Examining the Impact of Closing Family Medicine Residency Programs

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**The Robert Graham Center: Policy Studies in Family Medicine and Primary Care

Why Closing Programs?
- 8% reduction of programs in five years
- Rural areas and CHC/NHSC pops rely primarily on FPs
- Inadequate physician distribution already problematic
- How do closing programs affect communities or the regional physician workforce

Methodology
- Where are graduates of closing programs practicing?
- Geographic analysis using:
  - AMA Physician Masterfile, 2004
  - AAFP Membership data, 2005
  - ACGME program data, 2005

Methodology (continued)
- Determined programs that have closed since 2000 (22) (ACGME)
- Found 1545 graduates of these programs (AAFP)
- Mapped graduate practice locations (AMA)
- Layered with HPSA and rurality data.
- Determined which counties would become HPSAs without these graduates.

Methodology (cont.)
- Economic analysis
  - OK study found: 1 rural FP’s practice is responsible for 50 jobs and $1,156,810 annually in economic impact in their community

Data sources
- AMA Physician Masterfile
  - Specialty, practice location of every physician
- AAFP Membership data
  - GME info for all family physicians
- ACGME
  - www.acgme.org – lists all existing and “withdrawn” programs for each specialty.
GIS
- Chose five programs for geographic analysis
- Geocoded these physicians
- Layered with HPSAs and rural areas
- Created maps showing county concentrations of program graduates

Withdrawal HPSAs
- Identified which counties would become HPSAs without closing program graduates
- Found number of closing program graduates per county
- Subtracted these from total number of PCPs
- Divided by total population and multiplied by 3500 to obtain new PCP to population ratio.

Results: Rural and HPSA

<table>
<thead>
<tr>
<th>Program</th>
<th>Graduates 00-05</th>
<th>Rural</th>
<th>% Rural</th>
<th>HPSA (whole or partial)</th>
<th>% HPSA (whole or partial)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UND Fargo</td>
<td>98</td>
<td>34</td>
<td>34.7%</td>
<td>49</td>
<td>50%</td>
</tr>
<tr>
<td>Pinnacle Health</td>
<td>178</td>
<td>22</td>
<td>12.7%</td>
<td>95</td>
<td>57.2%</td>
</tr>
<tr>
<td>LSU Baton Rouge</td>
<td>140</td>
<td>34</td>
<td>24.3%</td>
<td>105</td>
<td>75%</td>
</tr>
<tr>
<td>Wright State University</td>
<td>243</td>
<td>60</td>
<td>24.7%</td>
<td>157</td>
<td>64.6%</td>
</tr>
<tr>
<td>UTMB/Christus St.</td>
<td>74</td>
<td>11</td>
<td>14.9%</td>
<td>65</td>
<td>87.9%</td>
</tr>
<tr>
<td>Elizabeth (Beaumont TX)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total including all 22</td>
<td>1545</td>
<td>337</td>
<td>21.8%</td>
<td>1057</td>
<td>68.4%</td>
</tr>
<tr>
<td>program graduates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total in U.S.</td>
<td>77,239</td>
<td>14,593</td>
<td>19.1%</td>
<td>55,462</td>
<td>73.1%</td>
</tr>
</tbody>
</table>

Results: Practicing In State or Adjacent State

<table>
<thead>
<tr>
<th>Program</th>
<th>States/Adjacent States</th>
<th>Percentage of Graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Univ. of North Dakota-Fargo</td>
<td>ND, MT, MN, SD</td>
<td>82.7%</td>
</tr>
<tr>
<td>PinnacleHealth-Harrisburg</td>
<td>PA, VA, MD, NC</td>
<td>65.4%</td>
</tr>
<tr>
<td>LSU-Baton Rouge</td>
<td>AL, MS, TX, LA</td>
<td>86.4%</td>
</tr>
<tr>
<td>Wright State/St. Elizabeth</td>
<td>OH, KY, IN</td>
<td>75.7%</td>
</tr>
<tr>
<td>UTMB/Christus St. Elizabeth</td>
<td>TX</td>
<td>78.4%</td>
</tr>
</tbody>
</table>

Results: Economic Analysis

For five study sites:
- 337 graduates
- approximately 16,850 jobs
- $389,844,970 in economic impact

Results: Withdrawal HPSAs

For 22 programs studied:
- withdrawal could produce 150 new full-county HPSAs in 15 states
- 42 of these previously had no HPSA designation and 108 counties were previously partial-county HPSAs
Concentration of All Closing Program Graduates

Data Source: AMA Masterfile, AGCME, AAFP; Prepared by the Robert Graham Center

Concentration of Graduates of UND-Fargo

Data Source: AMA Masterfile, AGCME, AAFP; Prepared by the Robert Graham Center

Concentration of Graduates of PinnacleHealth Hospitals Program

Data Source: AMA Masterfile, AGCME, AAFP; Prepared by the Robert Graham Center

Concentration of Graduates Wright State/St. Elizabeth Program

Data Source: AMA Masterfile, AGCME, AAFP; Prepared by the Robert Graham Center

Concentration of Graduates UT Medical Branch Program

Data Source: AMA Masterfile, AGCME, AAFP; Prepared by the Robert Graham Center

Concentration of Graduates of LSU Baton Rouge Program

Data Source: AMA Masterfile, AGCME, AAFP; Prepared by the Robert Graham Center
Limitations

- Data time lag
- "Withdrawn" programs occasionally do not close
- Only examined five study sites intensively

Conclusions

- The loss of any one of these programs may have a significant impact on a state/region
- Using demographic, HPSA, and rurality data GIS allows us a spatial understanding of the impact that individual family medicine programs have on communities at the local and regional level.
- Comprehensive evaluations of the implications of program closure for local consumption are needed to complement national workforce studies.

For more information

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