Education and Training in Global Health

Brett D. Nelson, MD, MPH, DTM&H
Division of Global Health
MassGeneral Hospital for Children
Harvard Humanitarian Initiative
brett.d.nelson@gmail.com
Discussion outline

• Growing interest and opportunities in GH
  • Undergrads
  • Medical students
  • Residents
  • Fellows

• Obstacles to training

• Reasons for additional GH opportunities
GH among undergrads

- Undergrads enrolled in GH programs:
- Average 3 GH student organizations per university
GH among medical students

• Med students GH participation increased from 6% to 31% (1984-2011).....

• Although, 40% report GH instruction still inadequate (2011)
Growing med student GH participation

AAMC Medical Student Graduation Questionnaire
GH among residents

• Variable across institutions and disciplines
• 2/3 of Yale residents (IM, pediatrics, primary care) participated in GH elective (2006)
• Nationwide pediatric residency surveys:
  • 1996: 25% offered GH electives (additional 42% interested in developing GH electives)
  • 2007: 52% offered GH electives....
What does GH look like in residency?

• 2007 cross-sectional survey of all 201 pediatric programs
• 52% of programs had residents participating in GH elective within last 12 months
• Average, 7.4% (1.7-12.3%) of each program’s residents participated in GH elective last year
• When do residents participate?

<table>
<thead>
<tr>
<th>PGY</th>
<th>Number of Residents (IQR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGY-1</td>
<td>0 (IQR 0-0)</td>
</tr>
<tr>
<td>PGY-2</td>
<td>1 (0-2)</td>
</tr>
<tr>
<td>PGY-3</td>
<td>1 (0-4)</td>
</tr>
<tr>
<td>All years</td>
<td>3 (1-7)</td>
</tr>
</tbody>
</table>

Training opportunities for residents

• Prevalence of GH training opportunities, n/N (%):

<table>
<thead>
<tr>
<th>Training Opportunity</th>
<th>n</th>
<th>N</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global health electives</td>
<td>55</td>
<td>106</td>
<td>52</td>
</tr>
<tr>
<td>Formal training curriculum</td>
<td>50</td>
<td>106</td>
<td>47</td>
</tr>
<tr>
<td>Global health lectures</td>
<td>43</td>
<td>106</td>
<td>41</td>
</tr>
<tr>
<td>Global health case reports</td>
<td>40</td>
<td>106</td>
<td>38</td>
</tr>
<tr>
<td>Global health readings or independent study</td>
<td>25</td>
<td>106</td>
<td>24</td>
</tr>
<tr>
<td>Global health journal club</td>
<td>9</td>
<td>106</td>
<td>8</td>
</tr>
<tr>
<td>Formal global health track</td>
<td>6</td>
<td>100</td>
<td>6</td>
</tr>
</tbody>
</table>

• GH topics covered by curricula
  • Majority covered HIV/AIDS, TB, cultural awareness
  • Fewer covered public health topics
Potential barriers for residents

• Limited call-free elective time:

<table>
<thead>
<tr>
<th>PGY</th>
<th>Median number of weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGY1</td>
<td>1 week (IQR 0-4)</td>
</tr>
<tr>
<td>PGY2</td>
<td>4 weeks (1-6)</td>
</tr>
<tr>
<td>PGY3</td>
<td>4 weeks (2-8)</td>
</tr>
</tbody>
</table>

• Limited funding
  • 42% of programs offered some funding
  • Only 14% of programs provided full funding for majority of residents

• Other interests and responsibilities
Observance of GH elective guidelines

1. Prerequisite clinical training
   - Prerequisite lectures (36%)

2. Adequate pre-travel orientation and preparation
   - Vaccinations and medical consultations (78%)
   - Pre-travel briefing (55%)
   - Medical evacuation insurance (50%)
   - Cultural orientation (36%)
   - Language training (15%)

3. Preceptorship by host and U.S. faculty
   - Faculty mentorship (82%)

4. Formal post-travel evaluation and feedback
   - Resident debriefing sessions (77%)

GH fellowship training

- Also growing demand for post-residency GH training
- Largely began with IEM fellowships 15-20 years ago
- Expanding into other disciplines

Photo property of Brett Nelson. No permission needed.
GH Fellowship survey

• 2010 survey of U.S. GH fellowships across medical disciplines

• To quantify and describe current GH fellowship training opportunities

• Results: 79 GH fellowship programs

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>emergency medicine</td>
<td>31</td>
</tr>
<tr>
<td>family medicine</td>
<td>15</td>
</tr>
<tr>
<td>internal medicine</td>
<td>12</td>
</tr>
<tr>
<td>pediatrics</td>
<td>12</td>
</tr>
<tr>
<td>interdisciplinary</td>
<td>4</td>
</tr>
<tr>
<td>surgery</td>
<td>3</td>
</tr>
<tr>
<td>women’s health</td>
<td>2</td>
</tr>
</tbody>
</table>

What do GH fellowships look like?

- Application selection: Leading criteria were interview (84%) and career goals (62%)
- Length most commonly 19-24 months
- 75% provided advanced degree or diploma
- 53% integrated into residency training
- 43% had not yet graduated fellows
Other post-residency GH training

- CDC’s Epidemiologic Intelligence Service (EIS)
- Field missions with MSF or other NGOs/IOs
- Baylor Global Health Corps
- Research fellowships (e.g. RWJ, Wellcome Trust)
- Splitting an academic or other position
Summary of obstacles during training

- Insufficient educational opportunities
- Limited funding and elective time
- Getting valuable experience without perhaps already having experience
- Balancing family, significant others, other interests
- Unclear training pathways and career models
Need to do more for trainees

• Greater...
  
  ... funding and elective time
  
  ... pre-travel preparation (w/competencies)
  
  ... in-country mentorship and supervision
  
  ... career mentorship
  
  ... bi-directional collaboration
Argument for more GH

• GH addresses unmet needs of others:
  • Providing direct benefit to communities served
  • Building sustainable local human capacity
• Social responsibility

Photo by Brett Nelson. No permission needed.
Benefits to those participating in GH

- Exposure to wider spectrum of disease
- Greater physical examination skills
- Decreased reliance on lab tests and imaging
- Awareness of costs and resource allocation
- Greater cultural sensitivity
- Ability to adapt to different health systems
Long-term benefits to participating in GH

- Health professionals who have participated in GH are more likely to...
  - work in underserved and multicultural communities domestically
  - perform community service domestically
  - work again overseas
Conclusion

- GH opportunities are improving at all levels of training
- Barriers still remain
- Significant benefits can make it a very worthwhile endeavor