

Concept Eye Health

SRC International Cooperation



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Vision screening in a school nearby Tamale, Ghana
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Abbreviations

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| eCBHFA | e-Community based health and first aid |
| IAPB | International Agency for the Prevention of Blindness |
| IC | International cooperation |
| ICTC | International Coalition for Trachoma Control |
| IDP | Internally displaced person |
| IFRC | International Federation of Red Cross and Red Crescent Societies |
| NCD | Non-communicable disease |
| LRRD | Linking relief, rehabilitation and development |
| Movement | International Red Cross and Red Crescent Movement |
| National Society | National Red Cross / Red Crescent Society |
| RAAB | Rapid assessment of avoidable blindness |
| SDG | Sustainable Development Goal |
| SRC | Swiss Red Cross |
| UN | United Nations |
| WASH | Water, sanitation and hygiene |
| WHO | World Health Organization |

1. Introduction

1.1 Scope and purpose

“Healthy people in resilient communities” is the overall goal of SRC international cooperation. To that end, the SRC supports its partner National Societies in three domains: health, disaster risk management and National Society development. Eye health is one of seven thematic priorities within the health domain. The SRC considers health a human right and a resource for social and economic development, and thus a key component of resilient communities.

Under the 2030 Agenda for Sustainable Development, the UN Member States pledged that no one would be left behind. Today, one in every two people is at risk of being left behind when it comes to accessing good health care. This is particularly true of eye health: an estimated one third of the world’s population cannot access basic eye care services. The SRC’s work to reduce blindness and vision impairment is particularly relevant to SDG 3 (Good health and well-being), but it also has a positive impact in terms of SDG 1 (No poverty), SDG 2 (Zero hunger), SDG 4 (Quality education), SDG 5 (Gender equality) and SDG 17 (Partnerships).

The SRC eye health concept is the guiding framework for all eye health projects involving the SRC Department for International Cooperation. It describes in detail the current global eye health context, the SRC’s priority objectives, implementation strategies and guiding principles, and aspects of its approach to cooperation, coordination and quality management. It replaces the 2012 concept.

1.2 Strategic and institutional frameworks

Swiss Red Cross

Eye health is embedded in the SRC IC conceptual framework for health (see Figure 1). The framework forms an integral part of the SRC IC *Health Policy*, which is aligned with the SRC Strategy 2030.

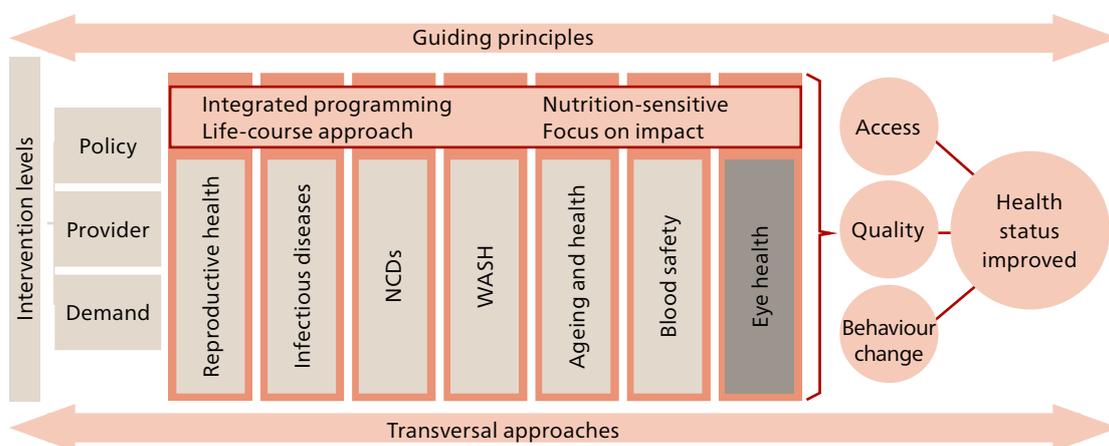


Figure 1: SRC IC conceptual framework for health

SRC considers a people-centred approach, integrated health care, community empowerment and a strong emphasis on prevention rather than cure as the building blocks for all its health programmes. It uses integrated programming – whereby interventions under different thematic priorities, including nutrition-sensitive measures, are combined – and a life-course approach to heighten the impact of projects and programmes. SRC projects address both the demand and provider side and aim to influence health policies. By building bridges between communities and health service providers, creating and reinforcing interlinkages between different stakeholders, strengthening capacity and equipping local health systems, the SRC contributes to better health system performance so that local health services can deliver accessible and affordable quality health care. To promote health and prevent disease, communities, the government, civil society and the private sector must work together to foster a healthy lifestyle for the entire population. The SRC applies the *LRRD* approach, and mainstreams gender and diversity issues (see *SRC guidance note*) and conflict-sensitivity (see *SRC Concept on conflict sensitivity*), in all its projects.

International Federation of Red Cross and Red Crescent Societies

The SRC IC Health Policy is in line with Goal 2 of the *IFRC Strategy 2030*: to enable people to lead safe, healthy and dignified lives and have opportunities to thrive. The *IFRC Health and Care Framework* reflects the IFRC's commitment to universal health coverage in that it (a) presents the collective priorities and programming modalities that define the work of the IFRC health and care network; (b) illustrates a pathway for National Societies' engagement as auxiliaries to the public health authorities in health and care; and (c) links the work of the IFRC health and care network to the global SDG agenda. While eye health is not yet a specific component of IFRC health strategies, the SRC will promote it within the Movement (see section 5.1, Cooperation within the Movement).

World Health Organization

The SRC IC eye health concept is aligned with the WHO 2019 *World report on vision*. The report builds on the concerted efforts of the past 30 years to make five key recommendations:

- (a) make eye care an integral part of universal health coverage;
- (b) implement integrated people-centred eye care in health systems;
- (c) promote high-quality research;
- (d) monitor trends and evaluate progress;
- (e) raise awareness and engage and empower people and communities.

The report's key proposal is to adopt and scale up an integrated, people-centred approach to eye care, which is defined 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 recognizes people as participants and beneficiaries of these services, throughout their life course".

The four key strategies for implementing that approach are:

- (a) empower and engage people and communities, i.e. provide opportunities, skills, information and resources;
- (b) reorient the model of care, i.e. prioritise strong primary health care and community-delivered eye care;
- (c) coordinate services within and across sectors, i.e. coordinate individuals, programmes and sectors; and
- (d) create an enabling environment, i.e. promote governance and leadership, the health workforce and information system, and the inclusion of eye care in national strategic health plans.

In the context of its World report on vision, WHO is developing a package of eye care interventions providing Member States with technical guidance to facilitate the integration of eye care into the health sector and into universal health coverage. The package is expected to be available in early 2021 (see *information sheet* of the WHO World report on vision).

Building on SRC experience

For almost 30 years, the SRC has been working with its partner National Societies in a number of countries to promote eye health and prevent visual impairment and blindness. As IAPB members, the SRC and its partners have acquired extensive experience and expertise and are recognised as important and valuable partners in the global eye health sector. The 2017/2018 global external evaluation praised SRC-supported eye health projects for their many achievements, for instance for closing a gap in community eye health by focusing on vulnerable groups and operating in under-served geographical areas; for balancing curative and preventive aspects; and for integrating eye health projects into health systems. The volunteer network was considered a very strong asset. The eye health concept builds on these key qualities and proposes further opportunities for SRC engagement and strategic positioning in eye health.

2. Context

2.1 Global magnitude and regional distribution

WHO estimates that at least 1 billion people suffer from moderate or severe visual impairment or blindness that could have been prevented or has yet to be addressed (World report on Vision, 2019). More than 75% of visual impairment is avoidable with early detection, preventive measures and stronger eye care services.

Vision impairment and age-related eye diseases have a negative effect on economic and educational opportunities, lower the quality of life and increase the risk of death. Loss of sight causes tremendous human suffering for the people affected and their families. The Global Burden of Disease Study ranked blindness and vision impairment the third leading impairment, with 1.34 billion cases worldwide in 2017 (*Global Health Metrics, 2018*).

The prevalence of visual impairment varies considerably by country and region because of differences in age structure, income level, area of residence, population sub-group, distribution of services and gender.

- Nine out of ten visually disabled people live in low- and middle-income countries. The largest numbers of blind people and of people with moderate or severe visual impairment reside in South Asia. People in rural areas are at higher risk of vision impairment and blindness due to the paucity of services.
- The burden of vision impairment is greatest in those aged 50 and older. For example, 86% of the 36 million blind people and 80% of the 216.6 million people with moderate or severe visual impairment worldwide are above the age of 50. The prevalence of blindness in older adults is highest in sub-Saharan Africa and South Asia, i.e. 5.1% in western sub-Saharan Africa and 4% in South Asia. By contrast, blindness prevalence is 0.5% or less in all high-income regions (*Bourne et al., 2017*).
- Gender differences in the prevalence of blindness and visual impairment persist in all regions of the world and among all age groups. Of the 36 million people who are blind, 56% are women, and women run a higher risk of blindness from macular degeneration, trachoma (*Cromwell et al., 2009*) or cataract (*Lewallen et al., 2009*) than men, particularly in low- and middle-income countries. In sub-Saharan Africa, East Asia and the Pacific, and South Asia, girls are less likely than boys to have surgery for bilateral cataracts, a condition that shows no gender predilection in high-income countries (*SEVA, 2018*). This gender disparity may be the opposite in some high-income settings.

2.2 Causes, trends and risk factors for visual impairment and blindness

The main causes of visual impairment are unaddressed presbyopia, unaddressed refractive error, cataract, glaucoma, corneal opacities, diabetic retinopathy, age-related macular degeneration and trachoma. ¹ These conditions are described in detail in Annex 1.

Vision impairment has to be recognised as a global population health issue now, as the global need for eye care is projected to increase dramatically in the coming decades. According to *Bourne et al. (2017)*, the number of blind people worldwide will rise dramatically, from an estimated 38.5 million in 2020 to 114.6 million in 2050, which points to the scale of the challenge. By the same token, the number of people affected by moderate or severe visual impairment is projected to more than double, from an estimated 237.1 million in 2020 to 587.6 million in 2050. The increases, which will result in a surge in the global demand for eye care, can be attributed to two main factors.

- **Population growth and ageing:** The number of people worldwide aged 60 and older is expected to climb from 901 million in 2015 to 1.4 billion in 2030 (*UN DESA, 2019*). Not only is population ageing projected to have a profound effect on societies in many ways, including on already strained health systems, ageing is also the primary risk factor for many eye conditions. A rise in the number of people aged 60 or more will lead to an increase in **presbyopia, cataract, glaucoma** and **age-related macular degeneration**. The overall prevalence of age-related macular degeneration, for example, is expected to increase sevenfold between 2020 and 2040 (*Wong et al., 2014*). With global population growth concentrated in the poorest countries, it will be particularly challenging to avoid a further aggravation of the already unequal distribution of the eye health burden.
- **Changes in lifestyle:** Less time spent outdoors, more time spent on near work activities, poor diets and higher rates of urbanisation have contributed to a substantial increase in the incidence and severity of **myopia**, particularly in Asian countries (*Community Eye Health Journal, 2019*). The global prevalence of myopia may go up from 1.95 billion people in 2010 to almost 3.5 billion by 2030 (*Holden et al., 2016*). Lifestyle changes have also contributed to an increase in the number of people with diabetes. Studies suggest that the prevalence of any form of retinopathy in persons with diabetes is as high as 35% (*Yau et al., 2012*). If current trends continue, the number of people with **diabetic retinopathy** will rise significantly: in 2010, out of 32.4 million blind and 191 million visually impaired people, 0.8 million were blind and 3.7 million were visually impaired because of diabetic retinopathy, with an alarming increase of 27% and 64%, respectively, spanning the two decades from 1990 to 2010 (*Leasher et al., 2016*). Smoking as an expression of lifestyle is also becoming an issue, as tobacco smoking becomes more prevalent in the Eastern Mediterranean and Africa. In 2019, 80% of the world's 1.1 billion smokers lived in low or middle-income countries. With smoking being the primary modifiable risk factor for **age-related macular degeneration** and a factor in the development of **cataracts**, anti-smoking efforts need to focus on low- and middle-income countries, especially as tobacco companies have switched their marketing campaigns to target these regions in recent years (see *Lancet, 2019*).

¹ The SRC uses the categories and definitions of visual impairment and blindness and of vision-threatening eye conditions set out in the 11th edition of the *International Classification of Diseases*.

2.3 Challenges and opportunities

Challenges

The above-mentioned global trends may lead to a threefold increase in blindness in the next 30 years. This poses additional challenges in terms of the demand for and provision of eye care services.

The challenges relating to **the provision of eye care services** can be summed up as follows.

- Service provision is inequitable owing to shortages and the uneven distribution of human resources for eye health, especially ophthalmologists and optometrists.
- Eye care services are hampered by their fragmentation and poor integration into health systems, owing, for example, to the failure to integrate the primary eye care services offered by non-governmental organisations into primary health care services, to the continued poor coordination of eye health players in many countries, to weak health management information systems, or to inadequate development of human resources for eye health.
- Eye health is often not considered a priority issue for national governments, despite the existence of national blindness control programmes. As a result, eye care services are severely underdeveloped and under-resourced in many countries, in terms of the development and deployment of eye health personnel and the availability of essential ophthalmic equipment and affordable quality medicines.
- The lack of evidence – or the failure to draw on it when it exists – and the unknown magnitude of needs actually met hinder the development of effective national eye health plans, strategies and policies (*Ramke et al., 2018*).
- Migration is a double challenge for eye health: it has adverse effects on the eye health workforce and it leads to an increased prevalence of vision loss and undiagnosed sight-threatening eye diseases among immigrants, IDPs and refugees (*Buhrmann et al., 2011; Seguí-Crespo et al., 2019; Bastawrous et al., 2016*). With an increase in more fragile contexts in several low- and middle-income countries, the number of people unable to access basic eye health services is likely to surge.

The challenges relating to **the demand for eye care services** (service utilisation) comprise the following:

- accessibility issues related to gender, perceived cost, socioeconomic status, poor eye health literacy, poor infrastructure, lack of transport and different forms of disability (physical, hearing or intellectual);

- acceptability issues linked to health workforce characteristics, the wearing of spectacles/cosmesis, distrust of service quality, and fear or cultural factors regarding the eye care services offered;
- affordability factors, including direct and indirect costs, income level and health insurance status.

Opportunities

While eye health faces many critical challenges, there also exists a whole range of opportunities and developments that could be harnessed to further advance eye health on a global scale.

- VISION 2020: The Right to Sight, a global initiative to eliminate avoidable blindness by 2020, intensified global advocacy efforts and strengthened national eye care plans. The publication of the WHO World report on vision has helped to keep up this momentum.
- The IAPB connects those involved in eye health at regional and global level, provides valuable tools and resources, and promotes eye health worldwide. Together with the UN Friends of Vision Group, the IAPB negotiated the inclusion of eye health in the UN Political Declaration on universal health coverage.
- Effective strategies exist for tackling the main causes of avoidable blindness and some of them are among the most cost-effective and feasible of all health care interventions (see *Baltussen and Smith, 2012*).
- Innovation is a hallmark of the eye health sector, which has developed new surgical methods and pharmacological products, new forms of therapy, new diagnostic software/e-applications and clinical decision support systems and new visual aids, and has increased the use of artificial intelligence in eye care (e.g. for diabetic retinopathy, see *Gulshan et al., 2016*).
- Population ageing and the global NCD epidemic have helped heighten the visibility of eye health, with which they are closely connected.
- WHO and other key players are now recognising the need for human resources for health and the role of volunteers and community-based health workers in community health.

In this context, the Red Cross and Red Crescent Movement is in an excellent position to help reduce visual impairment and blindness. Its global network of volunteers, the role of National Societies as auxiliaries to the government, the trust it has earned from communities, its great efforts to provide comprehensive and integrated services, and its focus on the most vulnerable population groups give the Movement a comparative advantage that allows it to address eye health-related challenges and leverage opportunities both on a global level and in a context-specific way. Within the IFRC and internationally, the SRC advocates for eye health to be recognised as a major global public health challenge.

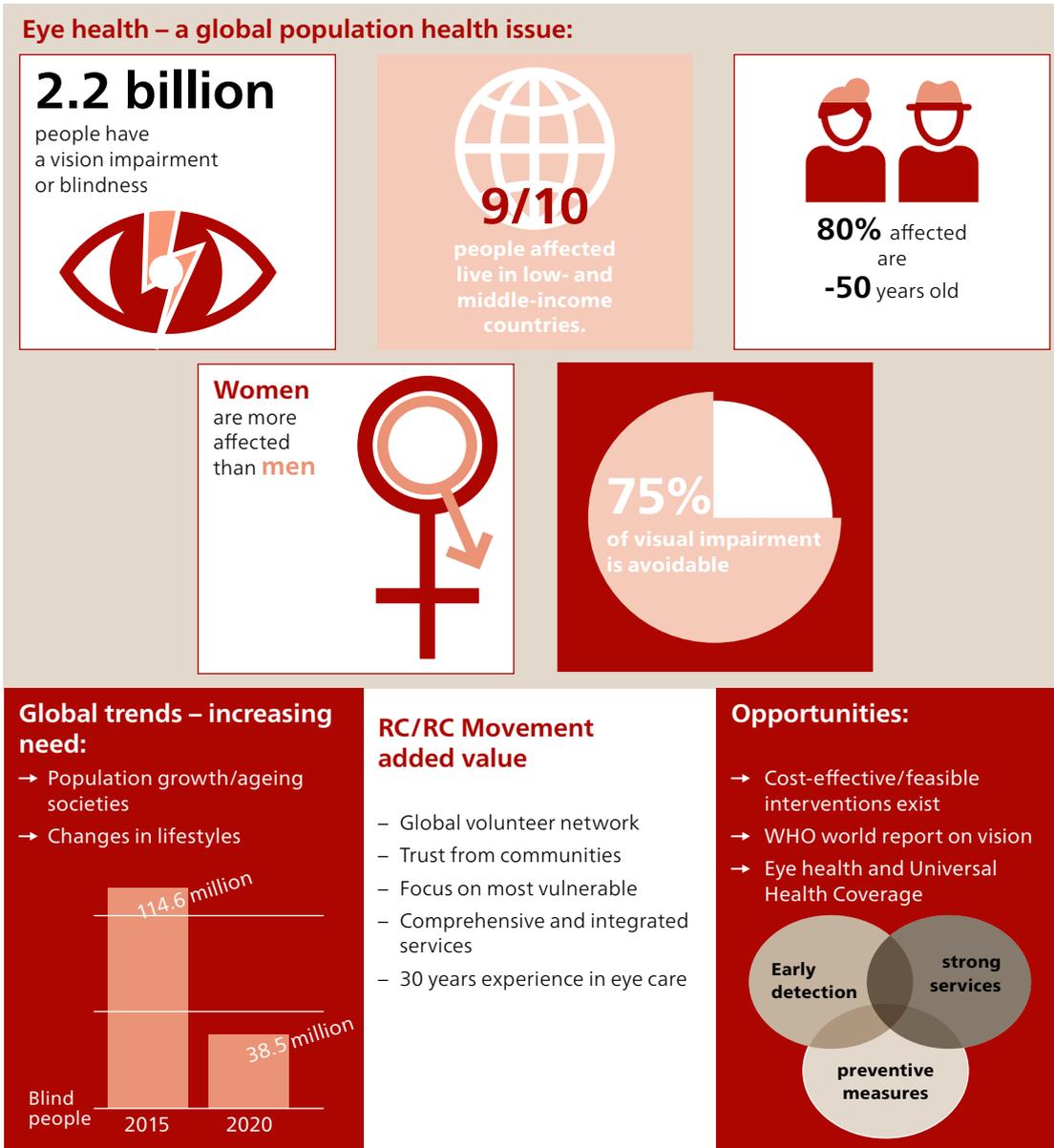


Figure 2: The Movement’s added value in global eye health

3. Objectives

3.1 Goal

The SRC's principal goal in eye health is to help reduce the global burden of visual impairment and avoidable blindness.

3.2 Outcomes

When it comes to eye health, the SRC aims to achieve the three interlinked outcomes defined in its IC impact model for the health domain (see Annex 2): behaviour change practiced, access increased and quality enhanced.

Behaviour change practiced

Behavioural and lifestyle changes are key risk factors for the development of eye conditions and projected to lead to a massive increase in the number of people with vision impairment. SRC eye health projects encourage healthy lifestyles and improved health-seeking behaviour. The SRC and its partners enable vulnerable groups and communities to act on the determinants of health and nurture an environment conducive to the prevention of eye disease. Depending on the country and context, they apply a variety of health promotion and health education approaches at community and individual level to encourage the adoption of healthy behaviours that affect eye conditions and vision impairment.

Health promotion campaigns target improved awareness of the importance of regular eye examinations and the use of eye care services. They make vulnerable population groups aware of the importance of protective behaviour, including wearing spectacles, spending time outdoors, keeping the face clean and using sunglasses.

When engaging in awareness-raising campaigns, the SRC's partner National Societies inform target groups about the links between eye health and other health topics, as behaviour change in other health areas can have a positive impact on eye health. This applies in particular to the relationships between diabetes and diabetic retinopathy; measles infection/Vitamin A deficiency as a result of chronic malnutrition and corneal scarring; and active trachoma caused by poor facial cleanliness and other environmental hygiene-related problems (see section 4.2, The integrated model).

Access increased

SRC eye health projects aim to improve equitable access to eye health care by working on the interface between service provision and demand. Together with National Societies and key ministries, the SRC helps local health systems tackle access gaps while addressing all three dimensions of universal health coverage (i.e. population, services and costs; see *The World Health Report, 2010*).

In dialogue with its partners, especially health ministries, the SRC fosters the integration of primary eye care into the public health system, for example by promoting the adaptation and implementation of WHO's 2018 *Primary eye care training manual*, which aims to build and strengthen the capacity of health personnel to manage eye patients at primary-level health facilities in the WHO African Region. Putting the manual into practice will drastically expand the availability of services at the primary care level.

The SRC and its National Society partners empower communities to claim their right to health. By training local, community-based volunteers, they enhance prevention, early detection and referral of people with visual loss or an eye problem to the primary care level. By supporting primary care structures and services, they strengthen the referral of patients from the primary to the secondary level. Depending on national task-shifting policies, they may consider having locally trained National Society volunteers and/or community health workers manage selected eye diseases in the community.

To improve access to eye care services, the SRC and its partners support and launch initiatives that aim to ensure that costs are neither a barrier to eye care nor result in catastrophic out-of-pocket expenses. They may do this through pro-poor funding systems or context-specific innovative health financing models, such as cataract surgery vouchers that take into account the needs and financial constraints of the most vulnerable population groups (e.g. rural elderly women or persons with disabilities).

Women and girls face a number of socioeconomic and cultural barriers when it comes to obtaining equitable access to eye care services (see *Mganga, Lewallen and Courtwright, 2011*). In response, SRC-supported eye health interventions apply a gender-sensitive approach to programme design and review and to capacity building for the eye health personnel of National Society partners (see *IAPB Gender Equity toolkit, 2019*).

The SRC strengthens human resources for eye health by providing training opportunities for Ministry of Health staff. By training staff in glaucoma surgery, new cataract surgery techniques and/or diabetic retinopathy diagnosis and treatment, it helps make available eye care services that respond to current trends in vision impairment. The SRC also engages in measures to retain governmental eye health staff, especially for remote areas, and to ensure that precious resources are well coordinated and that the distribution and composition of eye health staff are aligned with actual population needs.

In addition to strengthening governmental human resources, in selected cases the SRC provides equipment, for example in SRC-supported primary care units, to enhance screening, diagnostic and treatment possibilities. It plans to explore new technologies and digital health tools that can be used by volunteers and paramedical staff for improved screening, diagnosis and early treatment.

Apart from their engagement in health facilities and community outreach services, the SRC and its National Society partners also work in schools, conducting extensive screening for the purposes of early detection, treatment of infections and referral of more complicated cases to appropriate service providers. The SRC promotes the use of the IAPB *standard school eye health guidelines for low- and middle-income countries* (2018).

Quality enhanced

The provision of good-quality services increases demand and enhances access, and good-quality health promotion results in behaviour change. In keeping with the health system strengthening approach, the SRC and its partners concentrate on eye care service delivery and the eye health workforce. They conduct regular cataract and other clinical audits to ensure that eye care services have good outcomes. The SRC promotes adherence to standard treatment protocols. Together with its partners, it retrains clinical and management staff with a view to better service delivery.

Better data collection, analysis and effective application are critical to achieving vision and health for everyone. Well-established and user-friendly health management information systems foster reflection on quality and are a prerequisite for services that meet the population's actual needs. To this end, the SRC supports *RAAB* studies, other population-based surveys and national Eye Health Systems Assessments (see *EHSA, 2012*). These aim to improve the effectiveness of eye care interventions by enhancing understanding of eye care and its place in the general health system and by laying the evidence base needed for the development or revision of national or regional strategic eye health plans.

4. Approach

The SRC advocates the establishment of integrated, people-centred eye care services, embedded in health systems and based on strong primary health care. In partnership with National Societies, it contributes to health system strengthening and facilitates closer links between the National Societies – in their role as auxiliaries to the State – and the relevant government ministries and other eye health stakeholders. In line with its commitment to LRRD, the SRC engages in eye health both in development and emergency settings.

In order to achieve the planned outcomes and expand the impact and reach of its eye health interventions, the SRC pursues three different implementation strategies: the “stand-alone”, the “integrated” and the “complementary” model.

4.1 The stand-alone model

In selected countries, the SRC continues to engage in long-term eye health projects with a main focus on eye health, in cooperation with the National Society and other key partners such as the Ministry of Health. In such “stand-alone” projects, the SRC helps promote behaviour change and improve access and good-quality eye care services based on a prior needs assessment.

The SRC also engages in cross-sectoral collaboration wherever this seems promising. It explores opportunities to engage in long-term eye health projects in SRC programme countries that had not previously featured any eye health components, based on the following criteria:

- high known needs and barriers to eye care services (e.g. based on a RAAB study or other population-based survey);
- interest expressed by the National Society concerned;
- commitment by the Ministry of Health to put the WHO World report on vision into action;
- complementarity with the national strategic plan for eye health and with other eye health providers already present in the country;
- learning and exchange with neighbouring countries working in eye health.

4.2 The integrated model

In the health domain, the SRC currently has seven distinct health priorities (see section 1.2, Strategic and institutional framework), of which eye health is one. As such, eye health is not an isolated thematic field but instead features many interlinkages with other thematic priorities. Combining eye health with health interventions from other thematic fields can have a big impact for relatively little extra effort and cost. An overview of intervention opportunities is provided in Annex 3.

In ageing and health projects

As recognised in the WHO *World Report on Ageing and Health*, vision loss affects extremely high proportions of older persons and is the leading cause of age-related disability. Without strong eye health systems, population ageing (see section 2.2, Causes, trends and risk factors for visual impairment and blindness) has the potential to create a growing burden of avoidable blindness and disability, especially in low- and middle-income countries.

Vision loss in ageing can affect quality of life in many ways, including by increasing the risk of depression (*International Federation on Ageing, 2012*) and comorbidities with chronic diseases (*van Nispen et al., 2009*). Indeed, patients aged 65 and older with visual impairment have a broader range of physical and mental health comorbidities than those of the same age without visual impairment. This has important implications for clinical practice and for the future design of integrated services to meet the complex needs of patients with visual impairment (e.g. in terms of embedding screening for depression and hearing loss in eye care services, see *Court et al., 2014*). Vision loss also negatively affects quality of life in that it leads to loss of income and productivity (*Polack, 2008*); loss of independence for self-care (*Hassell, Lamoureux and Keeffe, 2006*), activity and mobility; reduced life expectancy (*Fong et al., 2013*); reduced ability to access health services as elderly people may face unique barriers; reduced social interaction and participation; and a greater likelihood of pain and discomfort.

Good sight signifies better quality of life and allows older people to continue to play an active role in their communities, easing the burden of care on families, especially women and children. Vision loss is not an inevitable part of the ageing process. In many cases it can be prevented or treated. The early identification and prevention, treatment and rehabilitation of eye health conditions can help older people maintain their vision, keeping them economically secure and socially active as they age.

Key action points for integrated eye health in ageing and health projects include:

- raising awareness of the high prevalence and significant impact of low vision among the elderly and showcasing best practice examples;
- carrying out age-specific eye health promotion and awareness programmes on healthy ageing and good vision into old age, using peer eye health promoters or “vision champions” and including vision-loss prevention, early detection, treatment and rehabilitation;
- raising awareness about the prevention and management of chronic NCDs that predispose patients to vision problems, especially diabetes;
- facilitating access to screening and treatment via, for example, trained volunteers or community-level platforms for the elderly, and supporting ophthalmic outreach activities by trained ophthalmologists;

- focusing on treating cataracts and presbyopia, which are particularly prominent in older people and can be treated with simple cost-effective surgery and simple refraction and spectacle provision, respectively;
- encouraging support for visually impaired or blind elderly people who have eye conditions that cannot be treated but whose lives can be made easier in other ways;
- incorporating visual screening and other preventive eye health interventions into home-based care programmes.

In NCD projects

Diabetes mellitus is an emerging threat to public health and an associated risk factor for cataract. Diabetic retinopathy is a major cause of blindness in long-standing cases of diabetes that have been poorly managed. In 2010 it caused 1.9% of cases of moderate or severe visual impairment and 2.6% of cases of blindness globally (*Bourne et al., 2013*). Studies suggest that 35% of diabetics will develop some form of retinopathy; 7% will develop vision-threatening retinopathy (*Yau et al., 2012*). The vast majority of patients who develop a diabetic retinopathy have no symptoms until the very late stages, by which time it may be too late for effective treatment. By 2040, 70 million people worldwide will be at risk of sight loss from diabetic retinopathy. According to the *Diabetic Retinopathy Barometer Report* (2016), China, India, Indonesia and Bangladesh account for 45% of the global burden of diabetic retinopathy. In Africa, 60% of people with diabetes remain undiagnosed and the greatest increase in disease burden (103%) is anticipated by 2040.

Key action points for preventing visual impairment from diabetic retinopathy are:

- raising awareness of the importance of regular eye examinations among people with diabetes using existing toolkits (e.g. from the *American Association of Diabetes Educators*);
- promoting simple lifestyle measures that encourage individuals to eat healthy food, be physically active and avoid excessive weight gain, thus preventing or delaying the onset of type 2 diabetes;
- engaging in screening programmes aimed at early detection of diabetic retinopathy, i.e. retinal changes;
- supporting the management of key diabetic retinopathy risk factors such as hyperglycaemia and hypertension, to prevent or delay the onset and progression of diabetic retinopathy, and fostering regular comprehensive eye examinations in diabetes management, including visual acuity, intraocular pressure measurement and examination of the retina and optic nerve head (see *WHO, 2016*);
- training health professionals about the importance of regular eye examinations;

- encouraging cross-referrals and advocating cooperation and coordination between those responsible for diabetes management and those treating diabetic retinopathy;
- making use of the WHO tool for assessment of diabetes and diabetic retinopathy (*TADDS*) in NCD projects that address diabetes. The TADDS was designed to assess countries' management of diabetes and diabetic retinopathy and to gauge the level of cooperation and synergy between these two branches of health care. It serves to perform situation analyses, define service provision levels and identify gaps to be addressed.

In WASH projects

WASH and eye health are closely connected because of the linkages between basic hygiene and eye health and between certain neglected tropical diseases and eye health. Environmental risk factors linked to hygiene, sanitation and access to water can be important risk factors for ocular infections with potentially vision-threatening effects such as trachoma (the main cause of infectious vision impairment), onchocerciasis (river blindness), conjunctivitis and loiasis (tropical eye worm).

The ICTC SAFE strategy has contributed to a massive reduction in the prevalence of trachoma but much remains to be done. Worldwide, 12.4 million children have active trachoma and 200 million people are at risk of trachoma blindness. Nearly 50% of the people at risk live in Ethiopia, Malawi and Nigeria (see *IAPB Vision Atlas* and *Trachoma Atlas*).

The F and E components of the SAFE strategy, i.e. facial cleanliness and environmental improvement (see *ICTC, 2019*), address the conditions that enable the transmission of trachoma and other infectious eye diseases. Their implementation requires strong partnerships with WASH stakeholders to improve access to infrastructure and environmental sanitation, and a longer lead time to allow for sustainable changes in behaviour and practices.

Key actions points for tackling WASH-related eye conditions include:

- engaging in trachoma control within WASH projects in trachoma-affected countries through cooperation with other eye care providers;
- making vulnerable population groups aware of the importance of facial cleanliness and handwashing for good eye health;
- engaging in community-based environmental management (e.g. the eradication of vector breeding zones) for tropical eye conditions;
- exploring opportunities to promote greater awareness of infectious eye conditions such as trachoma, onchocerciasis and conjunctivitis in school health programmes.

In reproductive health projects

The most common eye conditions among children are corneal scarring (mainly from vitamin A deficiency and measles but also from neonatal conjunctivitis), retinopathy of prematurity, and congenital and developmental cataract caused by, for example, trauma and intrauterine infection (*World report on vision, 2019*).

Vitamin A deficiency remains a significant cause of preventable childhood blindness among children under 5 years of age (see section 2.2, Causes, trends and risk factors for visual impairment and blindness). According to WHO (2009), 37.8% of children under 5 years of age in Africa and 71.7% in Asia are at risk of vitamin A deficiency.

Neonatal conjunctivitis (*Ophthalmia neonatorum*) is most common in babies born to mothers with sexually transmitted diseases (*Kapoor, White and Vedula, 2016*), as the baby's eyes are contaminated during birth. The infection usually develops between 2 and 14 days after birth and is an acute emergency requiring immediate treatment and referral because of the significant risk of blindness.

Retinopathy of prematurity is a potentially avoidable cause of irreversible blindness that can occur in infants who are born premature or with a low birthweight. Poor oxygen management is an additional major risk factor. Furthermore, not all preterm infants at risk are (properly) screened, and so babies requiring treatment may not be identified.

Key actions points for tackling eye conditions related to reproductive health include:

- promoting measles immunisation and treatment with high-dose vitamin A for children with measles;
- engaging in community-based healthy nutrition education for a vitamin A-rich diet and vitamin A supplementation;
- promoting and/or carrying out community-based simple training on prevention of neonatal conjunctivitis for traditional birth attendants, midwives, mothers, community health workers and volunteers;
- supporting the prevention of corneal scarring from neonatal conjunctivitis through facility-based pre-birth treatment of sexually transmitted infections in both parents and post-delivery infection prevention of the newborn by ocular prophylaxis, and promoting the use of standard guidelines (see 2004 WHO guidelines for the management of sexually transmitted infections);
- raising community awareness of the risk of retinopathy in preterm babies using *community eye health messages* and encouraging the use of preventive measures, including to reduce preterm births (see *Medley et al., 2018*);

- promoting safe oxygen therapy, the “Helping Babies Breathe” curriculum and the inclusion of retinopathy of prematurity in training curricula of key health staff such as midwives, paediatricians and ophthalmologists, and promoting quality neonatal care in health care facilities using, for example, the *POINTS of Care system*;
- promoting and carrying out community-based simple training on preventive measures for early detection and timely referral of newborns or children with congenital cataract.

4.3 The complementary model

The third implementation model applies in situations where neither the SRC nor its partner National Society leads the implementation of an eye health-related project, intervention or activity but instead works with other eye health providers and/or stakeholders active at the community and primary, but also secondary or tertiary, health care levels, and even at regional and global level in the case of larger eye health networks. These different modes of cooperation can be pursued in long-term development and in emergency, relief and recovery-related contexts. While the latter is a relatively new field for the SRC with regard to eye health, recent experience has shown that there is a need to engage in eyehealth with an LRRD approach and the potential of doing so.

Complementary action includes:

- linking Movement volunteers with other eye health stakeholders to enhance the community reach of non-Movement eye health projects;
- cooperating on a bilateral or multilateral basis with eye health stakeholders, the SRC acting as a donor, facilitator and/or technical adviser;
- collaborating with eye care partners in camp/IDP/refugee situations where basic health care services are already in place in order to ensure, for example, early detection and referral and/or to provide assistive devices;
- providing financial support to international networks and organisations, for example IAPB regional work plans, as a way of increasing regional collaboration among eye health stakeholders; lobbying for the inclusion of eye care in health sector strategic plans and thus in service planning and budgeting; encouraging the sharing of experiences and knowledge at national and regional level; and enhancing the visibility of the SRC and its partners;
- providing financial support for population-based surveys (e.g. RAAB studies) and for research studies, and providing the IAPB research work group with input in the form of research ideas;
- providing scholarships to develop human resources for eye health or connecting eye health agents with foundations providing scholarships.

5. Cooperation and coordination

5.1 Cooperation within the Movement

The National Societies are the SRC's main implementing partners and act as liaison to the relevant government ministry. The SRC boosts the National Societies' efforts to play an important role in the eye health sector in their respective countries through programme implementation support. It makes the National Societies aware of the importance of eye health for people's general health and well-being, education and economic viability.

The SRC shares the experiences, competences, resources and tools it has acquired and developed over many years of eye care work with other Movement partners, in particular with the IFRC Health and Care Department in Geneva. It promotes and supports the integration of eye health into IFRC approaches and tools, for instance eCBHFA, care in the community, and healthy ageing. The SRC plays a key role regarding eye health-related knowledge management within the Movement, for example by facilitating collaboration between Movement partners and key eye health stakeholders such as the IAPB.

5.2 Strategic partnerships and networks beyond the Movement

The SRC promotes an intersectoral approach to eye health. To this end, it engages with, or helps its implementing partners engage with, the following stakeholders.

- **Ministries and related authorities:** These include the Ministry of Health and its coordinating bodies for eye care and other key ministries at country and regional/federal level. At the national level, the SRC and its partners adhere to national eye health policies, strategies and regulations, and support the development thereof where they do not yet exist.
- **The IAPB:** The SRC is a proactive member of the globally oriented IAPB, providing specific support for regional strategies, initiatives and work plans (see section 4.3, Complementary model), and participating in World Sight Day and other international and national events that raise public awareness of blindness and vision impairment as major international public health issues, influence governments and ministries to participate and designate funds for national prevention of blindness programmes, and educate target audiences about the blindness prevention and programme activities of a wide range of eye health stakeholders (see *World Sight Day 2019*).
- **International and national non-governmental eye health stakeholders:** In its countries of intervention, the SRC engages at national and local level, and within multilateral cooperation modalities, with agencies such as the *Christoffel Blind Mission*, SRC-supported eye health projects, *Orbis*, *Sightsavers*, *Seva Foundation*, the *Fred Hollows Foundation*, the *Brien Holden Vision Institute*, *Light for the World*, *One Sight*, *Operation Eyesight Universal*, *Vision Aid Overseas*, *Vision For A Nation*, the *Islamic Solidarity Fund for Development*, *Himalaya Cataract Project* and *Lions Club International*.

- **Research and education-oriented groups and institutions:** These include the *International Centre for Eye Health*.
- **Regional or national networks:** These include the European Society for International Ophthalmology (*ESIO*), the Société Africaine Francophone d’Ophthalmologie (*SAFO*) and the Ghana Eye Health Consortium.
- **Swiss Dental Association:** In Switzerland, the SRC and the *Association* collect dental gold. The entire income from the Old Gold for Eyesight campaign is invested in the eye disease prevention, diagnosis and treatment activities of in different countries.

6. Quality management

6.1 Relevance and impact

Eye health is a major – and growing – global public health issue, owing to population ageing and changing lifestyles.

Applying different implementation modalities, the SRC engages in eye health programming within dynamic and efficient partnerships with National Societies and government authorities, thus helping to reduce the burden of visual impairment and avoidable blindness. Focusing on the most vulnerable population groups, the SRC and its partners promote more equitable access to eye care services, with a view to “leaving no one behind”.

The *SRC IC Manual* defines the rules and regulations governing project management, finance, procurement, partnerships, security and risk management, communication and knowledge management.

6.2 Monitoring, evaluation and operational research

All SRC eye health projects use an established monitoring framework against which the project’s successes and challenges are measured and analysed. The SRC regularly evaluates eye health projects using standardised indicators from the *SRC Health Indicator Toolbox*. The indicators are linked to predefined result chains and are embedded in the SRC’s impact model and its three intended outcomes (see section 3.2, Outcomes). The SRC promotes the use of standard universal health care indicators for eye health, i.e. effective Cataract Surgical Coverage (eCSC) and effective Refractive Error Correction Coverage. The indicators are quality-sensitive and thus serve to monitor quality of care in conjunction with coverage (*Ramke et al., 2017*). Monitoring the accessibility and quality of cataract surgical outcomes using the eCSC indicator is but one way for the SRC to ensure high-quality eye care. The SRC also considers quality dimensions other than technical competence and effectiveness, i.e. user-provider rights and relations including staff attitude and behaviour, efficiency, timeliness, continuity (functional referral system in place), integration, people-centeredness, biosafety, and cleanliness and comfort.

The SRC supports regular project evaluations and conducts operational research where opportunities arise. In view of the paucity of health services and implementation research in the field of eye care and the resulting difficulty in planning evidenced-based eye care programmes and services, investing in operational research may be an important means of delivering real needs-based eye care services (*Ramke et al., 2015*). When conducting operational research, the SRC tests and uses innovative technologies such as *Peek Retina*, to capture retinal images on smartphones in remote areas, or *Peek Acuity*, to help screen and identify people who need further examination. It uses tools such as *BOOST* (Better Operative Outcomes Software Tool; see also *Congdon et al., 2013*), to monitor cataract surgical outcomes, and the *TT Tracker*, to track patients following trichomatous trichiasis surgery. It also considers and promotes the use of innovative low-cost diagnostic tools such as *Arclight* (see *Blaikie et al., 2016*), which are specifically designed for low- and middle-income contexts.

6.3 Capacity development and knowledge management

The SRC is constantly improving its capacity in eye health in order to safeguard high-quality standards in eye care projects. To this end, it provides training/e-learning opportunities for headquarters and field-based staff on relevant eye health topics. It also enables selected key staff from National Societies to bolster their eye health competence.

The SRC uses a range of internal and external means to foster the exchange of knowledge on best practices and lessons learnt. Internally, its digital thematic platform, *IC Net Eye Health*, provides headquarters and field staff with resources for project development and steering, along with access to information on different eye health topics from key newsletters and journals. The SRC eye health community of practice comprises an eye health focal point, health advisors, programme coordinators, and field-based delegation and project staff. The community meets regularly and runs a virtual exchange platform on *IC Net Eye Health*; it supports exchange visits by staff involved in SRC eye health projects to promote the sharing of best practices and institutional learning. The SRC consults members of an external eye health expert pool and the SRC internal community of practice when developing, steering and evaluating eye projects.

SRC and partner staff members participate in key international conferences and events, such as the IAPB Council of Members and Global Assembly, to present SRC best practices and learn from others' experiences.

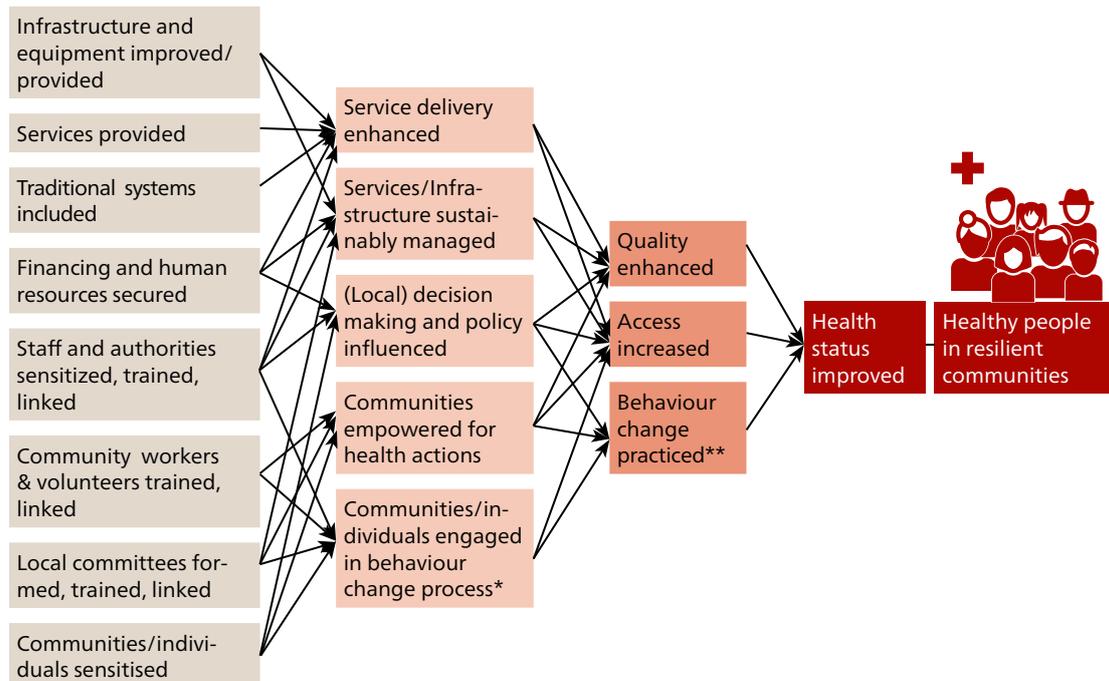
Annexes

Annex 1: Main causes of visual impairment and blindness

| | | |
|---|--|---|
| Age-related macular degeneration (AMD) | Damage to the central part of the retina responsible for detailed vision, leading to dark patches, shadows or distortion of central vision | AMD is the third most important cause of visual impairment worldwide and the leading cause of blindness in higher-income countries with ageing populations. AMD affects more than 10 million globally and is responsible for almost 6% of global blindness. It is of particular concern as one of the leading causes of vision impairment in the Asia-Pacific region, Eastern Europe, Australasia and Central Asia (see <i>IAPB Vision Atlas</i>). |
| Cataract | Cloudiness in the lens of the eye, leading to increasingly blurred vision | In 2010, out of 32.4 million blind and 191 million visually impaired people, 10.8 million were blind and 35.1 million were visually impaired due to cataract (<i>Khairallah et al., 2015</i>). With one in three blind people having lost their sight because of cataract in 2010, the number of people to have suffered a similar fate in 2015 may be as high as 12 million. Despite major improvements in terms of reduction of prevalence, cataract thus remains a major public health problem. |
| Corneal opacity | A group of conditions causing the cornea to become scarred or cloudy | Corneal scarring from measles infection, vitamin A deficiency (VAD) or conjunctivitis of the newborn affects four million people worldwide and is particularly common in children. Measles- and VAD-related corneal blindness has declined but there are still communities at risk, particularly in sub-Saharan Africa, where VAD programmes and measles immunization coverage remain insufficient. |
| Diabetic retinopathy | Damage to blood vessels in the retina, which become leaky or blocked: vision loss most commonly occurs as a result of swelling in the central part of the retina, which can lead to vision impairment; abnormal blood vessels can also grow from the retina, which can bleed or cause scarring of the retina and blindness | Diabetic retinopathy is caused by diabetes mellitus, which is becoming a global epidemic. One in three people living with diabetes has some degree of diabetic retinopathy and one in 10 will develop a vision-threatening form of the disease. Today 3 million people are already visually impaired due to diabetic retinopathy, and 70 million people worldwide are at risk of sight loss from diabetic retinopathy by 2040. China, India, Indonesia and Bangladesh represent 45% of the global diabetic retinopathy disease burden (see <i>IAPB Vision Atlas</i>). In Africa, two thirds of people with diabetes remain undiagnosed and Africa faces the greatest increase in disease burden, i.e. an anticipated 103% by 2040. The vast majority of patients who develop diabetic retinopathy have no symptoms until the very late stages, by which time it may be too late for effective treatment. |
| (Unaddressed) presbyopia | An eye condition that affects the ability to see things clearly up close, and a normal part of ageing | Unaddressed presbyopia is the most common cause of visual impairment. As presbyopia rarely develops before the age of 40, the majority of the 826 million people affected globally are older people (World report on vision, 2019). Uncorrected presbyopia has a profound impact on individuals' ability to perform near vision tasks. The cost of lost productivity resulting from uncorrected presbyopia has been estimated at USD 14 billion annually (<i>Frick et al., 2015</i>). The greatest burden is carried in rural areas of low-resource countries (<i>Fricke et al., 2018</i>), which shows that the unmet need for presbyopia correction is unevenly distributed. |

| | | |
|---------------------------------------|--|--|
| (Unaddressed) refractive error | Caused by an abnormal shape or length of the eyeball: light does not focus on the retina, resulting into blurred vision | Unaddressed refractive error continues to be the leading cause of moderate to severe visual impairment. The overall prevalence of myopia, for example, is highest in high-income countries of the Asia-Pacific region (53.4%) and East Asia (51.6%), where low- or middle-income countries are becoming more urbanised. In highly developed urban areas in countries such as the Republic of Korea or Taiwan, myopia has reached epidemic proportions, affecting up to 90% of school children. |
| Trachoma | Caused by a bacterial infection: after many years of repeated infections, the eyelashes turn inwards (known as trichiasis), which can lead to corneal scarring and, in some cases, blindness | Trachoma is the main cause of infectious vision impairment. Thanks to the WHO-endorsed <i>SAFE</i> strategy and the 2011 <i>ICTC</i> global strategic plan (<i>2020 INSight</i>), nine countries have achieved elimination targets in the past 10 years. Trachoma is nevertheless yet to be eliminated in parts of 44 countries globally, with 14 countries sharing 80% of the trachoma burden. The 2 million people affected today largely live in communities with inadequate access to water, sanitation and health care, often in poor, rural communities. |
| Unidentified and others | | <p>Vision impairment has many other causes, such as retinopathy of prematurity (damage to the retina in premature babies), pterygium (growth of tissue that can cover part of the cornea and affect vision), onchocerciasis (also known as “river blindness”, the second most common cause of blindness due to infection) or injury-related causes that lead to vision impairment.</p> <p>At the same time, the considerable number of unidentified causes points to the need to fill the data gap by better integrating eye health into national health management information systems and strengthening the evidence base through comprehensive eye health data collection and (operational) research in eye health.</p> |

Annex 2: SRC IC impact model – health domain



* "Engaged in behaviour change": Communities/Individuals are engaged in the first three steps of the IFRC behaviour change model, i.e. Knowledge (1), approval (2), and intention (3). This implies working on risks, attitudes, norms and abilities according to IFRC doer/non-doer analysis (related to RANAS approach)

** "Behaviour change practiced": Communities/Individuals have reached the fourth stage, i.e. practice, of the IFRC behaviour change model. This implies working on self-regulation according to the RANAS model.

Links:

1. IFRC eCBHFA Webpage: <http://ifrc-ecbhfa.org/guides-and-tools/>
2. eCBHFA behaviour change model: <https://drive.google.com/file/d/1DhBQj5EDIKhwN9GmGMjKCykfBgKiayvb/view>
3. eCBHFA doer/non-doer analysis: https://drive.google.com/file/d/1UzwZilfh9Kppfd5a7ZDdEA58LUcene_k/view
4. RANAS approach : <https://www.ranasmosler.com/>

Annex 3: Overview of opportunities for eye care interventions

| Thematic priority | Opportunity 1 | Opportunity 2 | Opportunity 3 |
|-------------------------------------|--|--|--|
| Ageing and health projects | Carry out age-specific eye health promotion and awareness programmes on healthy ageing and good vision into old age, using peer eye health promoters or “vision champions” and including vision-loss prevention, early detection, treatment and rehabilitation | Integrate visual screening and other preventive eye health interventions into home-based care programmes | Raise awareness about prevention and management of chronic NCDs that predispose patients to vision problems, especially diabetes |
| NCD projects | Promote simple lifestyle measures relating to healthy body weight, physical activity and healthy diet that are effective in preventing or delaying the onset of type 2 diabetes | Train health professionals about the importance of regular eye examinations | Foster regular comprehensive eye examination in diabetes management, including visual acuity, intraocular pressure measurement |
| WASH projects | Make vulnerable population groups aware of the importance of facial cleanliness and handwashing for good eye health | Explore opportunities to promote greater awareness of infectious eye conditions such as trachoma, onchocerciasis and conjunctivitis in school health programmes | Engage in trachoma control within WASH projects in trachoma-affected countries through cooperation with other eye health NGOs |
| Reproductive health projects | Engage in healthy nutrition education regarding a vitamin-A rich diet and vitamin A supplementation | Promote and/or carry out community-based simple training on prevention of neonatal conjunctivitis for traditional birth attendants, midwives, mothers, community health workers and volunteers | Promote and/or carry out community-based simple training on preventive measures for early detection and timely referral of newborns or children with congenital cataract |

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