Measure Title: APPROPRIATE MONITORING FOR ANGIOTENSIN CONVERTING ENZYME INHIBITORS, ANGIOTENSIN RECEPTOR BLOCKERS USE

Disease State: Multiple Conditions

Strength of Recommendation: B

Organizations Providing Recommendation: Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure, Seventh Report

Clinical Intent: To ensure that all members who received angiotensin converting enzyme (ACE) inhibitors, and/or angiotensin receptor blockers (ARB) receive appropriate laboratory monitoring at least annually.

Disease Burden:
- Hypertension is the most frequently reported primary diagnosis for office visits of non-pregnant adults to physicians in the United States, accounting for approximately 17.2 million visits per year.[1]
- According to the Seventh Report of the Joint National Committee (JNC) on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC VII) guidelines, approximately 60% of adults in the United States have either hypertension (SBP > 140 mm Hg or DBP > 90 mm Hg) or pre-hypertension (SBP of 120 to 139 mm Hg or DBP of 80 to 89 mm Hg).[2]
- Several randomized control trials have shown the benefits of ACE inhibitors among individuals with coronary artery disease or coronary artery disease equivalents.[3, 4]
- ACE Inhibitors also have benefits for heart failure, post-MI and asymptomatic left ventricular dysfunction, post-MI survival, diabetic nephropathy, and reduced risk of MI, stroke, and death from cardiovascular causes.[5]
- ARBs have also been shown to benefit patients with diabetic nephropathy and heart failure.[5]

Reason for Indicated Intervention or Treatment:
- Although well tolerated, especially in modest doses, diuretics, ACE inhibitors, and angiotensin receptor blockers (ARBs), may cause electrolyte abnormalities such as hyper or hypokalemia.[6-9] These electrolyte abnormalities can lead to fatal arrhythmias and death.

Clinical:
- JNC VII guidelines states that “serum potassium and creatinine should
Recommendations
be monitored at least one to two times per year after initiating antihypertensive therapy.”[2]

Source
Healthcare Effectiveness Data and Information Set (HEDIS®) 2009 Technical Specification for Physician Measurement

Denominator

Denominator Definition
Continuously enrolled members ages 18 years or older by the end of the measurement year who received at least a 180 day supply of ACE inhibitors or ARBs (including any combination products) during the measurement year.

Note: Members may switch therapy within any medication listed in acearb_den_medlist_2009_v1.xls during the measurement year and have the days supply for those medications count towards the total 180 days supply.

Denominator Encounters/Claims Criteria
Members who received at least a 180 day supply of ACE inhibitors, ARBs, or (including any combination products) during the measurement year.

Drug list: ACE inhibitors, ACE inhibitor-Combination products, ARBs, ARB-Combination products.

Denominator Exclusion

Denominator Exclusion Definition
Members who had an acute/nonacute inpatient stay during the measurement year.

Denominator Exclusion Claims Criteria
ICD-9 diagnosis code(s): Any primary diagnosis code. Acceptable range: 001.xx-999.8x, E800.x-E999.x, V01.x –V89.x

UB Type of Bill code(s): 18x, 31, 32, 34_11x, 12x, 21x, 22x 41x, 81x, 82x, 84x

CPT-4 code(s): 99217-99220, 99221-99223, 99231-99233, 99234-99236, 99238-99239, 99251-99255, 99261-99263, 99291-99300, 99356-99357, 99431-99440

UB revenue code(s): 0100-0114, 0115, 0117, 0118, 0121-0123, 0125, 0127, 0128, 0131-0133, 0135, 0137, 0138, 0141-0143, 0145, 0147, 0148, 0151-0153, 0155, 0157, 0158, 0200-0219, 0220-0229, 0650, 0655, 0656, 0658, 0659, 0720-0729, 0800-0809, 0987, 019x, 1001, 1002

Place of service code(s): 54, 55, 56, 61

HCPCS code(s): H0017-H0019, T2048
**Numerator**

**Numerator Definition**

Members who received at least 1 serum potassium test and either a serum creatinine test or a blood urea nitrogen therapeutic monitoring test during the measurement year.

**Numerator Claims Criteria**

Note: CPT codes 80048, 80050, 80053, and 80069 are present in all three data steps. These codes represent tests that satisfy numerator criteria [A], [B] and [C] (e.g. general health panels, etc.)

CPT-4 code(s): 80047, 80048, 80050, 80051, 80053, 80069, 82565, 82575, 84132, 84520, 84525

LOINC code(s): 2160-0, 2163-4, 2164-2, 2824-1, 2823-3, 3094-0, 6298-4, 6299-2, 11041-1, 11042-9, 11064-3, 11065-0, 12195-4, 12812-4, 12813-2, 12964-3, 12965-0, 12966-8, 13441-1, 13442-9, 13443-7, 13446-0, 13447-8, 13449-4, 13450-2, 14682-9, 14937-7, 16188-5, 16189-3, 21232-4, 22760-3, 24320-4, 24321-2, 24322-0, 24323-8, 24323-0, 24323-8, 24326-1, 24362-6, 26752-6, 29349-8, 31045-8, 32713-0, 33558-8, 34555-3, 35203-9, 35591-7, 35592-5, 35593-3, 35594-1, 38483-4, 34548-8, 34554-6, 39789-3, 39790-1, 39955-0, 39956-8, 39957-6, 39958-4, 39959-2, 39960-0, 39961-8, 39962-6, 39963-4, 39964-2, 39965-9, 39966-7, 39967-5, 39968-3, 39969-1, 39970-9, 39971-7, 39972-5, 39973-5, 39974-1, 39975-8, 39976-6, 41656-0, 40112-5, 40113-3, 40114-1, 40115-8, 40116-6, 40117-4, 40118-2, 40119-0, 40120-8, 40121-6, 40122-4, 40123-2, 40124-0, 40125-7, 40126-5, 40127-3, 40128-1, 40248-7, 40249-5, 40250-3, 40251-1, 40252-9, 40253-7, 40254-5, 40255-2, 40256-0, 40257-8, 40258-6, 40264-4, 40265-1, 40266-9, 40267-7, 40268-5, 40269-3, 40270-1, 40271-9, 40272-7, 40273-5, 44734-2, 44784-7, 45064-3, 45065-0, 45066-8, 49071-4, 50261-7, 50380-5, 50381-3, 51618-7, 51619-5, 51620-3 (if available)

**Physician Attribution**

**Physician Attribution Description**

If client data contains prescribing provider:

Score the physician(s) (in the selected specialties) who prescribed the member a denominator medication.

If client data does not contain prescribing provider:

Score all physicians (in the appropriate specialties) who saw the member during the measurement year

**References**

2. Chobanian, et al., *Seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood*


1 **Indicator Classification** (Adapted from Health Plan Employer Data Information Set (HEDIS®) technical specifications)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnosis</strong></td>
<td>Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g. evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain)</td>
</tr>
<tr>
<td><strong>Effectiveness of Care</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Prevention</strong></td>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g. immunizations).</td>
</tr>
<tr>
<td><strong>Screening</strong></td>
<td>Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g. pap smears; screening for elevated blood pressure).</td>
</tr>
<tr>
<td><strong>Disease Management</strong></td>
<td>Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g. cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).</td>
</tr>
<tr>
<td><strong>Medication Monitoring</strong></td>
<td>Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g. thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy)</td>
</tr>
<tr>
<td><strong>Medication Adherence</strong></td>
<td>Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g. adherence to lipid lowering medication).</td>
</tr>
<tr>
<td><strong>Utilization</strong></td>
<td>Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g. conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).</td>
</tr>
</tbody>
</table>
**Strength of Recommendation**

**Strength of Recommendation Based on a Body of Evidence**

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?

- Yes
  - Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)
    - Yes
      - Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?
        - Yes
          - Is the recommendation based on one of the following?
            - Cochrane Review with a clear recommendation
            - USPSTF Grade A recommendation
            - Clinical Evidence rating of Beneficial
            - Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
            - Validated clinical decision rule in a relevant population
            - Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same
          - Yes
            - Strength of Recommendation = A
          - No
            - Strength of Recommendation = B
        - No
          - Strength of Recommendation = C
    - No
      - Strength of Recommendation not needed
  - No
    - Strength of Recommendation not needed

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**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)