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White Paper

Osteoporosis Best Practices Learning Collaborative 2.0

Building Upon Progress, with a Focus on Female Patients

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Collaborative 2.0 Advisors

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Osteoporosis—when changes in bone density, mass, strength, and structure cause an increased risk of fractures—is a major cause of fractures for postmenopausal women.[1] In fact, one in two women over age 50 will experience a fracture in their lifetime.[2]

Such fractures can have devastating consequences medically, economically, and for quality of life. Hip fractures, for example, are associated with a four-fold increase in a patient's need for long-term nursing home care. Among patients debilitated from a hip fracture, 61% fell into low-income status or became destitute.[3] And some patients report prolonged pain following vertebral fracture, which limits their ability to perform daily activities such as walking, getting in and out of bed or a chair, and preparing meals.[4]

Osteoporosis can be managed with medication and lifestyle interventions,[5] but diagnosis, preferably early, is key—and too often lacking. With this "silent" disease, many people first learn they have the condition when they break a bone.[6]

Osteoporosis testing and treatment lags for patients at risk. A 2021 report commissioned by the National Osteoporosis Foundation, analyzing 2016 Medicare data, reported only 9% of female Medicare fee for service beneficiaries received a bone density test within six months of a new fracture.[7] A 2017 study of women 67 to 85 years of age enrolled in a Humana insurance plan revealed fewer than 20% receiving treatment for osteoporosis—even after breaking a bone.[8]

More recent data reveal continued gaps. NCQA data for 2022 reveal osteoporosis testing/treatment rates for women who have had a fracture to be 44.8% for Medicare HMO patients and 38.4% for Medicare PPO patients.[9]

Collaborative Overview

To address overall diagnosis, management, and treatment gaps for osteoporosis, AMGA convened its first Osteoporosis Best Practices Learning Collaborative in January 2021. Nineteen healthcare organizations (HCOs) representing a wide range of geographies, patient demographics, and system types developed guideline-informed, clinical practice strategies for improving the assessment of fracture risks, the evaluation of secondary causes of osteoporosis, and osteoporosis education, testing, diagnosis, and treatment.

Measures for Collaborative 1.0 included:

- Rates of DXA (bone density) testing among women age 65–90 and men age 70–90
- Rates of diagnosis in women and men age 50–90 meeting diagnosis criteria for osteoporosis based on a fracture, bone density T-score, or FRAX® score
- Rates of treatment in women and men (age 50–90) who have an osteoporosis diagnosis
- Rates of treatment in women and men (age 50–90) who had a fracture at age 50 or older

On average across all measures, the Collaborative participants achieved small, steady improvements from baseline Q1 2021 to Q2 2022 for women, with the greatest absolute improvement seen in Measure 1, DXA testing among women aged 65–90 with no prior diagnosis. Several notable improvements were observed at the individual HCO level.

"Despite the COVID pandemic challenges, HCOs were still able to make progress within their programs," the white paper summarizing Collaborative 1.0 concluded. "However, if given additional time and support, the HCOs would be able to show greater improvement, especially in their measurement rates."

TABLE 1: Participating organizations

Organization	Location
HealthPartners	Minneapolis, MN
Maine Medical Partners	Portland, ME
Ochsner Health	New Orleans, LA
Prevea Health	Green Bay, WI
SIMEDHealth, LLC	Gainesville, FL
St. Luke's Physician Group	Bethlehem, PA
UC San Diego Health	San Diego, CA
Utica Park Clinic	Tulsa, OK

In April 2023, AMGA reconvened a smaller cohort of Collaborative 1.0 participants (Table 1) for Collaborative 2.0. This initiative focused on female patients and continued development of interventions that began in Collaborative 1.0: Provider, staff, and patient education and the implementation of clinical decision support tools. Post-fracture care was also an area of focus in Collaborative 2.0.

As in the first initiative, Collaborative 2.0 participants each selected an intervention for a plan-do-study-act cycle in their organization, guided by the same quality improvement process, problem list/motivating needs approach, and AMGA Best Practices Learning Collaborative Framework.

TABLE 2: Schedule of activities

Phases and Activities	Timeframe
• Collaborative orientation and data webinar • Submission of quality improvement report and baseline data	April–May 2023
• First in-person Collaborative Meeting • Collaborative activities (webinars, engagement activities, quality improvement and data submissions) • Final in-person Collaborative Meeting	June 2023–June 2024
• Final analysis, publication development, and dissemination	July–December 2024

After orientation and onboarding, participating HCOs attended an in-person meeting to discuss plans and challenges, share experiences, and learn from experts. Throughout the 12-month implementation period that followed, webinars and engagement activities led by subject matter and clinical experts provided education and an opportunity for participants to share quarterly benchmarking reports and best practices. The implementation period culminated with a second in-person meeting where participants shared their final reports, observations, and lessons learned (Table 2).

Quality Improvement Measures

Quality improvement measures are a critical part of AMGA Collaboratives for monitoring progress within and across organizations, with data shared as part of a feedback loop to determine whether interventions are working and compared across organizations as a learning opportunity to understand the impact of different processes and workflows.

Capitalizing on the measure development work in Collaborative 1.0 among AMGA staff and national advisors, participants continued to track the same measures in 2.0 (testing, diagnosing, and treating), with a focus on women only.

Osteoporosis Best Practices Learning Collaborative 2.0 Measures

Measure 1: Rates of DXA testing among women aged 65–90

Measure 2: Rates of diagnosis in women aged 50–90 meeting diagnosis criteria for osteoporosis *(based on fracture, t-score, or FRAX score)*

Measure 3: Rates of treatment in women age 50–90 with an osteoporosis diagnosis

Measure 4: Rates of treatment in women age 50–90 who had a fracture at or after age 50

This consistency in the measures allowed AMGA to track improvement from Collaborative 1.0 through the end of Collaborative 2.0, including the 12-month interim period between the two collaborative phases.

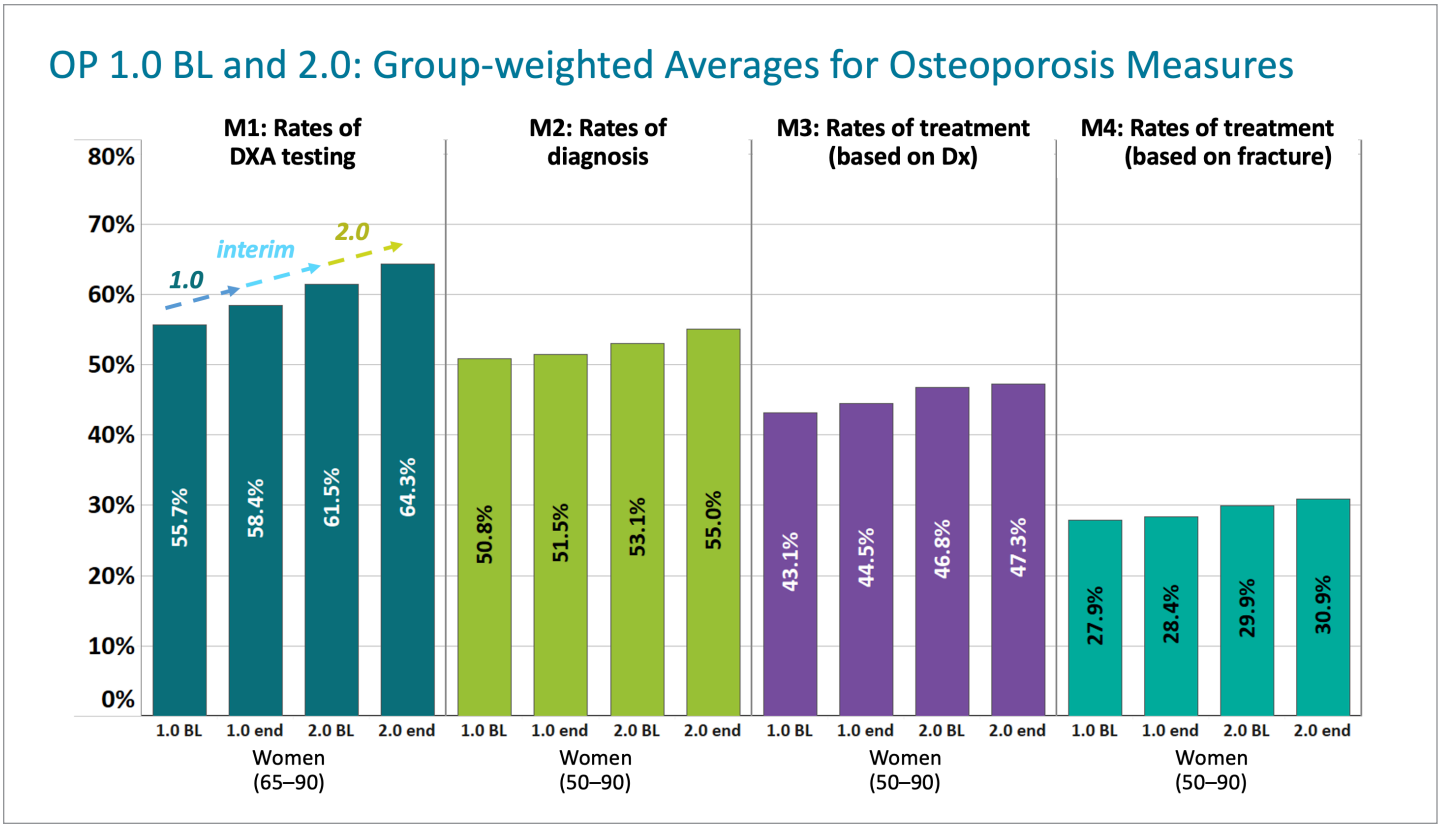
Results

The two Osteoporosis Collaboratives generated positive outcomes for patients and improved organizational approaches to osteoporosis management.

As of the end of Collaborative 2.0, among the 8 HCOs that participated in both Collaboratives, more than 180,000 women age 65+ were identified as eligible for osteoporosis screening, and 119,000 had received a DXA bone density scan—with 17,000 more women screened than would have been without the improvement in the rates seen over the span of the collaborative.

Among the 108,000 women with an osteoporosis diagnosis, nearly 54,000 were prescribed treatment—more than 5,000 than would have been otherwise.

Specific to Collaborative 2.0 quality improvement metrics, participants reported improvements in all four measures, continuing progress from the first initiative.



About the Interventions

Collaborative 2.0 participants built upon strategies and tools from Collaborative 1.0 and brought in new ones for the 2023–2024 engagement.

Provider education included a broad range of topics (e.g., how to diagnose and document osteoporosis, using e-consults for treatment recommendations) and multiple specialties: Primary care, gynecology, orthopedics, rheumatology, and gastroenterology, as well as continuing education for post-fracture care clinicians.

Patient education was enhanced by leveraging clinical pharmacists and use of digital technology. Examples include Epic campaigns to automate outreach and patient portals, iPads, and waiting room TVs to deliver educational content.

Expanding access was a focus throughout. To free up provider time for screening, diagnosis, and discussing treatment, one HCO, Utica Park Clinic, doubled the number of appointment hours at its bone health clinic and used nurses to administer some osteoporosis treatments. Others used telehealth services, nurse visits, and fracture liaison services to expand capacity and access.

Strategies for collaboration and improving efficiency in osteoporosis care factored into several interventions: Standing orders for DXA scans, flowsheets for fracture admissions, system-wide reporting, and more. One HCO brought in a dedicated RN navigator for all patients with osteoporotic fractures and developed high-risk and post-fracture screening workflows for specialties treating diseases associated with bone loss. Participants standardized educational resources as well as procedures in areas such as determining fracture risk and post-screening follow-up.

Finally, several interventions explored capabilities within Epic, including SmartSets for notes, labs, medications, and education and a custom-built model for risk stratification.

Examples of significant improvements seen at the individual HCO level are shown in the following three snapshots.

St Luke's Physician Group

St. Luke's increased its DXA testing (Measure 1) from 47.8% at the end of Collaborative 1.0 to 62.2% at the end of Collaborative 2.0 and its rates of treatment in women with a fracture at or after age 50 (Measure 4) from 19.6% to 23.2% over the same time period.

Several tactics centered on the electronic medical record (EMR), which St. Luke's used to create standard order sets, intervention guidelines, and Epic workflows. These workflows streamlined processes such as contacting patients with fractures, scheduling appointments, and facilitating easy referrals to gynecology, rheumatology, and orthopedic specialists.

St. Luke's also set up specialty SmartSet/best practices alerts for DXA screening at key points in the patient care journey. Is a patient receiving appropriate testing and referrals to primary care after a fracture, for example? Providers now receive this follow-up alert within three weeks of a patient's fracture. They also can find educational material on preventing secondary fractures in after-visit summaries.

Lessons learned

Involve specialty leaders from throughout your network. Engage physician champions.

Another focus was clinical documentation improvement (CDI). The St. Luke's team educated providers and coding staff on appropriate ways of including an osteoporosis diagnosis in the problem list and met with coding and CDI staff about query and documentation possibilities in Epic related to osteoporotic fracture diagnoses.

Constant reminders, feedback, and training opportunities are essential for all providers, St. Luke participants noted. For Collaborative 2.0, such education ranged from training specialists on Epic workflows and tools to bringing an orthopedic surgeon to grand rounds to talk about imaging for bone health.

SIMEDHealth

SIMEDHealth increased its DXA testing (Measure 1) from 36.0% at the end of Collaborative 1.0 to 38.0% at the end of Collaborative 2.0 and its rates of treatment in women with a fracture at or after age 50 (Measure 4) from 35.6% to 41.0% over the same time period.

To improve post-fracture care, SIMEDHealth's billing department searched its records for inpatient charges for a fracture diagnosis, then used this list for review, scheduling, and treatment as appropriate. Externally, the team worked with representatives from its local hospital and orthopedic center on similar processes, setting up patient identification, scheduling, and treatment workflows SIMEDHealth had previously lacked.

The HCO focused on provider notifications and patient education to increase DXA screening for eligible patients. This involved running EMR reports for patients whose records lacked both an osteoporosis diagnosis and a DXA screening and equipping providers with weekly lists of these patients to make them aware of screening opportunities.

SimedHealth's team collected feedback throughout from their staff and providers. Was this information helpful? Did providers find data in the reports to be accurate compared to their own documentation? They also tackled challenges—the HCO's reporting system would not pick up DXA data scanned into the EMR, for example.

Lessons learned

Leverage technology to reach your goals. Promote education and awareness. Staff buy-in is essential!

UC San Diego Health

UC San Diego Health increased its DXA testing (Measure 1) from 77.5% at the end of Collaborative 1.0 to 80.6% at the end of Collaborative 2.0 and treatment rates for women with an osteoporosis diagnosis (Measure 3) from 40.5% to 46.1% over the same time period.

UC San Diego Health had equipped its workbench reports with an osteoporosis-specific screening and disease state in Collaborative 1.0. One problem it tackled in Collaborative 2.0: Lack of diagnosis and documentation of patients at risk for fracture, including appropriate use of DXA and FRAX. The team responded with procedures for documenting evidence of osteoporosis in a patient's medical record, along with provider education on the criteria for an osteoporosis diagnosis.

To address treatment rates, the HCO team worked with UC San Diego's bone health group to develop e-consults for osteoporosis therapy. Physician education on this tool and others has been ongoing.

Lessons learned

When developing IS infrastructure, engage a multidisciplinary, multispecialty team.

Additional Highlights

Challenges

Many of the challenges noted in Collaborative 1.0—staffing shortages, IT resources, and competing with other initiatives for priority attention—carried over to Collaborative 2.0. For several HCOs, these challenges involved medical record technology and workflows, such as wait times, getting the DXA scan reports created in the electronic health record (EHR), collecting and uploading data from external sources, and efficiently entering diagnoses into patient problem lists.

Participants reported obstacles specific to DXA testing, including technician shortages, the cost of new machines, and long wait times for patients to get a DXA.

As demand for DXA grew, HCOs struggled to expand capacity for them, noting internal access restrictions within their own organizations and quality control/continuity of care concerns when sending patients to external facilities.

Other challenges included systemwide changes causing administrative confusion and outside providers giving conflicting advice. Participants also noted access issues, payer denials, and social drivers of health factors impacting screening compliance, with one participant emphasizing the need to "meet patients where they are."

Next Steps

Equipped with data and experience from two Best Practices Learning Collaboratives for osteoporosis now behind them, participating HCOs expressed plans to continue their efforts: Expanding screenings into new areas, maintaining momentum on initiatives like mobile screening, even moving forward on resources like an osteoporosis registry and dedicated fracture liaison clinic.

Organizations are focused on getting standards approved and best practices implemented systemwide, leveraging digital tools in EMRs like Epic, Phreesia, and others. Participants cited the potential of automation for identifying and reaching out to patients with a recent fracture and text messaging for patient outreach.

They also wanted to learn more about centralized patient management such as clinical health navigators, and ways to expand screening access, such as Saturday clinics, in-home screenings, and mobile units at community events.

Education for primary care providers, specialists, and patients alike remains a focus, as does collaboration among specialty departments to identify patients at high risk, and equipping hospital partners with the necessary protocols to arrange follow-up osteoporosis care for patients discharged after a fracture.

Keeping Conversations and Collaboration Going

In their final reports and documentation, Collaborative 2.0 participants posed more questions for their peers, including the following:

- How are you coordinating and engaging your patients in post-fracture care, and how are you tracking compliance?
- Are groups using QR codes to gather external record information and data?
- What tips do organizations have for prioritizing identification and treatment of osteoporosis to prevent fractures in your healthcare system?

Tips, Takeaways, and Sustaining Progress

Participants from all eight Collaborative 2.0 organizations had ample lessons learned and guidance for their peers and others embarking on osteoporosis initiatives.

First and foremost, this work takes a team. It cannot be based on one person's efforts. Creating a fracture liaison service, for example, might involve integrating primary care, orthopedics, and endocrinology. Organizations also need to recognize that effective screening, treatment, and management depends on precise care coordination by multiple departments. Reach out to others, establish channels of communication, and share information.

One participant shared how their organization learned this the hard way. After much research, the organization implemented new processes for centralized DXA orders—only to discover that providers were deleting the orders because of a breakdown in communication. Communication is the key to success, one participant declared. "When you think you did enough communication, do a little more!" another advised.

Other takeaways from the Collaborative interventions: Provider education leads to better outcomes, whether focused on osteoporosis itself or on tools like e-consults to guide care management. So does making care personal. Share patient stories, one participant advised. Find ways to engage clinicians and care teams on the topic.

Recognize that osteoporosis is not top of mind for providers or patients, participants advised. Use social media and digital medicine tools for patient education. For care teams, take the time to identify workflow and staffing barriers and make fixes for overcoming them easy for staff to implement. Identify all departments that can have an impact. One participant created nurse visits for the administration of Prolia, which gave providers more appointment time for new patients. "Utilizing staff to top of licensure can create opportunities to improve capacity," they noted.

Leverage information systems teams and the EMR. One participant called technology "the most efficient and reliable way" to identify and screen patients at highest risk for fractures.

Another cited tactics like home testing, mobile scanners, and DXA scheduling in tandem with mammograms among their lessons learned from the Collaborative. "We need to meet patients where they are in a better way."

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Osteoporosis Learning Collaborative is presented by AMGA Foundation in collaboration with Amgen.

Mission

AMGA Foundation enables medical groups and other organized systems of care to consistently improve health and healthcare.

Vision

AMGA Foundation serves as a catalyst, connector, and collaborator for translating the evidence of what works best in improving health and healthcare in everyday practice.

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