Trends in Graduate Medical Education: Can We Meet the Needs of the Nation?

Beyond Flexner, Social Mission in Medical Education
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Mission:

to improve individual and population health by enhancing the delivery of primary care
Trends in Physician Supply and Population Growth

*Makaroff LA, Green LA, Petterson SM, Bazemore AW. American Family Physician 2013 Apr 1;87(7)
Greater numbers of family physicians per capita is associated with lower cost care. This association holds true controlling for rural, poverty, and education.
Primary care physicians per 100,000 population by State, 2010
## Primary care physicians by rural/urban geography, 2010

<table>
<thead>
<tr>
<th>Geography</th>
<th>U.S. Population</th>
<th>All Physicians</th>
<th>All Primary Care Physicians</th>
<th>Family Medicine/General Practice</th>
<th>General Internal Medicine</th>
<th>General Pediatrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>80%</td>
<td>89.0%</td>
<td>84.9%</td>
<td>77.5%</td>
<td>89.8%</td>
<td>91.2%</td>
</tr>
<tr>
<td>Large Rural</td>
<td>10%</td>
<td>7.1%</td>
<td>8.4%</td>
<td>11.1%</td>
<td>6.7%</td>
<td>6.2%</td>
</tr>
<tr>
<td>Small Rural</td>
<td>5%</td>
<td>2.6%</td>
<td>4.3%</td>
<td>7.2%</td>
<td>2.4%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Remote Rural/Frontier</td>
<td>5%</td>
<td>1.3%</td>
<td>2.4%</td>
<td>4.2%</td>
<td>1.1%</td>
<td>0.8%</td>
</tr>
</tbody>
</table>
Do We have a GME Shortage or a GME Imbalance?

About 1,100 U.S. Allopathic Grads Didn’t Match in 2015

yet

• Over 10,000 International Graduates Matched

• Almost 3,000 Osteopathic Graduates Matched
Dramatic Decrease of Allopathic Graduates Entering Family Medicine

Before 2000:
- IMGs: 14
- US MD: 73
- US DO: 13

After 2000:
- IMGs: 33.9
- US MD: 46.1
- US DO: 20
The Poorest Nations Are the Source for Our Primary Care Workforce
Estimating the Residency Expansion Required to Avoid Projected Primary Care Physician Shortages by 2035

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ABSTRACT
PURPOSE The purpose of this study was to calculate the projected primary care physician shortage, determine the amount and composition of residency growth needed, and estimate the impact of retirement age and panel size changes.

METHODS We used the 2010 National Ambulatory Medical Care Survey to calculate utilization of ambulatory primary care services and the US Census Bureau to project demographic changes. To determine the baseline number of primary care physicians and the number retiring at 66 years, we used the 2014 American Medical Association Masterfile. Using specialty board and American Osteopathic Association figures, we estimated the annual production of primary care residents. To calculate shortages, we subtracted the accumulated primary care physician production from the accumulated number of primary care physicians needed for each year from 2015 to 2035.

RESULTS More than 44,000 primary care physicians will be needed by 2035. Table 2. Projected Primary Care Workforce Shortages

<table>
<thead>
<tr>
<th>Year</th>
<th>Overall: Population Growth, Aging, and Insurance</th>
<th>Population Growth Only</th>
<th>Cumulative Production</th>
<th>Cumulative Retirement</th>
<th>Shortage</th>
<th>Additional Residents per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>228,547</td>
<td>228,547</td>
<td>8,049</td>
<td>5,819</td>
<td>-2,230</td>
<td>2,196</td>
</tr>
<tr>
<td>2020</td>
<td>241,291</td>
<td>237,460</td>
<td>48,294</td>
<td>39,519</td>
<td>3,968</td>
<td>2,710</td>
</tr>
<tr>
<td>2025</td>
<td>253,630</td>
<td>246,358</td>
<td>88,539</td>
<td>80,669</td>
<td>17,213</td>
<td>2,710</td>
</tr>
<tr>
<td>2030</td>
<td>264,015</td>
<td>254,938</td>
<td>128,784</td>
<td>119,756</td>
<td>26,440</td>
<td>1,773</td>
</tr>
<tr>
<td>2035</td>
<td>272,887</td>
<td>262,897</td>
<td>169,029</td>
<td>157,971</td>
<td>33,283</td>
<td>1,700</td>
</tr>
</tbody>
</table>

Table 2. Projected Primary Care Workforce Shortages

The table shows the projected primary care workforce shortages and additional residents per year needed from 2015 to 2035.
Residency Footprinting Mapper

![Residency Footprinting Mapper](image-url)
Rollovers Provide Details
Mount Carmel Family Medicine Residency
Teaching Health Center Clinical Care Sites

Teaching Health Center Clinical Continuity of Care Residency Training Site Locations
- Located in rural, underserved, and/or shortage area
- Located in former shortage areas (2011)
- Without specific federal rural or shortage designation

Number of Medicare-funded training positions per 100,000 population, 2010
Source: Mullan et. al, 2013

- 18.51-22.58
- 1.63-13.84
- 22.59-38.46
- 13.85-19.50
- 38.47-202.87