

Community Eye Health Journal

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Primary eye health care workers can detect, counsel, and refer patients with cataract to the nearest eye unit. MOZAMBIQUE

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Primary eye health care: the foundation for universal access to eye health



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The majority of eye conditions should ideally be dealt with at primary health care level – in the communities where people live and work. However, eye care is often missing or not integrated within primary health care – a challenge this issue wants to address.

In low-resource settings, almost 80% of the causes of blindness and visual impairment are avoidable,¹ as they can be prevented, or treated to restore vision. Alongside treatment and referral, it is therefore vital that eye care at primary level includes health promotion – working with communities and policy makers to create environments that support better eye

health, teaching people how to take care of their eyes, and telling them what to do (and where to go) when they have an eye problem that cannot be treated by primary health care workers.

When eye care is not available at primary health care level, for whatever reason, the secondary/district level or tertiary/teaching hospital is the

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About this issue

The majority of eye conditions can be dealt with at primary health care level – in the communities where people live and work. However, eye care is often missing or not integrated at this level of health care. This issue of the *Community Eye Health Journal* shares best practices and approaches for integrating eye care within primary health care. It includes practical suggestions for eye health promotion and how eye health workers at district or secondary level (and above) can support their colleagues in the primary care sector. We would like to encourage everyone reading this issue to share its contents with policy makers at all levels so they are aware of the need for primary eye care and what they can do to support it.

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first place where people with eye problems seek care – often after waiting until their eye condition has worsened or after seeking unconventional treatment (such as from traditional healers), with negative results.

By creating policies that integrate eye health care within primary health care, and supporting local primary health teams to provide high quality eye care for simple eye conditions (referring only those patients who need further care), we can help to reduce the load on outpatient clinics in secondary and tertiary level facilities – thereby making the eye health system more efficient. Primary eye health care also ensures that patients can get the right care quickly, without facing the cost or other barriers associated with travelling long distances, such as loss of daily wages, lack of transportation, or having to find someone to take over their caring responsibilities. It is worth noting that, in the absence of care at primary level, the most underserved groups – women, people in poverty, and those with disabilities – are disproportionately disadvantaged.

Effective primary eye health care provision requires an integrated approach, with supportive policies and adequate funding, such as appropriate and sustainable training and support for the health workers who deliver eye care at this level, and integrated health information systems to ensure that progress is measured and maintained and so that patients can be effectively referred and followed up.

This issue shares best practices and approaches for integrating eye care within primary health care, and we have included guidance about what eye care professionals can do. But it is just as important that decision makers and policy makers at all levels are aware of the need for primary eye health care and what they can do to support it. We therefore encourage you to share this issue with policy makers and decision makers at local, regional, and national level: their active involvement is needed in order to ensure universal access to eye health care for all.

Reference

- 1 Burton MJ, Ramke J, Marques AP, et al. The Lancet Global Health Commission on Global Eye Health: vision beyond 2020. *Lancet Glob Health* 2021. Published online February 16, 2021. globaleyehealthcommission.org

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Why is primary eye health care needed?

Eye conditions are common in the community; primary eye care can address many of them.

When thinking about delivering eye care services at the primary care level, it is important to consider the eye care needs of the population. Adults and children with eye conditions can be divided into four separate groups (Table 1):¹

- 1 People with visual impairment, for whom treatment will improve or restore vision
- 2 People with visual impairment, whose visual impairment is not reversible
- 3 People without visual impairment, who need

treatment to prevent visual impairment and/or death

- 4 People without visual impairment, who are not at risk of becoming visually impaired but have symptoms that must be treated.

It is important to remember that most people do not have an eye condition, nor are they visually impaired. Health promotion and specific preventive measures are needed to maintain their eye health and good vision.

Continues overleaf ➤

Table 1 Examples of eye conditions in each group

Group	Eye conditions	Interventions needed
Already visually impaired		
Group 1 Treatment can improve or restore vision	Uncorrected refractive errors, cataract and presbyopia	Cataract surgery and optical correction
Group 2 The vision impairment is not reversible	End-stage glaucoma, diabetic retinopathy, and retinopathy of prematurity; congenital anomalies; dense corneal scarring; optic atrophy	Vision rehabilitation
Not visually impaired		
Group 3 Treatment is needed to prevent vision impairment (or death)	Early/undetected glaucoma, diabetic retinopathy, age-related macular degeneration (wet form),* retinoblastoma, and conjunctival cancers	Early detection and management with life-long care
Group 4 Vision impairment is highly unlikely, but symptoms must be treated	Conjunctivitis, dry eye, lid infections	Treatment as appropriate, often topical

*Wet AMD is the only type of age-related macular degeneration which can currently be treated.

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How many people have these different eye conditions?

Estimating the number of people of all ages who fall into these different groups is challenging, as surveys do not always collect relevant data. More is known about Group 1 and 2 conditions, and some estimates can be made for Group 3 and 4 conditions.

It is useful to estimate the number of people affected in a total population of 100,000 people, as this is the size of the population served by one or more health centres or polyclinics in most low- and/or middle-income countries.

The numbers given in Table 2 are based on the following assumptions.

- 1 'Uncorrected presbyopia' is an estimate of the number per 100,000 population in each region who need correction for presbyopia (near vision impairment). An estimated 80% of the global population aged 40 years and above have presbyopia.
- 2 'Undetected glaucoma' is an estimate of the number of people with undiagnosed glaucoma in each region, minus those who are already blind or visually impaired due to glaucoma (they are included in Group 2). An estimated 3% of the global population aged 40 years and above have glaucoma.
- 3 'At risk of diabetic retinopathy' is based on the International Diabetes Federation's estimates of the number of people with diabetes aged 20 years and above (all of whom are at risk of diabetic retinopathy), minus those who are already blind or visually impaired due to diabetic retinopathy (who are included in Group 2).



Refractive errors are responsible for most of the need for eye care services at primary level.

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- 4 5% is a minimum estimate of the prevalence of all non-visually impairing conditions such as conjunctivitis, dry eyes, lid infections, etc. This figure could be as high as 10%, but more data are needed.

What do these numbers mean?

The estimates in Table 2 suggest that more than 1 in 4 people living in communities in Asia (27%) have an eye care need, compared to 1 in 5 in Africa (20%) and 1 in 6 in Latin America (17%). The differences between regions reflect:

- 1 Differences in the age structure of the population
- 2 Variation in the prevalence of the conditions
- 3 The extent to which people with these eye conditions have already accessed services.

Table 2 Estimates of the number of people in a population of 100,000 with an eye condition in each of the four groups (by region).

	Latin America (per 100,000)	Asia (per 100,000)	Africa (per 100,000)
Group 1 conditions	9,500	19,000	13,500
Cataract*	1,000	1,500	500
Uncorrected refractive error (distance)*	2,500	2,500	1000
Uncorrected presbyopia** ¹	6,000	15,000	12,000
Group 2 conditions	1,200	1,000	800
Blind/VI from glaucoma, AMD, DR, other conditions*	1,200	1,000	800
Group 3 conditions	1,200	1,500	700
Undetected glaucoma ²	750	800	500
At risk of diabetic retinopathy ³	450	700	200
Group 4 conditions	5,000	5,000	5,000
Non-visually impairing eye condition (5% of the population) ⁴	5,000	5,000	5,000
Total (%) affected in a population of 100,000	16,900 (17%)	26,500 (27%)	20,000 (20%)

*Presenting visual acuity of less than 6/18 in the better-seeing eye.¹ **Presenting near acuity of < N61 (ICD-11 definition).²

Refractive errors (both distance and near) make up the majority of the conditions listed. However, the numbers given for refractive errors do not include individuals with a presenting acuity of <6/12 to 6/18 in the better eye, as data on the causes of visual impairment in this category are not well known. However, we can be reasonably certain that uncorrected refractive errors are the main cause. It is also important to note that the numbers do not include those who already have spectacles for distance and/or near vision, who will need ongoing services.

What role can primary eye health care play in addressing these conditions?

Group 1 conditions

Uncorrected refractive errors, cataract, and presbyopia

Primary health care workers can identify people with distance vision impairment by measuring presenting distance visual acuity. Examining the eye with a torch will enable them to differentiate cataract from other causes, and testing visual acuity with a pinhole will detect those with uncorrected refractive errors. These two procedures alone will identify between 65% (in Africa) and 80% (in Asia) of the people with vision impairment in their catchment population.

Measuring presenting near visual acuity with both eyes open will detect presbyopia. In some settings, primary health care workers are trained and able to dispense presbyopic correction as long as distance visual acuity is normal; if not, referral will be needed.

Group 2 conditions

End-stage glaucoma, diabetic retinopathy, and retinopathy of prematurity; congenital anomalies; dense corneal scarring; optic atrophy

People who need to be referred to an eye care professional for assessment prior to vision rehabilitation are those in whom:

- The visual acuity is less than 6/18 in the better eye
- The vision does not improve to better than 6/18 in either eye with a pinhole
- Cataract has been excluded.

Vision rehabilitation can help to improve the quality of life of the people affected and help them to maintain independence.

Group 3 conditions

Early or undetected glaucoma, diabetic retinopathy, age-related macular degeneration (wet form), retinoblastoma, and conjunctival cancers*

Detecting glaucoma and diabetic retinopathy at the primary level is far more challenging than Group 1 conditions, as the diagnosis requires more sophisticated equipment and clinical skills. However, primary health care workers can play an important role, by asking adults whether they have diabetes, or whether a family member has glaucoma. If so, they should be referred for examination.

Group 4 conditions

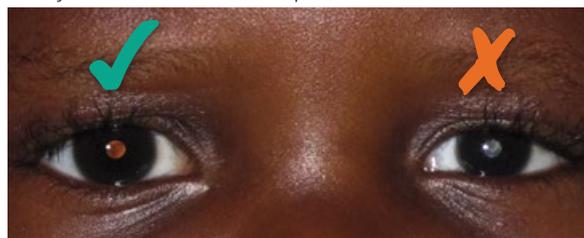
Conjunctivitis, dry eye, and lid infections

Primary eye care workers can play an important role in detecting and managing less complex eye conditions which can cause troublesome symptoms, such as conjunctivitis and dry eye. To do this, they will require skills in detecting the condition, knowledge on how to treat it, and access to relevant medication. Follow-up will also be needed to ensure the condition is getting better. If not, referral will be required.

Maintaining good vision and healthy eyes

In all regions, infants require measles immunisation at 9 months of age. In some regions, child health policies include vitamin A supplementation for preschool age children and ocular prophylaxis at birth to prevent conjunctivitis of the newborn. Primary health care workers can also carry out red reflex testing of newborns within 6–8 weeks of birth and at older ages to detect cataract and retinoblastoma (Figure 1).³ All infants who fail the red reflex test should be referred urgently.

Figure 1 Right eye: the normal red reflex. Left eye: the wrong colour in a red reflex could indicate a serious condition. The child in this image has a cataract in the left eye. Refer the child to a specialist.



References

- 1 Matthew Burton et al. The Lancet Global Health Commission on Global Eye Health: vision beyond 2020, Lancet Glob Health 2021. Published Online February 16, 2021.
- 2 World Health Organization (2019). International Statistical Classification of Diseases and Related Health Problems (11th ed.). <https://icd.who.int/>
- 3 Mndeme FG, Mmbanga BT, Kim MJ, Sinke L, Allen L, et al. Red reflex examination in reproductive and child health clinics for early detection of paediatric cataract and ocular media disorders: cross-sectional diagnostic accuracy and feasibility studies from Kilimanjaro, Tanzania. *Eye* 2021(35):1347–1353.



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What is primary eye health care?

Primary eye health care – just like primary health care – must include not only the provision of health care services, but also supportive multisectoral policies and action, and the empowerment of community members to take care of their eyes.



Primary eye health care has the potential to make sight-restoring surgery available to people in the remotest of communities. **BURKINA FASO**

Many of you will have heard of the term primary eye care and will understand it to mean basic eye care delivered at the first point of contact with the health service, usually by health care workers in community or primary level health facilities. In this issue, we argue that primary eye care should be seen as an integral part of **primary health care**, as defined by the World Health Organization (see panel).

This term encompasses not only the service provision normally associated with the term ‘primary eye care’, but also the two health promotion components of primary health care: multisectoral policy and action, and empowered people and communities. To emphasise this distinction, we have used the term ‘primary eye **health** care’ throughout this issue of the *Community Eye Health Journal*.

The World Health Organization definition of primary health care

The World Health Organization (WHO), and other bodies, are increasingly recognising and advocating for better primary health care to improve population health. WHO defines primary health care as a “whole-of-society approach to health that aims to maximise the level and distribution of health and well-being through three components:

- a. Primary care and essential public health functions as the core of integrated health services
- b. Multisectoral policy and action
- c. Empowered people and communities.”

Each of these components contains several elements which need to be explained.

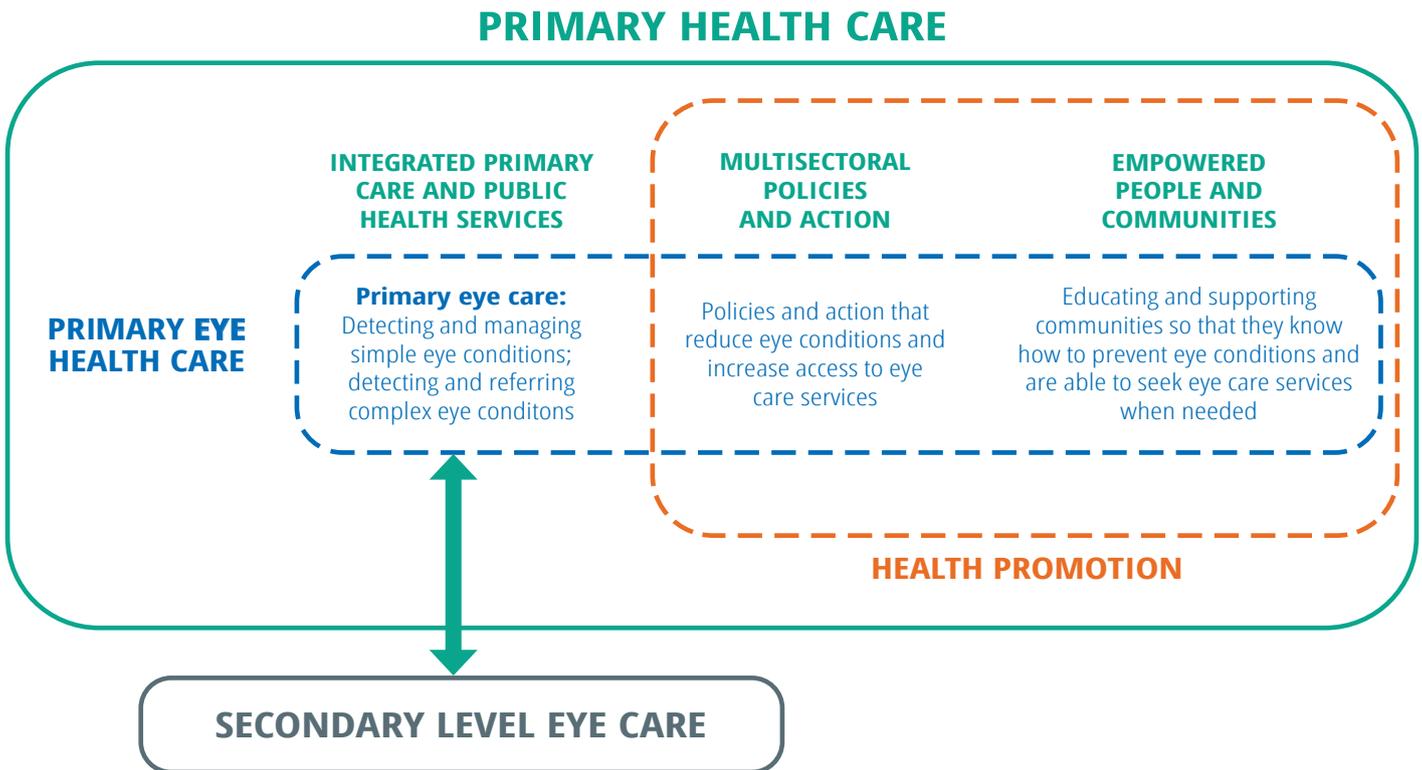
In component a, **primary care** refers to clinical services delivered by health care professionals working in the community. In high-income countries, this care may be provided by family physicians; in low-income countries general nurses or clinical officers provide these services in primary health clinics. This means that the type and level of care delivered is very context specific. **Essential public health functions and action** can include a range of activities, such as screening for disease or risk factors for disease such as hypertension, and specific preventive measures such as immunisation. **Integrated services** means that primary care is the essential, broad base of health care provision for a population, with good referral mechanisms from primary to secondary level.

Component b, **multisectoral policy and action**, refers to the importance of policies in non-health areas that influence health outcomes. This may involve multiple aspects of life, such as housing, transport, town planning, sanitation, clean air, etc., as well as specific policies which strengthen primary health care. This element is included because it is recognised that many underlying factors increase the risk of illness, such as overcrowding, air pollution, unclean water, and poor sanitation, as well as lack of public transport to access care. Policies are needed to ensure that these underlying factors are addressed and reduced. To be effective, these policies need to be adequately financed and acted upon.

Component c, **empowered people and communities**, means that people know what causes disease, what to do to remain healthy, where to go when they become sick, and how to be inclusive of those irreversibly visually disabled. They can also be told about the potential harm of using traditional or home remedies. They would then have the knowledge (health literacy) and ability (agency) to bring about the changes required.

Activities to improve health literacy, create a healthy environment, and encourage government policies that support health (the activities briefly described in b and c above) are known as **health promotion**, and we have included an article on eye health promotion in this issue (bit.ly/DeliverEye).

Figure 1 Primary eye health care (blue) is a component of primary health care (green) and consists of integrated primary care and public health services, plus health promotion (orange), which includes multisectoral policies and action as well as empowered people and communities.



What is primary eye health care?

Referring to the three components of primary health care as defined by WHO (see panel), primary eye health care includes:

- a. **Primary care and essential public health functions** for eye care that are delivered by health care professionals working in facilities in the community. The type and level of eye care provided depends on the local context.
- b. **Multisectoral policy and action.** This refers to policies which reduce risk factors for eye conditions, such as good water supplies and sanitation, or which improve access to eye care, such as better public transport.
- c. **Empowered people and communities.** People know how to prevent eye conditions and are able to seek eye care services when needed.

Together, components b (multisectoral policy and action) and c (empowered people and communities), are known as **health promotion**. Read more in the health promotion article in this issue: bit.ly/DeliverEye.

Who can deliver primary eye health care?

What eye care is delivered at primary level varies from country to country, and even within countries, depending on the resources available. Some countries have eye care personnel such as optometrists or refractionists who work in the community or in governmental, private, or non-governmental facilities (such as vision centres) where they play a vital role in providing primary eye care. In other countries, primary care facilities are staffed by a range of health

professionals who may not have specific eye care training. These may include medical doctors, but more care is provided by allied health professionals such as clinical officers, nurses, and midwives, who can be trained and supported to provide basic eye care.

Given that such a high proportion of all eye problems are simple to diagnose and manage, it makes sense for this work to be carried out at primary health care level, leaving highly trained eye specialists – who usually work in secondary or tertiary level hospitals – to focus on complex eye problems.

Who can deliver eye health promotion?

The majority of primary care clinics have health professionals attached to them whose main focus of work is in the community. They include extension or community health workers, nurse midwives, and health visitors, to name a few. These professionals are well placed to carry out health promotion activities, as detailed in the article on health promotion in this issue (bit.ly/DeliverEye).

How can the availability of primary eye health care be improved?

Eye care professionals alone will never be able to reach everyone in a population, including marginalised groups such as those with disabilities. This means that the integration of eye health into primary health care is essential. In most countries, the majority of the population live within 10 kilometres of a primary care facility. If staff members working in, or attached to, these facilities were adequately trained, and provided with the equipment, medication, educational materials, and any

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other resources they need, then there is the potential for even the most remote communities to have access to primary eye health care.

There are two opportunities for integration of eye care: first, integration into primary health care provided to people of all ages, and second, integration of eye care into services which are specifically for young children. In this issue of the journal, one article makes the case for including eye care in the training curriculum of staff providing primary health care for children (bit.ly/childPEHC), and the other is an example of where this has been successfully achieved, in Bangladesh (bit.ly/banPEHC).

Primary eye health care, when it functions well, has the potential to bring about enormous change, leading to an increase in the number of people with eye conditions reaching eye care services, and a reduction in the outpatient load of secondary centres that are full of people who have simple eye conditions that could have been managed at the primary level. This issue of the *Community Eye Health Journal* contains several case studies which illustrate what can be achieved.

References

- 1 WHO. Operational framework for primary health care: transforming vision into action. 2020. Available at: <https://www.who.int/publications/i/item/9789240017832>
- 2 WHO and UNICEF. Declaration of Astana. 2018. Available at: <https://www.who.int/docs/default-source/primary-health/declaration/gcphc-declaration.pdf>

Glossary of terms

Primary health care. A whole-of-society approach to health that aims to maximise the level and distribution of health and well-being through primary care and essential public health functions as the core of integrated health services, alongside two health promotion measures: creating multisectoral policies and actions, and empowering people and communities.¹

Primary care. Clinical services delivered by health care personnel working in community or primary care facilities. The World Health Organization defines it as a component of primary health care that supports first-contact, accessible, continued, comprehensive, and coordinated patient-focused care.²

Primary eye health care. This is, essentially, **primary health care** as it applies to eye health. Like **primary health care**, it includes **primary eye care** (see below) and essential public health functions such as screening, vaccination, or micronutrient supplementation. It also includes two broader eye health promotion measures: policies and action that reduce eye conditions and increase access to eye services, and educating and supporting communities so that they know how to prevent eye conditions and are able to seek eye care services when needed.

Primary eye care. Clinical eye care services delivered by health care personnel working in, or attached to, community or primary care facilities. It involves detecting and managing simple eye conditions; and detecting and referring patients with complex eye conditions to secondary level.



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Delivering eye health promotion: why and how

Eye health promotion is vital for supporting the health and wellbeing of eye patients and the community, and there is a lot we can all do to help.

In low- and/or middle-income countries, nine out of ten people who are blind or visually impaired have a condition that could have been prevented or treated.¹ This suggests that preventive measures and eye health promotion could play an important role in reducing blindness and vision impairment. However, in most countries, little attention is paid to eye health promotion.²

Why is eye health promotion needed?

Whether people remain healthy or become sick is influenced by many factors, including the conditions in which people live, their level of income, and their education. People are also more likely to become ill if they do not know how to keep themselves and their families healthy, or how and where to seek care if they become sick. The same applies to many eye conditions. For example, people are more likely to develop type 2 diabetes and vision loss from diabetic retinopathy if they do not know what causes diabetes, if they cannot afford or cook healthy food, if it is difficult for them to exercise, or if they do not understand the importance of taking their medication regularly and having their eyes examined on a regular basis. People are also more likely to become sick if there are no policies in place for affordable housing, clean water, and workplace safety, for example.

What is health promotion?

Health promotion is the process of enabling people to increase control over, and improve, their health.³ Even when there is a good health system in place, three more factors are needed to ensure that people are healthy and have a good sense of wellbeing:

- 1 **A healthy environment** for people to live and work in.
- 2 **Health literacy:** knowledge and awareness of what people can do to keep themselves healthy and safe, and how and where to get help if they need it.
- 3 **Government policies** that support health, such as ensuring there are safe places in urban areas where people can exercise.



Time spent outdoors needs to be built into the school day, as this reduces the risk that children will develop myopia. NEPAL

Health promotion is more effective when there is a focus on living standards as well as lifestyle, and when we realise that good health involves more than just the absence of disease. It is just as important for groups of people (e.g., people living with diabetes and medical experts) to work together to find relevant, workable, and acceptable solutions and to build skills so that people can bring about effective change in their own lives. These concepts and actions need to be adapted to the local setting and reach those who are hardest to reach.⁴

Where to start

A good place to start is to think about the different groups of people who will benefit from health promotion to improve their eye health (such as pregnant women, children, people with diabetes, and the elderly) and the setting where they can be reached. For each group, think about what should be in place to support their health in the three key areas of a healthy environment, health literacy, and government policies (see Figure 1).

- **A healthy environment.** What needs to be added to the environment, and what is harmful and should be removed? For example, access to water for drinking and washing is essential for a community's eye health, as is the removal of waste.
- **Health literacy.** What are the knowledge gaps and what misconceptions or false beliefs exist in the community? For example, for community members to have good eye health, they need information about diet and exercise, the importance of eye tests and blood sugar test, the benefits of cataract surgery and spectacle correction, and where to go if there is a problem with their eyes.
- **Government policies.** What policies can be put in place to support health, and which policies are potentially harmful and should be eliminated?

Figure 1 Examples of eye health promotion

<p>Who? Pregnant women Where? Antenatal clinics</p>	<p>Who? Young children Where? Immunisation clinics</p>	<p>Who? Schoolchildren, adolescents, and teachers Where? Schools</p>
<ol style="list-style-type: none"> A healthy environment. Ensure that health facilities that provide antenatal care are accessible to all women, regardless of disability or income. Ensure that pregnant women have access to vitamin A rich food or vitamin supplements. Health literacy. Provide information that encourages healthy behaviours and reduces the risk of preterm delivery, such as smoking cessation, abstinence from alcohol, and a healthy diet, including vitamin A rich foods. Encourage exclusive breast feeding from birth. Government policies. Provide free or affordable antenatal care for all pregnant women on a regular basis. <p>Impact: Less visual loss from retinopathy of prematurity, vitamin A deficiency, and neonatal conjunctivitis.</p>	<ol style="list-style-type: none"> A healthy environment. Ensure that health facilities that provide immunisation and vitamin A supplementation are accessible to all parents of young children. Health literacy. Provide information on the benefits of immunisation, a healthy diet, and the need for vitamin A supplements. Encourage exclusive breast feeding for infants as well as environmental and personal hygiene (including face washing). Government policies. Provide free or affordable antenatal care for all pregnant women on a regular basis. <p>Impact: Less trachoma and less visual loss from measles and vitamin A deficiency.</p>	<ol style="list-style-type: none"> A healthy environment. A healthy school environment with water and sanitation as well as safe outdoor spaces for play as time outside reduces the risk of developing myopia. Health literacy. Provide health education in schools about a healthy diet, personal and environmental hygiene, safe play, and the consequences of smoking and risky sexual behaviours. Encourage the use of spectacles, if required, and tell children what to do if they have an eye problem. Train schoolteachers to screen children for eye conditions and to take care of their own eyes and vision, e.g., correction of presbyopia. Government policies. All children aged 5-15 years should be in school. Education policies on school health should include eye health. <p>Impact: Less myopia, obesity, and Type 2 diabetes; less trachoma and ocular injuries; less visual loss in children and teachers from uncorrected refractive errors; prompt management of eye conditions.</p>
<p>Who? People of working age Where? Workplaces</p>	<p>Who? Older people/the elderly Where? Care homes, social activities for the elderly, health clinics for the elderly</p>	
<ol style="list-style-type: none"> A healthy environment. A healthy and safe work environment with appropriate infrastructure to encourage good hygiene and to prevent ocular injuries. Health literacy. Provide information on a healthy diet, regular exercise, how to protect the eyes from injury, and the benefits of smoking cessation. Emphasise the need for regular blood sugar and blood pressure tests and eye examinations to detect potentially blinding eye conditions. Provide information about where to access eye care, if needed. Government policies. Occupational health (or health and safety) policies which protect the eye health of workers. <p>Impact: Fewer people develop diabetes or sustain eye injuries as well as earlier detection of blinding eye conditions.</p>	<ol style="list-style-type: none"> A healthy environment. A healthy and safe living environment with appropriate infrastructure. Accessible health facilities. Health literacy. Provide information on a healthy diet, regular exercise, with regular blood sugar tests and eye examinations. Information on where to access eye care, if needed. Government policies. Include eye health in policies on health care for the elderly. <p>Impact: Fewer people develop diabetes. Early detection of blinding eye conditions such as cataract and glaucoma.</p>	

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What role can we play in eye health promotion?

As ophthalmologists, optometrists, ophthalmic nurses, and allied eye health personnel, we may have access to groups such as pregnant women, children, people with type 2 diabetes, and the elderly, either where we work or in the community where we live. We can train other health care workers to deliver appropriate eye health promotion. e.g., at antenatal care clinics, in diabetes clinics, or in schools. For example, eye health workers have successfully trained staff members who were working in maternal and child health clinics to deliver primary eye care, which included eye health promotion and prevention, with appreciable success.⁵ Children in school are a captive

audience for eye health promotion, and the International Agency for the Prevention of Blindness has developed a school activity pack containing eye health promotional materials that can be downloaded free of charge (<https://bit.ly/IAPBpack>).⁶

The role of health education in eye care is to encourage the uptake of eye health promoting behaviours and increase the use of eye care services.⁷ In the course of our work, health education can be directed at individuals, families, and communities. This could include encouraging family members to have their eyes examined, particularly if there is a history of eye disease, such as glaucoma. For patients

“The role of health education in eye care is to encourage the uptake of eye health promoting behaviours and increase the use of eye care services.”

Continues overleaf ➤

with diabetes, we could explain the importance of annual eye examinations and work with them to find ways in which they could adopt a healthier lifestyle.

Improvement in the quality and quantity of services is an area of health promotion⁸ which we can also influence by making eye care services more accessible, affordable, and acceptable.

Outreach activities provide an excellent opportunity to discuss eye health promoting behaviours. We can encourage managers and regional policy makers to invest in new ways of working that prioritise health promotion. We can also advocate for policies that encourage healthy behaviours, such protective eye wear in the workplace and safe play areas in schools. World Sight Day is an excellent opportunity for eye health service providers to advocate for these policies, whether in the media, in the workplace, or in schools.

As eye health workers, we should do our best to incorporate eye health promotion into our routine eye health service delivery and become ambassadors of eye health care.

References

- 1 Burton MJ, Ramke J, Marques AP, Bourne RRA, Congdon N, Jones I, et al. The Lancet Global Health Commission on Global Eye Health: vision beyond 2020. *The Lancet Global health*. 2021;9(4):e489–e551.
- 2 World Health Organization. World report on vision. Geneva: World Health Organization; 2019. bit.ly/world-report-on-vision
- 3 World Health Organisation. Health Promotion. <https://www.who.int/health-topics/health-promotion>
- 4 Grabowski D, Aagaard-Hansen J, Willaing I, Jensen BB. Principled promotion of health: implementing five guiding health promotion principles for research-based prevention and management of diabetes. *Societies*. 2017;7(2):10.
- 5 Mafwiri MM, Jolley E, Hunter J, Gilbert CE, Schmidt E. Mixed methods evaluation of a primary eye care training programme for primary health workers in Morogoro Tanzania. *BMC Nursing*. 2016;15:41.
- 6 International Agency for the Prevention of Blindness. Love Your Eyes Education Activity Pack. <https://bit.ly/IAPBpack>
- 7 Hubley J, Gilbert C. Eye health promotion and the prevention of blindness in developing countries: critical issues. *Br J Ophthalmol*. 2006;90(3):279–84.
- 8 Hubley J. Communicating health: an action guide to health education and health promotion. 2nd ed. Oxford: Macmillan 2004.



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How China is responding to the challenge of myopia

China's coordinated approach to reducing myopia amongst school children has started to reduce the proportion of children affected.



Children learn about eye health at school. CHINA

References

- 1 Ministry of Education of the People's Republic of China. [The whole society should take care of children's eyes to ensure they have a bright future] bit.ly/3vdExdp
- 2 Ministry of Education of the People's Republic of China. [The Notice on the Issue of Implementation Plan for Comprehensive Prevention and Control of Myopia in Children and Adolescents] bit.ly/3rOrM6E
- 3 Ministry of Education of the People's Republic of China. [The Notice on the Issue of Work Plan for the Prevention and Control of Myopia in Children and Adolescents (2021-2025)] bit.ly/3sKfrjc
- 4 Ministry of Education of the People's Republic of China. [The Progress and Effectiveness of the Ministry of Education's Myopia Prevention and Control Work Since the Issue of the Comprehensive Implementation Plan for the Prevention and Control of Myopia in Children and Adolescents] bit.ly/34WZzSe
- 5 National Health Commission of the People's Republic of China. [The Notice on the Issue of Guidelines for Suitable Techniques for Prevention and Treatment of Myopia in Children and Adolescents] bit.ly/3LAlyhx
- 6 National Health Commission of the People's Republic of China. [Transcript of the press conference of the National Health Commission on July 13, 2021] bit.ly/3Juo741

Due to intensified intellectual competition, increased digital screen time, insufficient outdoor exercise, and lack of eye care awareness, the myopia rate is rising rapidly among children and adolescents in China. In 2014, the proportion of elementary, junior, and senior high school students with presenting visual acuity <math><6/6</math> reached 45.7%, 74.4%, and 83.3% respectively,¹ largely due to myopia. The Chinese government has recognised myopia as a major public health problem and showed strong leadership in tackling the issue.

In addition to serving as the focus of National Sight Day for several consecutive years and receiving focused attention from the National Health Commission, myopia control is now at the centre of a national strategy promulgated by the Central Committee of the Communist Party. Led by the Ministry of Education (MOE), eight ministries issued an implementation plan for control of children's myopia. The plan emphasised collective action across society and defined roles for parents, schools, the health sector, students, and the eight government departments. The plan set a target of lowering the rate of children's myopia by 0.5% a year by 2030, and by 1% a year in areas with a high prevalence of myopia.² A new work plan for the period 2021–25 was issued in 2020, involving 15 ministries and taking into account the impact of Covid-related restrictions.³

Both plans emphasise that government entities at all levels will be evaluated based on their performance and will be held accountable, thereby ensuring that myopia control as a national strategy gains the attention of the whole of society and the active engagement of all relevant departments.

The education sector plays the main role, with strict limitations on homework for younger children, regulations on the use of cellphones and the internet, and a target of 2 hours daily outdoors.

The National Health Commission has issued guidelines for evidence-based techniques for myopia control.⁴ The capacity to provide high-quality spectacles to the children who need them is also being increased, with more universities approved to offer programs in optometric medicine (21 universities), optometry (37 universities) and health management (86 universities).⁵

Students and their parents are being encouraged to focus on lifestyle changes and good eye health habits, as guided by the National Committee for the Prevention of Blindness and relevant expert groups. Proven techniques such as increased outdoor time have been emphasised and misconceptions corrected, such as the idea that wearing glasses can harm children's eyes. Products that claim the ability to reduce myopia have been more tightly regulated, and for-profit cram schools, a major contributor to academic pressure, have been restricted.

In 2019, the overall childhood myopia rate fell to 50.2% (from 53.6% in 2018). However, due to COVID, the rate increased to 52.7% in 2020, still achieving the target of an annual reduction of 0.5% in the first two years of the plan.⁶ Despite the many challenges posed by the current pandemic, and the very significant complexities involved in coordinating the activities of 15 contributing ministries, the success of China's myopia control plan provides an important model for other countries facing climbing rates of childhood myopia due to enhanced access to intensive schooling and other social changes.



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The role of secondary level eye care teams in engaging with and supporting primary eye care

Primary eye health care teams have the potential to drastically reduce the burden on secondary level eye care teams and to improve access and quality of care for patients – provided they receive the support they need.



A simple torch examination can help primary care workers identify and refer patients who need eye care at secondary level. **NIGERIA**

In many countries, the team at the secondary level (often at district level) is made up of an ophthalmologist and optometrist, ophthalmic clinical officers and nurses. The secondary level is also often the first place where people with eye problems seek care, particularly in rural or remote settings where there are insufficient ophthalmic personnel. Ideally, a secondary eye unit has the resources needed to provide services for a population of 0.5 to 1 million people,¹ where up to 20-25% of the population are likely to have an eye condition needing services (including refractive error services).²

The secondary level team have an important role to play in supporting the primary care team – the staff members who provide primary eye health care (PEHC) in the community – even if this role is not formalised. Supporting local primary care teams to provide high quality eye care for simple eye conditions in the community can help to reduce the load on outpatient clinics in secondary and tertiary level facilities. This support ensures that high quality care is provided as close as possible to communities, saves patients' time, and reduces costs – but it also allows eye specialists to focus on complex conditions and procedures. Supporting primary care workers to manage simple eye conditions can, therefore, improve efficiency and the quality of care for patients and the entire health system.

Most secondary eye units will have the resources needed to provide a range of surgical and medical eye care services. The delivery of these services are often enhanced by outreach activities to reach, for example, people with operable cataract in the catchment area of the hospital.² These outreach activities should be

planned and coordinated by working closely with primary care teams, who can inform the community of the date, time and location of the next outreach. This includes informing primary care teams when activities are cancelled.

Secondary eye units should inform primary care teams about the range of services they provide in the hospital and during outreach so that patients attending primary care facilities can be appropriately informed. This might include screening for diabetic retinopathy in clinics or outreach, or school eye health programmes in the area. In an ideal system, all patients would present to primary care with their eye problems; the primary care team members would be able to manage the vast majority of common conditions, e.g. conjunctivitis, and then refer on more complex conditions to secondary care. In some settings, particularly in Asia, some secondary units in the non-government sector provide teleconsultations for patients who are seen at the primary level.

Providing feedback to primary care teams

One way secondary level eye care professionals can support primary eye health care is by providing feedback on referrals, indicating what role the primary care team member may have in ongoing care. Staff working in secondary hospitals also decide which patients need referral for tertiary care. If a patient has been referred to the secondary unit by a primary care team member and is then referred on for tertiary care, this should be also be communicated to them. Armed with this information, the primary care team member will be able to provide ongoing, patient centred care when the patient returns from the tertiary centre.

School eye health programmes run by secondary level eye units can also be enhanced by working with PEHC teams, as described elsewhere in this issue.

Training

Secondary units provide invaluable in-service or refresher training for primary care providers. These opportunities allow for everyone to get to know each other, which builds trust, and the PEHC teams can see and understand first hand the services being provided. For example, as part of training, they may watch cataract surgery and be better equipped to answer patient questions at a community level. They could talk to patients who were happy after their cataract surgery, or who received spectacles, to understand the impact of treatment. They can be equipped to use health education and health promotion information and tools effectively.

Tips for success

In most districts there are multiple primary health care clinics and teams for every secondary level eye care facility. **Good communication** is central to the partnership:

- Ensuring that detailed referral documentation between the two providers is used. This is important for health providers but also reassures patients who may not be familiar with specialist services and are likely to be anxious.
- Using feedback mechanisms for primary eye care providers and follow-up support which can be done through clear reporting forms and a range of m-Health (mobile health) options and alerts. Provide information about specific patients to ensure a continuum of care. For example, this might include the medication they need to use and the frequency, so that they can be counselled by primary level staff members. This is likely to improve adherence to treatment and improves capacity and outcomes within the health system.³
- Providing **scheduling information** on where and when outreach or other activities are planned, on a quarterly basis.

Sharing evidence

Strengthening eye health services relies on collecting and using information at a local level, especially to identify who has been left behind. Secondary level teams often shoulder the responsibility for regularly planning services, reviewing and reporting on numbers of people who attend eye clinics and numbers that accept surgery. Therefore, sharing key information with primary eye care workers as health educators and case finders for cataract programmes can actively address some of the arising local issues, such as acceptance of cataract surgery by women.

The collaborative partnership between primary and secondary level eye care is constantly evolving, particularly as communications are improving using technology. Establishing formalised pathways between the two levels of services improves access and quality of care but also improves capacity within a health system.

Referral and feedback: an example

Hanif, a primary eye care provider, identified Miriam (78 years old) as having bilateral mature cataracts. He persuaded her family that she would benefit from surgery at the local district hospital. Using an agreed referral protocol, he provided the family with clear verbal and written instructions about when they should visit the hospital eye unit and what to expect. He also gave them the referral slip they would need to show when they arrived. Miriam and a companion travelled the 50 km to the hospital; she felt reassured as she knew what to expect.

A week after the cataract operation in the right eye, Hanif received feedback from the secondary team about the success of the operation, and when to visit Miriam. During his visit, Hanif saw that the eye was white, she had good vision, and no pain. He was also informed by the hospital that some changes had been made to her diabetes management while she was at the hospital.

Hanif was well informed and able to provide Miriam with the support and information she needed, and was able to report back to the secondary unit on her post-surgical recovery. Hanif felt reassured that he was managing the patient appropriately because he and the secondary level eye team maintained good communication throughout.



References

- 1 Shamanna BR, Nirmalan PK, and Saravanan S. Roles and responsibilities in the secondary level eye care model. *Community Eye Health* 2005;18(56):120-121.
- 2 Gilbert G and Piyasena MP. Why is primary eye health care needed? *Comm Eye Health J*. 2022. Epub ahead of print. Published online 09 February 2022. bit.ly/whypec
- 3 Lewallen S and Kello AB. The need for management capacity to achieve VISION 2020 in Sub-Saharan Africa. *PLoS Med* 2009;6(12):e1000184.
- 4 Parkins D. The need for more integration of primary and secondary eye care. *BMJ* 2014;348:g3043.



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References

- 1 Courtright P, Murenzi J, Mathenge W, Munana J, Müller A. Reaching rural Africans with eye care services: findings from primary eye care approaches in Rubavu District, Rwanda. *Trop Med Int Health.* 2010 Jun;15(6):692-6.
- 2 World Health Organization. Primary Eye Care Training Manual. Brazzaville: World Health Organization; 2018. www.afro.who.int/publications/primary-eye-care-training-manual
- 3 Yip JLY, Bright T, Ford S, et al. Process evaluation of a National Primary Eye Care Programme in Rwanda. *BMC Health Serv Res* 2018;18:950.
- 4 Republic of Rwanda Ministry of Health. Fourth Health Sector Strategic Plan: July 2018-June 2024. <https://bit.ly/3qack7b>
- 5 Nyandekwe M, Nzayirambaho M, Kakoma JB. Universal health insurance in Rwanda: major challenges and solutions for financial sustainability case study of Rwanda community-based health insurance part I. *Pan African Med J.* 2020;37(55).
- 6 Mathenge WC, Hillgrove T, Gisagara E, et al. The Rwanda National Blindness Survey: Trends and use of the evidence to change practice and policy. *Afr. Vision Eye Health.* 2021;80(1):a576
- 7 Rusa L and Fritsche G. Rwanda: Performance-Based Financing in Health. In: *Emerging Good Practice in Managing for Development Results: Sourcebook – Second Edition.* The World Bank, 2007: 56-60. PDF available at <https://bit.ly/healthRW>

Implementing an integrated primary eye care programme in Rwanda

Rwanda has implemented a national primary eye care strategy that has seen 2.4 million people screened and over 200,000 referred for eye services at secondary level over the past five years.

Rwanda is a land-locked country in the Great Rift Valley of Africa and has an estimated population of 13 million. The first prevention of blindness plan in Rwanda was written in 2002. Attempts to implement the plan were hampered by the lack of trained eye health personnel at all levels, which severely reduced the population's access to services. Rwanda's ministry of health, with support from international non-governmental organisations, realised how important it was to establish a primary eye care (PEC) programme for Rwanda that could provide nationwide access to eye care and affordable spectacles for all.

The first attempts to develop PEC programmes were organised as individual projects, run by international non-governmental organisations. A review of the projects concluded that their results were disappointing, as increases in access to care were not maintained.¹ However, insights from the review were used to develop a new, comprehensive PEC programme which, together with subsequent health system changes, resulted in better organisation of eye care services and strengthened collaboration between stakeholders under the leadership of the ministry of health.

A customised PEC curriculum, aimed at general nurses, was developed based on the same principles, competencies, and protocols as the World Health Organization PEC curriculum for the African region.² Within three years, a dedicated team of five clinical ophthalmic technicians had trained two thousand nurses across all the public primary health care clinics in Rwanda, and the nurses had carried out over 1 million consultations.³ By the end of the fifth year, 2.4 million patients had been screened, 2,797 nurses had been trained, and 2,563 nurses had received



Primary eye care workers are shown how to position visual acuity charts. RWANDA

“PEC training has been integrated into the nursing school curriculum, which will provide a sustainable workforce.”

refresher training. There were also over 200,000 referrals to the secondary level. PEC training has been integrated into the nursing school curriculum, which will provide a sustainable workforce that is less reliant on in-service training.

The key factors for the success of this programme include the following:

- 1 A very clear and well managed referral pathway from the primary health care facilities to secondary-level hospitals. This ensures that the primary level is not bypassed and the nurses know where to send the patients they cannot manage.⁴
- 2 High enrolment of the public in community insurance schemes at community level, which ensures that the cost of care is not a barrier.⁵
- 3 Sustainable supervision of the nurses, thanks to the availability of well-trained allied eye health workers, known as ophthalmic technicians.
- 4 The high level of engagement by, and support from, the Rwandan Ministry of Health. The ministry of health provided the political leadership and policy influence that allowed system modifications such as changes in the essential drug lists and code of practice of nurses, all of which were needed for the establishment of PEC activities.⁶
- 5 The development of an 'Eye Tracker tool' within the Rwanda integrated health management information system (R-HMIS), which has allowed better monitoring of patient flows.
- 6 The inclusion of indicators for eye services at the primary level in Rwanda's performance-based health financing scheme – which links payment to outputs or results delivered – has further motivated the nurses to carry out PEC activities.⁷



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How policy makers can support primary eye health care

Policy makers play a vital role in ensuring that eye care services – including health promotion – can be delivered as an integrated part of primary health care.

Primary eye health care (PEHC) is eye care that is delivered by frontline and community-based workers at local primary health care clinics and includes health promotion and multisectoral engagement. Policy makers play a vital role in ensuring that all of the correct ‘building blocks’ of the health system are in place so that eye care services – including health promotion – can be delivered as an integrated part of primary health care:¹

- 1 A well-trained health workforce
- 2 Functioning health information systems
- 3 Access to essential medicines and supplies
- 4 Financing
- 5 Leadership and governance.

Each of these building blocks requires the involvement of policy makers at different levels within the health system:

- **International.** Policy leads at WHO and IAPB. They are responsible for setting global norms.
- **National.** Ministers of health, civil servants, and national eye care leads. They are responsible for strategic planning, allocating resources, and providing supportive structures for local service delivery.
- **Regional.** Commissioners, regional health department leaders, and city councillors are responsible for organising resources efficiently and equitably.
- **Facility:** Health facility managers are responsible for coordinating the delivery of high-quality care.

We will look at each of the building blocks in turn.

1 Health workforce

The people responsible for delivering eye care at primary level must be able to identify and manage basic conditions that are common in children, adults, and the elderly. In some countries, PEHC is delivered by optometrists, refractionists, and ophthalmic nurses, but in others, or in rural areas without eye



Policy makers can help to ensure that essential eye medicines are available to all.
TURKEY

care professionals, primary eye health care needs to be delivered by general primary level clinic staff, e.g., nurses, community health workers, and medical officers who look after people over time, as they grow and age.

Ideally, primary eye care workers would also be responsible for health promotion and disease prevention (see article on health promotion in this issue). They are well placed to counsel individual patients, but also build relationships with the local community and work with them to see how the unique population-level risk factors that drive eye disease in the local area might be addressed. Primary eye care workers require time, training, and resources for this – which must be facilitated by policy makers at national and regional levels.

National policy makers should design curricula and minimum competencies based on international PEHC norms and standards, set by the World Health Organization (WHO) and other international eye agencies, to ensure that all citizens are able to access the eye care they need. Supervision structures are required in order to support high quality care. As the Nigerian case study in this issue illustrates, it is also important that policy makers consider the skill mix required to deliver high quality care to local communities and align pre-service and in-service training.

2 Health information systems

National, regional, and facility-level policy makers have a role to play in ensuring that staff members delivering PEHC have access to adequate medical records and functioning IT systems. The best information systems will allow all the professionals involved in a patient's care to see the records made by each other as well as the background medication, risk factors, and other medical problems. The advantages are doing so include:

- More coordinated, patient-centred care
- Less duplication of work
- Reduced potential for medical errors
- Better longer-term follow-up, when needed.

To support the planning of services, policy makers should also routinely gather and analyse data.² The data can come from two main sources:

- 1 Epidemiological surveys on the prevalence of eye conditions, access to treatment, and outcomes of treatment.
- 2 Facility-based data, to assess local access to services.

Last, but not least, eye health indicators should be included in national reporting systems to ensure that progress is measured and so that funding can be allocated where it is most needed.

The Nigerian policy analysis in this issue recommends using eye care data as one of the core indicators of primary care performance. In Rwanda, indicators for eye services were included at the primary level in the country's performance-based financing scheme, which has contributed to staff member motivation (see Rwandan case study).

3 Access to essential medicines and supplies

National policy makers are responsible for setting the essential medicines list, in line with WHO recommendations. Regional policy makers are responsible for coordinating procurement and logistical support to ensure that all facilities are able to obtain essential medicines for eye health. Facility managers hold the primary responsibility for ensuring that their facilities are well stocked with in-date medicines, and that their staff have access to the basic equipment required to deliver high quality care. There is a need for alignment and coordination across government to ensure that policy recommendations are adequately resourced. To take a final example from the Nigeria case study, whilst the national newborn policy recommends using topical erythromycin for conjunctivitis, this product is currently not on the essential medicines list.

4 Financing

National policy makers are responsible for delivering Universal Health Coverage, which means universal access to essential health care services without imposing financial hardship.³ This involves raising and pooling funds through taxation or insurance schemes, and then distributing resources to service providers so that eye care services can be offered free at the point of use or for an affordable fee. As most countries have a mix of public, private, and charitable providers, regional policy makers need to ensure that local populations have access to affordable services. This includes access to high quality primary eye health care services. Policy makers will need to consider the unique burden of eye disease and visual impairment borne by their populations, and then calculate the resources required to deliver a core 'basket of care' to meet this need.

5 Leadership and governance

National and regional policy makers set national norms and standards, based on international best practice. They are also responsible for developing quality management systems to identify variation in clinical practices and then support regions and local services that are struggling to meet these standards of care. PEHC is a relatively novel concept that requires new governance systems to be established in order to set norms, develop appropriate national standards, and – for many countries – adapt their information systems so that they can monitor and manage quality standards.

Summary

In order to do their job well, the people who deliver primary eye health care need training, information systems, medicines and equipment, financing, and standards and guidelines. Policy makers at the international, national, and regional levels all play important roles in ensuring that these elements are in place.

References

- 1 WHO. Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies. Geneva: World Health Organization; 2010
- 2 Ramke J, Zwi AB, Silva JC, Mwangi N, Rono H et al. Bull World Health Organ. 2018;96(10):695-704.
- 3 WHO. Universal Health Coverage. 2021. bit.ly/3C5VQhW



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Policies for primary eye health care in Nigeria: a case study

New primary eye health care policies have the potential to profoundly change how eye health is delivered in Nigeria, provided the gaps are addressed.

Nigeria (population 200 million) has a high prevalence of blindness (0.78%), most of which is avoidable.¹ The government is increasing political priority for eye health through recent eye health policy statements. The first National Eye Health Policy was launched in February 2022.

We undertook a review of relevant national health policies to identify components which would support the delivery of primary eye health care (PEHC) in Nigeria. Documents were obtained from the Federal Ministry of Health, the Primary Health Care Systems Development Department of the National Primary Health Care Development Agency, and the National Eye Health Strategy team. The policies have several elements of relevance to PEHC (see panel).

Integrating eye care into primary health care

The National Health Policy (2016) advocates integrating eye care services into existing national health programmes, including PHC, while the National Eye



A busy antenatal clinic in a health centre provides an opportunity for eye health promotion amongst pregnant women. NIGERIA

Health Strategic Plan recommends developing a policy to support integrating eye care into PHC.

In addition, a priority area of the National Eye Health Policy is to provide access to equitable eye care, including at the primary level. These supportive policies suggest political priority for integrating eye care into PHC in Nigeria.

Health work force funding and training at PHC

The Federal Ministry of Health and its parastatals which deliver PHC have policies on human resources for health at PHC level. For example, the National Health Act (2014) states that 10% of national health funding for basic health care should be for training PHC staff.

PHC policies on staffing indicate that the PHC management team should develop a sustainable system for ongoing capacity building of PHC staff. In addition, it is recommended that there should be

National policies in Nigeria that support the delivery of eye care in primary health care (highlights)

National Eye Health Strategic Plan (2014–2019)

- A policy should be developed that includes eye care as an integral part of Primary Health Care (PHC).
- Workers in primary health facilities should undergo training in eye care to identify and manage basic eye conditions.

NPHCDA Minimum standards for PHC in Nigeria (2015)

- Chloramphenicol eye drops and ointment, and chlortetracycline ointment, should be available at health centres
- Snellen charts and pen torches should be provided at primary health care centres.

National Primary Health Care Development Agency: Integrating PHC Governance in Nigeria: PHC under one roof (2016)

- Primary eye care should be provided to reduce preventable blindness in Nigeria

National Health Policy (2016)

- Eye care should be integrated into existing national health programmes

National Strategic Health Development Plan (2018–2022)

- Eye care should be included as part of the key non-communicable diseases at primary level
- The package for newborn health should include erythromycin ointment for ocular prophylaxis at all levels

National Eye Health Policy (2019)

- Primary health care workers should be trained to provide appropriate eye health services
- Referral forms and registers for eye health should be available across primary and secondary health facilities

a minimum number, mix and skill set in each type of PHC facility, and that cadres of workers should deliver services according to their competencies. If the government fully implements these policies, sustainable funding will be available to build capacity of PHC workers who are skilled to deliver a mix of health services, for maternal and child health, mental health, oral health, and eye health, for example.

In-service versus pre-service training for eye care

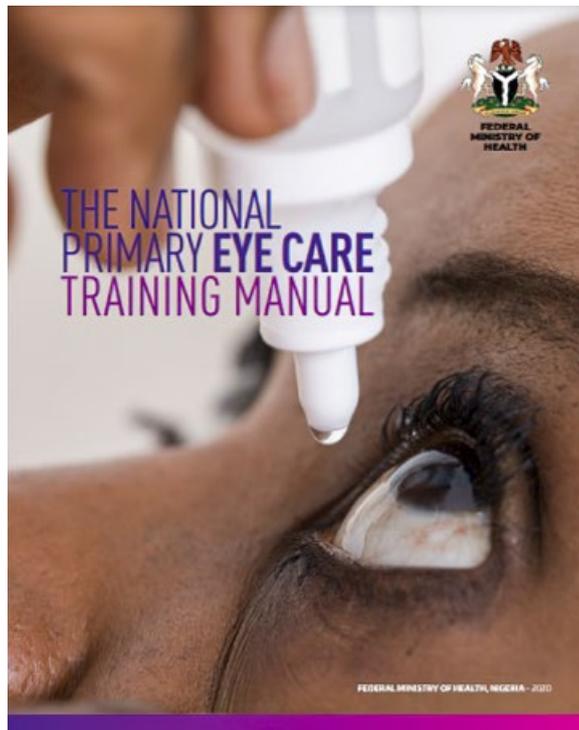
The policies for human resources at PHC level focus on in-service training. Even the Nigeria National Eye Health Strategic Plan recommends in-service training in eye care for PHC workers. It has been suggested that a more effective approach would be to include eye care in the pre-service training of all relevant PHC workers (doctors, nurses, midwives and community health extension workers), possibly as a component of non-communicable diseases training or care of the elderly.² Pre-service training is likely to be less costly than in-service training, and would highlight that eye care is a key component of PHC workers' role, and not an added responsibility. Refresher in-service training can then be conducted as required. The pre-service training option, which has been successfully implemented for all ages in Rwanda and for children in Bangladesh, would ensure a regular supply of trained staff members, and provide greater coverage and higher quality of care.

Eye care in health information systems

Currently, the PHC information system does not collect data on eye conditions, as they are not listed as one of the indicators at primary level.³ It is expected that the new national eye health policy will address this. Eye health data would be a valuable way of recording and reporting eye health needs in the community, for context-specific planning to appropriately address local eye health needs.

Policy gaps

Despite the numerous supporting policies for primary eye health care, some policy statements are not consistent across documents. For example, the National Eye Health Policy states that the government will promote quality eye health services at primary, secondary and tertiary levels. However, the National Guidelines for the Development of PHC Systems in Nigeria does not include eye health as a component of PHC, but oral health and mental health are included. Nevertheless, the policy for minimum standards in PHC recommends the provision of basic eye equipment



The WHO AFRO primary eye care manual has been adapted for Nigeria by the Ministry of Health. NIGERIA

and medication at PHC level. In another example, the national newborn policy recommends the use of topical erythromycin antibiotics to prevent neonatal conjunctivitis, but it is not listed in the essential drugs list for PHC facilities.² This lack of consistency between policies will need to be addressed by policy makers in the ministry of health and relevant health agencies.

Although primary eye health care in Nigeria has several supportive policies, they are scattered across different policies for PHC, general health and eye health. A clear government policy for primary eye health care as an integral component of PHC which is aligned with other PHC and eye health policies has been recommended.²

Primary eye health care is in its infancy in Nigeria and there is insufficient evidence to indicate what works well and what does not. Nevertheless, if a specific primary eye health care policy were to be developed and implemented, it has the potential to revolutionise how eye care is delivered. Ideally, the policy would cover the following:

- Eye health promotion
- Human resource development, deployment, and retention
- The scope of eye care delivered at primary level
- The provision of appropriate drugs and consumables
- The inclusion of eye conditions in national health information systems and referral mechanisms.

References

- 1 Rabiun MM, Kyari F, Ezelum C, Elhassan E, Sanda S, Murthy GVS, et al. Review of the publications of the Nigeria national blindness survey: Methodology, prevalence, causes of blindness and visual impairment and outcome of cataract surgery. *Annals of African Medicine*. 2012;11(3):125-30.
- 2 Aghaji A, Burchett HED, Oguego N, Hameed S, Gilbert C. Human resource and governance challenges in the delivery of primary eye care: a mixed methods feasibility study in Nigeria. *BMC Health Serv Res*. 2021;21(1):1321.
- 3 Aghaji A, Burchett HED, Oguego N, Hameed S, Gilbert C. Primary health care facility readiness to implement primary eye care in Nigeria: equipment, infrastructure, service delivery and health management information systems. *BMC Health Serv Res*. 2021;21(1):1360.

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Primary eye health care: what do young children need?

Integrated primary eye health care is vital for the early detection, referral, and management of eye conditions that affect young children.

In 2020, the Vision Loss Expert Group estimated that there are 70.2 million children aged 0–14 years who are vision impaired, 1.44 million of whom are blind.¹ These figures are greater in countries in South Asia and sub-Saharan Africa due to the higher estimated prevalence of blindness and vision impairment, and the larger child populations in these regions.

Studies indicate that most blind children are either born blind from congenital conditions or become blind before the age of 5 years from acquired conditions. Approximately 40–50% of these causes are avoidable, meaning that they can be prevented or treated. Timely intervention is extremely important in eye conditions with early onset, as the longer the delay before treatment, the greater the negative impact on not only the child's life-long vision, but also on their motor, cognitive, social, and emotional development. For example, cataract, glaucoma, and retinoblastoma can be present at birth or develop during infancy or early childhood.

In most countries, primary health care workers are in contact with mothers and children aged 0–5 years in the antenatal period, when mothers attend primary health facilities for monitoring of pregnancy, and in primary health centres, where children regularly attend



Primary health care workers can educate mothers about a healthy diet and facial hygiene.

for growth monitoring, vitamin A supplementation, and immunisations. Primary health care workers are, therefore, very well placed to identify and appropriately refer children with eye conditions; however, they need the knowledge, skills, and equipment to do so, which is often limited.

What can primary health care workers do?

- Promote healthy eyes.** Encourage mothers to attend antenatal clinics where they can be screened and treated for sexually transmitted diseases to prevent ophthalmia neonatorum. Educate mothers about a healthy diet and facial hygiene.
- Prevent eye diseases.** Give ocular prophylaxis (antibiotics) immediately after birth to prevent ophthalmia neonatorum. Promote and deliver vitamin A supplementation to children aged from 6 months to 5 years (where this is advised) and offer measles immunisation of infants to prevent corneal blindness.
- Treat eye diseases.** Treat common eye diseases such as conjunctivitis.
- Refer complex diseases.** Identify and refer children with serious conditions such as corneal ulcers, cataract, and retinoblastoma
- Rehabilitate children with incurable conditions.** Encourage parents and children to wear their spectacles, if needed.

Components of primary eye health care for children

The aim of primary eye health care for children is to prevent and reduce blindness in children. The World Health Organization's 'ten key activities for healthy eyes in children' provide a clear blueprint for what needs to be done at primary care level.² The activities address both prevention and active management of eye diseases in children. The activities fall into three categories:

- Health promotion for mothers (e.g., breast feeding, face washing, and good nutrition).
- Ensuring high coverage of specific preventive measures (e.g., vitamin A supplementation, measles immunisation, and ocular prophylaxis to prevent ophthalmia neonatorum).
- The detection and referral of children with treatable eye conditions (e.g., cataract, glaucoma, corneal ulcers, and retinoblastoma).

Primary health workers need to have skills in health promotion and taking a history, and they must know how to instil eye medication and how to perform a simple eye examination and red reflex test so that they can recognise conditions which must be referred to an eye care worker. These include:

- White pupils or an abnormal red reflex
- Abnormally small or large eyes
- Serious trauma
- Red painful eyes
- Concerns about a child's vision expressed by the parent or carer.

Integration of primary eye health care into child health programmes

Integrating eye health into child health would mean that all primary health care workers caring for children would be trained to prevent, detect, and refer eye conditions in children. Many of the key interventions

are already components of child health programmes, such as measles immunisation, but there would be some new essential clinical skills for primary health care workers to learn, such as red reflex testing and basic examination of children's eyes using a torch.

The benefit of primary eye health care for children as an integral component of child health services is potentially enormous, as it would increase access to eye health promotion and preventive measures, as well as screening and treatment, to all children.³ The case study from Bangladesh published elsewhere in this issue, and a programme in Tanzania,⁴ show how engaging ministries of health led to policy change, which in turn led to the inclusion of eye health in the World Health Organization's Integrated Management of Childhood Illness (IMNCI) programme.⁴ These demonstrate how working with governments can lead to positive change on a very large scale.

References

- 1 Burton M et al. The Lancet Global Commission in Global Eye Health: vision beyond 2020. *Lancet Glob Health* 2021;9:e489–551
- 2 World Health Organization. A five year project for the prevention of childhood blindness: Report of a WHO Consultation: World Health Organisation, 2002.
- 3 Malik ANJ, Mafwiri M, Gilbert C. Integrating primary eye care into global child health policies. *Arch Dis Child* 2018;103(2):176-80.
- 4 Malik ANJ, Mafwiri M, Gilbert C, et al. Integrating eye health training into the primary child healthcare programme in Tanzania: a pre-training and post-training study. *BMJ Paediatr Open* 2020;4(1):e000629.



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Including eye care in the Integrated Management of Childhood Illness (IMCI) programme in Bangladesh

Bangladesh has successfully integrated primary eye health care for children into the country's Integrated Management of Childhood Illness (IMCI) programme.

In Bangladesh, primary eye health care (PEHC) for all ages was included in the National Eye Care Operational Plan. However, children were not specifically being reached, as eye care was not included in the World Health Organization's (WHO's) Integrated Management of Childhood Illness (IMCI) programme. To address this, in 2016, with support from WHO, an initial package of interventions to identify and refer children with eye conditions by primary health care workers was developed and pilot tested in one sub-district. As this initiative was successful, it was decided to advocate that eye care be included in the national IMCI program to make it sustainable.

The National Newborn Health and IMCI programme of the ministry of health and family welfare took the initiative. Several consultation meetings were held in 2017, involving stakeholders in newborn care, child health, and eye care from the government, United Nations agencies, non-governmental organisations, professional associations, and district program managers. It was estimated that including eye care and screening in IMCI would benefit around 7.5 million children every year, using the same resources and workforce with some additional training. In May 2018, government policymakers, WHO, UNICEF, and technical experts agreed to include eye care in IMCI, and Sightsavers supported a pilot project in one district.

A technical group developed the curriculum and training materials, which included screening using a torch. Guidelines for identifying eye problems were produced, and strong referral mechanisms to the district hospital eye department were developed. IMCI recording forms for children aged <2 months and 2–59 months were updated to include eye conditions, and referral slips and reporting forms were designed. The eye conditions screened for in children were a white pupillary reflex, watering, red or discharging eye(s), and structural abnormalities. Eye injuries, squints, and concerns about vision were added for older children.



Children play outside. BANGLADESH

Community health workers attached to facilities delivering IMCI were also requested to promote awareness about eye conditions in children in the community.

IMCI staff members started screening children in July 2018, and referring cases requiring further eye care to the sub-district medical officer for treatment or referral to the district hospital ophthalmologist. The technical group members conducted regular monitoring and supportive supervision to monitor the quality of care and reporting. The IMCI national database (District Health Information Software 2 [DHIS2] of the Director General of Health Services) was modified to include eye conditions in children, and health facilities used this system for monthly reporting.

Based on the lessons learned from the pilot project, the ministry of health and family welfare included the eye care component of the IMCI protocol in the National Newborn Health and IMCI programme and scaled it up nationwide. A budget was allocated in the National Newborn Health operational plan to train IMCI staff. National data are being recorded in the updated DHIS2 platform, and the National Newborn Health programme monitors and provides supportive supervision. All these initiatives led to an increasing number of children benefitting from eye care services.

Lessons learned

IMCI staff could screen and refer cases confidently after basic training. Additional in-service training increased performance.

Continues overleaf ➤

The eye care component of the IMCI was included in monthly facility coordination meetings, which increased awareness among all stakeholders.

Health promotion by community health workers increased awareness of eye conditions and referrals from the community to primary health care clinics. Good follow-up, coordination, and strong referral mechanisms improved the quality of eye care. Including IMCI (which now has the eye care component) in the curriculum of medical, nursing, and paramedical students, increases effectiveness.

Conclusions and recommendations

Integrating eye care into the IMCI program is a feasible, efficient, effective and sustainable way to provide primary eye health care for children in Bangladesh. Basic equipment, logistical support and training, with refresher training as trained staff may be transferred, are essential. Incorporating eye care into IMCI is an excellent example of enhancing available resources to address avoidable blindness in children by strengthening the health system to ensure universal eye care in Bangladesh.



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Primary eye care: the WHO perspective

The World Health Organization is committed to the integration of eye care at primary health level so that the unmet need in every country can be addressed in primary care facilities that can be accessed by all, rather than inside overused eye hospitals in urban areas.



Vision assessment by government primary health care workers in Arunachal Pradesh. INDIA

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Commitment to equity and leaving no one behind in health care is captured in Target 3.8 of the United Nations' Sustainable Development Goal 3 (Ensure healthy lives and promote well-being for all at all ages), which is about achieving universal health coverage. Universal health coverage means that all individuals receive the health services they need without experiencing financial hardship as a result.

Although services at primary health care level have the greatest potential to reach the most underserved populations and improve equity of access to universal health coverage, it is commonly the most neglected of the levels of health care. This is also true for the delivery of eye care at primary health care level.

Recently, however, there has been a renewed focus on primary health care. In the Declaration of Astana in 2018,¹ World Health Organization (WHO) Member States called for a renewal of the commitment to strengthen primary health care in order to deal effectively with current and future challenges to health. This focus is critical for a number of reasons:

- Primary health care enables the health system to adapt and respond to a complex and rapidly changing world with growing and ageing populations.
- With its emphasis on promotion and prevention, and a people-centred approach, primary health care has proven to be a highly effective and efficient way to address the main causes of, and risk factors for, poor health.
- Universal health coverage and the health-related Sustainable Development Goals can only be sustainably achieved with a stronger emphasis on primary health care.

The call to integrate eye care into primary health care

The view of WHO on the importance of strengthening the integration of eye care within primary health care could not be clearer. In October 2019, WHO launched the first World Report on Vision, with a key recommendation being to reorient the model of care based on strong primary health care. In November 2020, Member States endorsed the recommendations of the World Report on Vision with the adoption of the

resolution titled 'Integrated people-centered eye care, including preventable vision impairment and blindness' at the 73rd World Health Assembly.² These high-level developments will provide important advocacy support for national efforts to strengthen primary eye care.

The key priority actions toward effective delivery of eye care at primary health care level should be:

- To prioritise the development of the eye care workforce to serve communities at the primary level of care
- To ensure effectively planned eye care referral systems from the primary level for timely treatment of eye conditions
- To raise community awareness about the availability of interventions.

WHO support toward strengthening primary eye care at country level

In 2022, WHO will launch the Eye Care Guide for Action that will include a package of technical tools to assist governments through a phased process of situation assessment, strategic planning, implementation and monitoring and evaluation. As part of a broader package of eye care interventions,³ WHO will make recommendations for a set of low-cost, high-impact, evidence-based eye care interventions that can be easily, safely, and effectively delivered at primary-level health facilities in low-resource settings. The package of eye care interventions also contains the minimum essential equipment and consumables required to deliver the interventions. This primary eye care package promotes a task-shifting model and its recommendations must therefore be accompanied by appropriate training resources for the workforce at primary-level health facilities.

The commitment to primary health care is not new. Forty years ago, the Declaration of Alma-Ata recognised primary health care as a means of achieving the objective of health for all people of all nations. The renewed global focus on primary health care provides an opportunity for the eye care sector to promote the integration of eye care into primary health care in order to successfully address the unmet need at country level: not inside overused eye hospitals in urban areas, but in primary care facilities that can be accessed by all.

References

- 1 World Health Organization. Declaration of Astana. Geneva: World Health Organization. <https://www.who.int/primary-health/conference-phc/declaration>
- 2 https://apps.who.int/gb/ebwha/pdf_files/EB146/B146_R8-en.pdf
- 3 Keel S, Evans JR, Block S, et al. Strengthening the integration of eye care into the health system: methodology for the development of the WHO package of eye care interventions. *BMJ Open Ophthalmol.* 2020;5(1):e000533.



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Data integration into national health information systems: the Ethiopia national trachoma control programme

The new electronic community health information system will avoid reporting delays and promote investment.

Globally, significant progress has been made towards the elimination of trachoma as a public health problem. Since 2002, the scale-up of all components of the WHO-endorsed SAFE strategy (surgery, antibiotics, facial cleanliness, environmental improvements) has contributed to a 91% reduction in the number of people at risk from trachoma, from 1.5 billion to 136.2 million today.¹

As the global trachoma programme matures, increased attention is now being placed on the sustainability of national programmes establishing case identification and surveillance, integrating services within the routine health system, maintaining the quality of services, and ensuring no one is left behind. To achieve these goals, the global trachoma programme is transitioning away from donor-led disease-specific models of programme delivery towards country-owned and integrated delivery of trachoma interventions through national eye health systems.

In Ethiopia, which accounts for 49% of the global burden of trachoma, neglected tropical diseases (NTDs), including trachoma, are neglected in part because the health care burden due to these diseases is under-represented in the data used by the national health system. This means that NTDs are not part of national health management systems so when those systems are being used to set national health priorities and investment, NTDs are either not available in those systems or only partially available. Recognising this, in 2017, the Ethiopian Federal Ministry of Health invested in the expansion of NTD indicators – including mass drug administration (MDA) and morbidity management for trachoma – in the newly designed national health management information system (HMIS).

Ethiopia's national trachoma programme is also moving away from paper-based, disease-focused vertical reporting for MDA to an electronic community health information system (eCHIS) which is linked to the national HMIS. This is being done in a step-by-step process where, for instance, trachoma data are reported through both the integrated (HMIS) data flow



Some Ethiopians must walk long distances to reach medical treatment for trachoma. ETHIOPIA

and the disease-focused vertical data flow collected and reported by NTD staff at the different levels. Data provided by both systems are compared to highlight areas where more training on NTD data recording and reporting through HMIS is needed. Once the integrated data flow is working sufficiently, measured by accuracy in reporting the true figure of treatments delivered, the vertical data flow will be discontinued, leaving the integrated data flow as the sole source for reporting programmatic data. This integrated system avoids manual, logical, and transcription errors as well as reporting delays and promotes further investment in strengthening national electronic data register and reporting systems, thereby ultimately benefiting all health programmes and creating a more resilient health system.

Aligned with what has already been started in Ethiopia in the past few years, the WHO NTD road map (2021–2030)² emphasises the transition of NTD data into national health information systems to establish country-led, integrated programmes. The implementation of this guidance is critical to the sustainability of programmes and is being supported by three new transition toolkits³ developed by the International Coalition for Trachoma Control, which show a successful transition should lead to validation of elimination and confidence that all cases will be managed properly in a post-elimination setting.

Transition will undoubtedly require increased partnership, including clear guidance and support from donors and implementing partners, and learning from experiences in other countries. However, its benefits will ensure that today's investments in trachoma elimination are sustained into the future through a comprehensive and strengthened eye health system.

References

- 1 World Health Organization. WHO Alliance for the Global Elimination of Trachoma by 2020: progress report on elimination of trachoma, 2020. Weekly Epidemiological Record 2021;96(31): 353–364. bit.ly/WHO-WER21
- 2 World Health Organization. Ending the neglect to attain the Sustainable Development Goals: a road map for neglected tropical diseases 2021–2030. bit.ly/WHOtdmap
- 3 International Coalition for Trachoma Control (ICTC) toolkits: Transition planning for facial cleanliness and environmental improvement, mass drug administration, and trichiasis management services. Available from bit.ly/transition-toolkits