Maryland Physician Workforce Study: Applying the Health Resources and Services Administration Method to Maryland Data

An MHCC Extramural Report

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Outline of Presentation

• **Context:** Conflicting estimates of Maryland physician supply.

• **Method:** Compare physicians/1000 population, Maryland versus U.S.
  – Maryland: Use physician license renewal data.
  – Broad brush: State average, then four broad physician categories x five regions. No detail, no projection of future.
  – **Most important point:** Adjust for differences between Maryland license renewal data and AMA Masterfile data.

• **Conclusions:**
  – Maryland is 27% above U.S. average for physicians/capita.
  – But Southern Maryland is well below U.S. for all types of physicians.
Main Caveat

• This is a study of Maryland state and regional physician supply.
• This is **NOT** a study of:
  – Direct measures of access to care.
  – Physician supply in small areas, counties.
  – Disadvantaged populations.
  – HPSAs or MUAs.
  – Individual physician specialties.
  – Future trends (e.g., impact of health care reform).
Context: Conflicting Estimates of Maryland Per-Capita Physician Supply, Relative to U.S. Average

<table>
<thead>
<tr>
<th>Organization</th>
<th>Published</th>
<th>Maryland (vs US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Health Resources and Services Administration (HRSA)</td>
<td>2008</td>
<td>25% above</td>
</tr>
<tr>
<td>Association of American Medical Colleges (AAMC)</td>
<td>2009</td>
<td>29% above</td>
</tr>
<tr>
<td>MHA/MedChi</td>
<td>2008</td>
<td>15% below</td>
</tr>
</tbody>
</table>
Deceptively Simple Task

- Count physicians using Maryland license renewal data.
- Compare to HRSA standard from AMA Masterfile data.
- How hard can that be?
- But HRSA, AAMC used just one source of data.
- Here, we use two completely different sources.
- Important: Must account for data sources’ treatment of
  - Hospital residents (= interns, residents, fellows).
  - Retirees.
  - Newly licensed physicians.
- Less important: Details of identifying Maryland active, patient-care, non-federal physicians from detailed license renewal data.
AMA Masterfile Versus Maryland License Renewal File

- AMA Masterfile (for HRSA standard).
  - Over-count is a well-known issue.
  - Retirees retained as active up to four years post-retirement.
  - Estimated net over-count from comparison between Masterfile and U.S. Current Population Survey (Staiger et. al, 2009).

- Maryland license renewal file.
  - Omits most residents as Unlicensed Medical Practitioners (UMPs).
  - Omits many initially-licensed physicians (initial license not in this file).
  - Retirees should not be an issue (active-but-retired-pre-renewal should roughly balance active-but-retired-post-renewal.)

- Remove residents from both sources, adjust for retirees, adjust for new physicians.
## Accounting for Differences, HRSA 2000 Count and Maryland 2009/2010 License Renewal Count

### Physicians per 1000 Population

<table>
<thead>
<tr>
<th></th>
<th>US 2000 Masterfile (HRSA)*</th>
<th>Maryland 2009/2010 renewal file</th>
<th>% Difference, MD vs U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw count</td>
<td>2.54</td>
<td>2.43</td>
<td>-4%</td>
</tr>
<tr>
<td>Remove residents</td>
<td>2.12</td>
<td>2.35</td>
<td>11%</td>
</tr>
<tr>
<td>Remove AMA overcount, retirees</td>
<td>1.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add Maryland undercount, new physicians</td>
<td>2.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Final comparison</strong></td>
<td><strong>1.93</strong></td>
<td><strong>2.44</strong></td>
<td><strong>27%</strong></td>
</tr>
</tbody>
</table>

*Note: HRSA Masterfile count may include federal and unknown status physicians. HRSA's implied count of residents is higher than counts from other sources.*
Apply Same Adjustments to AMA Masterfile Count for Maryland

<table>
<thead>
<tr>
<th></th>
<th>Physicians/1000, Maryland, AMA Masterfile (ARF) Data</th>
<th>Physicians/1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active patient care physicians</td>
<td></td>
<td>3.20</td>
</tr>
<tr>
<td>Remove residents</td>
<td></td>
<td>2.65</td>
</tr>
<tr>
<td>Adjust for Mastefile overcount, retirees</td>
<td></td>
<td>2.41</td>
</tr>
<tr>
<td>Adjust 2008 data to 2009/2010 basis (1.5 years average growth)</td>
<td></td>
<td>2.46</td>
</tr>
<tr>
<td>Memo: Adjusted count from Maryland license renewal data</td>
<td></td>
<td>2.44</td>
</tr>
<tr>
<td>Memo: Discrepancy, Masterfile versus Maryland license renewal</td>
<td></td>
<td><strong>-0.7%</strong></td>
</tr>
</tbody>
</table>
A Comment on the Data

• There is uncertainty in all these estimates.
• Plus or minus a few percentage points.
• Not enough to change conclusions materially.
• Mere chance that the Maryland-to-Maryland discrepancy is tiny (-0.7%).
• But no coincidence that it would be close.
Do We Need to Adjust for ...

• Maryland average population age? No, U.S. and Maryland demographics are similar.
• Border-crossing for care? No, based on Medicare claims, it’s a wash.
• Lower patient-care hours for Maryland physicians? Some survey evidence of slightly lower hours. No evidence of vastly lower hours.
## Maryland Physician Supply by Region (Excluding Residents)

<table>
<thead>
<tr>
<th>Region</th>
<th>Total</th>
<th>Primary Care</th>
<th>Medical Specialties</th>
<th>Surgical Specialties</th>
<th>All Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire State</td>
<td>27%</td>
<td>11%</td>
<td>54%</td>
<td>19%</td>
<td>39%</td>
</tr>
<tr>
<td>Baltimore Metro</td>
<td>44%</td>
<td>21%</td>
<td>69%</td>
<td>40%</td>
<td>66%</td>
</tr>
<tr>
<td>Eastern Shore</td>
<td>4%</td>
<td>0%</td>
<td>8%</td>
<td>-2%</td>
<td>13%</td>
</tr>
<tr>
<td>National Capital</td>
<td>18%</td>
<td>4%</td>
<td>56%</td>
<td>8%</td>
<td>23%</td>
</tr>
<tr>
<td>Western</td>
<td>20%</td>
<td>12%</td>
<td>48%</td>
<td>3%</td>
<td>29%</td>
</tr>
<tr>
<td>Southern</td>
<td>-26%</td>
<td>-19%</td>
<td>-7%</td>
<td>-34%</td>
<td>-39%</td>
</tr>
</tbody>
</table>

**Key:** Green = >10%, Yellow = -10% to 10%, Red = <-10%
# Medicare Beneficiaries’ Travel for Physician Services

<table>
<thead>
<tr>
<th>Patient Residence</th>
<th>Baltimore Metro</th>
<th>Eastern Shore</th>
<th>National Capital</th>
<th>Western Southern</th>
<th>Out of State</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>94%</td>
<td>13%</td>
<td>5%</td>
<td>5%</td>
<td></td>
<td>$2,675</td>
</tr>
<tr>
<td></td>
<td></td>
<td>72%</td>
<td>73%</td>
<td>4%</td>
<td>67%</td>
<td>$2,362</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,181</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,290</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,692</td>
</tr>
</tbody>
</table>

**NOTE:** PERCENTAGES ADD ACROSS THE ROWS (% = % OF ROW TOTAL).

**Note:** Cells under 2% were suppressed for clarity.
A Reminder on Caveats

• Did not address:
  – Small areas/counties/HPSAs/MUAs.
  – Individual specialties.
  – Future trends including retirement of the baby boom generation or impact of health care reform.
  – Direct measures of access to care or health status.
Historical Trend: Maryland Slightly Below U.S. Growth in Physicians/Capita
Calculated from ARF data, M.D. only (no D.O.)

Increase in Physicians/Capita, 2000-2008

Including Residents
Excluding Residents

US Maryland
Conclusions and Suggestions

• Once you account for differences across data sources:
  – HRSA, AAMC got it right, Maryland is well above the national average.
  – My estimate: 27% above HRSA benchmark.
  – Q: Could the real number be 23%? 31%? A: Does that matter?
  – Maryland ARF data reconcile well with Maryland licensure count.

• Southern Maryland
  – Clearly below the U.S. average.
  – But impact other than increased travel is not clear.

• Did not address small areas, individual specialties, future, HPSAs, direct measures of access to care or health status.

• Suggestions
  – An accurate physician head count is (just) a good start.
  – Integrate the data you already own to get a better picture of impact.
  – Disease prevalence, use of services, wait times, travel patterns, …