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:
  o Optometric Education
  o Infrastructure
  o Research
  o 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 a

• Data analysed against VISION 2020 Human Resource targets b

MOZAMBIQUE EYECARE PROJECT

- Cabo Delgado
- Gaza
- Inhambane
- Manica
- Nampula
- Niassa
- Sofala
- Tete
- Zambezia
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\(^a\) targets each country should have at least:
  
  o 1 trained and functional person who can refract per 100,000 people by 2010
  o 1 trained and functional person who can refract per 50,000 people by 2020

• Population of Mozambique in 2007\(^b\) = \textbf{20,278,361}

• People who can refract by 2010 = \textbf{203}

• People who can refract by 2020 = \textbf{406}

MOZAMBIQUE EYECARE PROJECT

Current HR

Province

C. Delgado | Gaza | Inhambane | Manica | Nampula | Niasa | Sofala | Tete | Zambezia

Personnel

- Ophthalmologists
- Ophthalmic Technicians
- Refractionists
<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><strong>Total</strong></td>
<td><strong>17,978,024</strong></td>
<td><strong>50</strong></td>
<td><strong>359,560</strong></td>
<td><strong>180</strong></td>
<td><strong>360</strong></td>
<td><strong>130</strong></td>
<td><strong>310</strong></td>
</tr>
</tbody>
</table>

Current HR / Desired V2020 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>

Conversion rate (%)

- C. Delgado
- Gaza
- Inhambane
- Manica
- Nampula
- Niassa
- Sofala
- Tete
- Zambezia
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
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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