

Client	HEALTH BENCHMARKS, INC. STANDARD ALGORITHM <i>Implemented for Blue Cross Blue Shield of Illinois</i>
Measure Title	ANNUAL VISUAL FIELD TESTS FOR PATIENTS WITH PRIMARY OPEN ANGLE GLAUCOMA
Disease State	Glaucoma Indicator Classification¹ Screening
Strength of Recommendation²	B
Clinical Intent	To ensure that all members diagnosed with primary open angle glaucoma receive a visual field test at a clinically appropriate frequency.
Physician Specialties	Mixed Specialty, Ophthalmology
Clinical Rationale	<p>Disease Burden</p> <ul style="list-style-type: none"> • Glaucoma is the leading cause of irreversible blindness in the world. The Eye Disease Prevalence Research Group estimated that in the year 2000, glaucoma affected 2.22 million people in the United States. This number is projected to increase to 3.36 million by 2020.[1-3] <p>Reason for Indicated Intervention or Treatment</p> <ul style="list-style-type: none"> • Screening for evidence of poor control or disease progression and adjusting therapy as needed may protect against further damage to the optic nerve head.[4-8] <p>Evidence supporting Intervention or Treatment</p> <ul style="list-style-type: none"> • While increasing the frequency of visual field testing shortens the time to detection of a statistically significant change in vision, no well designed trials have specifically evaluated if routine visual field testing alone is associated with slower disease progression.[5, 6, 9-13] • Several trials have demonstrated that lowering intraocular pressure reduces the risk of visual loss in patients with primary open angle glaucoma.[14-19] • Patients with ocular hypertension are at higher risk for developing glaucomatous visual field loss if discs are suspect, if intraocular pressure is high, or if the patient is older in age. [20] Elevated intraocular pressure is considered to be the most important risk-factor for developing primary open-angle glaucoma (POAG).[21] <p>Clinical Recommendations</p> <ul style="list-style-type: none"> • A recent evidence-based guideline recommended annual visual field testing for patients with glaucoma.[4] • The American Academy of Ophthalmology recommends that patients with primary open-angle glaucoma who have achieved the target intraocular pressure, have no progression of damage, and have more than 6 months of control, receive visual field evaluations within 12 months. For those with less than six months of control, screening is recommended within 6 months. For those who have not reached their target IOP and show signs of damage, follow up should occur within 4 months .[22, 23]

Source	Health Benchmarks, Inc.
Denominator	Continuously enrolled members with a diagnosis of primary open angle glaucoma by an ophthalmologist optometrist during the year prior to the measurement year.
Denominator Exclusion	N/A
Numerator	Members who had at least one visual field test conducted by an ophthalmologist or optometrist specialists during the 12 months after the index date, excluding the index date.
Interpretation of Score	High score implies better performance
Physician Attribution	Score all physicians (in the selected specialties) who saw the member during the 12 months after the index date, including the index date.
References	<ol style="list-style-type: none"> 1. Quigley, H.A., <i>Number of people with glaucoma worldwide</i>. Br J Ophthalmol, 1996. 80(5): p. 389-93. 2. Congdon, N., et al., <i>Causes and prevalence of visual impairment among adults in the United States</i>. Arch Ophthalmol, 2004. 122(4): p. 477-85. 3. Friedman, D.S., et al., <i>Prevalence of open-angle glaucoma among adults in the United States</i>. Arch Ophthalmol, 2004. 122(4): p. 532-8. 4. Tuulonen, A., et al., <i>The Finnish evidence-based guideline for open-angle glaucoma</i>. Acta Ophthalmol Scand, 2003. 81(1): p. 3-18. 5. Smith, S.D., J. Katz, and H.A. Quigley, <i>Analysis of progressive change in automated visual fields in glaucoma</i>. Invest Ophthalmol Vis Sci, 1996. 37(7): p. 1419-28. 6. Katz, J., et al., <i>Estimating progression of visual field loss in glaucoma</i>. Ophthalmology, 1997. 104(6): p. 1017-25. 7. Heijl, A. and P. Asman, <i>A clinical study of perimetric probability maps</i>. Arch Ophthalmol, 1989. 107(2): p. 199-203. 8. Jay, J.L. and J.R. Murdoch, <i>The rate of visual field loss in untreated primary open angle glaucoma</i>. Br J Ophthalmol, 1993. 77(3): p. 176-8. 9. Heijl, A. and B. Bengtsson, <i>Diagnosis of early glaucoma with flicker comparisons of serial disc photographs</i>. Invest Ophthalmol Vis Sci, 1989. 30(11): p. 2376-84. 10. Quigley, H.A., et al., <i>An evaluation of optic disc and nerve fiber layer examinations in monitoring progression of early glaucoma damage</i>. Ophthalmology, 1992. 99(1): p. 19-28. 11. Caprioli, J., B. Prum, and T. Zeyen, <i>Comparison of methods to evaluate the optic nerve head and nerve fiber layer for glaucomatous change</i>. Am J Ophthalmol, 1996. 121(6): p. 659-67. 12. Paczka, J.A., et al., <i>Diagnostic capabilities of frequency-doubling technology, scanning laser polarimetry, and nerve fiber layer photographs to distinguish glaucomatous damage</i>. Am J Ophthalmol, 2001. 131(2): p. 188-97. 13. Caprioli, J., <i>Discrimination between normal and glaucomatous eyes</i>. Invest Ophthalmol Vis Sci, 1992. 33(1): p. 153-9. 14. Kass, M.A., et al., <i>The Ocular Hypertension Treatment Study: a randomized trial determines that topical ocular hypotensive medication</i>

- delays or prevents the onset of primary open-angle glaucoma. Arch Ophthalmol, 2002. 120(6): p. 701-13; discussion 829-30.*
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 18. *Comparison of glaucomatous progression between untreated patients with normal-tension glaucoma and patients with therapeutically reduced intraocular pressures. Collaborative Normal-Tension Glaucoma Study Group. Am J Ophthalmol, 1998. 126(4): p. 487-97.*
 19. Heijl, A., et al., *Reduction of intraocular pressure and glaucoma progression: results from the Early Manifest Glaucoma Trial. Arch Ophthalmol, 2002. 120(10): p. 1268-79.*
 20. Bengtsson, B. and A. Heijl, *A long-term prospective study of risk factors for glaucomatous visual field loss in patients with ocular hypertension. J Glaucoma, 2005. 14(2): p. 135-8.*
 21. Pfeiffer, N., *[Results of the "Ocular hypertension treatment study"]*. *Ophthalmologie, 2005. 102(3): p. 230-4.*
 22. Preferred Practice Patterns Committee Glaucoma Panel, *Primary Open-Angle Glaucoma. 2003, American Academy of Ophthalmology p. 1-37.*
 23. AAO, *Primary Open-Angle Glaucoma. 2005, American Academy of Ophthalmology.*

¹ **Indicator Classification** (Adapted from Health Plan Employer Data Information Set (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

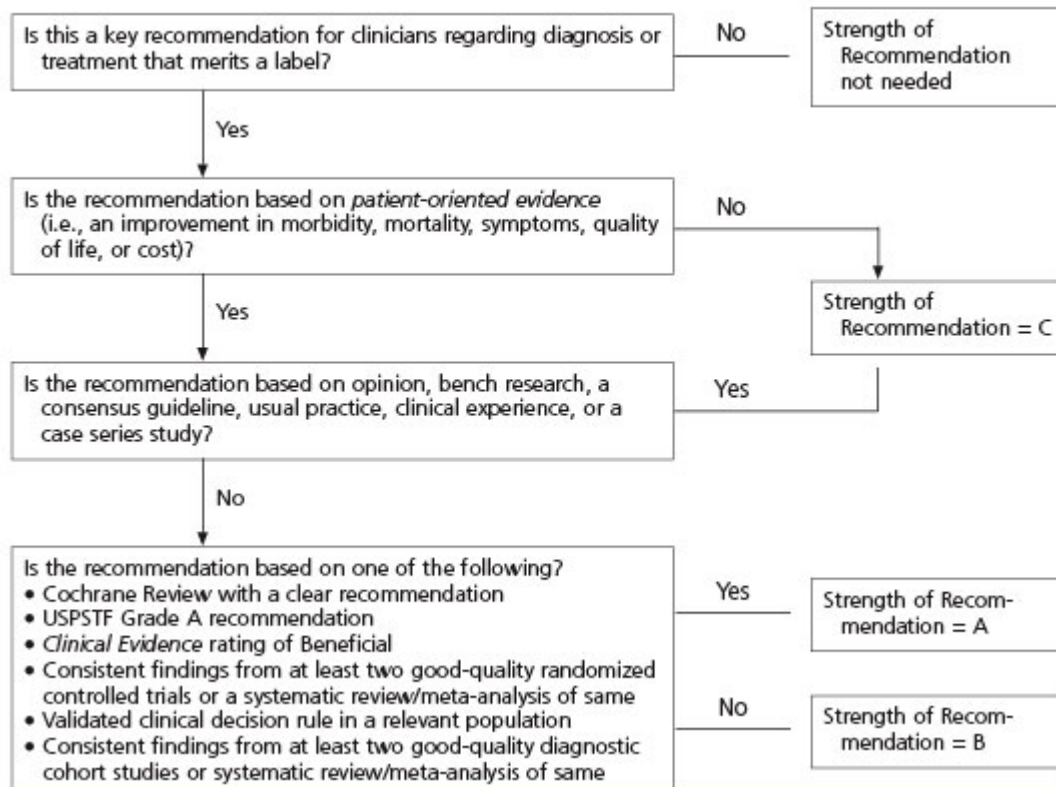


FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation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