Action plan for integrated people-centred eye care in South-East Asia 2022–2030

World Health Organization
REGIONAL OFFICE FOR South-East Asia

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Foreword

Universal eye health contributes to the attainment of multiple Sustainable Development Goals (SDGs) and is a pre-requisite for achieving the Region's Flagship Priorities on preventing and controlling noncommunicable diseases and achieving universal health coverage. Globally, at least 2.2 billion people have a vision impairment or blindness. At least 1 billion cases of vision impairment could have been prevented or are yet to be addressed. Ninety percent of people living with vision loss reside in low- and middle-income countries. Nearly 30% of the world's blind and vision-impaired live in the World Health Organization (WHO) South-East Asia Region.

Eye conditions affect people at all stages of life. However, young children and older people are the most vulnerable. Women, rural populations and ethnic minority groups are more likely than other groups to have vision impairment and are less likely to access care. In 2020, the estimated economic cost of blindness and moderate to severe vision loss globally was US$ 411 billion.

The *Action plan for integrated people-centred eye care in the South-East Asia Region 2022–2030* has been developed with the aim of ensuring that "all people in the Region have equitable access to high-quality, comprehensive eye health services to achieve universal eye health by 2030". To do that, the action plan provides detailed guidance for all eye health stakeholders, with a focus on service integration, including by building the capacity of teams of health and social workers that are in close contact with individuals and affected communities. It is aligned with the Region's Strategy for Primary Health Care and promotes the use of regional institutions and WHO Collaborating Centres to reach the global targets of effective coverage of cataract surgery, effective coverage of refractive error, and the Region's targets on diabetic retinopathy and trachoma elimination.

WHO stands committed to supporting all Member States, partners and communities to effectively leverage and adapt the recommendations contained herein to meet local eye health needs. Together, we must achieve universal eye health and accelerate progress towards our Flagship Priorities and the SDGs, for a healthier, more equitable and sustainable future for all.

Dr Poonam Khetrapal Singh
Regional Director, WHO South-East Asia Region

Resolution of the WHO Regional Committee for South-East Asia

Resolution SEA/RC75/R2. Monitoring progress and the acceleration plan for NCDs, including oral health and integrated eye care, in the South-East Asia Region

The Regional Committee,

Having considered the three strategic instruments named hereinafter:

(a) Implementation Roadmap for the prevention and control of noncommunicable diseases in South-East Asia 2022–2030;[1]

(b) Action Plan for oral health in South-East Asia 2022–2030; and

(c) Action Plan for integrated people-centred eye care in South-East Asia 2022–2030,

And recognizing the high burden of morbidity and mortality due to cardiovascular diseases, the large number of untreated cases of dental caries and oral health conditions, and challenges in the provision of comprehensive eye care,

Noting that while progress has been made and the trends are in the right direction, acceleration is needed to achieve the global, regional and national goals,

Acknowledging the importance of country leadership, political commitment, multisectoral and multistakeholder actions, and the need for adapting the three plans into the national health/NCD/oral health/eye health plans in the Member States, as appropriate to the country context, with the necessary allocations for resources, and

Emphasizing the crucial role of data and information systems at all levels to promote accountability,

1. ENDORSES the three strategic instruments:

(a) Implementation Roadmap for the prevention and control of noncommunicable diseases in South-East Asia 2022–2030;

(b) Action Plan for oral health in South-East Asia 2022–2030; and

1 Action plan for the prevention and control of noncommunicable diseases in South-East Asia, 2013–2020: extended to 2030. New Delhi: World Health Organization, Regional Office for South-East Asia, 2022. https://apps.who.int/iris/handle/10665/359075. [*The Regional Implementation Roadmap is the instrument to accelerate progress towards achieving the targets of the Action plan for the prevention and control of noncommunicable diseases in South-East Asia, 2013–2020: extended to 2030.*]

(c) Action Plan for integrated people-centred eye care in South-East Asia 2022–2030;

2. **URGES** Member States to:

(a) consider adopting and implementing, in accordance with their national priorities and contexts, the three strategic instruments including multisectoral actions related thereto, in order to accelerate the progress in NCD prevention and control, and to speed up actions for oral health and eye health in primary health care and within the ambit of universal health coverage;

(b) strengthen policy and legislative frameworks for this purpose, as well as advance primary health care, universal health coverage, human resources, accountability and quality of national health information systems; and

3. **REQUESTS** the Regional Director:

(a) To provide adequate technical support to Member States in the implementation of the three strategic instruments including strengthening of the related monitoring and evaluation systems;

(b) To continue to collaborate with the Specialized Agencies of the United Nations, Funds and Programmes related thereto, and other relevant partners and stakeholders, in order to advocate and leverage assistance for aligned and effective implementation of the three Strategic instruments in Member States; and

(c) To report on the progress and achievements of the three strategic instruments to the Regional Committee every two years until 2030.

Eighth session, 9 September 2022

Acknowledgements

The World Health Organization (WHO) South-East Asia Regional Office would like to acknowledge the contributions from WHO collaborating centres, regional and global experts on eye health, ministries of health of respective member states, WHO country offices, nongovernmental organizations, and partners. This action plan was drafted in collaboration with L V Prasad Eye Institute, Hyderabad, WHO Collaborating Centre for Prevention of Blindness.

Abbreviations and acronyms

BCVA	best corrected visual acuity
DR	diabetic retinopathy
ICD	International Classification of Diseases
IPEC	integrated people-centred eye care
NCD	noncommunicable disease
NGO	nongovernmental organization
ROP	retinopathy of prematurity
UHC	universal health coverage

Executive summary

Vision is the most dominant of human senses. Eye conditions affect all stages of life, with young children and older people being most vulnerable. Women, rural populations and ethnic minority groups are more likely to have vision impairment and less likely to access care. Impairment of vision impacts the achievement of Sustainable Development Goals and universal health coverage.

Globally, at least 2.2 billion people have vision impairment or blindness. This includes those with near vision impairment due to presbyopia (1.8 billion, including both addressed and unaddressed presbyopia), and moderate-to-severe distance vision impairment or blindness due to unaddressed refractive error (123.7 million, e.g. myopia or hypermetropia), cataract (65.2 million), age-related macular degeneration (10.4 million), glaucoma (6.9 million), corneal opacities (4.2 million), diabetic retinopathy (3 million), trachoma (2 million), and other causes (37.1 million) and 188.5 million people with mild vision impairment of unknown causes.

Further, the estimated economic cost of blindness and moderate-to-severe vision loss was US$ 411 billion in 2020, which is equivalent to 0.3% of the world's GDP. At least 1 billion cases of vision impairment could have been prevented or are yet to be addressed. The number with presbyopia is projected to increase from 1.8 billion in 2015 to 2.1 billion in 2030.

Nearly 30% of the world's blind and vision-impaired population live in the WHO South-East Asia Region. While trachoma continues as a public health problem in 43 countries globally, as of March 2022, 14 countries had achieved elimination goals. Within the South-East Asia Region, Myanmar (2020) and Nepal (2018) were verified for elimination. With the current drive, the region can achieve trachoma elimination by 2025.

To address eye health problems, the Seventy-fourth Session of the WHO Regional Committee for South-East Asia mandated in 2021 the development of a regional action plan for integrated people-centred eye care (SEA/RC74(2)), taking into consideration the 2030 global targets for effective coverage of treatment for cataract and refractive error that were endorsed by the Seventy-fourth World Health Assembly (WHA74/2021/REC/1). Further, the Seventy-fifth Session of the United Nations General Assembly in the same year adopted the resolution

Vision for everyone: accelerating action to achieve the Sustainable Development Goals (A/RES75/310), and called upon Member States to ensure access to eye care services for their populations and to mobilize the resources and support necessary to achieve the global targets by 2030.

To address the eye health needs within the region and also to achieve the global targets, the Regional Office for South-East Asia developed the *Action plan for integrated people-centred eye care in South-East Asia 2022–2030*, which was endorsed by the Seventy-fifth Session of the Regional Committee in 2022 (SEA/RC75/R2).

The action plan envisions that all people in the South-East Asia Region have equitable access to high-quality, comprehensive eye health services to achieve universal eye health by 2030 with the following targets:

- a 40-percentage point increase in effective coverage of refractive error;
- a 30-percentage point increase in effective coverage of cataract surgery; and
- at least 80% of people with diabetes screened regularly for retinopathy, and 80% of those identified with sight-threatening diabetic retinopathy receiving treatment.

In addition, there is the target to eliminate trachoma in the region by 2025.

The targets will be achieved through the implementation of five broad, integrated, people-centred eye health strategies, namely:

1. engaging and empowering people and communities;
2. reorienting the model of care to prioritize primary care and community-based services with functional referral linkages;
3. coordinating services within and across sectors;
4. strengthening and reorienting the eye health workforce; and
5. creating an enabling environment.

Priority strategic approaches and actions are listed for Member States to adopt and implement. An eye care indicator menu has also been developed to facilitate monitoring of progress by Member States. With the implementation of the actions by Member States, the region can achieve its set targets by 2030.

1. Introduction

Vision is the most dominant of human senses. Eye health is "the state in which vision, ocular health, and functional ability are maximized, thereby contributing to overall health and wellbeing, social inclusion, and quality of life" *(1,2)*. Impairment of vision impacts all these. Eye conditions affect all stages of life, with young children and older people being most vulnerable. Women, rural populations and ethnic minority groups are more likely to have vision impairment and least likely to access care.

Globally, at least 2.2 billion people have vision impairment or blindness. This includes those with near vision impairment due to presbyopia (1.8 billion, including both addressed and unaddressed presbyopia), and moderate-to-severe distance vision impairment or blindness due to unaddressed refractive error (123.7 million, e.g. myopia or hypermetropia), cataract (65.2 million), age-related macular degeneration (10.4 million), glaucoma (6.9 million), corneal opacities (4.2 million), diabetic retinopathy (3 million), trachoma (2 million), and other causes (37.1 million) and 188.5 million people with mild vision impairment of unknown causes. At least 1 billion cases of vision impairment could have been either prevented or are as yet undiagnosed. Left unaddressed, the number with presbyopia is projected to increase from 1.8 billion in 2015 to 2.1 billion in 2030 *(3)*. This could be further compounded by increased life expectancy and lifestyle changes. Ninety percent of people living with vision loss reside in low- and middle-income countries. The estimated economic cost of blindness and moderate-to-severe vision loss was US$ 411 billion in 2020 (equivalent to 0.3% of the world's GDP in 2018), costing the most in East Asia (US$ 90 billion) and productivity losses as a proportion of gross domestic product was highest in South Asia (0.6%) *(2)*.

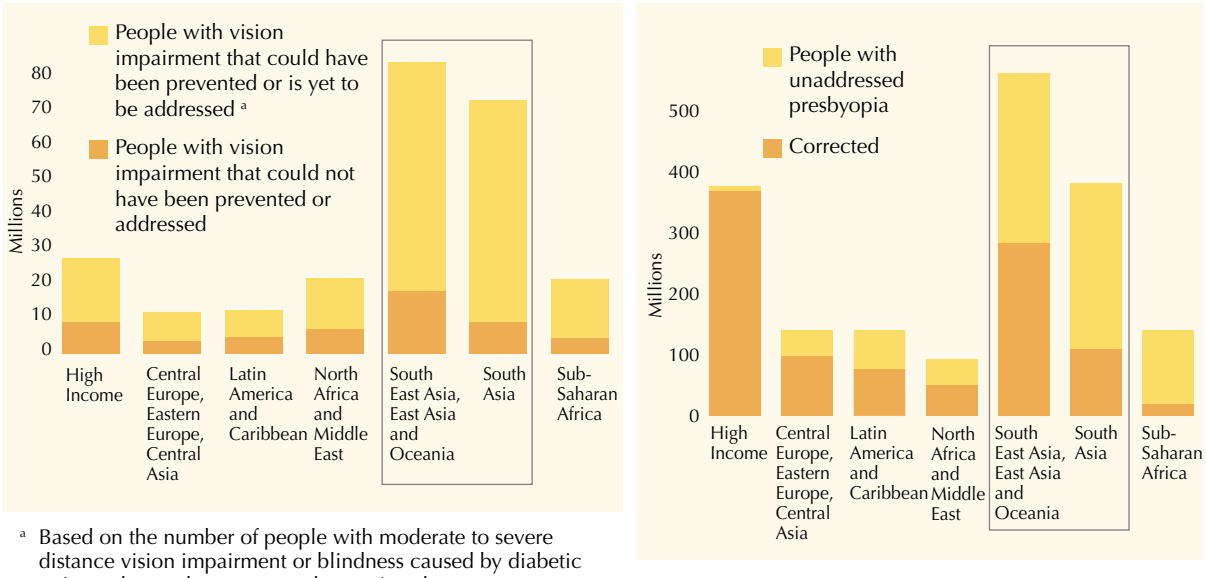
Globally, 137 million people are at risk of trachoma infection and about 2.5 million people require surgery for trachomatous trichiasis. WHO aims to eliminate trachoma as a public health problem by 2030 through the SAFE strategy (surgery, antibiotic application, facial cleanliness, and environmental improvement) and WASH (water, sanitation and hygiene) *(4)*.

2. Eye health in the South-East Asia Region

Nearly 30% of the world's blind and vision-impaired population lives in the WHO South-East Asia Region. The common causes of vision impairment in adults are uncorrected refractive errors, cataract, glaucoma, age-related macular degeneration, diabetic retinopathy, corneal scarring and trachoma. In children, the common causes of vision impairment are uncorrected refractive errors, cataract, retinopathy of prematurity, congenital ocular anomalies, corneal scarring, and cerebral visual impairment *(1)*.

The Global Burden of Disease (GBD) has clustered 11 countries of the WHO South-East Asia Region into three regions: South-East Asia (Indonesia, Maldives, Myanmar, Sri Lanka, Thailand, Timor-Leste), South Asia (Bangladesh, Bhutan, India, Nepal), and East Asia (Democratic People's Republic of Korea). The region bears a high burden of eye disease (Fig. 1).

Fig. 1. People with vision impairment (left) and presbyopia (right)



[a] Based on the number of people with moderate to severe distance vision impairment or blindness caused by diabetic retinopathy, trachoma, corneal capacity, glaucoma, unaddressed refractive error and cataract.

Source: World report on vision, 2019 (2), adapted from Flaxman et al. (5) (left) and Fricke et al. (6) (right)

While trachoma continues as a public health problem in 43 countries globally, as of March 2022, 14 countries had achieved elimination goals *(7)*. Within the South-East Asia Region, Myanmar (2020) *(8)* and Nepal (2018) *(9)* were verified for elimination in recent years.

Mandate for developing a regional action plan for integrated people-centred eye care

Addressing eye health is critical to health and development, ending poverty, improving education levels and promoting socio-economic growth. Universal eye health care contributes to attainment of multiple Sustainable Development Goals and is a pre-requisite for universal health coverage. Member states have committed to universal eye health through various governing body discussions, decisions, and resolutions.

- The Seventy-third World Health Assembly, in 2020, adopted the resolution on integrated people-centred eye care, calling upon Member States, WHO and partners, including intergovernmental and nongovernmental organizations, to support Member States, as appropriate, in the national implementation of the recommendations in the *World report on vision (2)*;
- The Seventy-fourth World Health Assembly, 2021, endorsed the global targets for effective coverage of refractive errors and effective coverage of cataract surgery to be achieved by 2030 *(10)*;
- The Seventy-fifth Session of the United Nations General Assembly, in 2021, adopted the resolution Vision for everyone: accelerating action to achieve the Sustainable Development Goals, and called upon Member States, among others, to ensure access to eye care services for their populations and to mobilize the necessary resources and support to contribute to global efforts to reach, by 2030, at least 1.1 billion people who have a vision impairment and currently do not have access to the eye care services they need *(11)*.
- The Seventy-fourth Session of the WHO Regional Committee for South-East Asia mandated, in 2021, the development of a regional action plan for integrated people-centred eye care taking into consideration the 2030 global targets for effective cataract coverage and refractive error coverage that were endorsed by the Seventy-fourth World Health Assembly *(12)*.

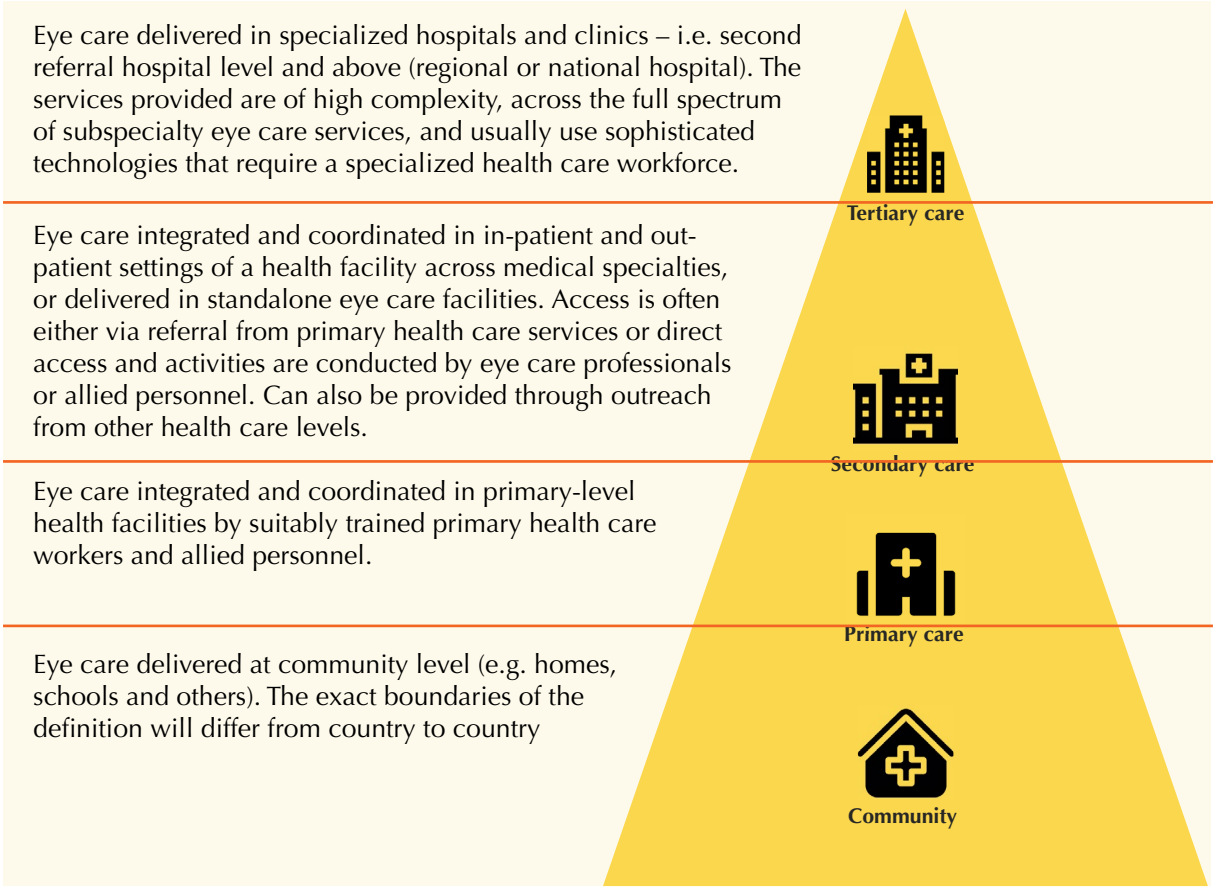
The *World report on vision* (2019) calls on countries to make eye health part of efforts to achieve universal health coverage (UHC) and to implement integrated people-centred eye care (IPEC) within health systems reoriented towards primary health care.

The *World report on vision* defines IPEC as services that are managed and delivered so that people receive a continuum of health interventions, covering promotion, prevention, treatment and rehabilitation, to address the full spectrum of eye conditions according to their needs, coordinated across the different levels and sites of care within and beyond the health sector, and that recognize people as participants and beneficiaries of these services throughout their life course.

IPEC helps to address the significant eye care challenges and ensure that people receive a continuum of eye care based on their individual needs throughout their lives, contributing to good health and wellbeing.

The integration of services can be achieved through a team of health and social workers who are in close contact and engaged with individuals and the communities they serve. There are many opportunities for integrating eye care into various levels of health care across and within different service delivery platforms *(13)* (Fig. 2 and Table 3).

Fig. 2. Integrated people-centred eye care (IPEC)



Source: Package of eye care interventions (14).

3. An overview of the action plan

This section presents the underlying principles of the *Action plan for integrated people-centred eye care in South-East Asia, 2022–2030 (15)*.

Vision

All people in the South-East Asia Region have equitable access to high-quality, comprehensive eye health services to achieve universal eye health by 2030.

Mission

Comprehensive, coordinated and continuous eye health care services for all ages with equal geographical distribution through an integrated people-centred primary health care.

Goal

To guide and support Member States in developing, adopting and implementing appropriate and impactful national and subnational actions to achieve universal eye health through integrated people-centred eye care.

Targets for eye care

Given the large unmet need for care associated with cataract and refractive errors, coupled with the fact that highly cost-effective interventions exist, WHO proposed to its Member States that effective refractive error coverage and effective cataract surgery coverage serve as ideal indicators to track progress in the uptake and quality of eye care services at the global level (*10*) (Table 1).

Table 1. Global eye care targets

Target 1: A 40-percentage point increase in effective coverage of refractive error
Countries with a baseline effective coverage rate of 60% or higher should strive for universal coverage
Countries should aim to achieve an equal increase in effective coverage of near and distance refractive error in all relevant population subgroups, independent of baseline estimates
Target 2: A 30-percentage point increase in effective coverage of cataract surgery
Countries with a baseline effective coverage rate of 70% or higher should strive for universal coverage
Countries should aim to achieve an equal increase in effective coverage of cataract surgery in all relevant population subgroups, independent of baseline estimates

In addition to the global targets, the action plan proposes the following regional targets (Table 2).

Table 2. Regional targets

Target 3: Ensure at least 80% of people with diabetes are screened regularly for retinopathy, and 80% of those identified with sight-threatening diabetic retinopathy are treated by 2030
Target 4: To eliminate trachoma in the region by 2025

Guiding principles

- **Universality:** Ensure everyone has access to high-quality eye care without discrimination and without financial hardships. Efforts can target immediate factors driving inequitable service utilization but may also address more fundamental social determinants to be disability inclusive and gender responsive.
- **Member states leadership:** Implementation of these strategies for pursuing integrated people-centred eye care services should be developed and led by Member States and should respond to local population health needs, conditions and contexts, supported by WHO and other partners in a multisectoral approach, in consultation with relevant sectors and stakeholders.
- **Evidence-based actions:** Decisions at all levels should be based on the best available evidence, using recommended actions. Focus should be on the ongoing monitoring of progress through specific and measurable objectives and results.
- **People-centredness:** People should be at the core of the decision-

making, policy development, and delivery of eye health. All strategies should address population health needs, and eye care services should be provided in a comprehensive, coordinated and continuous manner close to the community.

- **Leverage technology:** Wherever needed, appropriate technology should be used to bridge the gaps between primary, secondary, and tertiary care and to reduce out-of-pocket expenses to make the delivery of eye health efficient, cost effective and sustainable.

Strategic areas

In line with the recommendations of the *World report on vision* and the global targets to be achieved by 2030, the action plan proposes the following five strategic areas.

Strategic area 1: Engaging and empowering people and communities

Engaging and empowering people and communities is about providing the necessary opportunities, skills and resources to empower users of health services. It is also about reaching the underserved and marginalized to guarantee universal access to comprehensive eye care services to all, leaving no one behind.

Strategic approaches

- Develop health promotion strategies that empower communities to adopt positive behaviour change and encourage people to seek early care for eye conditions by leveraging existing community-based structures and networks.
- Strengthen health literacy to improve effectiveness of interventions through better understanding and compliance.
- Reach the underserved to guarantee universal access to health services, including persons with disabilities, in all stages of policymaking and decision-making.
- Engage with and leverage community-based organizations to provide IPEC.

Strategic actions

- Improve public awareness, empower communities, enable access and generate demand for eye care services, including for assistive products through community-based initiatives, primary health care and school health programmes, as well as utilizing occasions such as World Sight Day and World Diabetes Day for advocacy and awareness raising.

- Promote integrated screening for eye diseases in those above 40 years of age for conditions like cataract, refractive errors, diabetic retinopathy, glaucoma, trachoma, corneal scarring and other common eye conditions through leveraging opportunities with other health care screening programmes.
- Raise awareness of the importance of eye screening for newborns, especially of premature babies, for congenital cataract, retinopathy of prematurity, congenital ocular anomalies etc.
- Leverage school health programmes to include eye screening in pre-school and school children for refractory errors, low vision, prevention of eye injuries, and other eye conditions.
- Develop specific programmes for reaching out to underserved and marginalized communities, people with special needs and other vulnerable populations. This could be done with relevant organizations working with these groups, such as organizations for people with disabilities.
- Raise awareness about available and accessible rehabilitation services, assistive technology products and low-vision devices for those with irreversible vision loss.
- Raise awareness of facial cleanliness and environmental sanitation to prevent trachoma infection.
- Advocate for eye (corneal) donations and sensitization about healthy occupational behaviours through use of protective gear to avoid eye injuries at workplaces.

Strategic area 2: Reorienting the model of care to prioritize primary care and community-based services with functional referral linkages

This strategic area focuses on reorienting the model of care to ensure that efficient and effective eye care services are provided through integrated models of care and that primary-level care meets population eye care needs through the life-course approach.

Strategic approaches

- Strengthen health systems at all levels of care to include eye care in different health programmes and across the life course. Integrating eye care in health systems will ensure that the health systems, including health facilities, have the capacity and resources to deliver eye care and support referral and follow-up.
- Innovate and incorporate new models, programmes and technologies to share information, track quality of care, and reach remote communities.

- Ensure availability and accessibility of low-vision and vision-rehabilitation services and related assistive technology products.
- Involve all stakeholders across health and non-health sectors i.e., government, NGOs, private sector for provision of essential comprehensive eye care at the primary level.
- Ensure availability and accessibility to essential medicines, medical products and assistive technology products for common eye conditions at all levels of health care delivery.

Strategic actions

- Strengthen eye care and vision rehabilitation at primary health care level to improve access, and to adapt and respond to rapidly changing eye care needs at the population level.
- Integrate and mainstream management of common eye health issues in routine health services, such as in maternal and child health and disease control programmes.
- Initiate collaboration between eye care providers and other health care providers, focusing on conditions such as diabetes, hypertension, childhood eye conditions and eye injuries, and strengthening eye health rehabilitation.
- Utilize the WHO *Package of eye care interventions (14)* for the planning of eye care services at various levels of health care delivery.
- Use technology to improve access to eye care as well as to improve coverage. For example, telemedicine can be used at all levels of health care delivery including promotion of disabled friendly telemedicine by adopting the *WHO-ITU global standard for accessibility of telehealth services (16)*.
- Strengthen mobile clinics and other innovative models of eye care to reach geographically difficult terrains through bundled service approaches, for example by bringing eye and ear care together in one mobile clinic and selected fixed facilities.
- Depending upon the context, Member States can adopt a menu of eye care services to be provided at different levels of health facilities (Table 3, Table 4). (Note that awareness creation and health promotion and education should be done at all levels of care, especially at the primary level.) The *Package of eye care interventions* also provides a detailed set of evidenced-based eye care interventions across the continuum of care and the material resources required for implementation *(14)*.

Table 3. Integration of care for eye conditions

Age groups	Primary	Secondary	Tertiary	Cross sectoral collaboration
0–4 years	Congenital cataract Ophthalmia neonatorum Screening for retinopathy of prematurity (ROP)/ retinoblastoma / childhood glaucoma/ other congenital anomalies	ROP screening	Surgery for congenital cataract and squint Management of retinoblastoma Amblyopia management	Maternal and child health Primary health care Women and child welfare Neonatologists and Paediatricians
5–15 years	Screening for refractive errors through school eye health programmes Information, education and communication for prevention of eye injuries Community-based rehabilitation	Spectacles for children Low-vision care Follow-up care for amblyopia management	Surgery for developmental cataract Amblyopia management	School education department Special educators
16–39 years	Workplace screening Screening for refractive error Information, education and communication for prevention of eye injuries Health promotion/ lifestyle for prevention of diabetes Community-based rehabilitation	Refractive error Comprehensive eye examination of glaucoma Lasers for diabetic Retinopathy and glaucoma Low-vision care Management of eye injuries.	Surgical management of diabetic retinopathy (DR) and glaucoma Corneal transplantations Low-vision care (advanced) Contact lenses Management of complex eye conditions such as keratoconus Refractive surgeries	School/college system Physicians and diabetologists Ministry of labour NGOs Primary health care
40–59 years	Health promotion/ lifestyle for prevention of diabetes Spectacles for uncorrected refractive error and presbyopia	Comprehensive eye examination of glaucoma Lasers for diabetic retinopathy and glaucoma Cataract surgery Low-vision care	Cataract surgery Surgical management of DR and glaucoma Low-vision care (advanced)	Physicians and diabetologists Ministry of labour Primary health care

Age groups	Primary	Secondary	Tertiary	Cross sectoral collaboration
60 and above	Cataract detection Detection for other comorbidities Spectacles after cataract surgery Information, education and communication to promote healthy aging	Cataract surgery Comprehensive eye examination of glaucoma Lasers for diabetic retinopathy and glaucoma Low-vision care	Cataract surgery Surgical management of DR and glaucoma Low-vision care (advanced)	Ministry of social justice and empowerment Physicians Nongovernmental agencies Primary health care Integration with other specialists, such as hearing, injuries, and mental health

Table 4. Suggested eye care interventions at different levels of care

Condition	Primary	Secondary	Tertiary
Cataract	Awareness creation Screening/case detection Post-operative surveillance Spectacle correction after cataract surgery	Clinical diagnosis Surgery Laser for posterior capsular opacification formation	Surgery for complicated cataract Surgeries under general anaesthesia
Refractive error	Awareness creation Diagnosing for refractive errors and presbyopia Spectacle dispensing Spectacles compliance	Spectacle dispensing for complex prescription Spectacles for children	Spectacle dispensing for complex prescription Contact lenses Refractive surgeries
Childhood blindness	Screening of high-risk groups Health promotion for prevention of Vitamin A deficiency Information, education and communication to promote immunization and neonatal care Screening for retinoblastoma and congenital cataract, congenital glaucoma, Retinopathy of prematurity (ROP) (using tele-ophthalmology)	Follow up of surgical cases Retinopathy of prematurity (ROP) screening Tele-ophthalmology models for ROP	Surgery for paediatric cataract, squint, childhood glaucoma, ROP Management of retinoblastoma Amblyopia management

Diabetic retinopathy	Screening of high-risk groups Screening for hypertension Screening for DR (using tele-ophthalmology) Surveillance Information, education and communication of healthy lifestyle	Lasers and injections for DR Follow-up care Tele-ophthalmology models follow care	Retinal laser, injections, and surgeries
Glaucoma	Screening of high-risk groups Surveillance for follow-up care Information, education and communication	Comprehensive eye examination for the diagnosis of glaucoma Medical management of glaucoma, including lasers Surgical management of glaucoma	Medical and surgical management of complex cases
Cornea	Screening and referral Health promotion to prevent eye injuries Information, education and communication for eye donation First aid for chemical injuries Prophylactic treatment	Medical management of corneal infections Corneal tear repair Basic microbiology investigations Eye donation centres Follow-up care after corneal surgeries	Corneal transplantations Management of complex eye injuries Eye banking
Trachoma	Screening high-risk groups Health promotion to promote facial cleanliness and sanitation Antibiotic distribution	Trichiasis surgery	Trichiasis surgery
Low vision/ rehabilitation	Case detection and referral Counselling services Community-based rehabilitation Promotion of assistive devices and technology	Low-vision care and devices Promotion of assistive devices and technology	

Strategic area 3: Coordinating services within and across sectors

Eye care should be coordinated and integrated with the needs and preferences of people at every level of care, with a focus on improving the access, affordability and quality of care.

Strategic approaches

- Harness synergies by strengthening coordination, collaboration and convergence of care for the individuals. For example, eye care can be provided as an integral part, when an individual comes to a health facility to access services for maternal and child health, hypertension, diabetes and other NCDs.
- Encourage coordination, collaboration and convergence using "whole-of-government" and "whole-of-society" approaches to provide integrated eye health services. This includes, but is not limited to, ministries of health and other ministries, academia, research institutions, the scientific community, civil society, private sector, people living with disabilities, relevant national and international agencies and organizations.

Strategic actions

- Develop inter-ministerial and inter-agency coordination for cross-linkages and better planning and delivery of comprehensive eye care services. This includes development of common implementation plans at subnational/district level by strengthening coordination with relevant stakeholders, such as with health education programmes (screening, promotion), organizations for people with disabilities, for women and child development, labour organizations (injury prevention, promotion), the private sector (refractive and optical services), the development sector (such as poverty alleviation and female empowerment), and water and sanitation departments.
- Forge partnerships to harness synergies (public–private and with NGOs) to explore means of providing affordable and quality eye care. Partnerships can be leveraged for advocacy, community engagement, health literacy, screening and provision of services.
- Strengthen coordination with other health care sectors for screening, early detection and treatment of eye conditions, such as coordination with neonatal services (screening), child health services (screening, detection, management) and NCD services (promotion, screening, diabetes, hypertension, ageing).

Strategic area 4: Strengthening and reorienting eye health workforce

An adequate and appropriately trained and positioned workforce is critical to achieving targets and provision of IPEC. None of the strategies and actions can be implemented – and will, indeed, fail – without adequate investment in the health workforce, including social workers and those in the education sector. Reorientation, training, and re-training of the workforce is imperative for the delivery of integrated people-centred eye care.

Strategic approaches

- Map the health workforce to understand the gaps in existing human resources for integrated eye care services.
- Develop a nationally appropriate competency-based framework.
- Establish multidisciplinary teams and institute clinical governance and quality assurance for continuous quality improvement in eye health.
- Ensure optimum utilization of human resources through task delegation and task sharing and use of technology to enable cross-functioning along different levels of care and types of health workforce.
- Collaboration with learning institutions and hubs established within the Region to support Member States on training, research and innovation

Strategic actions

- Assess the gaps in human resources, conduct a training needs assessment for the delivery of quality comprehensive eye care services, and prepare a long-term action plan for filling the gaps across professional profiles (ophthalmologists, optometrists and allied ophthalmic personnel) as per the nationally approved norms and laws.
- Ensure that eye care workforce planning is an integral part of the health workforce and a long-term action plan for filling the gaps is developed. Health care workers at the primary level can assist in eye screening alongside screening for other primary health care conditions. For example, eye and ear care (basic audiology and optometry) can be combined, especially during school screening.
- Address maldistribution, staff motivation, task sharing and needs-based upskilling of workforce to ensure equitable access to well-trained health workers, including in underserved areas.
- Develop, implement and monitor programmes, including training,

to improve and update the skills of the existing eye care workforce, including continuing professional development.

- Develop a nationally appropriate competency-based training curriculum, and promote certification by a national body/council/accreditation board for all levels of eye health care workers.
- Coordinate and collaborate with learning hubs, including WHO collaborating centres, for training and capacity strengthening, data analysis and use, and research.

Strategic area 5: Creating an enabling environment

The creation of an enabling environment, including review or development of policies, the strengthening of governance, inclusion of eye care in national health strategic plans, integration of relevant eye care data within existing health information systems, facilitation of technology adoption, access to technical support for implementation, monitoring and evaluation, and the planning of eye care workforce according to population needs is important in achieving IPEC.

Strategic approaches

- Strengthen leadership and governance for eye care at national and subnational levels and primary health care centres.
- Develop policies to ensure access to quality and affordable eye services and minimize out-of-pocket expenditure.
- Review existing data management systems and identify gaps. Strengthen and integrate eye health data into the overall health information system.
- Promote investment in capacity building, research, and innovation in eye health as an investment in eye health that would impact multiple Sustainable Development Goals.
- Support the adoption of available technologies that positively impact access to eye care.

Strategic actions

- Integrate eye health into national health strategic plans and eye health information to be part of the annual health reports with target and indicators.
- Allocate needed budget for comprehensive eye care, including essential medications, spectacles, low-vision aids, rehabilitation, and required assistive products.
- Advocate for increased affordability of essential medical equipment and supplies (including spectacles) through reduced duties on

imports, as applicable, as well as lowered taxation.

- Enable policies for financial risk protection to low-income groups and vulnerable populations that ensure universal access to high-quality vision rehabilitation for optimal functioning.
- Create opportunities for people with disabilities (including those with low vision) through education, and by creating and enhancing job opportunities and rehabilitation.
- Develop supportive policies for innovations, research and use of digital technologies for improved access to universal comprehensive eye care.
- Set up a comprehensive accountability, monitoring and evaluation framework.

4. WHO resources for technical support

The implementation of the action plan across the region will primarily depend on the stewardship of the ministry of health in all Member States. WHO has prepared the following resources that can be used by Member States while implementing IPEC (Table 5).

Table 5. Integrated people-centred eye care (IPEC) implementation process and relevant WHO tools

IPEC implementation processes	Technical resources available and links
1. **Carry out a comprehensive situation analysis of the eye care sector** Ensure government is committed, and leading the analysis	*Eye Care Situation Analysis Tool (ECSAT) (17)*
2. **Develop or revise, if already existing, an eye care strategic plan in line with IPEC recommendations (mid-term plan, 3–5 years)** Identify priority action areas based on the ECSAT findings Ensure the eye care strategic plan aligns with other related plans across the health sector and other related sectors	*Eye care in health systems: guide for action (18)* *Package of eye care interventions (19)* *Eye care competency framework (20)*
3. **Implement the eye care strategic plan** Establish a cycle to periodically plan and review eye care services Increase capacity of leadership and governance for eye care	*Eye care in health systems: guide for action (18)*
4. **Establish eye care monitoring, evaluation, and review processes** Develop a monitoring framework with indicators, baselines and targets Establish evaluation and review processes to assess progress towards the achievement of objectives (annual or biennial reporting period)	*Eye care in health systems: guide for action (18)* *Eye care indicator menu (ECIM) (21)*

Monitoring and reporting on progress

WHO has developed an *Eye care indicator menu* (ECIM), which includes 13 core indicators and 13 expanded indicators to help monitor eye care programmes at national and subnational level *(21)*. Table 6 lists the core indicators, alongside three regional indicators developed to monitor trachoma.

Table 6. Core global and regional indicators

Indicators
Input
Eye care integrated into the national health plan
Trachoma elimination programme embedded in national health plan
Financial risk protection for cataract surgery
Financial risk protection for optical devices acquisition
Eye conditions and visual acuity categorized by International Classification of Diseases (ICD) code (or equivalent)
Eye care workforce density and distribution
Output
Cataract surgical outcome (visual acuity)
Number of people who received trachomatous trichiasis surgery in that year
Outcome
Effective cataract surgical coverage (eCSC)
Effective refractive error coverage (eREC) distance vision
Effective refractive error coverage (eREC) near vision
Retina screening coverage for people with diabetes
Newborn screening coverage for congenital and neonatal eye conditions
Retinopathy of prematurity screening coverage
Impact
Prevalence of vision impairment and blindness
Elimination of trachoma as public health problem

Full details of the core indicators and a list of expanded indicators is available in Appendix 1 and Appendix 2. Core indicators are considered essential and represent a minimum set of indicators necessary for the monitoring of trends and evaluation of progress towards implementing IPEC within each health information system domain. Expanded indicators can be selected as and when they are relevant, and adjusted to the specific objectives of a country's eye care strategic plan. In addition, the action plan has incorporated indicators for trachoma elimination as core indicators.

Roles and responsibilities of key stakeholders

Member states

- Respond to the population needs for eye care and include eye care in health policies to provide comprehensive quality eye health care closer to where people live.
- Ensure that people do not suffer catastrophic financial spending on eye care.
- Ensure that there are sufficient and competent human resources at all levels of health care.
- Reorient the primary health care system and health human resources through task delegation and task sharing; ensure equitable distribution and promote rural retention of workers.
- Strengthen academic qualification through competency-based training framework and promote recognition of the allied eye care health workers, including optometrists and ophthalmic technicians, as core eye health workforces.
- Improve eye health surveillance, data collection, analysis and use for informed decision-making, advocacy, and course correction, as needed.

WHO

- Provide stewardship, coordination, and guidance to Member States and partners in promoting and implementing IPEC.
- Develop and update technical and strategic guidance documents to support Member States in capacity building, supporting development of national strategy documents, and strengthening eye health care literacy
- Engage with global, regional and national partners, including WHO collaborating centres, to establish capacity-building networks in training and research for eye health.
- Engage with non-state actors, including nongovernmental organizations, civil society organizations and private sector, to facilitate collaboration and leverage partnerships for improving access to quality comprehensive eye care.
- Partner with global technology and digital innovation hub to harness the potential of digital innovation, and leverage technology for equitable access for universal eye health.

International partners, nongovernmental organizations, civil society and private sector

- Advocate for and commit to universal eye care.
- Collaborate with WHO, national governments, and other partners in promoting and supporting universal eye health through strengthened primary health care.
- Leverage local presence and capacities to forge partnerships with government to mobilize and share knowledge, provide eye care services, and support voices of the people, particularly the unreached and vulnerable.
- Private sector has a key role in innovation and expanding digital technologies for improved availability and access to affordable, effective, and quality eye care products and services.

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Annex

Appendix 1. Set of core and expanded indicators

Indicators			
Input	**Output**	**Outcome**	**Impact**
Governance	**Eye care service access**	**Eye care coverage**	
Eye care integrated into the national health plan*	**Cataract surgical rate (CSR)****	**Effective cataract surgical coverage (eCSC)***	**Prevalence of vision impairment and blindness***
National eye care strategy implementation plan**	**Availability of refractive services in the government health system****	**Effective refractive error coverage (eREC) distance vision***	**Cause-specific prevalence of vision impairment****
Primary eye care integrated into the national primary health-care training**	**Availability of vision rehabilitation services covered by the government health system****	**Effective refractive error coverage (eREC) near vision***	Elimination of trachoma as public health problem***
Pre-school (aged 3–5 years) eye care programme**	**Waiting time for cataract surgery****	**School eye care programmes coverage****	
Trachoma elimination programme embedded in National Health Plan***	**Preoperative visual acuity amongst cataract surgery patients****	**Retina screening coverage for people with diabetes***	
Eye care financing	Number of people who received trachomatous trichiasis surgery in that year***	**Newborn screening coverage for congenital and neonatal eye conditions***	
Financial risk protection for cataract surgery*	**Eye care service quality**	**Retinopathy of prematurity screening coverage***	
Financial risk protection for optical devices acquisition*	**Cataract surgical outcome (visual acuity)***		
Financial risk protection for diabetic retinopathy laser treatment**			
Financial risk protection for glaucoma surgeries**			
Financial risk protection for antivascular endothelial growth factor (anti-VEGF) injections**			
Eye care information			
Eye conditions and visual acuity categorized by International Classification of Diseases (ICD) code (or equivalent)*			
Eye care workforce			
Eye-care workforce density and distribution*			

* *Core: To monitor and evaluate progress towards IPCEC*
** *Expanded: Can be selected as per country requirement*
*** *Region-specific indicator*

Appendix 2. Description of monitoring indicators

Indicators	Rationale	Definitions	Data source
Input indicators			
Governance			
Eye care integrated into the national health plan	The integration of eye care into wider national health plans is a key objective of IPEC.	Existence of high-level, national or subnational plans, beyond operational plans, that explicitly include eye care integrated at the level of activities and in the context of specific actions	Ministry of health reports National eye care committee reports
National eye care strategy implementation plan	The existence and implementation of a comprehensive national strategy for eye care, with a defined set of actions or, alternatively, the availability of eye care embedded in the health system strategy that leads to a substantially improved provision of eye care services.	Availability and implementation of a national eye care strategy (or integrated eye care in the health system strategy), based on recent scientific evidence, with clearly defined targets and indicators	Ministry of health reports National eye care committee reports
Primary eye care integrated into the national primary health care training	One of the strategies for achieving IPEC is to strengthen and sustain primary care since many eye conditions can be effectively managed at this level.	Primary eye care training curriculum integrated into national trainings for primary care providers	Ministry of health reports Ministry of education reports Data from professional associations for health care workers National eye care committee reports
Pre-school (aged 3–5 years) eye care programme	Early detection and referral are essential to provide the first indication of a possible vision impairment or eye condition in children.	Development of comprehensive eye care screening programme for pre-school children	Ministry of health reports Ministry of education reports National eye care committee reports
Trachoma elimination programme embedded in national health plan	Having elimination plan would accelerate the elimination process and sustain it.	Development of comprehensive road map and elimination plan	Ministry of health reports

Indicators	Rationale	Definitions	Data source
Eye care financing			
Financial risk protection for cataract surgery	Financial protection is at the core of UHC and is directly affected by health financing policy.	Percentage of the population with coverage from governmental or compulsory health insurance schemes that covers 75% or more of the cost of the cataract surgery	Ministry of health reports National eye care committee reports Data from other government agencies, including insurance schemes
Financial risk protection for optical devices acquisition	Financial protection is at the core of UHC and is directly affected by health financing policy.	Percentage of the population with coverage from governmental or compulsory health insurance schemes that covers 75% or more of the cost of optical devices, such as spectacles and contact lenses (but not low-vision aids)	Ministry of health reports National eye care committee reports Data from other government agencies, including insurance schemes
Financial risk protection for diabetic retinopathy (DR) laser treatment	Financial protection is at the core of UHC and is directly affected by health financing policy.	Percentage of the population with coverage from governmental or compulsory health insurance schemes that covers 75% or more of the cost of laser treatment for diabetic retinopathy	Ministry of health reports National eye care committee reports Data from other government agencies, including insurance schemes
Financial risk protection for other major intraocular surgeries	Financial protection is at the core of UHC and is directly affected by health financing policy.	Percentage of the population with coverage from governmental or compulsory health insurance schemes that covers 75% or more of the cost of glaucoma surgeries	Ministry of health reports National eye care committee reports Data from other government agencies, including insurance schemes
Financial risk protection for antivascular endothelial growth factor (anti-VEGF) injections	Financial protection is at the core of UHC and is directly affected by health financing policy.	Percentage of the population with coverage from governmental or compulsory health insurance schemes that covers 75% or more of the cost of anti-VEGF injections	Ministry of health reports National eye care committee reports Data from other government agencies, including insurance schemes

Indicators	Rationale	Definitions	Data source
Eye care information			
Eye conditions and visual acuity categorized by ICD code (or equivalent)	Mapping the distribution of eye conditions of the population accessing health facilities, by classification and frequency, provides important information for planning eye care services. This information makes it possible to identify the needs of the population and services and also reflects changes in trends that may affect service use.	Proportion of population utilizing eye care services categorized according to the main condition by ICD code or a national equivalent code, or by selected eye condition categories (presented below in "Further information")	Routine data from health facilities, including from private for-profit and private not-for-profit sectors, at all levels
Eye care workforce			
Eye care workforce density and distribution	Having in place a sufficient and well-trained workforce is a key strategy for IPEC.	Total number of eye care workers disaggregated by the professions: a) ophthalmologists b) optometrists c) allied ophthalmic personnel	Ministry of health reports Registration or certification bodies Where possible, routine data from health facilities reporting
Output Indicators			
Eye care service access			
Cataract surgical rate	Cataract surgical rate is a quantifiable measure of cataract surgical service delivery and can be used to set national targets for this service, to identify countries in need of capacity-building and to track trends in output.	Total number of cataract surgeries performed per year per million population	Ministry of Health reports Data from private for-profit and private not-for-profit sectors
Preoperative visual acuity amongst cataract surgery patients	The assessment of the preoperative visual acuity of patients referred for cataract surgery provides a measurement of access to services and can contribute to the review of the visual acuity threshold for surgery to be recommended.	Percentage of cataract operated eyes that had preoperative visual acuity as normal/mild visual impairment (VI)/moderate VI/ severe VI/blindness	Routine data from health facilities, including from private for-profit and private not-for-profit sectors
Availability of vision rehabilitation services covered by the government health system	A significant number of people with irreversible severe vision impairment or blindness would benefit from rehabilitation services to mitigate the consequences of lost vision and to optimize functioning in everyday life.	Percentage of the government secondary or tertiary care level facilities providing eye care services in the country with available vision rehabilitation services	Ministry of Health reports

Indicators	Rationale	Definitions	Data source
Waiting time for cataract surgery	Timely delivery of cataract surgery is critical to maintain visual function and avoid preventable vision impairment or blindness.	Average waiting time and range (in days) to receive cataract surgery, from the day the patient is first registered for surgery to the surgery itself.	Routine data from health facilities, including from private for-profit and private not-for-profit sectors
Availability of refractive services in the government health system	Uncorrected refractive errors affect persons of all ages and groups and are the main cause of vision impairment. There is a growing need to expand the coverage of interventions for refractive errors in order to meet the current and future ongoing demand for this condition, to provide access to services to underserved populations and to ensure quality of service delivery over time.	Percentage of government facilities providing eye care services in the country with available refractive services	Ministry of Health reports
Trachomatous trichiasis surgery in that year	Surgery to treat the blinding stage (trachomatous trichiasis) is one of the core strategies for trachoma elimination. Therefore, everyone should have access to it at an affordable cost.	Number of people who received trachomatous trichiasis surgery in that year	Health facility data
Eye care service quality			
Cataract surgical outcome (visual acuity)	Monitoring and evaluating the visual outcome after cataract surgery will help to identify possible gaps and adopt measures to improve the outcomes and strengthen the confidence of the population recommended for surgery.	WHO classification (BCVA): good: 6/6 – 6/18; borderline: less than 6/18 – 6/60; poor: less than 6/60	Routine data from health facilities, including from private for-profit and private not-for-profit sectors
Eye care coverage			
Effective cataract surgical coverage (eCSC)	Effective cataract surgical coverage not only captures the magnitude of coverage, but also the concept of "effective" coverage to ensure that people who need health services receive them with sufficient quality to produce the desired gain in vision.	Proportion of people who have received cataract surgery and have a resultant good-quality outcome (6/12 or better) relative to the number of people in need of cataract surgery	Population-based surveys

Indicators	Rationale	Definitions	Data source
Outcome indicators			
Eye care coverage			
Effective cataract surgical coverage (eCSC)	Effective cataract surgical coverage not only captures the magnitude of coverage, but also the concept of "effective" coverage to ensure that people who need health services receive them with sufficient quality to produce the desired gain in vision.	Proportion of people who have received cataract surgery and have a resultant good-quality outcome (6/12 or better) relative to the number of people in need of cataract surgery	Population-based surveys
Effective refractive error coverage (eREC) – distance vision	Effective refractive error coverage at distance vision not only captures the magnitude of coverage, but also the concept of "effective" coverage to ensure that people who need health services receive them with sufficient quality to produce the desired gain in vision.	Proportion of people who have received refractive error services (i.e. spectacles, contact lenses or refractive surgery) and have a resultant good-quality outcome relative to the number of people in need of refractive error services.	Population-based surveys
Effective refractive error coverage (eREC) – near vision	Effective refractive error coverage at near vision not only captures the magnitude of coverage, but also the concept of "effective" coverage to ensure that people who need health services receive them with sufficient quality to produce the desired gain in vision.	Proportion of people who have received refractive error services (i.e. spectacles, contact lenses or refractive surgery) at near vision and have a resultant good-quality outcome relative to the number of people in need of refractive error services for near vision	Population-based surveys
School eye care programmes coverage	When considering the importance of vision in education and the frequency of refractive error in school-age children, the inclusion of vision screening in school health services and initiatives, followed by the timely provision of spectacles and other eye care services, is important to mitigate the impact of unaddressed vision impairment.	Percentage of school-age children in the country undertaking periodic eye care screening for eye and vision conditions	Ministry of health reports Ministry of education reports School health reports Population-based surveys
Retina screening coverage for people with diabetes	DR is a leading cause of vision impairment globally. The majority of vision impairment caused by DR is avoidable through early detection and timely treatment.	Percentage of people with diabetes undertaking a periodic retinal examination at the interval recommended and defined in nationally adopted guidelines	Routine data from health facilities, including from private for-profit and private not-for-profit sectors

Indicators	Rationale	Definitions	Data source
Newborn screening coverage for congenital and neonatal eye conditions	Screening of newborns, preferably within 72 hours of birth, is recommended to ensure early diagnosis and timely referral of congenital and neonatal eye conditions.	Percentage of newborns screened for the detection of congenital and neonatal eye conditions, preferably within 72 hours of birth, or at first encounter with a health facility	Routine data from health facilities, including from private for-profit and private not-for-profit sectors
Retinopathy of prematurity (ROP) screening coverage	Systematic retinal screening of preterm infants, preferably 4–5 weeks postnatal, for early detection, followed by urgent treatment of infants developing the vision-threatening signs of ROP, can prevent vision impairment and blindness.	Percentage of preterm and/or low-birth-weight infants receiving ROP screening, preferably 4–5 weeks post-natal	Routine data from health facilities, including from private for-profit and private not-for-profit sectors
Impact indicators			
Prevalence of vision impairment and blindness	Prevalence data allow decision-makers to improve resource allocation, planning, and developing synergies with other programmes.	Prevalence of the population with vision impairment and blindness categorized according to severity, based on visual acuity in the better eye, as per WHO definition	Population-based surveys
Cause-specific prevalence of vision impairment	Determining the prevalence of the leading causes of vision impairment and blindness provides important information on estimates of the population unmet need for addressable causes of vision impairment (e.g. cataract and refractive error) and of the population needs for vision rehabilitation services. This information also provides an important insight into the effectiveness of public health and clinical strategies targeted at the leading causes of vision impairment.	Prevalence of the leading causes of vision impairment and blindness categorized according to the condition by ICD code (or equivalent, or by the below selected eye conditions that represent the leading causes of vision impairment)	Population-based surveys

Indicators	Rationale	Definitions	Data source
Elimination of trachoma as public health problem	Validation of the elimination status of Member States is very important.	WHO defined elimination as (i) a prevalence of trachomatous trichiasis "unknown to the health system" of <0.2% in adults aged ≥15 years (approximately 1 case per 1000 total population), and (ii) a prevalence of trachomatous follicular inflammation (TF) in children aged 1–9 years of <5%, sustained for at least two years in the absence of ongoing antibiotic mass treatment, in each formerly endemic district; plus (iii) the existence of a system able to identify and manage incident trachomatous trichiasis cases, using defined strategies, with evidence of appropriate financial resources to implement those strategies *(1)*.	WHO report

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