**The World Health Organisations Vision 2020 project aims to eliminate avoidable blindness. Discuss the achievements of this project and its remaining challenges**

Rewind back to Year 1999. Another era. No mention of smart phones but millennium bugs, ill-fitting suits and Pierce Brosnan as 007 has just released the film ‘*The World is not enough’*. With little comparison to the film, but with an ambition to match the title, The World Health Organisation (WHO) sets itself a philanthropic mission to eliminate an enemy of the common people - preventable blindness across the world. The enemy is not one sinister target but a range of infectious and age-related conditions as well as lack of glasses. The task is monumental, requiring support from the governments of the world, advocating an advancement of adequate health care infrastructure, and training much more health care professionals to treat complex eye conditions. The task is even more formidable when considering in some countries the prevalence of ophthalmologists barely reaches double figures.

In 1999 Vision 2020 had the following scourges in mind for elimination:

1. *Cataract*
2. *Onchocerciasis*
3. *Trachoma*
4. *Childhood Blindness*
5. *Refractive error*

Addressing these conditions Vision 2020’s strategy encompassed

1. Disease control and eye care delivery,
2. human resource development
3. provision of appropriate technology and infrastructural facilities(1)

It is now the much-maligned year of 2020. Are these conditions adequately controlled or do they persist ever present brushing aside feeble attempts to control them?

1. *Cataract*

Unsurprisingly as the world is living longer and rising in number, burgeoning cataract prevalence means providing timely and effective cataract surgery is a challenge. In 1998 nearly 20 million people were bilaterally blind due to cataract. The population of the over 60s across the world has doubled since then. Barriers preventing access to cataract services are many, but include lack of availability especially in rural areas, inadequate health care systems, few cataract surgeons and fear of the surgery itself. High income countries such as the UK are performing more cataract surgeries than ever. India saw a 9 fold increase in cataract surgeries between 1981-2011(2). Lessons can be learnt from Indian high-volume cataract institutions providing patient centred care for rich and poor, establishing trust and community awareness, with resulting better population coverage. Despite this, cataract **still** accounts for over 50% of the world’s blindness with more needed to be done to develop efficient and effective health care systems that can deliver good, high volume cataract surgery, especially in sub Saharan Africa(3)

1. *Onchocerciasis*

Often referred to as ‘river blindness’ the condition plagued much of western Africa. The blackfly driven vector of this filarial disease leads to widespread microfilariae migration, unfortunately including the eye with the resultant blinding corneal scarring if left untreated. The discovery of ivermectin and its distribution represents a shining beacon of success of a WHO supported vertical programme. The African Programme of Onchocerciasis Control was created to organise efforts to combat the disease in the mid 1990s(4). Widespread administration of this readily available drug alongside vector control has drastically reduced the incidence of blindness secondary to this debilitating disease. Over 142 million people were treated for the condition, with a reduction in prevalence of the condition by 75% in 2005(4). This does represent a real success story of one of the aims Vision 2020, promoting advocacy, by showing the fruition of multi-lateral co-operation between international countries with APOC, The WHO and The World Bank.

1. *Trachoma*

Vision 2020 brought considerable focus on the management of this old enemy. The infectious chlamydia bacteria is carried by sandflies and is the heavily linked with overcrowded, poorly sanitised human settlements in Africa, Middle East and Australia. Previously universal and suitably ancient, its severity led to the founding of some of the world’s most prestigious eye hospitals in the 19th century. Theoretically declining with urban development, it was still contributing to blindness across the developing world through trichiasis and corneal scarring well into the 20th century.

To address the clinical need, The WHO targeted the disease with population screening, clear triaging tools and effective treatment strategies from primary to secondary prevention. Grading of disease recommended by The WHO allows eye nurses to promptly identify patients most in need of urgent care. The SAFE mantra (Surgery, mass administration of azithromycin, facial cleanliness and environment improvement) has seen very tangible reductions in many previously trachoma blighted endemic countries such Ghana, morocco and Oman have eliminated blinding trachoma(5). Quantifying the success of Global trachoma 8.2 million the number of worldwide trachoma related surgeries decreased from 8.7 million in 2007 to 2.5 million in 2019(6). Another tick for Vision 2020.

1. *Childhood blindness*

This more general objective pointed the finger directly at vitamin A deficiency and its resulting xerophthalmia, measles and infections among other diseases of childhood. Corneal scarring secondary to vitamin A deficiency has been targeted with a remedy cheap and easily on hand. Successful programmes of vitamin A injections prior to and including Vision 2020 have helped starkly reduce the prevalence in Low- and middle-income countries (LMICS) such as Uganda. Fortifying foods with vitamin A as advocated by the WHO in 2011 should help bring xerophthalmia closer to a welcome zero.

With a degree of paucity of paediatric ophthalmologists even in high income countries such as the UK, ensuring childhood blindness is controlled means ensuring primary prevention is trumpeted. Moreover, data on childhood blindness needs to be addressed to really help streamline efforts to control major causes of visual impairment in this area.

5*.Refractive error and low vision*

On that note, we have part of the answer with the number of children and adolescents with myopia is expected to expand rapidly between the years 2000 and 2050. Perilously overlooked, untreated refractive error contributes the lion share of causes of reversible visual impairment across the world. Along with cataract, 200 million have severe impairment due to these conditions alone. Furthermore 826 million have near vision impairment caused by unaddressed presbyopia(5). Vision 2020 has not been able to solve this to date. Cost, the stigma associated with spectacles and lack of staff and equipment provide major barriers to progress. Reduced time outdoors feeds the problem. Yet the personal and socioeconomic consequences of untreated refractive error incurred by reduced education opportunities, poorer social and motor skills demonstrate we overlook this with grave danger.

**2020**

Vision 2020 spearheaded international, multi-agency collaboration advocating the combined efforts in the commendable objective to eliminate avoidable blindness. Evidently giant strides are being made to meet its aims even though success has been patchy. The goal of total elimination of avoidable blindness was ambitious and aspirational, but perhaps found too optimistic in the timeframe

2020 was supposed to be the year The World Health Organisation showcased to the world the progress it had made in the years since 1999. The embattled organisation finds itself firefighting against COVID-19, and the Vision 2020 project has found itself shifted far from the global spotlight. With the current situation in mind, the danger is that the monumental efforts thus starting to convert to fruition wax and wane due to acute diversion of resources. More optimistically, the goals set in 1999 have been tackled, often bravely and with some stunning success such as in trachoma treatment, onchocerciasis elimination and vitamin A replenishment. The world was projected to have almost 80 million people blind by 2020 without action. This grim projection has been assuaged. Less optimistically, preventable blindness still casts its sinister shadow among many countries of the world, particularly in LMICs

**Beyond 2020**

The 2014 revamped 5 year Global Action Plan endorsed by The WHO reflected planning for the future. It sounded the need for advocacy among international efforts to co-ordinate governments, NGO and other donors to Vision 2020’s goals. It included the drive to boost the profile and delivery of eye care by making it part of universal health coverage(7). Indicators of interest highlighted for assessment were the cataract surgical rate, eye care personnel and disease prevalence. The latter point requires much forward planning.

Previously, the tackling of infectious diseases such as river blindness and trachoma show good examples of successful vertical programmes but are unlikely to meet the challenges of the changing face of ophthalmic disease in the 21st century. Still, cataract and glaucoma are set to continue to pose a heavy disease burden. However, with a worldwide rise in non-communicable disease such as diabetes and cardiovascular illness with resulting ocular complications like sight threatening diabetic retinopathy and vein occlusions. Encouraging integrated health systems to address new needs will become critical as we move further into the century. Primary prevention needs to become more fashionable, raising community and population awareness. Inevitably with secondary prevention there must be plans in place to deliver effective screening, investigation, and treatments available to those who need it. Foreseeably 21st century ophthalmology will have growing demand for the provision of OCT imaging, anti-VEGF treatments and laser alongside cataract surgery in addressing eye care, dwarfing the burden of infectious disease. Only by promoting better co-ordinated health care systems, investing in a trained workforce and ensuring multi-lateral agency collaboration can we meet these challenges of a not so distant tomorrow.

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