

Preventing blindness and visual impairment in Europe: What do we have to do?

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Abstract

Severe visual impairment and blindness are significant public health problems worldwide. Four-fifths of cases of blindness can be prevented or cured. The World Health Organisation's 'Universal Eye Health: A Global Action Plan 2014–2019' and the European Society of Ophthalmology's Pilot Committee on Public Eye Health are aiming to decrease the prevalence of blindness in Europe and around the world. Starting discussions addressing possible actions and advocacies to improve current circumstances in public eye health is a common task of ophthalmologists and public health specialists in Europe.

Keywords

Blindness, visual impairment, public eye health, prevention, vision

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Visual impairment and blindness remain significant among public health problems worldwide. The World Health Organisation (WHO) estimates that globally, approximately 253 million individuals live with vision impairment: 36 million were blind and 217 million had moderate to severe vision impairment in 2015.¹ However, approximately 80% of cases of blindness can be avoided if preventive measures are implemented or eye problems are diagnosed and treated in a timely manner.¹ Although most of the blind and visually impaired population lives in low-income countries, it is important to be aware that blindness due to eye diseases is also an important health issue in Europe,² and causes substantial and high-volume economic burden.³

VISION 2020 was launched in 1999 by WHO together with the International Agency for the Prevention of Blindness (IAPB). The primary aim of this global initiative is to eliminate avoidable blindness by the year 2020. VISION 2020 is a partnership that provides guidance, as well as technical and resource support, to countries that have formally adopted its agenda.⁴

In 2009, the WHO Secretariat, in consultation with Member States (194 countries) and international partners, developed an action plan for the prevention of avoidable blindness and visual impairment for 2009–2013.⁵ The

primary purpose was to intensify efforts towards elimination of avoidable blindness.

When the plan expired in 2013, a new global action plan for eye health needed to be developed. As a result, 'Universal Eye Health: A Global Action Plan 2014–2019' was established and was unanimously endorsed by the Member States of the WHO⁵ at the World Health Assembly in May 2013.

The most innovative part of this plan is that, for the first time, a global target has been set – namely to reduce the prevalence of avoidable visual impairment by 25% by the year 2019 from the baseline in 2010. The vision of the global action plan is a world in which nobody is needlessly visually impaired, in which those with unavoidable vision

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loss can achieve their full potential and where there is universal access to comprehensive eye care services.⁶

The action plan is structured around three primary objectives:

1. To generate evidence regarding the magnitude and causes of visual impairment, and on the state of eye health services, and using this evidence to advocate for increased political and financial commitments to eye health by national governments of the Member States;
2. To develop integrated national policies, plans and programmes for enhancing universal eye health;
3. Strengthening multi-sector engagement and effective partnerships for improved eye health.⁵

Each of these objectives has corresponding specific actions as well as a set of measurable indicators to track progress. For example, there are three important indicators to measure progress at the country level: prevalence and causes of visual impairment, number of eye care personnel and cataract surgical rate (number of cataract surgeries performed per year, per million population). Data regarding the prevalence and causes of blindness and visual impairment are important to understand for better resource allocation and planning, and to develop synergies with other programmes.⁵

In June 2016, the Board of the European Society of Ophthalmology (SOE) agreed to strike a Pilot Committee on Public Eye Health, because the regional blindness prevention and rehabilitation activities in Europe had large organisational, financial and manpower deficits compared with other continents. It also appeared that more active participation of the SOE and national ophthalmological societies could positively contribute to the development and implementation of national blindness prevention plans. The committee started its work with data collection pertaining to past and present history and intentions of SOE member societies on public eye health issues in their own countries. To collect this information, a short questionnaire was prepared and circulated to the member societies of the SOE. The online questionnaire contained 14 questions: 8 simple questions with ‘yes/no/don’t know’ answer possibilities, 1 selection question from a list of choices, 1 multiple-choice question with selections from lists of different types of actions in connection with a list of diseases and 4 questions for free-text answers (e.g. names and contact details). Leaders of societies from 29 of 41 (70.7%) actual SOE member countries completed the questionnaire. Slightly more than one-half (51.7%) of the national ophthalmological societies were aware of WHO’s Universal Eye Health: A Global Action Plan 2014–2019. Only five (17.2%) countries reported that a national committee had been established in their country to implement the WHO plan. The national ophthalmological societies participated in the

national committee in four countries, either collectively as a society or individually through some leaders of the society. In 17 (58.6%) countries, actions were taken by the national ophthalmological society in the past 5 years in the field of public eye health. The most frequent activities included: advocacy (24 actions in 11 countries), media campaigns (17 actions in 11 countries), screening campaigns (13 actions in 7 countries), guideline development (11 actions in 7 countries) and data collection (6 actions in 4 countries). The national ophthalmological society participated in the celebration of World Sight Day in 15 countries. There are current data available regarding the prevalence of blindness and visual impairments in 14 (34.1%) countries, while there are no data from 7 (17.1%) countries, and remains unknown in 20 (48.8%) countries. There is a special task force/expert group or dedicated individual(s) in the national ophthalmological societies addressing public eye health issues in 10 (34.5%) countries. To summarise, many actions were initiated by the national ophthalmological societies; however, despite these good examples, there remains significant room for further improvement in many European countries.

After we have these well-established plans and committee, the next step is to implement the goals and actions at the national level. WHO announced the new *World Report on Vision*, which will be published in 2019, and will provide further guidance on how to reduce the burden of vision loss and improve the lives of people with vision impairment (www.who.int/blindness/vision-report/en/). On ‘World Sight Day 2018’, IAPB published the latest information on key indicators of the Global Action Plan in the Vision Atlas.⁷ The Vision Atlas contains global, regional and national data regarding vision impairment and eye care service delivery, which is a good basis for advocacy to achieve improvement in eye health care in the future.

Only a few epidemiological reports from Europe addressing the prevalence and causes of blindness have been published: Ireland,⁸ Moldova,⁹ Italy,¹⁰ Germany¹¹ and England/Wales,^{12,13} and for all of Europe by the Vision Loss Expert Group^{14,15} and the European Society of Retina Specialists (EURETINA).¹⁶ Recently, we reported the results of the Hungarian Rapid Assessment of Avoidable Blindness with Diabetic Retinopathy Module (RAAB+DRM) survey. The main causes of blindness were age-related macular degeneration, diabetic retinopathy (DR), other posterior segment diseases, cataract and glaucoma among individuals ≥ 50 years of age.² The estimated prevalence of diabetes mellitus (DM) was 20.0%–29.1% in individuals ≥ 50 years of age in Hungary, as reported in our recent article in this issue of the *European Journal of Ophthalmology*.¹⁷ Approximately one in five individuals with DM has some form of DR, which is the leading cause of visual impairment in patients with diabetes.¹⁷ As reported in an Italian survey, DR is responsible for 13% of cases of severe vision

impairment and blindness.¹⁸ The main goals of the Hungarian Ophthalmological Society were to increase eye-screening coverage in patients with DM and improve accessibility to eye-care services by successful advocacy among decision-makers to establish positive governmental regulations. In this regard, there are excellent European examples of successful DR screening programmes with high national coverage (England (82.8%),¹⁹ Scotland (84.0%)²⁰ and Denmark²¹).

Ocular traumas related to consumer use of fireworks represent a serious global problem. One-half of the injured were children, and one-tenth of eye traumas resulted in total blindness.²² Countries with restrictive firework regulations report almost 90% fewer ocular injuries compared with countries without these regulations. The president of the SOE initiated a worldwide cooperative action plan for the prevention of eye injuries from fireworks, endorsed by the SOE, International Council of Ophthalmology, American Academy of Ophthalmology and IAPB, among others. The SOE developed an online registry for fireworks-related ocular traumas to collect data. The Netherlands Society of Ophthalmology attempted to frame a more stringent regulation, and recommended that individuals should always wear protective eyewear when handling or viewing fireworks.²² Similar regulatory changes are needed in other countries.

One of the main tasks of the SOE and IAPB-Europe is to prompt ophthalmologists and governments to implement the full content of the WHO action plans and recommendations, and they are committed to encouraging and helping them fulfil the actions in practice.

The primary possible actions of ophthalmologists in Europe could be to focus on blinding retinal diseases (including those of older generations, including age-related macular degeneration, DR and anterior ischemic optic neuropathy), retinopathy of prematurity, as well as on the projected increase in myopia and pathological myopia and cataract. Starting discussions on the targets and possible actions is our national task in the ophthalmological societies, and in the SOE at the European level. To support these aims and actions, the SOE and IAPB-Europe have planned to organise European meetings (possibly at the national and SOE Congresses) to discuss and facilitate regional and national planning and implementation of the recommendations of the upcoming WHO *World Report on Vision*.

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