



Glaucoma evidence gap map brief | July 2025

Glaucoma is the second leading cause of irreversible blindness worldwide. It occurs when fluid within the eye fails to drain properly, leading to increased intraocular pressure and subsequent damage to the optic nerve. If left untreated, glaucoma can also cause blood vessels within the eye to narrow or rupture.

Globally, approximately 3.6 million people are blind as a result of glaucoma, making it the second most common cause of blindness. Early diagnosis and prompt treatment are critical since symptoms may remain unnoticed for several years.

At Sightsavers, our research into eye health includes exploring what opportunities there are for scaling up quality glaucoma services, as well as identifying innovative approaches to strengthen eye care services in the context of broader health systems.

Evidence gap maps bring together systematic or literature reviews that combine the evidence available on a specific topic and present them in a user-friendly format. These reviews are useful because they identify gaps in knowledge and can help to inform best practice guidance in a specific area. Gap maps provide easy access to these reviews, their methodological quality and the strength of their conclusions.

This brief presents the findings of our glaucoma evidence gap map as of July 2025.

What is included in the cataract gap map

- Sightsavers' glaucoma evidence gap map is divided into five sections: burden of disease, biomedical research, service delivery, health systems and impact/economic evaluation. It consolidates findings from **194 systematic or literature reviews** focused on glaucoma.
- The map covers various forms of glaucoma, including primary open-angle, primary angle-closure and congenital/paediatric, acknowledging that each type may require different diagnostic and treatment methods.
- Out of the 194 reviews, 3% (6 reviews) are country-specific, 13% (25 reviews) are global, and 20% (38 reviews) involve studies from multiple regions. A notable 64% (125 reviews) failed to specify the location of primary studies, limiting our ability to evaluate the generalisability and applicability of findings to specific contexts.
- 48% (82 reviews) include studies from a combination of high, middle and low-income countries. Approximately 21% (29 reviews) focus exclusively on high-income settings, while around 5% (9 reviews) concentrate solely on low/middle-income countries (LMICs). However, most reviews (approximately 37%, 71 reviews) do not report the geographic location of included studies.

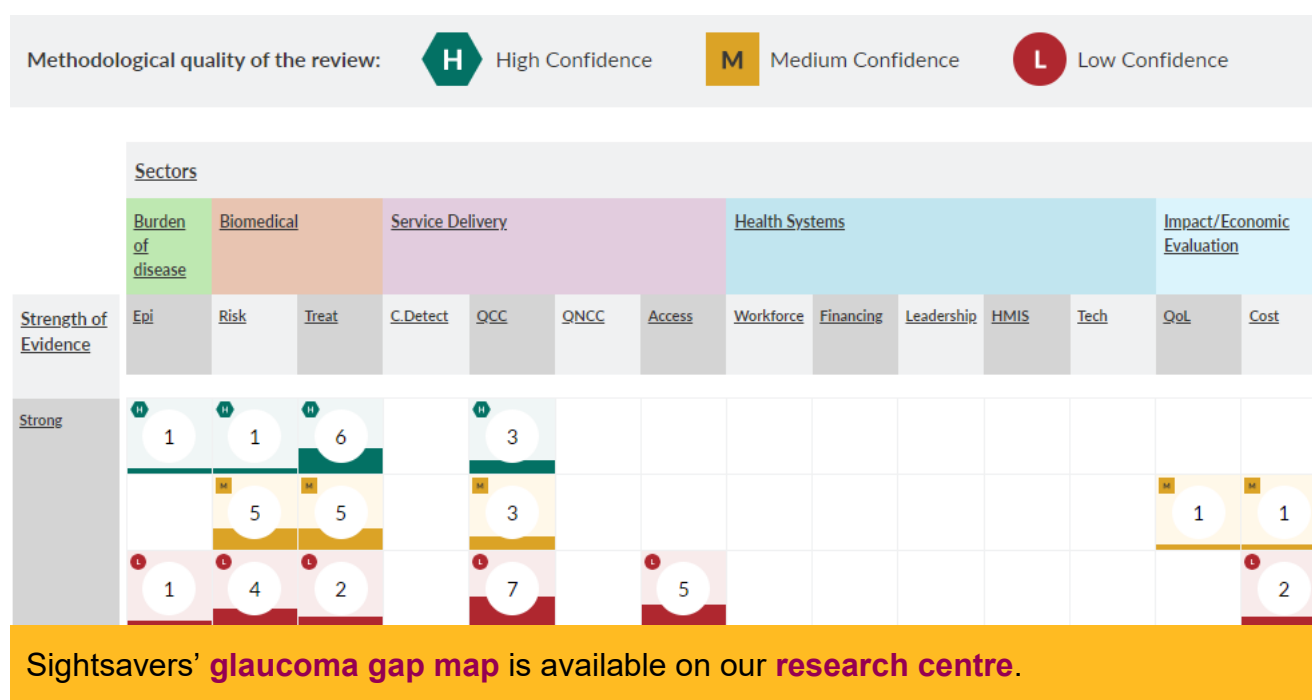
Key messages

- **None of the included reviews addressed health system-related factors**, revealing a significant gap in the evidence base for achieving universal coverage of glaucoma services.
- **Biomedical research is the most common**, however, only 20% (25 out of 124 reviews) are of high methodological confidence.
- **Syntheses of research related to service delivery are increasingly common**, but most yielded inconclusive results. Out of 43 service-delivery focused reviews, 18 (42%) reported weak or inconclusive outcomes.
- **Only 11 of 194 reviews mentioned costs or cost-effectiveness**, none of which were considered to be of high methodological confidence.
- **No reviews explicitly addressed gender** or other dimensions of equity.
- **Reviews focused exclusively on LMICs remain limited**. Of the nine LMIC-only reviews, four were of high methodological confidence, three were of low confidence, and two of medium confidence.

Reflection on the latest update

- The mapped evidence base grew by approximately 131% from 2020 to 2024, increasing from 38 to 88 reviews.
- Although the number of reviews has grown, around 18% are still inconclusive, possibly due to poor methodological quality and insufficient utilisation of existing reviews.
- Similarly, the proportion of high methodological confidence reviews (18%) has remained unchanged, highlighting the need for greater investment in high-quality evidence synthesis and the adoption of technological innovations to support it.
- Reviews centred exclusively on LMICs remain few (6%), and a third of these are of low confidence, underscoring an urgent need for investment in rigorous research where the glaucoma burden is highest.
- Nearly two-thirds (64%) of reviews lack information on study location, which affects the applicability of their conclusions.

While the glaucoma EGM shows a substantial and growing body of systematic/literature reviews, critical gaps persist in health-systems research, economic evaluation, access to services and equity. Addressing these gaps and improving the methodological rigour of future syntheses is essential to inform policies and programmes that can reduce avoidable glaucoma blindness worldwide.



How to read the glaucoma gap map

Research evidence from systematic or literature reviews is displayed in a matrix. The columns show thematic areas that are relevant to the theme of glaucoma, labelled as sectors and sub-sectors. The rows show the strength of the evidence in each review: strong,

inconclusive or weak. If the authors of a particular review were able to reach a conclusive answer to their research question using the evidence available, the evidence is classed as strong. If they were unable to reach a conclusive answer given insufficient evidence, the evidence is classed as weak. If the outcome was somewhere in between, the evidence is classed as inconclusive.

The numbers displayed in each box indicate the number of systematic or literature reviews. The reviews are split by confidence level, which is an indicator of the methodological quality of the reviews themselves. We have rated the methodological confidence in each review as strong (green hexagon), medium (yellow square) or low (red circle). On the research centre, by clicking on one of the hyperlinks, you will be taken to a separate webpage to read a summary of that individual review.

About this brief

This brief was prepared by Anne Roca, head of evidence uptake and strategic learning. The cataract gap map was produced by Bhavisha Virendrakumar, research associate for evidence synthesis at Sightsavers.

Suggested reference for the gap map:

Sightsavers (2025). Glaucoma Evidence Gap Map. [online] available at: <https://research.sightsavers.org/evidence-gap-maps/cataract-gap-map/> [add date accessed].

Please address questions/comments about this brief to RUL@sightsavers.org.