GUIDELINES
This policy does not certify benefits or authorization of benefits, which is designated by each individual policyholder contract. Paramount applies coding edits to all medical claims through coding logic software to evaluate the accuracy and adherence to accepted national standards. This guideline is solely for explaining correct procedure reporting and does not imply coverage and reimbursement.

DESCRIPTION
Bone mass degeneration (osteoporosis) is a disease in which bones become brittle or fragile from loss of tissue. It may be a result of aging or associated with certain medical conditions (eg, diabetes) or clinical therapies (eg, corticosteroids). If undetected and left untreated, loss of bone mass may result in fractures.

Bone mass measurement studies are radiologic, radioisotopic or other procedures that meet all of the following conditions:
- quantify bone mineral density, detect bone loss or determine bone quality
- are performed with either a bone densitometer (other than single-photon or dual-photon absorptiometry) or a bone sonometer system that has been cleared for marketing for BMM by the Food and Drug Administration (FDA) under 21 CFR part 807, or approved for marketing under 21 CFR part 814
- include a physician's interpretation of the results

Measurement of bone mineral density may be utilized for the diagnosis and treatment of decreased bone mass. The following procedures are used to measure bone mineral density:
- dual energy x-ray absorptiometry (DEXA or DXA)
- radiographic absorptiometry (RA)
- bone sonometry (ultrasound)
- single energy x-ray absorptiometry (SEXA)
- quantitative computed tomography (QCT)

Earlier technologies, such as single and dual photon absorptiometry are no longer used usually.

The FRAX® tool (Fracture Risk Assessment) has been developed by World Health Organization Collaborating Centre for Metabolic Bone Diseases (Sheffield, United Kingdom) to evaluate fracture risk of patients. It is based on individual patient models that integrate the risks associated with clinical risk factors as well as BMD at the femoral neck. The FRAX models have been developed from studying population-based cohorts from Europe, North America, Asia and Australia. In their most sophisticated form, FRAX is available on newer DEXA machines or with software upgrades that provide the FRAX scores on the bone density report. The FRAX tool is computer-driven and is available online. Also, several simplified paper versions, based on the number of risk factors are also available, and can be downloaded for office use. The FRAX algorithms give the 10-year probability of fracture. The output is a 10-year probability of hip fracture and the 10-year probability of a major osteoporotic fracture (clinical spine, forearm, hip or shoulder fracture).

POLICY
Bone density measurements do not require prior authorization.

Vertebral fracture assessment by dual-energy x-ray absorptiometry (DEXA) (77086) does not require prior authorization.

Dual photon absorptiometry (78351) is a non-covered service for Advantage.

HMO, PPO, Individual Marketplace, Elite, Advantage
SCREENING
Paramount covers any of the following bone mineral density measurement testing methods as medically necessary as screening for osteoporosis:
- peripheral ultrasound (76977)
- central dual x-ray absorptiometry (DEXA) (77080)
- central dual x-ray absorptiometry (DEXA) with vertebral fracture assessment (77085)
- peripheral DEXA (77081)
- peripheral single energy x-ray absorptiometry (G0130)

for ANY of the following indications:
- woman age ≥65 years
- woman age <65 years whose 10-year fracture risk is equal to or greater than that of a 65-year-old white woman without additional risk factors (a 9.3% 10-year risk for any osteoporotic fracture) as determined by FRAX* score
- man age >50 years with at least one factor related to an increased risk of osteoporosis (i.e., age > 70, low body weight, weight loss >10%, physical inactivity, corticosteroid use, androgen deprivation therapy, hypogonadism and previous fragility fracture

Paramount covers computed tomography (CT) (77078) for bone mineral density measurement testing as medically necessary as screening for osteoporosis when DEXA scanner is unavailable or known to be inaccurate for ANY of the following indications:
- woman age ≥65 years
- woman age <65 years whose 10-year fracture risk is equal to or greater than that of a 65-year-old white woman without additional risk factors (a 9.3% 10-year risk for any osteoporotic fracture) as determined by FRAX* score
- man age >50 years with at least one factor related to an increased risk of osteoporosis (i.e., age > 70, low body weight, weight loss >10%, physical inactivity, corticosteroid use, androgen deprivation therapy, hypogonadism and previous fragility fracture

* Fracture Risk Assessment (FRAX®) tool, developed by the World Health Organization (Sheffield, United Kingdom)

Paramount does not cover bone mineral density measurement for screening for osteoporosis for any other population because it is considered experimental, investigational or unproven.

NON-SCREENING/MONITORING
Paramount covers any of the following bone mineral density measurement testing methods as medically necessary:
- peripheral ultrasound (76977)
- central dual x-ray absorptiometry (DEXA) (77080)
- central dual x-ray absorptiometry (DEXA) with vertebral fracture assessment (77085)
- peripheral DEXA (77081)
- peripheral single energy x-ray absorptiometry (G0130)

for ANY of the following indications:
- prior to and during pharmacologic treatment for osteoporosis
- child or adolescent with a disease process known to adversely affect the skeleton
- known osteoporotic fracture
- individual with vertebral abnormalities as demonstrated by an x-ray to be indicative of osteoporosis, osteopenia, or vertebral fracture

Paramount covers computed tomography (CT) (77078) for bone mineral density measurement testing as medically necessary when DEXA scanner is unavailable or known to be inaccurate for ANY of the following indications:
- multiple healed compression fractures
- significant scoliosis
- follow-up in cases where QCT was the original study
- obese individual over the weight limit of the DEXA exam table or BMI >35kg/m2
- extremes in body height (i.e., very large and very small individuals)
- extensive degenerative disease of the spine
- a clinical scenario that requires sensitivity to small changes in trabecular bone density (parathyroid hormone and glucocorticoid treatment monitoring)

Paramount does not cover non-screening/monitoring bone mineral density measurement for any other indication because it is considered experimental, investigational or unproven.
VERTEBRAL FRACTURE ASSESSMENT (77086)
Paramount covers vertebral fracture assessment by dual-energy x-ray absorptiometry (DEXA) when medically necessary (i.e. when a vertebral fracture assessment is required). Symptoms should be present and documented, and it should be anticipated that the results of the test will be used in the management of the patient. Code 77086 does not represent a bone density study and it therefore should NOT be billed for screening.

CODING/BILLING INFORMATION
The appearance of a code in this section does not necessarily indicate coverage. Codes that are covered may have selection criteria that must be met. Payment for supplies may be included in payment for other services rendered.

<table>
<thead>
<tr>
<th>CPT CODE</th>
<th>Description</th>
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<tbody>
<tr>
<td>76977</td>
<td>Ultrasound bone density measurement and interpretation, peripheral site(s), any method</td>
</tr>
<tr>
<td>77078</td>
<td>Computed tomography, bone mineral density study, 1 or more sites; axial skeleton (e.g., hips, pelvis, spine)</td>
</tr>
<tr>
<td>77080</td>
<td>Dual-energy X-ray absorptiometry (DXA), bone density study, 1 or more sites; axial skeleton (e.g., hips, pelvis, spine)</td>
</tr>
<tr>
<td>77081</td>
<td>Dual-energy X-ray absorptiometry (DXA), bone density study, 1 or more sites; appendicular skeleton (peripheral) (e.g., radius, wrist, heel)</td>
</tr>
<tr>
<td>77085</td>
<td>Dual-energy X-ray absorptiometry (DXA), bone density study, 1 or more sites; axial skeleton (eg, hips, pelvis, spine), including vertebral fracture assessment</td>
</tr>
<tr>
<td>77086</td>
<td>Vertebral fracture assessment via dual-energy x-ray absorptiometry (DXA)</td>
</tr>
<tr>
<td>78350</td>
<td>Bone density (bone mineral content) study, 1 or more sites; single photon absorptiometry</td>
</tr>
<tr>
<td>78351</td>
<td>Bone density (bone mineral content) study, 1 or more sites; dual photon absorptiometry, 1 or more sites</td>
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</table>

<table>
<thead>
<tr>
<th>HCPCS CODE</th>
<th>Description</th>
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<tbody>
<tr>
<td>G0130</td>
<td>Single energy X-ray absorptiometry (sexa) bone density study, one or more sites; appendicular skeleton (peripheral) (e.g., radius, wrist, heel)</td>
</tr>
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</table>

REVISION HISTORY EXPLANATION
07/14/15: Policy created to reflect most current clinical evidence per Medical Policy Steering Committee.
04/10/18: Policy reviewed and updated to reflect most current clinical evidence per Medical Policy Steering Committee.

REFERENCES/RESOURCES
Centers for Medicare and Medicaid Services, CMS Manual System and other CMS publications and services
Ohio Department of Medicaid http://jfs.ohio.gov/
American Medical Association, Current Procedural Terminology (CPT®) and associated publications and services
Centers for Medicare and Medicaid Services, Healthcare Common Procedure Coding System, HCPCS Release and Code Sets
Industry Standard Review
Hayes, Inc.