Oral health and workforce issues – reflections from Oman

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Introduction

- Human resources are critical in the sustainability of any healthcare system.

- Achieving self-reliance was developed by the strategic direction of various healthcare governing bodies, so has the work done to develop national programs, utilize scholarship opportunities, and conduct appropriate continuing professional development activities to ensure a strategic approach to addressing the needs of the expanding Omani population.

- Healthcare leaders from the civil, armed forces, educational, and private institutions have created a harmonious collaborative effort to develop, strengthen, and sustain an internationally reputed healthcare system and subsequent workforce.
<table>
<thead>
<tr>
<th>Age group</th>
<th>Cumulative percentage of population %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>13.2</td>
</tr>
<tr>
<td>5-9</td>
<td>23.4</td>
</tr>
<tr>
<td>10-14</td>
<td>34</td>
</tr>
<tr>
<td>15-19</td>
<td>46.1</td>
</tr>
<tr>
<td>20-24</td>
<td>59</td>
</tr>
<tr>
<td>25-29</td>
<td>70.5</td>
</tr>
<tr>
<td>30-34</td>
<td>79.5</td>
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<tr>
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<td>85.4</td>
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<td>40-44</td>
<td>89.3</td>
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<tr>
<td>45-49</td>
<td>92.3</td>
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<td>96.2</td>
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<tr>
<td>60-64</td>
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<tr>
<td>65-69</td>
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<tr>
<td>70-74</td>
<td>99.3</td>
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<tr>
<td>75-79</td>
<td>99.7</td>
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<tr>
<td>80+</td>
<td>100</td>
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Percentage of Caries free Children aged (2-5)\(^1\)

Mean dmft/deft of Children aged (2-5 Years) in Oman

# Mean deft of 6 year old Children in Oman

<table>
<thead>
<tr>
<th>year</th>
<th>deft</th>
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<tbody>
<tr>
<td>2007</td>
<td>4.25</td>
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<tr>
<td>2008</td>
<td>4.4</td>
</tr>
<tr>
<td>2009</td>
<td>4.9</td>
</tr>
<tr>
<td>2010</td>
<td>5.3</td>
</tr>
<tr>
<td>2011</td>
<td>5.1</td>
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2. Ministry of Health Annual Health reports
Dental caries trend (DMFT) in 12-years-old children in Oman
mean DMFT of 12 years in each governorates
Dental caries trend (DMFT) in 15-years-old children in Oman.
Mean DMFT of adults in Oman

- Cross sectional study of 319 teachers who are randomly selected from Muscat Governorate public schools in Oman
- Age of participants ranged from 23 to 50 (mean 30.9 SD 5.3)
- Findings:
  - Caries free 7%
  - Mean DMFT 6.3 (SD 4.2)

Workforce in Oman
## Number of Dentist and Dental Auxiliaries in Oman

<table>
<thead>
<tr>
<th>Sector</th>
<th>GP</th>
<th>Ortho Spl</th>
<th>Oral Surgery Spl</th>
<th>Endo Spl</th>
<th>Prosth Spl</th>
<th>Paedo Spl</th>
<th>Perio. Spl</th>
<th>Dental Public Health</th>
<th>Dental Therapist</th>
<th>Dental Lab Technician</th>
<th>Dental Hygienists</th>
<th>DSA</th>
<th>Total</th>
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<tbody>
<tr>
<td>MOH</td>
<td>214</td>
<td>7</td>
<td>10</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>27</td>
<td>177</td>
<td>451</td>
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<td>MOD</td>
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<td>2</td>
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<td>1</td>
<td>3</td>
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<td>0</td>
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<td>3</td>
<td>18</td>
<td>35</td>
<td>55</td>
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<td>SQUH</td>
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<td>3</td>
<td>1</td>
<td>0</td>
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<td>0</td>
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<td>0</td>
<td>1</td>
<td>4</td>
<td>15</td>
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<tr>
<td>Diwan</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>7</td>
<td>15</td>
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<tr>
<td>ROP</td>
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<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>11</td>
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<td>Private</td>
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<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>59</td>
<td>1</td>
<td>1</td>
<td>526</td>
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<tr>
<td>Total</td>
<td>683</td>
<td>40</td>
<td>17</td>
<td>5</td>
<td>11</td>
<td>7</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>85</td>
<td>68</td>
<td>245</td>
<td>1175</td>
</tr>
</tbody>
</table>
Percentage of Change in the number of dentists
(1995 To 2010)
Dentists per 10,000 population
Dental Workforce Distribution by Health Sub-Sector (2010)

- Ministry of Health: 40%
- Other Govt.: 3%
- Private Sector: 57%
Omanization of Dental Workforce by Health Sub-Sectors (2010)
Dental Workforce Densities in Selected Countries (2010)

Number per 10,000 population
Source: the WHO statistics 2010
Healthcare Workforce Densities in Selected Countries (2010) compared to reported DMFT in 12 years old children

- Oman*
- S. Arabia
- Kuwait
- Bahrain
- Egypt
- UAE
- UK
- Qatar
- France
- Jordan
- Japan
- Finland
- Norway
- USA

Dentistry Population Ratio

DMFT 12 YRS OLD
Public Health measures implemented

- Topping up fluorides in the public water
- Topical Fluoride applications and fissure sealant in Oman
Future prospective

- Pre-school children fluoride applications
- School-based dental preventive programmes
- Increase number of pediatric, orthodontists specialist services
- Expanding the primary health care services
- Public education campaign focused on oral health prevention and education.
- The establishment of the National Dental Workforce Planning Group
Challenges and need for improvements

- Private dental college to train undergraduate dental students
- Rapid expansion (or planned expansion) of dental facilities by most service providers
- Unorganized private dental sector
- Risk factors
Key factors in workforce planning

- WHO (2001) and the Canadian Health services Research Foundation (2007) a comprehensive study of the workforce planning may take into consideration:
  - Changing health needs in the population;
  - Productivity, practice patterns or variances in specialty mix;
  - Increased investment in health promotion and chronic disease management and the resulting need for different skills and deployment;
  - Advances in treatment and technology that may change the type and amount of treatment patients need;
  - New service delivery models;
  - Expanded scopes of practice and new deployment models;
Key factors in workforce planning

- Key implications for healthcare decision-makers must involve a need-based and outcome-directed outcome, the needs do not remain constant, and changes are multi-faceted requiring multi-disciplinary intervention that is clearly measured and documented.
Towards better Oral health for our children