



**International Conference:  
Evidence in Global Disability and Health**

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## ABSTRACT

**Title:** A cost-utility Analysis of Screening for Vision Impairment in School Children Using Peek compared to standard Practice in Kenya.

**Abstract text (limited to 300 words, should include background, methods, results and conclusions):**

**Background:** Approximately 12 million children worldwide are thought to be visually impaired due to uncorrected refractive errors, even though a simple and cost-effective strategy to reduce the burden of visual impairment and potentially blindness exists: diagnosis and treatment with spectacles. Due to shortages of eye health workers in rural Kenya, it has been envisaged that using teachers to screen children during school could be a more efficient way to free up health workers time and also detect VI as early as possible. A recent randomised controlled trial (RCT) determined the effectiveness of teachers screening and referring children with VI to hospital using a smartphone based app (Peek acuity) versus the Snellen Tumbling E chart. The aim of this study was to utilise the findings of the RCT to conduct a cost-effectiveness analysis to determine whether screening using Peek could be scaled up in schools.

**Methods:** A cost-utility analysis was performed using a decision analytical model which synthesized data from the RCT conducted in Kenya and published literature to compare the costs and effects of screening with Peek versus screening with Tumbling E. The outcomes were expressed in terms of disability adjusted life years (DALYs) averted and costs were estimated from both a health service and a societal perspective. A sensitivity analysis was conducted to test the assumptions made in the model. In addition, a probabilistic sensitivity analysis was conducted to assess parameter uncertainty simultaneously. A cost-effectiveness plane and a cost-effectiveness acceptability curve were produced.

**Results:** The base-case results indicated that screening children using Peek compared to Tumbling E would lead to an incremental gain of 6.4 DALYs averted at an additional cost of 1,129,252 Kenyan Shillings (KES). The estimated incremental cost-effectiveness ratio (ICER) of Peek compared to Tumbling E is KES 172,284 per DALY averted. Cost-effectiveness acceptability curves indicate that a 68% probability that Peek is cost-effective at a threshold value of KES 235,000, which was twice that of the Kenyan Gross Domestic Product (GDP) per capita.

**Conclusions:** Peek was considered to be cost effective at twice the GDP per capita, and thus offers a potential avenue to reduce the burden of VI among school children in rural Kenya through alleviating some of the barriers that prevent children from attending hospital for further diagnosis. Further research on the severities of VI in Kenya are required to strengthen the results of the analysis and thus assess whether Peek could be implemented on a national level.

**Deadline for abstract submission: November 30, 2015**

Please submit your abstract to: [disabilitycentre@lshtm.ac.uk](mailto:disabilitycentre@lshtm.ac.uk)

**Restricted to one first author abstract per participant.**

If you have any questions, please write to:

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