

<b>Client</b>	HEALTH BENCHMARKS, INC. STANDARD ALGORITHM <i>Implemented for Blue Cross Blue Shield of Texas</i>	
<b>Measure Title</b>	LDL MONITORING FOR DIABETES	
<b>Disease State</b>	Diabetes	<b>Indicator Classification<sup>1</sup></b> Screening
<b>Strength of Recommendation<sup>2</sup></b>	A	
<b>Organizations Providing Recommendation</b>	NCQA (HEDIS 2007 Technical Specification), The American Diabetes Association, NCEP-ATP-III Guidelines	
<b>Clinical Intent</b>	To ensure that all members with diabetes receive LDL monitoring at a clinically appropriate frequency.	
<b>Physician Specialties</b>	Cardiovascular Disease – Non-interventional, Endocrinology, Family Practice, Geriatric Medicine, Internal Medicine, Nephrology	
<b>Clinical Rationale</b>	<p><b>Disease Burden</b></p> <ul style="list-style-type: none"> <li>• Diabetes is a chronic, serious disease that affects approximately 14.7 million Americans. This disease is the leading cause of new cases of blindness among adults aged 20-74, the leading cause of end-stage renal disease, and a major contributing cause of lower extremity amputations.[1-4], and is responsible for over 200,000 deaths each year.[4-8]</li> <li>• About 65% of patients with diabetes die from cardiovascular events.[9]</li> </ul> <p><b>Reason for Indicated Intervention or Treatment</b></p> <ul style="list-style-type: none"> <li>• Diabetes is a major risk factor for cardiovascular disease, and is considered to be a coronary heart disease (CHD) equivalent in terms of risk stratification for cholesterol management.[10-14]</li> <li>• Lipid management to lower LDL levels, raise HDL levels, and lower triglyceride levels in diabetics reduces cardiovascular disease and mortality.[13, 15-34]</li> <li>• Lipid screening in patients with diabetes is essential for treatment decisions.</li> </ul> <p><b>Evidence supporting Intervention or Treatment</b></p> <ul style="list-style-type: none"> <li>• A meta-analysis of six large randomized, controlled trials that evaluated lipid-lowering therapy as primary prevention in patients with diabetes showed that treatment with lipid-lowering medications decreases the risk for cardiovascular outcomes. For every 34 to 35 patients treated, 1 major cardiovascular event was prevented.[15-21, 30, 31]</li> <li>• Similarly, a meta-analysis of eight large randomized controlled trials looking at treatment with lipid-lowering therapy as secondary prevention in patients with diabetes showed an even greater positive effect, with 1 major cardiovascular event prevented for every 13 to 14 patients treated.[15, 22-26, 30, 32]</li> </ul>	

### Clinical Recommendations

- The American Diabetes Association (ADA) and NCEP-ATP-III guidelines both recommend that all adults with diabetes be managed to achieve an LDL cholesterol < 100 mg/dl.[11, 35] ADA recommends that patients receive lipid monitoring at least yearly, and more often if needed to manage care.[35]
- The ADA recommends that adults with diabetes be tested at least annually for lipid disorders, and more often if needed to achieve desired lipid levels. This should be done by obtaining a fasting lipoprotein profile (total cholesterol, LDL cholesterol, HDL cholesterol, and triglycerides). [35]
- According to the ADA, adults with low-risk lipid values (LDL < 100 mg/dL, HDL > 50 mg/dL, triglycerides < 150 mg/dL) should get checked every 2 years.[35]
- Other organizations do not make specific suggestions regarding the frequency of lipid testing in diabetics.

<b>Source</b>	Adapted from Health Plan Employer Data and Information Set (HEDIS®) 2007 Technical Specifications. HBI's standard algorithm aims to validate that the member receives an LDL screening test through direct or indirect measurement.
<b>Denominator</b>	Continuously enrolled members ages 18 - 75 years by the end of the measurement year who were identified as having diabetes during the measurement year or year prior.
<b>Denominator Exclusion</b>	Members in the denominator with a diagnosis of polycystic ovaries at any time in the member's history who did <b>NOT</b> receive a diagnosis of diabetes during the measurement year or year prior, or members diagnosed with gestational diabetes or steroid-induced diabetes during the measurement year or year prior.
<b>Numerator</b>	Members who had LDL levels measured through direct/indirect means during the measurement year.
<b>Interpretation of Score</b>	High score implies better performance
<b>Physician Attribution</b>	Score all physicians (in the selected specialties) who saw the member during the measurement year.
<b>References</b>	<ol style="list-style-type: none"><li>1. CDC. <i>National Diabetes Surveillance System</i>. 2004 [cited 2004 November 17th]; Available from: <a href="http://www.cdc.gov/diabetes/statistics/prev/national/figpersons.htm">http://www.cdc.gov/diabetes/statistics/prev/national/figpersons.htm</a></li><li>2. Centers for Disease Control and Prevention, <i>National diabetes fact sheet</i>. 2004, U.S. Department of Health and Human Services, Centers for Disease Control and Prevention: Atlanta, GA.</li><li>3. National Institute of Diabetes and Digestive and Kidney Diseases, <i>National Diabetes Statistics fact sheet: general information and national estimates on diabetes in the United States</i>. 2004, U.S. Department of Health and Human Services, National Institutes of Health: Bethesda, MD.</li><li>4. Gu, K., C.C. Cowie, and M.I. Harris, <i>Mortality in adults with and without diabetes in a national cohort of the U.S. population, 1971-1993</i>. <i>Diabetes Care</i>, 1998. <b>21</b>(7): p. 1138-45.</li><li>5. Hu, F.B., et al., <i>The impact of diabetes mellitus on mortality from all causes and coronary heart disease in women: 20 years of follow-up</i>. <i>Arch Intern Med</i>, 2001. <b>161</b>(14): p. 1717-23.</li><li>6. Anderson, R.N. and B.L. Smith, <i>Deaths: leading causes for 2001</i>. <i>Natl</i></li></ol>

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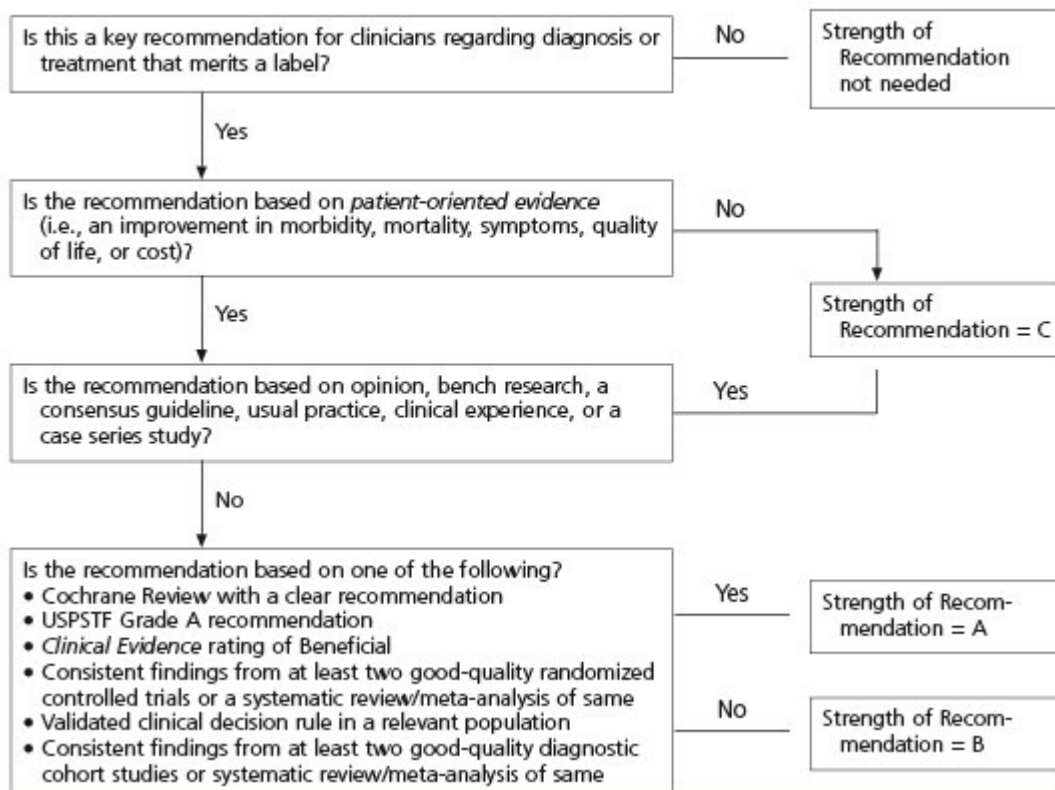
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<sup>1</sup> **Indicator Classification** (Adapted from Health Plan Employer Data Information Set (HEDIS®) technical specifications)

<b>Diagnosis</b>	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)
<b>Effectiveness of Care</b>	
<b>Prevention</b>	Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g. immunizations).
<b>Screening</b>	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).
<b>Disease Management</b>	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).
<b>Medication Monitoring</b>	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)
<b>Medication Adherence</b>	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).
<b>Utilization</b>	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).

## <sup>2</sup> Strength of Recommendation

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



**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)