Measure Title: ADHERENCE TO ANTI-HYPERTENSIVE MEDICATION

Disease State: Hypertension  
Indicator Classification: Adherence

Strength of Recommendation:
A (anti-hypertensive medication)  
C (physician impact on adherence)

Organizations Providing Recommendation:
American College of Cardiology  
American Heart Association  
Institute for Clinical Systems Improvement  
World Health Organization

Clinical Intent:
To ensure that members who are taking medications to treat hypertension filled > 80% of their medication over a 6 month period.

Background: Disease Burden
- 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).[1, 2] As of 2008, an estimated 73 million Americans are living with hypertension.[3]
- Hypertension is the most frequently reported primary diagnosis for office visits of non-pregnant adults to physicians in the United States, accounting for 22.8% of office visits annually.[4]
- About 59% of the patients in the United States with hypertension are being treated and only 34% of those treated have well-controlled blood pressures (SBP < 140 and DBP < 90).[2, 5, 6]
- Less than 50% of patients with chronic conditions report “consistent long-term use” of prescribed medications.[7, 8] Both intentional and non-intentional reasons for lack of adherence may stem from perceived negative effects of the medication.[9]

Evidence Supporting Intervention or Treatment
- Multiple meta-analyses of randomized, controlled trials show that blood pressure reduction decreases the risk of coronary heart disease by approximately 20-25% and the risk of stroke by approximately 35-40% within only a few years of beginning treatment.[1, 10-12]
- A recent two-year study combined patient education with the provision of labeled blister packs containing daily doses of all medicines. The study found a “marked and sustained increase in medication adherence” from an initial 61% to an ending 96%, while the rate of
participants achieving 80% adherence increased from 5.0% to 98.7%. Adherence to hypertension medications led to “clinically meaningful” reductions in blood pressure and low density lipoprotein cholesterol levels.[13]

- A review in the New England Journal of Medicine suggested that “Practitioners should always look for poor adherence and can enhance adherence by emphasizing the value of a patient’s regimen, making the regimen simple, and customizing the regimen to a patient’s lifestyle. Asking patients non-judgmentally about medication-taking behavior is a practical strategy for identifying poor adherence. A collaborative approach to care augments adherence. Patients who have difficulty maintaining adequate adherence need more intensive strategies than do patients who have less difficulty with adherence, a more forgiving regimen, or both... New technologies such as reminders through cell phones and personal digital assistants and pillboxes with paging systems may be needed to help patients who have the most difficulty meeting the goals of a regimen.”[14] Another review in the Canadian Journal of Public Health included similar suggestions.[15]

Clinical Recommendations

- The World Health Organization (WHO) states that “adherence is a multidimensional issue where different health care actors’ efforts meet,” and recommends multi-level approaches to improve adherence.[17]

- The Institute for Clinical Systems Improvement suggests that “Asking non-threatening, open-ended questions during patient interviews can be a useful method of assessing medication adherence. The interview should include probes for factors that contribute to non-adherence including adverse reactions, misunderstandings of asymptomatic or chronic disease treatment, depression, cognitive impairment, complex dosing regimens, and financial constraints.”[18] Additionally, the ICSI recommends including reminder systems, drug-count devices, and written instructions from physicians, and paying continued attention to non-pharmacologic forms of therapy such as diet and exercise.[8]

- The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure recommends clinicians hold exit interviews to clarify treatment plans, be willing to change unsuccessful regimens, follow-up after missed appointments, include the patient in the selection of a plan, integrate the regimen into the patient’s daily activities, and solicit and address patient concerns and questions.[1]

Source

Health Benchmarks, Inc.

Denominator

| Denominator | Continuously enrolled members ages 19 years or older by the end of the measurement year who had a diagnosis of hypertension and filled a prescription for an anti-hypertensive medication during the 1 year period beginning 6 |

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HBI_htn401_v2.2
Measure: htnmed401
months prior to the start of the measurement year. In order to qualify for the denominator, members must also fill at least a 60 day supply of anti-hypertensive medication during the 6 months after their initial prescription fill.

**Denominator Index Date**
First instance of Members who had at least 1 diagnosis of hypertension during the 1 year period beginning 6 months prior to the start of the measurement year.

**Denominator Encounters/Claims Criteria**
ICD-9 diagnosis code(s): 401.xx-405.xx

Drug List: loop diuretics (furosemid, torsemid), potassium-sparing diuretics (amiloride, spirolactone, triamterene), alpha-1 blockers (doxazosin, prazosin, terazosin, alfuzosin), vasodilators (hydralazine, minoxidil), central alpha-2 agonists and centrally acting agents (clonidine-oral and patch, methyldopa, reserpine, guanfacine), mecamylamine, angiotensin-converting enzyme inhibitors, angiotensin II receptor antagonists, aliskiren, eplerenone, calcium channel blocking agents, beta blockers (all except sotolol and esmolol), alpha/beta-adrenergic blocking agents (labetalol, carvedilol), and combination drugs

**Denominator Exclusion**
Members who were pregnant during the 0-6 months after the index date (inclusive of the index date).

**Denominator Exclusion Claims Criteria**

ICD-9 surgical proc code(s): 66.62, 69.0x, 72.xx-75.xx

CPT-4 code(s): 59000, 59001, 59012, 59015, 59020, 59025, 59030, 59050, 59051, 59070, 59072, 59074, 59076, 59100, 59120, 59121, 59130, 59135, 59136, 59140, 59150, 59151, 59160, 59200, 59300, 59320, 59325, 59350, 59400, 59409, 59410, 59412, 59414, 59425, 59426, 59430, 59510, 59514, 59515, 59525, 59610, 59612, 59614, 59618, 59620, 59622, 59812, 59820, 59821, 59830, 59840, 59841, 59850-59852, 59855-59857, 59866, 59870, 59871, 59897-59899, 76001, 76002, 76005, 76010-76012, 76815-76819, 76825-76828, 76941, 76945, 76946, 82106, 82143, 82731, 88235, 88267, 88269, 0500F-0502F

DRG code(s): 370-391

MS-DRG code(s): 765-770, 774-782, 789-795

**Numerator**
Members who had sufficient days supply of anti-hypertensive medication to provide for at least 80% coverage during the 0-6 months after the index date (inclusive of the index date). *Of note, members can switch between different anti-hypertensive medications.*
**Numerator Claims Criteria**

Drug List: loop diuretics (furosemid, torsemid), potassium-sparing diuretics (amiloride, spironolactone, triamterene), alpha-1 blockers (doxazosin, prazosin, terazosin, alfuzosin), vasodilators (hydralazine, minoxidil), central alpha-2 agonists and centrally acting agents (clonidine-oral and patch, methyldopa, reserpine, guanfacine), mecamylamine, angiotensin-converting enzyme inhibitors, angiotensin II receptor antagonists, aliskiren, eplerenone, calcium channel blocking agents, beta blockers (all except sotolol and esmolol), alpha/beta-adrenergic blocking agents (labetalol, carvedilol), and combination drugs.

**Physician Attribution**

**Description**

Score all physicians (in the selected specialties) who saw the member 0-6 months after the index date (inclusive of the index date).

**References**


1 Indicator Classification (Adapted from HEDIS® technical specifications)

**Diagnosis**
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).

**Effectiveness of Care**

**Prevention**
Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**
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).

**Disease Management**
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).

**Medication Monitoring**
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).

**Medication Adherence**
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).

**Utilization**
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).
2 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
  - No
    - Strength of Recommendation not needed

- **Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)**
  - Yes
  - No
    - Strength of Recommendation = C

- **Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?**
  - Yes
  - No
    - Strength of Recommendation = B

- **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
  - No
    - Strength of Recommendation = A

**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)