Addressing the Burden of Uncorrected Refractive Error in Mozambique

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Introduction
- The global burden of disease due to uncorrected refractive error (URE) is accepted as significant 1.
- Data from a National Situation Analysis of Eyecare services and estimates of refractive error prevalence indicates an unfulfilled demand for spectacle correction in Mozambique 2.
- To address this deficit in human resources, a key output of the Mozambique Eyecare Project is an undergraduate optometry course based at Universidade Lusófona, Nampula.

Methods
1. A World Health Organisation tool was used to conduct a situation analysis of eye health services in Mozambique 3.
2. For each province, a tool was completed by the Provincial Eye Health Director.
3. The results were combined with other data sets 1, 2 to form the basis of an economic evaluation of eye care services in Mozambique.
4. Analysis of the data is ongoing.

Location
Data from the following provinces were used:

- V2020 targets suggest each country should aim to achieve a ratio of 1 operational eye health worker who can refract per 100,000 people by 2010 and 1,500,000 by 2020 1.
- Mozambique is yet to meet these targets in each province analysed.
- For this research, ophthalmic technicians were included as being capable of refracting, although more research is needed to assess the extent of their skills and how much time they actually dedicate to offering a refraction service.

Figure 1 - A second year optometry student

Figure 2 - A Map of Mozambique showing provinces analysed

Figure 3 - Eye health human resources by province

Figure 4 - Existing Human Resources compared to what is needed to meet the V2020 target ratios

Figure 5 - Estimated people with VI or blindness due to URE

Results
- Figure 3 below indicates the distribution of human resources (HR) by province.
- There are currently no optometrists working in the public sector.
- Figure 3 - Eye health human resources by province

- Assuming that the existing 34 workers in the six provinces in question keep offering a refraction service, an additional 184 workers are needed to achieve the V2020 target ratio.
- To understand the need for HR development, the prevalence of visual impairment (VI) and blindness due to uncorrected refractive error (URE) in Mozambique was estimated.
- This was calculated by combining 2007 census data 2 and prevalence estimates from Resnik et al. 3.

Conclusions
- The situation analysis indicates a lack of eye health personnel who can and do refract. The logical course of action would be to train more eye health personnel.
- A conservative estimated annual burden of URE in lost productivity in Mozambique is $14,486,692.
- To achieve the V2020 target ratio, an extra 184 workers are needed in six provinces analysed.
- The analysis assumes the existing personnel are well trained and dedicated time to offering a refraction service. It also assumes that the patient receives the care they require. Other aspects of the situational analysis suggest this is currently not always the case. A more comprehensive analysis would look at the number of work hours each person dedicates to refraction and the outcome.
- Further research into the costs of training personnel needs to be conducted.

References
2. National Situational Analysis for Mozambique based on WHO tool. Detailes available from mozambique-eye-care-coalition@googlegroups.com

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