

Improving Osteoporosis Management for Patients Who Have Had a Fracture: Can We Fix a Broken System?

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Disclosures of Speaker/Author

- GE Lunar Division
- Amgen
- Lilly
- Warner Chilcot
- Diasorin
- Prime Time International
- BeamMed

OBJECTIVES

- **Describe the care gap for treating patients with osteoporosis who have had a fracture**
- Review the rationale for closing the care gap for patients who have fractured
- Overview of a Fracture Liaison Service
- Overview of a hospital based Fracture Follow Up Program
- Opportunities for utilizing Quality Measures for closing the Osteoporosis care gap

Potential Components of the Osteoporosis Care Gap

- Underutilization of Bone Mineral Density testing in women 65 years of age and older
- Underutilization of Bone Mineral Density in women patients who have fractured
- Low recognition of osteoporosis as the underlying cause of fragility fractures
- Undermanagement
- Poor medication adherence
- Poor medication persistence

Nationwide, Bone Density Tests Are Underutilized in the Elderly, At-Risk Populations

- NCQA measure: *The Osteoporosis Testing in Older Women* measure assesses whether women 65 years of age and older reported receiving a bone density test
- In 2012, 25% of the Medicare HMO women age 65 or older who have had a fracture received a bone density test or treatment
- In 2012, only 19.1% of the Medicare PPO women age 65 or older who have had a fracture received a bone density test or treatment
- There is a 35.7% difference between best care in the 90th percentile and the lowest 10th percentile of the Medicare HMO group

MEDICA Clinical Performance Measures Report: 2012-2013 Demonstrates Poor Management

	Aggregate	Commercial	Medicaid	Medicare	MSHO
Beta Blocker after MI	✓ 88.78%	✓ 87.50%	✓ 86.00%	✓ 90.95%	✓ 90.70%
Breast Cancer Screening	▪ 65.88%	▪ 69.28%	▪ 58.48%	▪ 77.84%	▪ 57.93%
Osteoporosis Management in Women with Fracture	✓ 15.11%	No data	No data	▪ 17.73%	✓ 12.50%

- ✓ Favorable results compared to previous year
- Unfavorable results compared to previous year

Are We Ignoring Indicators for Osteoporotic Fractures?

- In the United States, **1.45 million fractures** occur each year due to postmenopausal osteoporosis¹
- The occurrence of a fragility fracture is among the most robust predictor of a subsequent osteoporotic fracture^{2,3}

YET

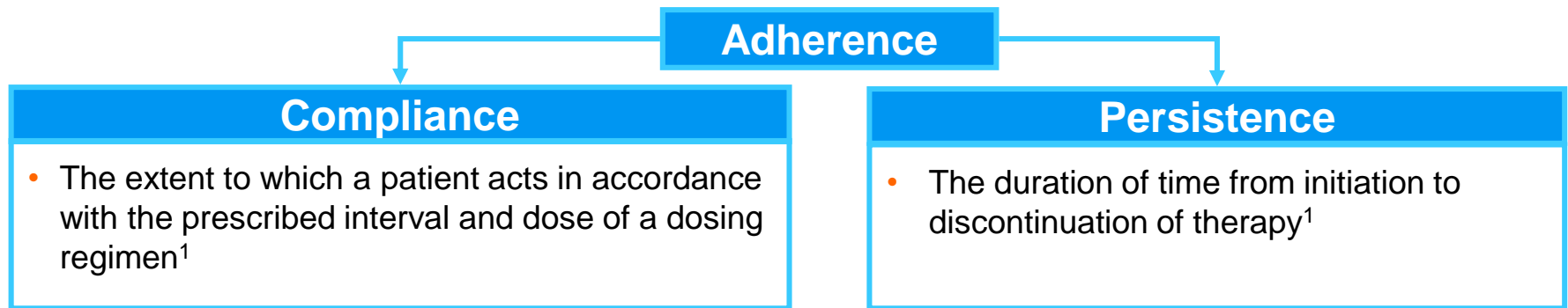
- Only 1 in 5 women 67 years of age and older receive either a bone mineral density test or management of osteoporosis in the six months after the fracture¹

AND

- Between 2001 and 2010, the percentage of women initiating treatment for osteoporosis in the year following fracture has declined⁴

1. Burge R, et al. *J Bone Miner Res.* 2007;22:466-475. 2. Center JR, et al. *JAMA.* 2007;297:387-394. 3. Johnell O, et al. *Osteoporos Int.* 2004;15:175-179.
4. NCQA State of Quality Healthcare 2012 – Medical HMO Statistics. Accessed September 6th, 2013. O'Malley CD, et al. Presented at annual meeting of the American Society for Bone and Mineral Research; October 12-15th, 2012; Minneapolis, Minnesota.

Adherence and Persistence With Osteoporosis Management



- Multiple factors may impact medication adherence:
 - Side effects²
 - Dosing regimen²
 - Comorbid conditions³
 - Cognitive decline and forgetfulness²
 - Patient motivation for treatment^{4,5}
 - Cost³
- Poor adherence to medication regimens is common⁴

1. Siris ES, et al. *Am J Med.* 2009;122:S3-S13. 2. Osterberg L, et al. *N Engl J Med.* 2005;353:487-497. 3. Gold D, et al. *Cur Osteoporos Rep.* 2006;4:21-27. 4. Rossini M, et al. *Osteoporos Int.* 2006;17:914-921. 5. Carr AJ, et al. *Osteoporos Int.* 2006;17:1638-1644.

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Close the Care Gap by Focusing Management on Osteoporotic Patients with Fragility Fractures to Prevent a Second Fracture

- A patient with fragility fractures should be properly *identified and managed* with:
 - history and physical exam
 - bone mineral density testing or other fracture risk assessment
 - laboratory assessment for secondary causes
 - treatment for Osteoporosis

Suffering a Fragility Fracture Increases the Risk of an Additional Fracture by 1.5-2.0 times



Approximately 8% of Hip Fracture Patients Experience a Second Hip Fracture



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Fracture Liaison Services

- Care Coordinator-based system to identify osteoporotic fracture patients at high risk for a future fracture
- Apply appropriate evaluation and management strategies
- Many similar disease specific programs such as Congestive Heart Failure programs, Cancer Navigators, Diabetic Nurse Educator

Fracture Liaison Programs Coordinate Care for The Fracture Patient

Patients



Clinicians

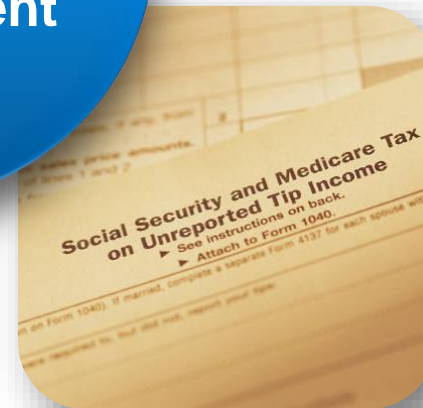


Improved
Osteoporosis
Management

Organizations



Insurance/
regulators



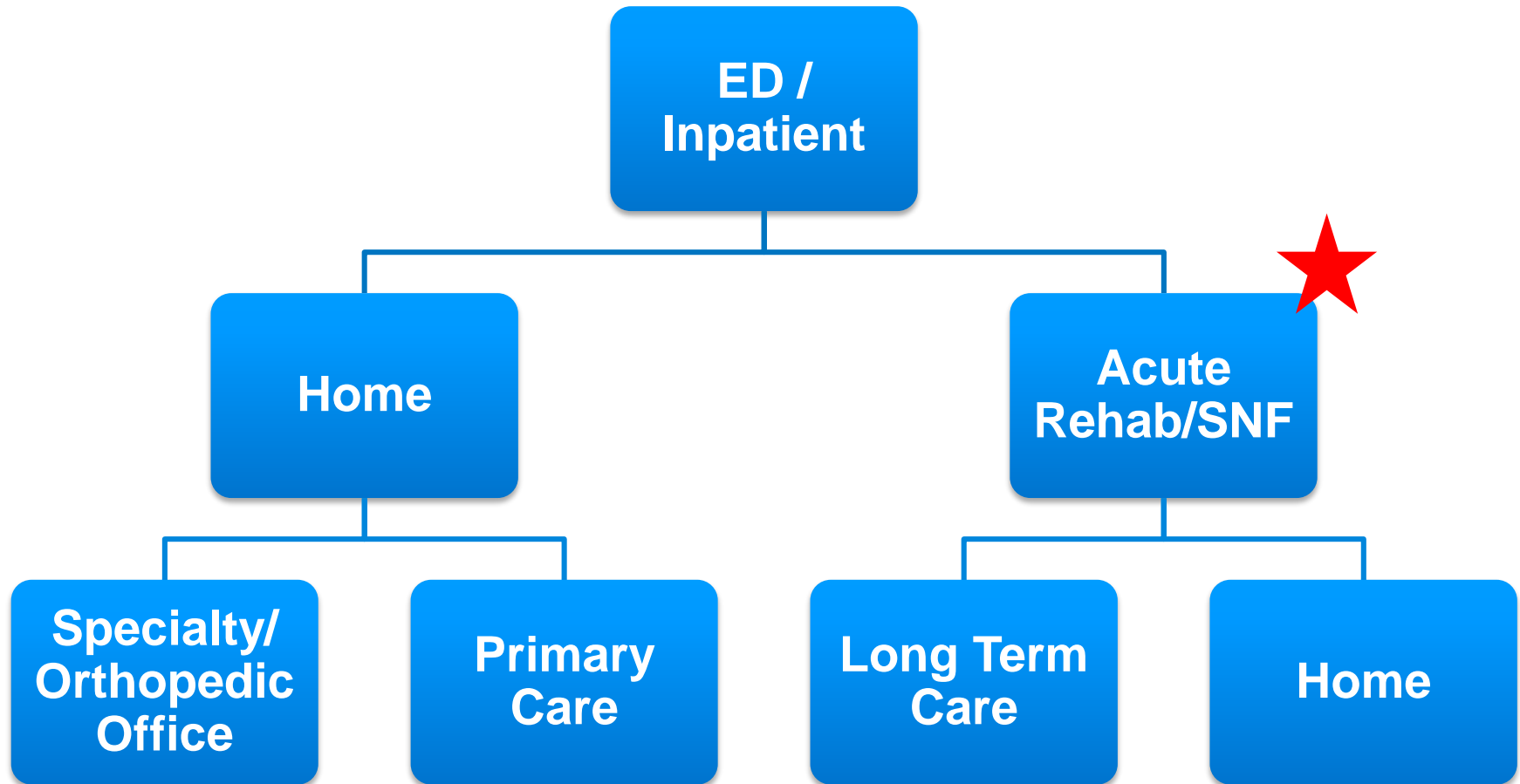
Goals for a Fracture Liaison Service

- Increase overall awareness and improve utilization of evidence-based management of osteoporosis and fragility fracture patients age 50 and over
- Change physician and patient behavior to reduce the incidence of future fractures and improve patient care by promoting bone health
- Encourage clinicians to identify, evaluate, diagnose, and treat patients with poor bone health after a fragility fracture
- Capitalize on the “Teachable Moment”
- Improve quality of care

ASBMR Task Force Report Summarizes Evidence to Support These Programs

- “Making the First Fracture the Last Fracture: ASBMR Task Force Report on Secondary Fracture Prevention”
 - Provides rational background and scientific evidence underpinning secondary fracture prevention and stresses the utility of one form or another of a Fracture Liaison Service in achieving those quality outcomes worldwide
 - Very valuable appendix is located online only

Step 1 Is to Identify Osteoporotic Fracture Patients



58 Year Old Female Who Fell 2 Years Ago and Fractured Hip Presents to New Primary Care Doctor



76 Year Old Female Who Had Three Procedures for Vertebral Compression Fractures in an 18 Month Period



72 Year old Female With Limited Mobility in Skilled Nursing Facility With Osteoporosis on Screening Wrist Ultrasound



82 Year old Male With Kyphosis due to Multiple Vertebral Compression Fractures



Systems Approach to a Fracture Liaison Service

- Integrated HMO or closed model
- ACOs would be similar to a closed model
- Hospital sponsored Nurse Navigator = Fracture Liaison
- Patient Centered Medical Home Model
- Private Practice Model

Closed Model

- The doctors, nurses and IT and QI and UR and pharmacy departments are all in alignment and have shared, open access to the patients
- The patients are identified, contacted and treated jointly by “a willing provider” in the entity
- There are tremendous benefits to this structure, because the group can ***identify and treat*** the patient
- Easy access to all services and more opportunities to engage the patient
- This model will also be applicable to new Accountable Care Organizations (ACO)s

Kaiser Healthy Bones Program Demonstrates Improved Care

- SCAL Kaiser study included 650,000 patients
 - 2002-2007 Kaiser Southern California Region
 - Followed DXA scan use, fractures, prescriptions for osteoporosis treatment following fragility fractures in patients over 50 years old
 - DXA utilization increased 914% for men, use of osteoporosis related medications increased 153%, number of men treated increased by 250%
 - Reduction in hip fracture rate varied from 31%-54.3%. Overall reduction 38.1%
 - This translated into preventing 970 hip fractures in calendar year 2007 (~\$20K per hip fracture cost saving,) for a projected \$30.8 million annual savings

Private Practice Model

- If the hospital is **not** involved in the FLS, then an orthopedic or specialty practice can query their own hospital or outpatient fracture patients from their office medical record system and run the FLS program with their staff in their private office
- The disadvantage is that the orthopedic/specialty office based FLS only has access to their own fracture patients and not patients seen by other orthopedists, radiologists, endocrinologists or pain management physicians who may practice at the same institution
- The Patient Centered Medical Home Model utilizes the EMR in Primary Care practices to identify, treat and track patients with specific chronic diseases. Quality metrics are required for certification

Hospital Model

- A hospital can support a chronic disease nurse or fracture liaison provider. Similar programs probably already exist within the system
- In the cancer field they are called Nurse Navigators, and in Diabetes they are Diabetic nurse educators
- A liaison works with the hospital IT, QI, ED, hospitalists and medical records departments to **identify** the fracture patients and **nudge** the patients to specialists in the community to carry out the standard of care after discharge
- The advantage is there is access to all targeted patients in your disease of interest
- The disadvantage is that there is no single practitioner to actually prescribe the DXA and PT and medications

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Example of a Hospital Based Process

- Identify patients with fractures over age of 50 from any hospital department using query of ICD-9 codes
- Wrist, Hip, Pelvis, Humerus, Spine, Ankle, Rib, Clavicle fracture diagnosis generates discharge instruction sheet in ED
 - includes educational sheets about underlying osteoporosis and prevention of future fractures
 - offers free heel or wrist screenings if no access to DXA
- Computer based query of Hospitalized and ED patients is reviewed monthly by Clinical specialist. Doctor notified.
- Call list made to contact patients with standard script to facilitate evaluation and treatment, obtain metrics which are entered into a certified quality measure registry

Components of the Hospital Based Program

- Clinical specialist runs fracture query and registry, collaborates with QI and Clinical Quality Improvement departments, orthopedic department, **Skilled Nursing Facility*** (40-50% of patients flow through a SNF, so this is integral)
- Community based Osteoporosis Exercise Classes, 4 days/week in English and Spanish
- Physical Therapy evaluation and treatment protocols
- Infusion Center
- Bilingual resource center with library, slides and handouts
- **Skilled Nursing Facility (SNF)** screenings with wrist ultrasound. Calcium, Vitamin D and prescription protocols are co-managed by Geriatric Pharmacist and Rehabilitation Directors
- Clinical Research Coordinator
- Additional services include community and professional lectures, free ultrasound screenings and senior fitness testing

Examples of Reports That Help Us Identify Opportunities for Process Improvement

- Utilization profile: LOS, charges
- Top principal diagnosis, Top DRGs
- Top principal procedures
- Admission/discharge by day and hour. Readmissions
- Discharge disposition: home, SNF, acute rehab, acute transfer, expired, AMA
- Complications
- Provider utilization
- Payers

Lessons From Hospital Based Program

- We have done an excellent job of establishing process and pathways to identify our care gap
- Despite the process, there needs to be
 - an ***accountable prescribing provider*** who can close this care gap by ordering a DXA, labs, therapy and medications
 - availability of DXA machine within the hospital setting, and portable Ultrasound machine to assess patients in the SNF
 - more resources placed on management in the SNF setting with a very elderly population

Summary of our FLS Experience Can be Reviewed in Two Sources

- Second NBHA FLS series webinar archived on demand
- Springer Online First Publication: Invited Commentary: Fracture Follow-Up Program in an Open Healthcare System
 - How to conceptualize a FLS for each unique healthcare delivery system; How to determine funding options for a new FLS program; How to identify and build institutional alignment to establish a successful FLS; How to utilize the institution's electronic capabilities; Queries and Registries

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Quality Metrics Vary by Insurance and Place of Service

- Fulfilling metrics will drive implementation and close the care gap
- PQRS – physician offices submit metrics to Medicare
- HEDIS data – Hospitals submit data to Commercial or Managed Medicare programs
- Medicare 5 star criteria – are submitted by Medicare HMOs
- Isolated hospital metrics are not yet approved by NCQA (The Joint Commission)
 - they are being submitted by The National Quality Forum
 - awaiting approval by NCQA at the end of February

Current PQRS Measures

- **Measure #45 – Osteoporosis: Communication with the physician managing on-going care post fracture of the hip, spine, or distal radius for men and women aged 50 or older**
 - Percentage of patients aged 50 years and older treated for a hip, spine or distal radial fracture with documentation of communication with the physician managing the patient’s on-going care that a fracture occurred and that the patient was or should be tested or treated for osteoporosis (measure steward is AMA-PCPI/ NCQA; NQF measure #45)
- **Measure #46 – Screening or Therapy for Osteoporosis for Women Aged 65 Years and Older**
 - Percentage of female patients aged 65 years and older who have a central dual-energy X-ray absorptiometry (DXA) measurement ordered or performed at least once since age 60 or pharmacologic therapy prescribed within 12 months (measure steward is AMA-PCPI/ NCQA; NQF measure #46)

Current PQRS Measures

- **Measure #48 – Osteoporosis: Management Following Fracture of Hip, Spine or Distal Radius for Men and Women Aged 50 Years and Older**
 - Percentage of patients aged 50 years and older with fracture of the hip, spine, or distal radius who had a central dual-energy X-ray absorptiometry (DXA) measurement ordered or performed or pharmacologic therapy prescribed (measure steward is AMA-PCPI/ NCQA; NQF measure #48)
- **Measure #49 – Osteoporosis: Pharmacologic Therapy for Men and Women Aged 50 Years and Older**
 - Percentage of patients aged 50 years and older with a diagnosis of osteoporosis who were prescribed pharmacologic therapy within 12 months (measure steward is AMA-PCPI/ NCQA; NQF measure #49)

HEDIS and Medicare 5 Star Plans Measures

- **#53 – Osteoporosis Management in Women Who Had a Fracture**
 - The percentage of women 67 years of age and older who suffered a fracture and who had either a BMD test or prescription for a drug to treat or prevent osteoporosis in the six months after the date of fracture (developed by NCQA; NQF measure #53; applicable to Medicare population)
- **#37 – Osteoporosis Testing in Older Women**
 - The percentage of Medicare women 65 years of age and older who report ever having received a bone density test to check for osteoporosis [Collected using the Medicare Health Outcomes Survey] (developed by NCQA; NQF measure #37; applicable to Medicare population)

National Quality Forum Is Submitting Their Recommendations to the Joint Commission for Hospital Accreditation Criteria

- **NQF #:** 2416
- **De.2. Measure Title:** Laboratory Investigation for Secondary Causes of Fracture
- **Co.1.1. Measure Steward:** The Joint Commission
- **De.3. Brief Description of Measure:** Percentage of patients age 50 and over with fragility fracture who have had appropriate laboratory investigation for secondary causes of fracture ordered or performed prior to discharge from inpatient status.
- Numerator includes patients who had all the following: CBC kidney function test, liver function test, serum calcium, 25-OH vitamin D level or oral administration of Vitamin D

National Quality Forum Is Submitting Their Recommendations to the Joint Commission for Hospital Accreditation Criteria

- **NQF #:** 2418
- **De.2. Measure Title:** Discharge Instructions – Emergency Department
- **Co.1.1. Measure Steward:** The Joint Commission
- **De.3. Brief Description of Measure:** Proportion of patients age 50 or over with a fracture of the vertebra, pelvis, wrist, ankle, or humerus discharged from the Emergency Department to home, or their caregivers, who have received written discharge instructions regarding the need to follow up with a primary care physician, hospital outpatient department or specialist for possible osteoporosis to reduce the risk of future fracture, or who were contacted by a fracture liaison service

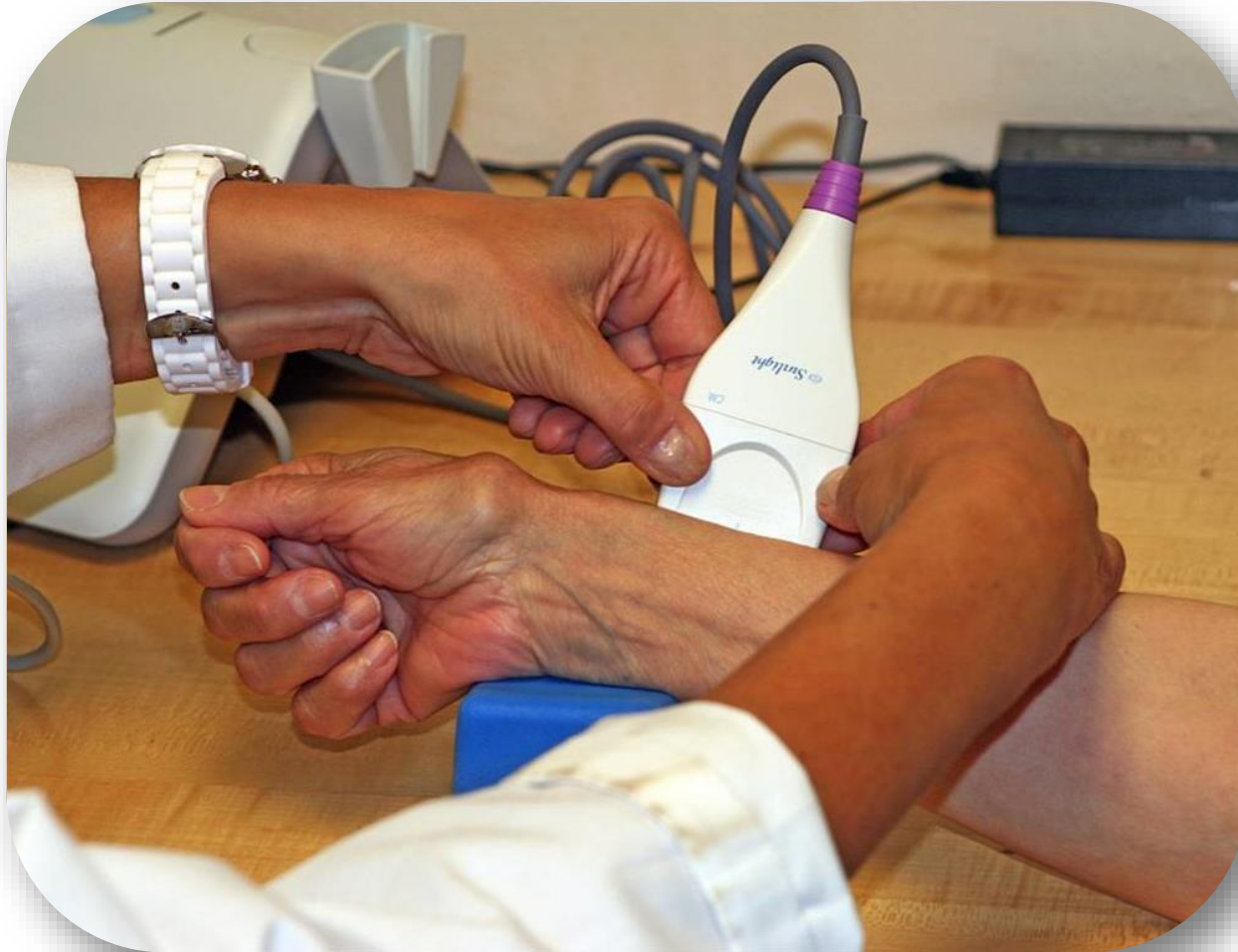
National Quality Forum Is Submitting Their Recommendations to the Joint Commission for Hospital Accreditation Criteria

- **NQF #:** 2417
- **De.2. Measure Title:** Risk Assessment/Treatment After Fracture
- **Co.1.1. Measure Steward:** The Joint Commission
- **De.3. Brief Description of Measure:** Patients age 50 or over with a fragility fracture who have either a dual-energy X-Ray absorptiometry (DXA) scan ordered or performed, or a prescription for FDA-approved pharmacotherapy for osteoporosis, or who are seen by or linked to a fracture liaison service prior to discharge from inpatient status. If DXA is not available and documented as such, then any other specified fracture risk assessment method may be ordered or performed

Use of Heel Ultrasound to Meet Metric for Fracture Risk Assessment



Use of Wrist Ultrasound to Meet Metric for Fracture Risk Assessment



SUMMARY

- Developing a FLS will Provide the Infrastructure to Close the Osteoporosis Care Gap
- Regardless of the type of healthcare system you work in, there is an opportunity to improve management
- Requires a passionate champion to persevere
- Requires collaboration with hospitals, providers, payers, and patients
- Start using best practices but be flexible and creative
- Anticipate evolution as healthcare delivery systems mature

Future Strategies to Close the Care Gap

- Develop and promote evaluation and management at skilled nursing facility level. Partner with AMDA (American Medical Director Association) for updated management protocols
- Develop and promote evaluation and management at Acute Rehabilitation Hospitals
- Develop and promote evaluation and management in Patient Centered Medical Home Models
- Develop and promote evaluation and management in hospital sponsored transitional care models and orthopedic clinics



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