INDIANA’S HEALTH WORKFORCE: DESCRIPTION, DISTRIBUTION, AND STRATEGIC RECOMMENDATION TO EMPOWERED DECISION MAKING

Hannah Maxey, MPH, RDH
Connor Norwood, MHA
Zachary Sheff, MPH
Staci Jo Walters

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PRESENTATION OBJECTIVES

- Review factors driving supply and demand for health care in Indiana
- Describe the urban/rural characteristics of Indiana’s current health care workforce
- Discuss data as a key to decision making regarding Indiana’s health workforce
- Present conceptual model for centralized health workforce data
SUPPLY AND DEMAND ISSUES IN HEALTH CARE
HEALTH CARE: INCREASING DEMAND

- Population Characteristics
  - Aging
  - Rising Chronic Disease Rates

- Health Reform
  - Expanded insurance coverage
Figure 2: Projected Share of Total Population by Age Group, 2010 to 2050

Source: Indiana Business Research Center

Data from STATS Indiana available at: http://www.stats.indiana.edu/index.asp
CHRONIC DISEASE RATES

Leading Causes of Death in Indiana and United States (Age-adjusted, 2007)

- Diseases of Heart: United States - 190.7, Indiana - 203.5
- Cancers (Malignant Neoplasms): United States - 177.5, Indiana - 192.8
- Stroke: United States - 41.6, Indiana - 44.5
- Chronic Lower Respiratory Diseases: United States - 41.2, Indiana - 49.1
- Unintentional Injuries: United States - 37.8, Indiana - 38.1

HEALTH REFORM: INCREASING DEMAND
Health Reform: Doctors Visits by Health Insurance Status

A. Number of Office-Based Visits to Primary Care Physicians for the Insured, by Age-group and Sex

- Male
- Female

B. Number of Office-Based Visits to Primary Care Physicians for the Uninsured, by Age-group and Sex

- Male
- Female
HEALTH CARE: SUPPLY
HEALTH WORKFORCE SHORTAGE

- Characteristics affecting supply
  - Aging
  - Specialization
  - Incentives
  - Generational differences in practice
INDIANA’S HEALTH WORKFORCE
HEALTH WORKFORCE INFORMATION

- Description of data sources:
  - Data for this presentation were obtained from the Statewide Health Workforce Database Project and the most recent health workforce reports produced by researchers at Indiana University (available at: [http://ahec.iupui.edu/indiana-center-for-health-workforce-studies-reports/](http://ahec.iupui.edu/indiana-center-for-health-workforce-studies-reports/))

- Disciplines:
  - Primary Care
  - Oral Health
  - Mental Health
Institute of Medicine (IOM) Definition:

“the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community.”

Primary Care Clinicians

- Physicians
- Nurse Practitioners
- Physician Assistants
INDIANA PRIMARY CARE PHYSICIANS: URBAN/RURAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Primary Care Physicians</th>
<th>URBAN</th>
<th>RURAL</th>
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<th>MISSING</th>
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<tbody>
<tr>
<td>Count</td>
<td>2661</td>
<td>522</td>
<td>3183</td>
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<tr>
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<td>2422</td>
<td>494.5</td>
<td>2915</td>
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<tr>
<td>Male</td>
<td>1570</td>
<td>359</td>
<td>1929</td>
<td>0</td>
</tr>
<tr>
<td>Female</td>
<td>1007</td>
<td>149</td>
<td>1156</td>
<td>152</td>
</tr>
<tr>
<td>Age*</td>
<td>49.5</td>
<td>50.9</td>
<td>152</td>
<td>-</td>
</tr>
</tbody>
</table>

*Mean and standard deviation are reported for age
INDIANA NURSE PRACTITIONERS: URBAN/RURAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Primary Care Nurse Practitioners</th>
<th>URBAN</th>
<th>RURAL</th>
<th>TOTAL</th>
<th>MISSING</th>
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<tbody>
<tr>
<td>Count</td>
<td>872</td>
<td>226</td>
<td>1098</td>
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<tr>
<td>Full-time Equivalency</td>
<td>772</td>
<td>202.5</td>
<td>974</td>
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<tr>
<td>Male</td>
<td>384</td>
<td>40</td>
<td>423</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>393</td>
<td>30</td>
<td>424</td>
<td>252</td>
</tr>
<tr>
<td>Age*</td>
<td>47.2</td>
<td>46.6</td>
<td>-</td>
<td>-</td>
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</tbody>
</table>

*Mean and standard deviation are reported for age.
INDIANA PHYSICIAN ASSISTANTS: URBAN/RURAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Primary Care Physician Assistants</th>
<th>URBAN</th>
<th>RURAL</th>
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<tbody>
<tr>
<td>Count</td>
<td>415</td>
<td>46</td>
<td>461</td>
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<tr>
<td>Full-time Equivalency</td>
<td>398</td>
<td>43.8</td>
<td>442</td>
<td>1</td>
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<tr>
<td>Male</td>
<td>263</td>
<td>24</td>
<td>283</td>
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</tr>
<tr>
<td>Female</td>
<td>136</td>
<td>20</td>
<td>160</td>
<td>18</td>
</tr>
<tr>
<td>Age*</td>
<td>38.5</td>
<td>41.4</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*Mean and standard deviation are reported for age
THE MIX: PRIMARY CARE IN RURAL INDIANA

Rural Primary Care Workforce

- Physician: 66%
- Nurse Practitioner: 28%
- Physician Assistants: 6%
COMPARING INDIANA’S URBAN AND RURAL WORKFORCE

Rural Primary Care Workforce
- Physician: 66%
- Nurse Practitioner: 28%
- Physician Assistants: 6%

Urban Primary Care Workforce
- Physician: 67%
- Nurse Practitioner: 22%
- Physician Assistants: 11%
ORAL HEALTH WORKFORCE

- Oral health is integral to overall health
  - Poor oral health contributes to:
    - School performance
    - Social development
    - Employability
    - Chronic health conditions

- Oral health clinicians:
  - Dentists
  - Dental Hygienists
INDIANA DENTISTS: URBAN/RURAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>DENTISTS</th>
<th>URBAN</th>
<th>RURAL</th>
<th>TOTAL</th>
<th>MISSING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>1989</td>
<td>86%</td>
<td>325</td>
<td>14%</td>
</tr>
<tr>
<td>Full-time</td>
<td>1834.5</td>
<td>86%</td>
<td>305.8</td>
<td>14%</td>
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<tr>
<td>Equivalency</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1398</td>
<td>86%</td>
<td>233</td>
<td>14%</td>
</tr>
<tr>
<td>Female</td>
<td>452</td>
<td>85%</td>
<td>79</td>
<td>15%</td>
</tr>
<tr>
<td>Age*</td>
<td>49</td>
<td>12.4</td>
<td>49.9</td>
<td>12.8</td>
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*Mean and standard deviation are reported for age
INDIANA DISTRIBUTION OF DENTIST FULL-TIME EQUIVALENCIES (FTES)
## Indiana Dental Hygienists: Urban/Rural Characteristics

<table>
<thead>
<tr>
<th>Dental Hygienists</th>
<th>URBAN</th>
<th>RURAL</th>
<th>TOTAL</th>
<th>MISSING</th>
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</thead>
<tbody>
<tr>
<td>Count</td>
<td>1373</td>
<td>262</td>
<td>1635</td>
<td>0</td>
</tr>
<tr>
<td>Full-time Equivalency</td>
<td>1114</td>
<td>214.5</td>
<td>1328.8</td>
<td>0</td>
</tr>
<tr>
<td>Male</td>
<td>8</td>
<td>1</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1256</td>
<td>237</td>
<td>1493</td>
<td>133</td>
</tr>
<tr>
<td>Age*</td>
<td>48.2</td>
<td>47.6</td>
<td>-</td>
<td>-</td>
</tr>
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</table>

*Mean and standard deviation are reported for age*
THE MIX: ORAL HEALTH IN RURAL INDIANA

Rural Oral Health Workforce

- 55% Dentist
- 45% Dental Hygienist
COMPARING INDIANA’S URBAN AND RURAL ORAL HEALTH WORKFORCE
MENTAL HEALTH WORKFORCE

- Indiana has among the highest rates of “any” type of mental illness (21.9%)
- Mental disorders affect all aspects of life:
  - Social isolation
  - Personal well-being
  - Job performance

- Mental Health Clinicians:
  - Psychiatrists
  - Clinical Psychologists
  - Psychiatric Nurses*
  - Licensed Clinical Social Worker
  - Marriage Family Therapists
  - Mental Health Counselors
# Indiana’s Mental Health Workforce

<table>
<thead>
<tr>
<th>Provider</th>
<th>Rural</th>
<th>Urban</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychiatrists</td>
<td>42</td>
<td>275</td>
<td>317</td>
</tr>
<tr>
<td>Psychologists</td>
<td>70</td>
<td>780</td>
<td>850</td>
</tr>
<tr>
<td>Licensed Social Worker</td>
<td>268</td>
<td>1893</td>
<td>2161</td>
</tr>
<tr>
<td>Marriage Family Therapists</td>
<td>44</td>
<td>340</td>
<td>384</td>
</tr>
<tr>
<td>Mental Health Counselors</td>
<td>273</td>
<td>1429</td>
<td>1702</td>
</tr>
<tr>
<td>Other Mental Health Workers</td>
<td>32</td>
<td>198</td>
<td>230</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>5644</strong></td>
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## Psychiatrist: Urban/Rural Characteristics

<table>
<thead>
<tr>
<th>Psychiatrists</th>
<th>URBAN</th>
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<tbody>
<tr>
<td>Count</td>
<td>275</td>
<td>42</td>
<td>317</td>
<td>0</td>
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<tr>
<td>Full-time Equivalency</td>
<td>241</td>
<td>41</td>
<td>281.8</td>
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</tr>
<tr>
<td>Male</td>
<td>175</td>
<td>29</td>
<td>204</td>
<td>9</td>
</tr>
<tr>
<td>Female</td>
<td>94</td>
<td>10</td>
<td>104</td>
<td>9</td>
</tr>
<tr>
<td>Age*</td>
<td>48.2</td>
<td>47.6</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*Mean and standard deviation are reported for age.
THE MIX: RURAL INDIANA’S MENTAL HEALTH WORKFORCE

Rural Mental Health Workforce

- Psychiatrists: 37%
- Licensed Social Worker: 10%
- Mental Health Counselors: 6%
- Psychologists: 6%
- Marriage Family Therapists: 6%
- Other Mental Health Workers: 4%
COMPARING INDIANA’S URBAN AND RURAL MENTAL HEALTH WORKFORCE

Rural Mental Health Workforce:
- Psychiatrists: 37%
- Psychologists: 6%
- Licensed Social Worker: 6%
- Marriage Family Therapists: 10%
- Mental Health Counselors: 6%
- Other Mental Health Workers: 4%

Urban Mental Health Workforce:
- Psychiatrists: 29%
- Psychologists: 16%
- Licensed Social Worker: 6%
- Marriage Family Therapists: 7%
- Mental Health Counselors: 38%
- Other Mental Health Workers: 4%
INDIANA DISTRIBUTION OF PSYCHIATRIST FULL-TIME EQUIVALENCIES (FTES)
DATA QUALITY: INDIANA VS. NATIONAL

- Indiana currently has 53.6 primary care physicians per 100,000 people*
- National average is 90.5 primary care physicians per 100,000 people

DATA AVAILABILITY: UNDERSTANDING CAPACITY AND IDENTIFYING GAPS

Map available at: http://www.healthpolicy.iupui.edu/PubsPDFs/Indiana%20Primary%20Health%20Care.pdf
National data reports dental hygiene as “top career”

New training programs opened in 2008 and 2009 in Indiana

Salaries declining steadily
DATA: HEALTH SYSTEM EFFICIENCY
CURRENT INITIATIVE:
CENTRALIZATION OF HEALTH WORKFORCE DATA
DATA INFRASTRUCTURE: A PROPOSED MODEL

- Indiana Health Workforce Institute
- Indiana State Department of Health
- Indiana Professional Licensing Agency
- Decision Makers
- People of Indiana
- Academic Institutions
- Health Professionals and Health Systems
## WORKFORCE DATA: STAKEHOLDERS AND BENEFITS

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Potential Deliverables</th>
</tr>
</thead>
</table>
| Academic Institutions/Health Professional Training Programs | 1. Inform enrollment decisions  
2. Educational planning  
3. Guide recruitment efforts  
4. Graduate Tracking/Program Evaluation |
| Other Local and State Associations (such as- Primary Health Care., Rural Health., AHEC, Medical/Dental/Nursing/etc. ) | 1. Inform decision  
2. Target programs/advocacy |
| Health System Components                        | 1. Needs Assessment  
2. Continuing Education |
| Legislators                                      | 1. Real-time, comprehensive data to inform pertinent decisions |
CURRENT WORKFORCE PROJECTS

- Statewide Health Workforce Database Project
- National Health Service Corps Evaluation
STATUS OF INDIANA HEALTH WORKFORCE CENTER

- Recently received support through Area Health Education Centers Network state funding line
- Deliverables
  - workforce reports
  - Others based on stakeholder needs
RETURN ON INVESTMENT

- Contributing to health of Hoosier constituents
Published December 2012 by a team of graduate students interested in Primary Care Access

Presents data from the 2012 Indiana Statewide 2012 Physician Database, Indiana Primary Care Clinician Report, and other sources
NEXT STEPS . . .

- Formalize organizational plan for Health Workforce Center
- Continue to refine and publish technical reports on health workforce disciplines
- Begin producing briefs and shorter topical reports
- Explore collaboration and partnerships
- Continue to engage and get feedback from stakeholders
HAVE COMMENTS OR ADDITIONAL QUESTIONS?

- Please contact Hannah Maxey at hlmaxey@iupui.edu for more information