

## Declaration of the Second Oxford Conference on Vision for Children in the Developing World

Second Oxford Conference on Vision for Children in the Developing World  
St. Catherine's College, Oxford  
7 - 8 April 2011

***“Without appropriate optical correction, millions of children are losing educational opportunities and adults are excluded from productive working lives, with severe economic and social consequences. Individuals and families are frequently pushed into a cycle of deepening poverty because of their inability to see well.” (World Health Organization<sup>1</sup>)***

### Vision correction, poor vision and blindness:

- Over **3 billion people** (45% of the world's population) need some form of vision correction to see clearly<sup>2</sup>.
- Poor vision is a **developmental** issue affecting the everyday lives of these 3 billion people worldwide. Of these, two thirds live in the less developed world where the majority do not have ready access to an eye evaluation and affordable spectacles.
- Poor vision is an **educational** issue that can in the absence of adequate vision correction limit the ability of hundreds of millions of children to take full advantage of what may be their only opportunity to participate in school.
- Significant **vision impairment** due to uncorrected distance or near vision (at a level defined by the WHO as a disability) affects 284 million people globally<sup>3</sup>.
- **Blindness** affects the health, well being and quality of life of approximately 39 million people worldwide<sup>4</sup>; 8 million from uncorrected refractive error<sup>5</sup>.

### Challenges to providing effective services include:

- Awareness – people are often not aware that their sight is poor and can be improved.
- Acceptability – The willingness of people, especially children, to obtain and wear spectacles in order to improve their sight needs to be understood and their motivation encouraged.
- Availability – There are considerable restrictions in availability of appropriately trained eye care personnel through both inadequate numbers and poor distribution in areas in need.
- Affordability – Quality products at affordable costs are not reaching the poor in a sustainable way.

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<sup>1</sup> World Health Organization. Press release: *Sight test and glasses could dramatically improve the lives of 150 million people with poor vision*. Geneva. October 2006. Available at: [www.who.int](http://www.who.int).

<sup>2</sup> Silver J D, Crosby D N, MacKenzie G E, Plimmer M D. *Estimating the Global Need for Refractive Correction*. Centre for Vision in the Developing World, University of Oxford. April 2009. Available at [www.vdw.ox.ac.uk](http://www.vdw.ox.ac.uk).

<sup>3</sup> World Health Organization. *Fact Sheet # 282: Visual Impairment and Blindness*. Geneva. April 2011. Available at: [www.who.int/mediacentre/factsheets/fs282/en/](http://www.who.int/mediacentre/factsheets/fs282/en/).

<sup>4</sup> World Health Organization. Press release: *WHO releases the new global estimates on visual impairment*. October 2010. Available at: [www.who.int/blindness/en](http://www.who.int/blindness/en).

<sup>5</sup> Resnikoff S, Pascolini D, Mariotti SP, Pokharel GP. *Global magnitude of visual impairment caused by uncorrected refractive errors in 2004*. Bulletin of the World Health Organization 2008;86:63-70. Available at: [www.scielosp.org](http://www.scielosp.org).

The participants of the meeting at St. Catherine's College, Oxford, on the 7 - 8 April 2011 agreed as follows:

- Existing services do not meet even basic needs in most developing countries and are inadequate in many developed countries. In Africa, there is an acute shortage of eye-care professionals, which is unlikely to be overcome for the near future.
- Success in addressing poor vision will depend on both scaling up the training of appropriately-skilled, adequately-supported personnel capable of delivering effective eye care services and affordable technology including spectacles. New technologies such as adjustable spectacles have the potential to assist this process.
- Adjustable spectacles and devices potentially provide a way to address some of the barriers to provision of vision care, including screening, promoting awareness and services and even potentially providing the necessary spectacles.

#### **Self-Refraction:**

- Previous studies have shown that adults can effectively self-refract. Three recent studies in China and the US, commissioned after the First Oxford Conference on Vision for Children in the Developing World, evaluated self-refraction in children under 18 years of age<sup>6</sup>. These studies found that as many as 70% of children needing spectacles did not have properly corrected vision. In one study adjustable spectacles could improve vision to at least 6/7.5 in over 90% of children with non-astigmatic refractive error. Children's use of self refracting spectacles however was not evaluated under real-world conditions.
- Supervised self-refraction may provide vision correction where there is limited access to the services of eye care professionals.
- Self-refraction provides a tool that can be used in screening large populations and also to identify children who need treatment for more complex conditions (such as cataracts).

#### **Key operational issues identified included:**

- Impact of poor vision on children's school enrolment and attendance.
- The potential of self-refraction using adjustable spectacles to correct poor vision to 6/7.5 in the field.
- The cost-effectiveness of deploying different strategies, including adjustable spectacles, to correct poor vision.
- Identification of strategies which will provide incentives for children to wear and make consistent use of spectacles when necessary.
- Further work was also necessary on the acceptability of adjustable spectacles.
- Fit-for-purpose performance of adjustable spectacles.
- Approaches to further improve the accuracy of children's self-refraction using adjustable spectacles.

#### **Immediate action:**

To provide vision correction for all in need, all stakeholders, including the private sector, academia and the public sector are urged to work in partnership. The Partnership for Child Development (PCD) and the Research Working Group of the International Agency for the Prevention of Blindness (IAPB) were charged to work together to enable partners to take forward the research agenda identified.

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<sup>6</sup> He M, Congdon N, Mackenzie G, Zeng Y, Silver JD, Ellwein L. *The Child Self-Refraction Study: Results from urban Chinese children in Guangzhou*. *Ophthalmology*. 2011, January 11. [E-pub ahead of print]. Available at: [www.sciencedirect.com](http://www.sciencedirect.com).

The participants of the Second Oxford Conference for Child Vision in the Developing World at St. Catherine's College, Oxford, on the 7 - 8 April 2011 were as follows:

Mrs. Abigail Deamer	Partnership for Child Development (PCD)
Ms. Aeesha Malik	Department of Health, United Kingdom
Dr. Alexander Madgwick	The Centre for Vision in the Developing World
Ms. Alexa Varriano	University of Oxford, St. Cross College
Mr. Amit Gill	University of Oxford, St. Catherine's College
Dr. Amitava Gupta	The Centre for Vision in the Developing World
Dr. Anthony Carlson	University of Johannesburg, South Africa
Prof. Bill Harris	University of Johannesburg, South Africa
Prof. Brien Holden	International Centre for Eyecare Education (ICEE)
Dr. Bruce Moore	New England College of Optometry, USA
Mr. Cai Heath	Partnership for Child Development (PCD)
Mr. Carsten de Koning	Focus on Vision, The Netherlands
Mr. Chris Wray	The Centre for Vision in the Developing World
Dr. David Crosby	The Centre for Vision in the Developing World
Prof. Don Bundy	The World Bank, Washington D.C., USA
Mr. Franko Peel	Partnership for Child Development (PCD)
Mr. Greg Storey	The Centre for Vision in the Developing World
Dr. Hasan Minto	Sightsavers International, Pakistan
Mr. James Stephenson	Dow Corning Corporation, USA
Mr. Jan in 't Veld	Focus on Vision, The Netherlands
Ms. Jane Lillywhite	Partnership for Child Development (PCD)
Prof. Josh Silver	The Centre for Vision in the Developing World
Mr. Julian Lambert	Vision for a Nation / Adaptive Eyewear
Mr. Julian Metcalfe	The International Agency for the Prevention of Blindness (IAPB)
Mr. Kevin White	Global Vision 2020, USA
Dr. Leon Ellwein	National Eye Institute, USA
Dr. Lesley Drake	Partnership for Child Development (PCD)
Ms. Lisa Stroux	The Centre for Vision in the Developing World
Dr. Michael Beasley	Partnership for Child Development (PCD)
Prof. Mingguang He	Zhongshan Ophthalmic Centre, Guangzhou, China
Prof. Nathan Congdon	Zhongshan Ophthalmic Centre, Guangzhou, China
Mr. Owen Reading	The Centre for Vision in the Developing World
Mr. Peter Ackland	The International Agency for the Prevention of Blindness (IAPB)
Ms. Priya Morjaria	London School of Hygiene and Tropical Medicine, United Kingdom
Dr. Richard Taylor	The Centre for Vision in the Developing World
Dr. Rob van der Heijde	VU University Medical Centre, Utrecht, The Netherlands
Dr. Sergio Barbero	Instituto de Optica, CSIC, Spain
Mr. Simon Read	University of Oxford, Clinical Trials Service Unit

