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Addressing Uncorrected Refractive Error Through Human Resource Development in the Context of Mozambique

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Addressing uncorrected refractive error through Human Resource Development in the context of Mozambique

Stephen Thompson MSc BSc
Introduction to MEP

• The Mozambique Eyecare Project aims to provide a sustainable solution to the problem of avoidable blindness through optometric education.

• Address the significant barrier of local human resource capacity development through:
  - Optometric Education
  - Infrastructure
  - Research
  - Advocacy

• Enhance future collaborations by developing capacity in partner institutions
## Introduction to Mozambique

<table>
<thead>
<tr>
<th></th>
<th>Mozambique</th>
<th>Rep. of Ireland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total area (sq km)</td>
<td>799,380</td>
<td>70,273</td>
</tr>
<tr>
<td>GDP per capita (PPP) in 2011</td>
<td>$1,100</td>
<td>$39,500</td>
</tr>
<tr>
<td>GDP real growth rate in 2011</td>
<td>7.2%</td>
<td>1%</td>
</tr>
<tr>
<td>Population</td>
<td>20,579,365</td>
<td>4,588,252</td>
</tr>
<tr>
<td>HDI ranking 2011 (out of 187)</td>
<td>184</td>
<td>7</td>
</tr>
</tbody>
</table>

a – www.cia.gov – CIA World Fact Book  
c – www.cso.ie National - Census of Ireland 2011  
Methodology

- A national situational analysis was completed
- Requested by Ministry of Health (MISAU)
- Funded and facilitated by Mozambique Eye Care Coalition (MECC)
- International Agency for Prevention of Blindness (IAPB) tools used
- Current eye care services recorded including human resource and equipment
- Population data were gathered

- Data analysed against VISION 2020 Human Resource targets

Methodology continued...

- Maputo Province (and city) were not included in the analysis due to:
  - Lack of data
  - Private clinics/shops
  - Proximity to South Africa
Results

- According to IAPB\textsuperscript{a} targets each country should have at least:
  
  \begin{itemize}
    \item 1 trained and functional person who can refract per 100,000 people by 2010
    \item 1 trained and functional person who can refract per 50,000 people by 2020
  \end{itemize}

- Population of Mozambique in 2007\textsuperscript{b} = 20,278,361

- People who can refract by 2010 = 203

- People who can refract by 2020 = 406

\textsuperscript{a} – VISION 2020 - The Right to Sight – Action plan 2006 – 2011.
\textsuperscript{b} – www.ine.gov.moz - National Census of Mozambique 2007
<table>
<thead>
<tr>
<th>Province</th>
<th>Population</th>
<th>Current HR</th>
<th>Current Ratio HR to population</th>
<th>Total HR needed by 2010</th>
<th>Total HR needed by 2020</th>
<th>HR needed by 2010 (less existing HR)</th>
<th>HR needed by 2020 (less existing HR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Delgado</td>
<td>1,606,568</td>
<td>4</td>
<td>401,642</td>
<td>16</td>
<td>32</td>
<td>12</td>
<td>28</td>
</tr>
<tr>
<td>Gaza</td>
<td>1,228,514</td>
<td>6</td>
<td>204,752</td>
<td>12</td>
<td>25</td>
<td>6</td>
<td>19</td>
</tr>
<tr>
<td>Inhambane</td>
<td>1,271,818</td>
<td>5</td>
<td>254,364</td>
<td>13</td>
<td>25</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>Manica</td>
<td>1,438,386</td>
<td>5</td>
<td>287,677</td>
<td>14</td>
<td>29</td>
<td>9</td>
<td>24</td>
</tr>
<tr>
<td>Nampula</td>
<td>3,985,613</td>
<td>11</td>
<td>362,328</td>
<td>40</td>
<td>80</td>
<td>29</td>
<td>69</td>
</tr>
<tr>
<td>Niassa</td>
<td>1,170,783</td>
<td>8</td>
<td>146,348</td>
<td>12</td>
<td>23</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Sofala</td>
<td>1,642,920</td>
<td>6</td>
<td>273,820</td>
<td>16</td>
<td>33</td>
<td>10</td>
<td>27</td>
</tr>
<tr>
<td>Tete</td>
<td>1,783,967</td>
<td>3</td>
<td>594,656</td>
<td>18</td>
<td>36</td>
<td>15</td>
<td>33</td>
</tr>
<tr>
<td>Zambezia</td>
<td>3,849,455</td>
<td>2</td>
<td>1,924,728</td>
<td>38</td>
<td>77</td>
<td>36</td>
<td>75</td>
</tr>
<tr>
<td>Total</td>
<td>17,978,024</td>
<td>50</td>
<td>359,560</td>
<td>180</td>
<td>360</td>
<td>130</td>
<td>310</td>
</tr>
</tbody>
</table>

Current HR / Desired V2020 HR

No. of people refracting

Province

C. Delgado
Gaza
Inhambane
Manica
Nampula
Niasa
Sofala
Tete
Zambezia

Current HR
HR needed by 2020 (less existing HR)
MOZAMBIQUE EYECARE PROJECT

Human Resource Development

- Optometry degree at Universidade Lurio
  - Four year programme
  - 7 students graduate in December 2012 and enter public system
  - 15 students per year every year after
  - Average year group 20 students (some may go private/change career)
  - By 2020 112 Optometrists will be available for the public sector
Human Resource Development continued

• Ophthalmic Technician training in Beira and Nampula
  • LFTW and Sightsavers
  • Refraction element supported by MEP

• Training of Ophthalmologists
  • Ministry of Health
  • On average 1 per year

• Support from foreign Ophthalmologists

• Up-skilling of existing Ophthalmic Technicians
  • MEP supporting ODM in Inhambane Province
  • High level of training but unrecognised
## Refractions, glasses dispensed and conversion rate

<table>
<thead>
<tr>
<th>Province</th>
<th>Refractions in 2011</th>
<th>Glasses dispensed in 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Delgado</td>
<td>1,640</td>
<td>998</td>
</tr>
<tr>
<td>Gaza</td>
<td>2,836</td>
<td>0</td>
</tr>
<tr>
<td>Inhambane</td>
<td>664</td>
<td>454</td>
</tr>
<tr>
<td>Manica</td>
<td>2,629</td>
<td>596</td>
</tr>
<tr>
<td>Nampula</td>
<td>14,092</td>
<td>0</td>
</tr>
<tr>
<td>Niassa</td>
<td>2,335</td>
<td>0</td>
</tr>
<tr>
<td>Sofala</td>
<td>5,887</td>
<td>1,077</td>
</tr>
<tr>
<td>Tete</td>
<td>181</td>
<td>0</td>
</tr>
<tr>
<td>Zambezia</td>
<td>1,551</td>
<td>641</td>
</tr>
</tbody>
</table>

![Diagram showing conversion rate by province](chart.png)
Barriers to refractive services

- Geography – eye care services tend to be based in urban centres
- Competing eye conditions
- Lack of expertise
- Lack of confidence for complex refractions
- Lack of equipment (specifically glazing machines)
- Population lack knowledge that the service exists
MOZAMBIQUE EYECARE PROJECT

Conclusions

• The situational analysis has indicated a lack of available personnel to address URE

• The Optometrists training at Universidade Lúrio will make an important contribution to reducing the burden of URE in Mozambique

• Other barriers apart from HRD exist, including lack of equipment, and must be addressed

• More research needed to determine the refraction capacity amongst existing personnel
Special thanks

• Mozambican Ministry of Health (MISAU) who requested the situational analysis

• The Mozambique Eye Care Coalition (MECC) partners who funded and facilitated the situational analysis

• Priya Morjaria (International Centre for Eye Health) was hired as a consultant for the situational analysis
Thank you for listening

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