Client: HEALTH BENCHMARKS, INC. STANDARD ALGORITHM

Measure Title: ADHERENCE TO LIPID-LOWERING MEDICATION

Disease State: Hyperlipidemia

Indicator Classification: Adherence

Strength of Recommendation: A (lipid lowering medication)

C (physician impact on adherence)

Organizations Providing Recommendation:
- American Heart Association
- Institute for Clinical Systems Improvement
- National Heart, Blood and Lung Institute

Clinical Intent: To ensure that members who are taking medications to treat hyperlipidemia filled an adequate supply of medications over a predefined time period.

Background: Disease Burden
- More than 50 million U.S. adults have blood cholesterol levels high enough to require medical advice and treatment.[1]
- An estimated 106.9 million American adults have total blood cholesterol levels of 200 mg/dL and higher, which is above desirable levels. Of these, 37.7 million have levels of 240 mg/dL or higher, which is considered high risk.[2]
- Poor adherence to drug therapy remains a major therapeutic challenge. On average, patients who are prescribed lipid-lowering drugs do not fill their prescriptions for over one-third of the year.[3] Only half of patients continue to take lipid-lowering drugs six months after they are given a prescription and only 30-40% of patients continue to take them after 12 months.[1, 4, 5]
- Adherence is defined as the extent to which patients take medications as prescribed. As such, non-adherence includes events such as not filling or refilling a prescription, taking an incorrect medication dose, missing a dose, or taking a medication at the wrong time.[6, 7]

Reason for Indicated Intervention or Treatment
- Evidence suggests that physician counseling regarding disease risk factors and medication persistence plays an important role in maximizing patient adherence.[5]

Evidence Supporting Intervention or Treatment
- The West of Scotland Coronary Prevention Study Group found in a randomized controlled trial that patients with a lipid lowering medication adherence rate greater than 75% reduced their risk of death from any cause by one third more than those with lower compliance.[8]
- Early and frequent follow up by physicians, and especially lipid testing,
has been associated with increased adherence to lipid lowering therapy. [9]

- Several strategies may help increase adherence to lipid-lowering drug regimes, including prescription of well tolerated drugs, educating patients, providing regular follow up, and behavioral interventions. [5, 10-12] Physicians may also play a role by simplifying drug regimes and initiating all heart disease medications (i.e., antihypertensives and lipid lowering drugs) at the same time. [5, 13] Greater adherence may also follow from initial, measurable results (e.g., a reduction in LDL cholesterol levels during the first three months of statin therapy). [9]

- A recent two year randomized controlled trial 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” among patients receiving the intervention; adherence jumped from 61% to 96%. [14]

- A recent Cochrane Database meta-analysis of studies aimed at improving medication adherence (not specifically focused on lipid lowering medications) found that almost all interventions effective for long-term care are complex and multi-faceted, including information, reminders, self-monitoring, reinforcement, counseling, family therapy, and other forms of additional supervision or attention by a health care provider (physician, nurse, pharmacist or other). [15]

- A large review article 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.” [16] Another review in the Canadian Journal of Public Health included similar suggestions. [17]

**Clinical Recommendations**

- The American Heart Association expert panel on compliance recommends that patients, providers and healthcare organizations integrate efforts to reduce noncompliance with medications. This includes improved patient education, contracts, self-monitoring, telephone follow-ups, and social support. [18]

- The Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III) concluded that none of the current methods of improving adherence with chronic health problems are very effective, and that there is little evidence patient
medication adherence can be improved in a consistent manner. However, physicians should pay attention to potential interventions to improving adherence to treatment.[1]

- The Institute for Clinical Systems Improvement suggests various ways to improve adherence, including “asking about compliance in a non-threatening way at each visit; simplification of the drug regimen (frequency and complexity); reminder systems; drug count devices; pill minders; involvement of family or friends; a health care team approach including nurses, dieticians, pharmacists and educators, in addition to physicians; written instructions; and educating the patient about the medications, including potential adverse effects, importance of therapy, realistic goals, necessity of life-long treatment, and importance of continued attention to non-pharmacologic therapy (i.e., diet, exercise).” [19]

Source
Health Benchmarks, Inc.

| Denominator | Definition | Continuously enrolled members ages 19 years or older by the end of the measurement year who had a diagnosis of hyperlipidemia and filled a prescription for a lipid lowering medication any time in history through 6 months prior to the end of the measurement year. In order to qualify for the denominator, members must also fill at least a 60 day supply of lipid lowering medication during the 6 months after the initial prescription fill.
| Denominator Index Date | First instance of Members who were diagnosed with hyperlipidemia any time in history through 6 months prior to the end of the measurement year
| Denominator Encounters/Claims Criteria | ICD-9 diagnosis code(s): 272.0, 272.1, 272.2, 272.3, 272.4
| Drug List: statins, bile acid sequestrants (cholestyramine, colesevelam, colestipol), combination medications (i.e., advicor caduet, etc.), clofibrate, ezetimibe, fenofibrate, gemfibrozil, niacin

| Denominator Exclusion Definition | Members who were pregnant or diagnosed with rhabdomyolysis in the 0-6 months after the index date (inclusive of index date).
| 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, 76801, 76802, 76805, 76810-76812, 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

<table>
<thead>
<tr>
<th>Numerator</th>
<th>Members in the denominator who filled sufficient days’ supply of lipid lowering drugs to provide for at least 80% coverage during the 0-6 months after the index date (inclusive of the index date).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerator Claims Criteria</td>
<td>Members in the denominator who filled sufficient days’ supply of lipid lowering drugs to provide for at least 80% coverage during the 0-6 months after the index date (inclusive of the index date).</td>
</tr>
</tbody>
</table>

| Physician Attribution         | 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)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
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</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>
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<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>
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<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>
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<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>
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 → Strength of Recommendation not needed
No → Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)
Yes → Strength of Recommendation = C
No → 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
No → Strength of Recommendation = B
Yes → 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)