

Helping the developing world to see

Research from the University of Oxford is helping provide corrected vision to the developing world with the aid of self-adjusted glasses.



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According to Oxford's Centre for Vision in the Developing World, over one billion people in the developing world would see an improvement to their vision if they had access to glasses, transforming their quality of life. Josh Silver, Director of the Centre, believes he can help.

As he sees it, the problem for those one billion people isn't the availability of glasses: the limiting factor is the availability of trained personnel to prescribe and fit glasses correctly. In developing countries, there simply aren't enough optometrists. In Mali, for instance, there is one per eight million inhabitants.

Silver's solution is to revolutionize the way eyecare is delivered, by largely removing the reliance on optometrists. Research suggests that, as long as you can build an affordable pair of glasses with adjustable lenses, patients young and old can set the prescription of their own glasses remarkably accurately.

So he developed Adspecs: the first self-adjustable glasses that allow the user to tune their glasses to their eyes. To change the power of the lens, users turn a wheel that pumps fluid into a flexible membrane, changing its shape. Once correctly adjusted, the set-up tubing is removed to create a normal pair of glasses. This innovation has won Silver a nomination for 'European Inventor of the year for 2011' from the European Patent Office.

Since the first small-scale trial in Ghana in 1996, almost 40,000 pairs of Adspecs have been deployed in over 20 countries. Now, the Centre is co-ordinating a programme funded by \$3 million from Dow Corning Corporation to build on studies which have shown that the technology works effectively for shortsighted teenagers. Aware of the aesthetic tastes of the young, part of this project involves developing ways of producing differently shaped lenses.

In the long term, though, the Centre has a bigger vision than the shape of their glasses. Silver has set himself a target: he hopes to deliver glasses to the one billion people that need them so desperately by 2020. Given his enthusiasm and successes to date, it looks like he might just see it through.

'Josh Silver presented his work at the BMJ Healthcare Innovation EXPO in 2011. His project was the clear winner: the judges, made up of senior members of the NHS and technologists, thought it was the most impressive idea they'd seen for a long time, one that looked like it could make a profound difference to the developing world.'

Ashley McKimm, Head of Healthcare Quality and Safety, BMJ Group curriculum-based learning

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