

Beyond Coverage: A Pragmatic Path to Effective Eye-Care Coverage in Low-Resource Settings

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Abstract: The global eye-health agenda has shifted from service volume to effectiveness care that restores usable vision and function. This commentary proposes a pragmatic eye-care playbook for resource-limited settings: (1) complete screening-to-spectacles pathways for children with on-site refraction, timely delivery, and a three-month wear review; (2) expand cataract access while protecting outcomes by tracking a small bundle of indicators and reporting effective cataract surgical coverage (eCSC); and (3) close workforce gaps via competency-based task-sharing and asynchronous tele-ophthalmology. Aligning with WHA73.4 and the WHO 2030 effective coverage targets (eCSC/eREC), the approach is human-centered, feasible at district scale, and designed to deliver faster, fairer gains in vision. Somalia-specific evidence illustrates unmet need (school-age refractive error and adult blindness profiles) and real-world delivery via outreach eye camps.

Keywords: IPEC, effective coverage, effective cataract surgical coverage, effective refractive error coverage, school vision, cataract outcomes, task-sharing, tele-ophthalmology, Somalia

Introduction

Amina is a 12-year-old who lives in a low-resource setting and drifted to the back row after the chalkboard blurred into gray smudges. Her teacher assumed disinterest until a school screening found -2.50 D myopia. A five-minute refraction and a pair of spectacles returned her to the front of the class. Stories like Amina's are common across rural districts, as are elders who regain independence after straightforward cataract surgery. Globally, policy has moved beyond "more care" to effective care, meaning care that restores function and not just counts services, as reflected in World Health Assembly resolution WHA73.4 and the World Health Organization 2030 effective coverage targets, namely effective cataract surgical coverage (eCSC) and effective refractive error coverage (eREC).^{1,2}

In Somalia and comparable settings, traditional eye medicine (TEM) such as milk, honey, and plant extracts remains widely used and is associated with delayed presentation and microbial keratitis in regional reports.^{3,4} At the same time, formal eye care capacity is concentrated in cities and first contact services in peri-urban and rural areas are limited, while cataract remains a leading cause of avoidable blindness.⁵ This context motivates a practical response that replaces harmful first steps with safe same-day options, shortens time to qualified care, and measures success by vision regained rather than activity counts.

Thesis and aim

Effective coverage rather than activity counts should drive the design and financing of district eye care in low-resource settings. We therefore: (1) summarize how TEM and distance worsen outcomes; (2) outline a pragmatic eye-care playbook for rapid implementation that includes TEM aware triage, first contact kits, tele-triage, and task sharing; and (3) recommend routine reporting of eREC and eCSC to track usable vision and equity.^{1,2}

Somalia: Burden and Opportunity

Recent Somali data underscore the opportunity: in Hargeisa primary schools, uncorrected visual impairment (6/12 or worse) affected 13.6% of children; presenting visual impairment was 7.6%, yet only 17.6% of affected pupils wore spectacles. Refractive error explained 76.8% of impairment.⁶ Among adults attending the main tertiary center in Mogadishu, cataract, diabetic retinopathy, and glaucoma led bilateral blindness, while trauma dominated monocular blindness—an epidemiologic profile that prioritizes both surgical and preventive pathways.⁵ A 2025 study of Mogadishu university students reported very high myopia prevalence, highlighting the need for earlier detection and behavioral prevention strategies in urban youth.⁷

From Screening to Spectacles: Finishing the Last Mile

School and community screenings often end at a referral slip. When screening is paired with on-site refraction and free or affordable spectacles, children's learning improves over the subsequent year.⁸ To sustain benefit, programs can add three operational elements: deliver spectacles on-site within 2–4 weeks; reinforce wear with teacher/parent reminders and brief classroom counselling; and review at three months to replace broken glasses and address discomfort. This “deliver–reinforce–review” loop is feasible at scale and yields measurable educational and vision gains. Measure what matters: report eREC (distance and near) alongside 3-month spectacle-wear adherence using WHO definitions so that coverage translates into usable vision.²

Cataract: Expand Access and Protect Outcomes

High-volume outreach and campaign days are invaluable, but quality safeguards are essential. A pragmatic peri-operative bundle—biometry-guided IOL selection, standard prophylaxis, clear post-operative instructions in the patient's language, and a 4–6-week review—can be implemented even in field theaters. Track three indicators: case mix (first-eye, density/complexity), presenting VA at 4–6 weeks, and complication rate (notably posterior capsule rupture). Reporting these alongside eCSC makes successes and gaps visible over time and across districts.² Human stories and service models already exist: WHO, MSF and Somali partners document effective eye-camp approaches, while Turkish–Somali collaborations (IHH with Zamzam Foundation) delivered thousands of cataract operations, showing how pathway-level procurement and local partnership enable scale.^{9–13}

Workforce: Task-sharing and Tele-ophthalmology

Somalia's workforce gap remains stark—estimates suggest only a dozen ophthalmologists serve a population of more than 15 million, with far below-recommended ratios for ophthalmic nurses and optometrists—making competency-based task-sharing essential.¹⁴ Asynchronous tele-triage (anterior-segment photographs; non-mydratric fundus images for diabetic retinopathy triage) with clear escalation rules helps concentrate ophthalmologist time on complex cases and surgery while maintaining safety. Protected CPD time, rotational rural posts, and simple electronic registers create feedback loops that steadily raise quality, aligning with the WHO's people-centered eye-care approach and the Lancet Commission's recommendations.^{1,15}

A Six-month Starter Bundle Any Program Can Adopt

A practical six-month starter bundle that any program can adopt begins with a school pathway: brief teacher refreshers, two refraction days per school cluster, on-site prescriptions, and spectacle delivery within two to four weeks, followed by a three-month wear review. Cataract quality is protected through a one-page preoperative checklist, standard prophylaxis, a four to six-week visual acuity check, and a monthly review of effective cataract surgical coverage and complications. Triage is supported by tele-triage using WhatsApp image referral with a twenty-four to forty-eight-hour response norm, accompanied by monthly audits of referral appropriateness. Equity safeguards include transport vouchers, female-friendly scheduling, and micro clinics in displacement settings when relevant. Programs report effective refractive error coverage and effective cataract surgical coverage each quarter and display simple dashboards that frontline staff can see and discuss. These field-tested steps (TEM aware triage, first contact kits, tele-triage, and task sharing) map directly to the stated aims and are readily scalable to comparable low resource districts, with progress tracked via eREC and eCSC.

Policy Asks

Adopt integrated people-centered eye care (IPEC) nationally and include essential eye care in universal health coverage benefits. Procure at the pathway level—for example, a screening refraction spectacles bundle—rather than device by device. Fund outcomes not activities by requiring quarterly eREC and eCSC reporting with simple equity stratifiers (sex, age, district).

Conclusion

Moving from coverage to effective coverage is a moral imperative and a practical route to better value. Programs that complete the spectacle pathway for children, protect cataract quality while expanding access, and deploy task-sharing with tele-ophthalmology will see faster, fairer vision gains. The frameworks already exist; the next step is disciplined, people-centered implementation that listens to patients like Amina and measures what truly matters. This experience represents a relevant, effective social contribution; we encourage adoption of these practices at district level and evaluation with eREC/eCSC.

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Abbreviations

CPD, continuing professional development; eCSC, effective cataract surgical coverage; eREC, effective refractive error coverage; IHH, IHH Humanitarian Relief Foundation; IOL, intraocular lens; IPEC, integrated people-centered eye care; MSF, Médecins Sans Frontières; TEM, traditional eye medicine; VA, visual acuity; WHA, World Health Assembly; WHO, World Health Organization.

Disclosure

The author reports no conflicts of interest in this work.

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