are defined on the next page.

Worksheet Resource for EHR Clinical Dashboards for Post-Fracture Care Programs (cont.)

Graph Components Defined:					
Component	Label Name	Percentage of women 67-85 years old who suffered a fracture and received either a bone mineral density (BMD) test or a prescription for medication to treat osteoporosis in the six months following the fracture ^{1,5,6}			
For each quarter	With any of the codes to the right OR	✓	Description	CPT Codes*	SNOMED Codes*
			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	77089	...
			Bone Mineral Density Studies	0508T, 0691T, 3095F-3096F, 76977-77078, 77080-77081, 78350-78351	312681000, 23572007, 82066000
	With new Rx medication listed to the right (to be completed by the Health System only)	✓	Medication Name	✓	Medication Name

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†As of January 2023, BCT is not reimbursed by CMS under bone mass measurement.

References: **1.** Javaid MK, Sami A, Lems W, et al. A patient-level key performance indicator set to measure the effectiveness of fracture liaison services and guide quality improvement: a position paper of the IOF Capture the Fracture Working Group, National Osteoporosis Foundation and Fragility Fracture Network. *Osteoporos Int.* 2020;31:1193-1204. Accessed January 18, 2023. **2.** Yu M, Downey C, Torralba KD. The Fracture Liaison Service to close the osteoporosis care gap: a leadership educational model for undergraduate and postgraduate trainees. *Clin Rheumatol.* 2020;39:619-626. Accessed January 18, 2023. **3.** LeBoff M, Greenspan S, Insogna K, et al. The clinician's guide to prevention and treatment of osteoporosis. *Osteoporos Int.* 2022 Jul 28. **4.** Balasubramanian A, Zhang J, Chen L, et al. Risk of subsequent fracture after prior fracture among older women. *Osteoporos Int.* 2019;30:79-92. **5.** Ganda K, Puech M, Chen JS, et al. Models of care for the secondary prevention of osteoporotic fractures: a systematic review and metaanalysis. *Osteoporos Int.* 2013;24:393-406 **6.** Centers for Medicare and Medicaid. 2022 Part C & D Star Ratings Technical Notes. <https://www.cms.gov/files/document/2022-star-ratings-technical-notes-oct-4-2022.pdf>. Accessed January 18, 2023. **7.** 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 January 18, 2023.