The Supply of Rural Physicians: New Findings on Rural Training, Practice Choices, and Care for Vulnerable Populations

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Disclaimer

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Health system changes:
- Provider consolidation
- Legislative/regulatory/fiscal changes
- Payment for value rather than production
- More demand with more insured patients

Workforce changes:
- Aging workforce
- Work/life balance
- Dual professional families

Population changes:
- Aging
- Poverty
- Barriers to health
Recruit, retain, expand capacity, …

- Get more providers to rural areas
- Keep more providers in rural areas
- Expand capacity
  - task shifting
  - teams
  - technology
  - incentives
- Reduce need and demand for services
Recruit, retain, expand capacity, ...

- Get more providers to rural areas
- Keep more providers in rural areas
- Expand capacity
  - task shifting
  - teams
  - technology
  - incentives
- Reduce need and demand for services
Rural physician studies

- Recruitment/Retention
  - “Family medicine rural training track graduates: determinants of rural and urban practice”
  - “Rural family medicine residency training: program models and graduate outcomes”
  - “What impact will unified GME accreditation have on rural-focused physician residencies?”

- Incentives to expand capacity
  - “The impact of Medicaid primary care payment increases in Washington State”
Family Medicine Rural Training Track Graduates: Determinants of Rural and Urban Practice

Family Medicine Physician Early Career Choices Study

Some items in this questionnaire refer to "rural" or "urban" areas. These terms can be defined in many ways, so please respond according to your understanding.

BEFORE MEDICAL SCHOOL

1. Before college, did you participate in any paid or volunteer activities…
   - serving urban underserved populations? □ Yes □ No □ Healthcare related □ Not healthcare related
   - serving rural populations? □ Yes □ No □ Healthcare related □ Not healthcare related

2. Did you attend a rural college or university for any of your undergraduate degree?
   □ Yes □ No

3. As an undergraduate, did you participate in any paid or volunteer activities…
   - serving urban underserved populations? □ Yes □ No □ Healthcare related □ Not healthcare related
   - serving rural populations? □ Yes □ No □ Healthcare related □ Not healthcare related

4. Between college and medical school, did you participate in any paid or volunteer activities…
   - serving urban underserved populations? □ Yes □ No □ Healthcare related □ Not healthcare related
   - serving rural populations? □ Yes □ No □ Healthcare related □ Not healthcare related

MEDICAL SCHOOL

5. Did you go to medical school in the state you consider your home state?
   □ Yes □ No

6. Did you complete a required clerkship or elective in the following locations during medical school?
   □ An urban underserved community
   □ A rural community

RESIDENCY

7. During the Match, how did you rank the residency you eventually attended?
   □ First choice
   □ Second choice
   □ Third choice
   □ Below third choice
   □ Did not rank the residency you attended

8. Were you accepted into the residency you attended before the "scramble" or Supplemental Offer and Acceptance Program (SOAP)?
What leads family physicians to choose rural vs. urban practice?

Focus: physicians completing residency training in rural places

Surveyed graduates (2008-2013) of “rural-centric” family medicine residency programs (rurally located or urban with a rural track): 62% response rate (213/342)
Survey content

- Individual/social factors, educational experiences, practice/community factors:
  - Personal background/demographics
  - Premedical education
  - Medical school
  - Residency training
  - Post-residency factors
38% of respondents reported a main practice site in a rural location* in fall 2014.

More than double the 17% of all family physicians in 2013 in U.S. non-metro counties

* Rural-Urban Commuting Area codes version 3.1, 2010 ZIP approximation
## Pre-residency factors associated with rural practice

<table>
<thead>
<tr>
<th>Background</th>
<th>Rural physicians</th>
<th>Urban physicians</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Hispanic white</td>
<td>90%</td>
<td>67%</td>
<td>.00</td>
</tr>
<tr>
<td>Male</td>
<td>52%</td>
<td>45%</td>
<td>.33</td>
</tr>
<tr>
<td>Residing in a rural area as a child or adolescent</td>
<td>81%</td>
<td>71%</td>
<td>.16</td>
</tr>
<tr>
<td>Foreign citizen</td>
<td>6%</td>
<td>8%</td>
<td>.59</td>
</tr>
</tbody>
</table>

### Premedical education

<table>
<thead>
<tr>
<th></th>
<th>Rural</th>
<th>Urban</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural undergraduate school</td>
<td>41%</td>
<td>29%</td>
<td>.08</td>
</tr>
<tr>
<td>Work or volunteer with rural or underserved</td>
<td>71%</td>
<td>77%</td>
<td>.38</td>
</tr>
</tbody>
</table>

### Medical education

<table>
<thead>
<tr>
<th></th>
<th>Rural</th>
<th>Urban</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural clerkships</td>
<td>88%</td>
<td>79%</td>
<td>.10</td>
</tr>
<tr>
<td>Medical school in home state</td>
<td>56%</td>
<td>51%</td>
<td>.52</td>
</tr>
<tr>
<td>Underserved clerkships</td>
<td>64%</td>
<td>74%</td>
<td>.14</td>
</tr>
<tr>
<td>U.S. medical graduate</td>
<td>84%</td>
<td>70%</td>
<td>.03</td>
</tr>
</tbody>
</table>
There were no statistically significant differences between rural and urban physicians in the amounts of required or elective rural training during residency:

<table>
<thead>
<tr>
<th>Residency</th>
<th>Rural physicians</th>
<th>Urban physicians</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average total months of required rural training</td>
<td>14.2</td>
<td>15.3</td>
<td>.570</td>
</tr>
<tr>
<td>Average total months of elective rural training</td>
<td>6.2</td>
<td>7.0</td>
<td>.639</td>
</tr>
</tbody>
</table>
### Residency factors

11. To what extent did the following residency training experiences *increase* or *decrease your interest* in rural practice?

<table>
<thead>
<tr>
<th></th>
<th>Not applicable</th>
<th>Increased greatly</th>
<th>Increased somewhat</th>
<th>Did not change</th>
<th>Decreased somewhat</th>
<th>Decreased greatly</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural rotation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity clinic in a rural area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full time training in a rural area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having relationships with rural patients outside the clinical setting during training</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living in a rural community during training</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broad scope of practice skills training</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Residency factors affecting interest in rural practice

2 = increased **greatly**, 1 = increased **somewhat**, 0 = did not change, -1 = decreased **somewhat**, -2 = decreased **greatly**

<table>
<thead>
<tr>
<th>Residency Factor</th>
<th>Rural Physicians</th>
<th>Urban Physicians</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broad scope of skills training</td>
<td>1.58</td>
<td>1.16</td>
<td>.00</td>
</tr>
<tr>
<td>Rural training full time</td>
<td>1.33</td>
<td>.92</td>
<td>.01</td>
</tr>
<tr>
<td>Rural rotation</td>
<td>1.29</td>
<td>.88</td>
<td>.00</td>
</tr>
<tr>
<td>Rural continuity clinic</td>
<td>1.23</td>
<td>.90</td>
<td>.02</td>
</tr>
<tr>
<td>Living in a rural community</td>
<td>1.20</td>
<td>.78</td>
<td>.01</td>
</tr>
<tr>
<td>Relationships with rural patients outside of practice</td>
<td>1.06</td>
<td>.74</td>
<td>.02</td>
</tr>
<tr>
<td>Rural way of life</td>
<td>.94</td>
<td>.70</td>
<td>.11</td>
</tr>
<tr>
<td>Rural recreational and cultural activities</td>
<td>.86</td>
<td>.50</td>
<td>.02</td>
</tr>
<tr>
<td>Quality of education for children</td>
<td>.45</td>
<td>.08</td>
<td>.04</td>
</tr>
</tbody>
</table>
## Residency factors associated with rural practice

<table>
<thead>
<tr>
<th>Factor</th>
<th>Rural physicians</th>
<th>Urban physicians</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ranking the residency attended #1 choice</td>
<td>86%</td>
<td>76%</td>
<td>.09</td>
</tr>
<tr>
<td>Being accepted into residency before the “scramble”</td>
<td>77%</td>
<td>69%</td>
<td>.23</td>
</tr>
<tr>
<td>Feeling very prepared for rural practice</td>
<td>77%</td>
<td>63%</td>
<td>.04</td>
</tr>
<tr>
<td>Feeling very prepared for rural living</td>
<td>67%</td>
<td>53%</td>
<td>.07</td>
</tr>
<tr>
<td>Spouse/partner from a rural area</td>
<td>60%</td>
<td>27%</td>
<td>.00</td>
</tr>
</tbody>
</table>
Post-residency factors associated with increased interest in rural practice

2 = increased **greatly**, 1 = increased **somewhat**, 0 = did not change, -1 = decreased **somewhat**, -2 = decreased **greatly**

<table>
<thead>
<tr>
<th>Initial (I) and/or current (C) location choice</th>
<th>Rural physicians</th>
<th>Urban physicians</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broad scope of practice (I, C)</td>
<td>1.40</td>
<td>1.13</td>
<td>.03</td>
</tr>
<tr>
<td>Need for healthcare in the community (I)</td>
<td>1.27</td>
<td>.98</td>
<td>.01</td>
</tr>
<tr>
<td>Rural way of life (I, C)</td>
<td>1.26</td>
<td>.72</td>
<td>.00</td>
</tr>
<tr>
<td>Rural recreational and cultural activities (C)</td>
<td>1.26</td>
<td>.64</td>
<td>.01</td>
</tr>
<tr>
<td>Live in similar environment to where grew up</td>
<td>1.12</td>
<td>.92</td>
<td>.21</td>
</tr>
<tr>
<td>Spouse/partner's satisfaction in the community (I)</td>
<td>1.08</td>
<td>.75</td>
<td>.05</td>
</tr>
<tr>
<td>Perceived fiscal stability of hiring organization</td>
<td>1.02</td>
<td>.89</td>
<td>.30</td>
</tr>
<tr>
<td>Reputation for high quality care in the community</td>
<td>.92</td>
<td>.80</td>
<td>.33</td>
</tr>
<tr>
<td>Income potential</td>
<td>.89</td>
<td>.70</td>
<td>.16</td>
</tr>
<tr>
<td>Proximity to friends or family</td>
<td>.84</td>
<td>.68</td>
<td>.33</td>
</tr>
<tr>
<td>Sufficient providers to share call duty</td>
<td>.68</td>
<td>.72</td>
<td>.79</td>
</tr>
<tr>
<td>Quality of education for children</td>
<td>.61</td>
<td>.43</td>
<td>.29</td>
</tr>
<tr>
<td>Proximity to spouse/partner's friends or family</td>
<td>.59</td>
<td>.35</td>
<td>.19</td>
</tr>
<tr>
<td>EMR/HIT</td>
<td>.46</td>
<td>.37</td>
<td>.54</td>
</tr>
<tr>
<td>Spouse/partner work or school opportunities</td>
<td>.45</td>
<td>.46</td>
<td>.93</td>
</tr>
<tr>
<td>Proximity to shopping/urban amenities (C)</td>
<td>-.05</td>
<td>.41</td>
<td>.02</td>
</tr>
</tbody>
</table>
Post-residency factors associated with rural practice

<table>
<thead>
<tr>
<th>Post-residency service obligation</th>
<th>Rural physicians</th>
<th>Urban physicians</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>54%</td>
<td>42%</td>
<td>.11</td>
</tr>
</tbody>
</table>

DRAFT - NOT FOR DISTRIBUTION
Which factors stood out?

- All other things being equal, these factors distinguished those choosing rural practice:
  - Having a spouse/partner from a rural area
  - Rural recreational and cultural activities / less interest in urban amenities
  - Broad scope of practice (the most appealing aspect of both residency and of the practice community)
Most background, premedical and medical school factors did not predict rural and urban practice.

- In this sample, rural background of the physician not a predictor

Multiple rural aspects of residency training increased physicians’ interest in rural practice.

Multiple aspects of the rural practice community were more appealing to physicians who chose rural.

- Service obligations, income and most practice characteristics, proximity to family, were not predictors.

Broad scope of practice was important both during residency and in practice post-residency.

Life course: spouse/partner from a rural background
Choosing a practice location is complex and multi-factorial.

Personal or premedical background factors alone probably won’t propel someone to rural practice without supportive experiences all along the way, including residency.

There is real value in exposure during residency to

- living and training in rural communities
- a broad scope of skills
- rural healthcare need
What does the recruitment pipeline via residency training look like?

Rural family medicine residency training: program models and graduate outcomes

What impact will unified GME accreditation have on rural-focused physician residencies?
29% of 583 family medicine residencies met one of these criteria:

- in a rural location (self-reported or according to Rural-Urban Commuting Area [RUCA] or Urban Influence Codes)...
- urban with a “rural track” (self-reported)

We surveyed residencies meeting the above criteria about locations and content of training (77% response rate)
Rural mission, location, and content

- 88% of residencies surveyed actively recruited applicants with an interest in rural practice.
- 58 (44%) reported requiring at least 8 weeks of rural training (total over 3 years).
- At least 58 “rural-centric” family medicine residencies (out of 583).
  - Great variation in the amount of time residents actually spent in rural training and in coverage of rurally-relevant content.
Rural-centric family medicine residencies: % providing training in relevant clinical skills

- Adv Cardiac Life Support: 98%
- Orthopedic care: 95%
- Prenatal/delivery care: 93%
- Colposcopy: 93%
- Trauma/emerg care: 89%
- Neonatal Resusc Program: 87%
- Ultrasound: 85%
- OB ultrasound: 74%
- ALS Obstetrics: 70%
- Endoscopy: 67%
- General surgery: 57%
- Surgical GYN: 54%
- Operative OB: 53%
- Adv Trauma Life Support: 42%
- Surgical GYN: 41%
Not enough rural training available for family medicine or other rurally-relevant specialties!

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Total Residency Programs*</th>
<th>Programs Surveyed**</th>
<th>Respondents</th>
<th>Rural-centric programs***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anesthesiology</td>
<td>145</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Emergency Medicine</td>
<td>214</td>
<td>17</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>492</td>
<td>35</td>
<td>27</td>
<td>9</td>
</tr>
<tr>
<td>Ob/Gyn</td>
<td>271</td>
<td>9</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>204</td>
<td>11</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>213</td>
<td>16</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>General Surgery</td>
<td>310</td>
<td>28</td>
<td>24</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1849</strong></td>
<td><strong>118</strong></td>
<td><strong>97</strong></td>
<td><strong>30</strong></td>
</tr>
<tr>
<td>Percent of total (1849)</td>
<td></td>
<td></td>
<td></td>
<td>6.4%</td>
</tr>
</tbody>
</table>

*Allopathic only, osteopathic only, dual-accredited

**In a rural location or urban with a rural training track

***Require at least 8 weeks total of rural training
The supply of physicians to care for vulnerable populations:

The Impact of Medicaid Primary Care Payment Increases in Washington State

http://depts.washington.edu/uwchws/
The Washington State Health Care Authority funded this study to inform state budget priorities for the 2015 legislative session:

- Increased Medicaid payments for primary care services (equal to Medicare), authorized by the Affordable Care Act for 2013 and 2014, have ended.
- How will the loss of these payments affect providers’ willingness to care for Medicaid patients?
- Which strategies would encourage primary care providers to see Medicaid patients?
Method: two surveys (fall 2014)

- **“Smaller practices”**: Surveyed family medicine, general internal medicine, and pediatric physicians in solo or group practices of up to 50 physicians from a sample of 15 counties representing rural and urban areas of Washington state (response rate: 72%)

- **“Large healthcare organizations”**: Surveyed leaders of WA state’s largest healthcare organizations (response rate: 54%)
Rural physicians report less influence on the decision to accept Medicaid patients

- 73% of urban physicians vs. 46% of rural physicians reported they had “a great deal” of influence on whether their practices accept Medicaid patients.

- Rural physicians were less often than urban physicians self-employed or in private practice—the two groups that had the greatest influence.
Rural physicians were less aware of receiving incentive payments

- Fewer rural than urban physicians reported that their practice had received the payments (32% vs. 52%).
  - More rural physicians “did not know” or were “not sure” (54% vs. 35%).
Primary care physician* responses to discontinuing the Medicaid payment increase in 2015

*Family medicine, general internal medicine, or pediatric physicians in practices of 50 physicians or fewer. Multiple responses possible; percentages may not total 100. Primary care physicians who indicated not applicable (17.8%) were excluded.
What will rural physicians do?

- Rural were less likely than urban physicians to report they would
  - stop accepting new (24% vs. 42%) or
  - reduce/stop seeing current Medicaid patients (7% vs. 23%).
Implications

- **Who decides**: Physician autonomy was associated with perceived influence on whether to see Medicaid patients.
  - Rural primary care physicians had less autonomy.

- **Awareness**: Rural physicians less aware of receiving the incentive.
  - Did some providers not receive the incentive? Is there sufficient detail on paychecks?
**Access:** How sustainable are increased Medicaid enrollments achieved under the ACA?

- A NEJM study* found that appointment availability increased proportionally with the payment increase.
- Many rural physicians expressed commitment to providing primary care to Medicaid patients even with reduced payment, but about a quarter reported they would stop accepting new Medicaid patients and about a third would limit new Medicaid patients.

* Polsky et al. 2015
Executive budget proposals (President Obama, Governor Inslee) did include funding for continuing the Medicaid primary care payment bonus, but it was not included in legislative budgets.

- The federal budget addresses Medicare, but ignores this other “doc fix.”

- What’s happening in other states?
Study limitations

- Small and select samples
  - representativeness and generalizability
- Perceptions of the past and future behaviors may be biased
- Primary care: nurse practitioners and physician assistants not surveyed
Rural physician supply: implications

- Don’t overlook providers from urban backgrounds
- RuralMatch.com?
- Need for more education in rural places!
  - More likely to lead to rural practice and rural competencies
  - Point of pride and self-sufficiency for rural communities
  - Economic benefit to rural communities
- Rural providers more willing to take vulnerable patients, but not unlimited capacity
Other WWAMI RHRC workforce supply studies

- Nurse practitioners in rural America: findings from the 2012 National Sample Survey of Nurse Practitioners
- What strategies are nurse practitioner educational programs using to encourage rural practice?
- Which physician assistant programs produce rural PAs?
- The supply of physicians waivered to treat opioid addiction in rural America / Who treats opioid addiction in rural America?
- The supply and distribution of the behavioral health workforce in rural America
- Rural Training Track Technical Assistance Program studies ("1-2" RTT family medicine residencies)
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