For our discussion today:

The Macro Level: Working with healthcare workforce data

The Meso Level: An overview of healthcare workforce data

The Micro Level: Digging deeper into three data sources
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Healthcare workforce policy questions

• Healthcare delivery is changing rapidly.

• Policy questions about the healthcare workforce can seem simple, but tend to be driven by complex concerns.

• Relevant datasets are disparate, and most haven’t been designed with our questions in mind.

We have to be clear about what we’re asking, why we’re asking, and know our data.
## Example: Social Workers

<table>
<thead>
<tr>
<th>Annual new supply:</th>
<th>Current/projected demand:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,164</td>
<td>97</td>
</tr>
</tbody>
</table>

(1,164) = Number of bachelor’s and master’s prepared social work graduates in Minnesota in one academic year.*

97 = (Current job vacancies**)

83 = (Projected annual job openings over the next 10 years***)

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* Integrated Postsecondary Data System, IPEDS, 2012-2013
** Minnesota Department of Employment and Economic Development Job Vacancy Survey, 2nd quarter, 2015, Mental Health and Substance Abuse Social Workers
*** Minnesota Department of Employment and Economic Development Projections program, 2012-2022, Mental Health and Substance Abuse Social Workers
Example: Social Workers, Part 2

3,533

(Number of licensed clinical social workers who provide behavioral health services, per every Minnesota resident.*)

* Board of Social Work data compared to Minnesota population data from the state Demographer’s Office, 2015
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What does “healthcare workforce data” encompass?

Supply

Demand/Need

Characteristics
- Demographics
- Competencies
- Work settings

across space and time
WHO collects healthcare workforce data?

- State health licensing boards
- State/federal government agencies: Health, Labor, and Education
- Hospital/long-term care, and other professional associations
- Colleges and universities
- Private vendors
Most data sets are part of national or state initiatives, initially designed for purposes other than healthcare workforce research.
Overview of (most) available healthcare workforce data*

* And see the Health Resource and Service Administration’s compilation of federal data sources: http://bhpr.hrsa.gov/healthworkforce/data/compendiumfederaldatasources.pdf
Overview of (most) available healthcare workforce data

A more detailed compendium of data sources available upon request

<table>
<thead>
<tr>
<th>Data Item</th>
<th>Unit of analysis</th>
<th>Data elements available</th>
<th>Occupational areas covered</th>
<th>Data collection details</th>
<th>How to access the data</th>
<th>Questions this dataset can answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional licensure data</td>
<td>Individual</td>
<td>• Counts of renewing and new licensees. Currently, MDH presumes licensees with “active” (or “active, restricted”) licenses are practicing.</td>
<td>Advanced Practice Registered Nurse, Dental Hygienist, Dental Therapists, Dentists, Licensed Practical Nurse, Marriage &amp; Family Therapists, Mental Health Counselors (LPCCs), Pharmacists, Physical Therapist, Physical Therapist Assistant, Physician Assistants, Physicians (including Psychiatrists), Registered Nurses, Respiratory Therapists, Social Workers</td>
<td>Data collection rules and procedures vary across boards, but in general, boards collect basic information on licensees online at the time of initial license application or renewal. Renewal cycles vary across professions: some professions require renewal every year; some every other year. Licensing boards collect this data for administrative rather than research purposes, so MDH analysts format, clean, and validate data before analyzing.</td>
<td>• Contact individual licensing board, or</td>
<td>Questions about current supply, such as:</td>
</tr>
<tr>
<td>Various health licensing boards</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• How many licensed healthcare professionals (e.g., physicians / RNs / dental therapists) are currently practicing in Minnesota?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Where are licensed healthcare professionals practicing, based on mailing address?</td>
</tr>
<tr>
<td>License renewal questionnaire</td>
<td>Individual</td>
<td>Characteristics of new and renewing licensees, such as:</td>
<td>Advanced Practice Registered Nurse, Dental Hygienist, Dental Therapists, Dentists, Licensed Practical Nurse, Marriage &amp; Family Therapists, Mental Health Counselors (LPCCs), Pharmacists, Physical Therapist, Physical Therapist Assistant, Physician Assistants, Physicians (including Psychiatrists), Registered Nurses</td>
<td>Online surveys are administered to licensees at the time they apply for or renew their professional license. For the last several years, MDH has gotten about a 50% response rate on their surveys (with slightly higher response rates among professionals with lower levels of education; e.g., nurses). Procedures are changing this year so that licensees will be presented with the online survey before they pay the fee for renewing their license.</td>
<td>• Contact Minnesota Department of Health, Office of Rural Health and Primary Care (MDH, ORHPC): 651-201-3838, or</td>
<td>Questions about current supply, such as:</td>
</tr>
<tr>
<td>Minnesota Department of Health, Office of Rural Health and Primary Care (MDH, ORHPC)</td>
<td></td>
<td>Demographic info not collected by the respective licensing board</td>
<td></td>
<td></td>
<td></td>
<td>• In what setting do most licensed healthcare professionals (e.g., pharmacists) work?</td>
</tr>
<tr>
<td></td>
<td>Practice setting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• How long do they plan to continue practicing?</td>
</tr>
<tr>
<td></td>
<td>Educational attainment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Who is practicing (age, gender, race, ethnicity)?</td>
</tr>
</tbody>
</table>
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The Micro Level: Digging deeper into three data sources
Overview of available healthcare workforce data

### Supply/Pipeline
- **K-12**
  - Statewide Longitudinal Education Data System—SLEDS
- **Post-secondary completion data**
  - Statewide Longitudinal Data Education System—SLEDS
  - Workforce Data Quality Initiative—WDQI
  - Integrated Postsecondary Education System—IPEDS
  - Individual college and university graduate follow-up surveys
- **Professional licensing**
  - Professional licensure data
  - Licensure renewal surveys

### Demand/Need
- **Current labor market demand**
  - Occupational Employment Statistics—OES
  - Job Vacancy Survey
  - Help Wanted Online -- "Real-time" job openings data
- **Projected employment demand**
  - Occupational projections
  - Population / census data
  - Hospital Association / Long-Term Care Association data

### Characteristics
- Professional licensure data
- Licensure renewal surveys
- Statewide Longitudinal Education Data System—SLEDS
Health licensing board data

All state licensing boards collect and maintain some basic administrative data on their licensees: limited demographic, education, addresses, and any relevant complaint data.
State healthcare workforce surveys

26 states conduct surveys on their healthcare workforce, often as part of the license renewal process.

**PROS**

- Supplements health licensing board data.
- The only data source specifically designed to analyze healthcare workforce trends.
- Customizable, responsive to environmental changes.

**CONS**

- State-specific
- Rely on samples (not always populations) of healthcare providers
- Not all states have the infrastructure or the formal authority to collect this data.
State healthcare workforce surveys

HRSA Minimum Data Set (MDS) recommendations—to ensure consistent data collection across states

But, there are some additional considerations:

- State-level workforce policy needs
- Resource constraints

http://bhpr.hrsa.gov/healthworkforce/data/minimumdataset/minimumdataset.pdf
State healthcare workforce surveys

Minnesota’s survey redesign:

- Reviewed all MDS questions across professions (and statutory responsibilities)
- Drafted a *master survey* that is consistent across all professions
- Gathered feedback from state and national stakeholders
- Revised
- Conducted cognitive testing on 20+ actual survey respondents
- Revised
- Revised, and revised again
State healthcare workforce surveys

“Are you actively working in a position that requires your license?”

(If no, respondents skip most of the survey questions)

Does not work for many mental health professions.
Overview of available healthcare workforce data

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**Characteristics**
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- Statewide Longitudinal Education Data System—SLEDS
Statewide Longitudinal Educational Data System

- National Center for Education Statistics grants
- Multiple rounds of funding beginning in 2005
- 47 states have received at least one SLEDS grant
Statewide Longitudinal Educational Data System

Links K-12, postsecondary, and labor market data all into a single record
### Statewide Longitudinal Educational Data System

<table>
<thead>
<tr>
<th>College Program</th>
<th>Number of 2010 Graduates</th>
<th>One year after graduation</th>
<th>Four years after graduation</th>
<th>Share of grads with MN wages</th>
<th>Median hourly wage</th>
<th>Share of grads with MN wages</th>
<th>Median hourly wage</th>
<th>Top industry employer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical/Medical Laboratory Science/Research and Allied Professions</td>
<td>302</td>
<td>73%</td>
<td>$17.45</td>
<td>70%</td>
<td>$19.88</td>
<td></td>
<td></td>
<td>Health Care</td>
</tr>
<tr>
<td>Medicine</td>
<td>205</td>
<td>24%</td>
<td>$23.60</td>
<td>32%</td>
<td>$91.77</td>
<td></td>
<td></td>
<td>Health Care</td>
</tr>
<tr>
<td>Health Aides /Orderlies</td>
<td>55</td>
<td>51%</td>
<td>$12.14</td>
<td>82%</td>
<td>$17.68</td>
<td></td>
<td></td>
<td>Health Care</td>
</tr>
<tr>
<td>Registered Nursing, Nursing Administration, Nursing Research</td>
<td>3,813</td>
<td>77%</td>
<td>$29.17</td>
<td>75%</td>
<td>$34.98</td>
<td></td>
<td></td>
<td>Health Care</td>
</tr>
</tbody>
</table>
Statewide Longitudinal Educational Data System

What’s missing from current SLEDS data?

Occupation
Licensure
Board certification / other specialty data

Additional employment characteristics:
• Full-part-time
• Patient care
• Board certification / other specialty data
• Work satisfaction
• Practice location(s)
Statewide Longitudinal Educational Data System

Minnesota received a 4-year grant to knit healthcare workforce data (licensing and survey data) into the existing SLEDS infrastructure, to answer questions like:

- What individual/geographic factors encourage program graduates to practice in rural areas?
- Under what conditions can mental health professionals transition up career ladders?
- How do female dentists’ career trajectories differ from their male counterparts?
Overview of available healthcare workforce data

Supply/Pipeline

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Characteristics

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- Licensure renewal surveys
- Statewide Longitudinal Education Data System—SLEDS
Help Wanted Online

• Private data source (requires a license to use)

• National online job board “scraper”

• Analyzes job postings for trends in market demand

• Increasingly used as a supplement to standard labor market indicators, such as unemployment for additional “real-time” labor market indicators

https://www.conference-board.org/data/helpwantedonline.cfm
Help Wanted Online

Search Definition:  [Clear] [Save] [PDF]
Mental Health and Substance Abuse Social Workers in Minneapolis-St. Paul-Bloomington MSA, MN

Here is a summary of the data matching your query.
Click on the links in any section to view more information.

- **Current Job Openings**: 337
- **Hiring Scale**: 79
- **Demand Pressure**: 3 candidates / job opening
- **Average Posting Period**: 43 days
- **Market Salary**:
  - 10th: $42,400
  - Median: $57,800
  - 90th: $72,800
  - Nationally: $57,800
  - Locally: $42,400
- **Top Titles**:
  - 205: Mental Health Practitioner
  - 162: Clinical Social Worker
  - 120: Social Worker
  - 106: Mental Health Worker
  - 96: Behavior Therapist
- **Candidate Locations (National)**:
  - Lafayette, IN: 5
  - Fort Collins-Loveland, CO: 6
  - Fort Wayne, IN: 6
  - Visalia-Porterville, CA: 6
  - Minneapolis-St. Paul-Bloomington, MN: 79
- **Candidate Locations (Local)**:
  - Rockford, IL: 25
  - Fargo, ND: 44
  - Cedar Rapids, IA: 44
  - Madison, WI: 50
  - Minneapolis-St. Paul-Bloomington, MN: 79
Help Wanted Online

Search Definition: Mental Health and Substance Abuse Social Workers in Minnesota

<table>
<thead>
<tr>
<th>Skills</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral health</td>
<td>108</td>
</tr>
<tr>
<td>Crisis intervention techniques</td>
<td>95</td>
</tr>
<tr>
<td>Autism spectrum disorders</td>
<td>47</td>
</tr>
<tr>
<td>Bilingual</td>
<td>22</td>
</tr>
<tr>
<td>Electronic Health Record (EHR)</td>
<td>21</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>19</td>
</tr>
<tr>
<td>Bilingual Spanish</td>
<td>19</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>18</td>
</tr>
<tr>
<td>Group counseling</td>
<td>15</td>
</tr>
<tr>
<td>Psychological testing</td>
<td>12</td>
</tr>
<tr>
<td>Multilingual</td>
<td>11</td>
</tr>
<tr>
<td>Clinical review</td>
<td>10</td>
</tr>
<tr>
<td>Utilization review</td>
<td>9</td>
</tr>
<tr>
<td>Psychiatric assessment</td>
<td>5</td>
</tr>
<tr>
<td>Medical billing</td>
<td>5</td>
</tr>
<tr>
<td>Medical information</td>
<td>5</td>
</tr>
<tr>
<td>Drug testing</td>
<td>5</td>
</tr>
<tr>
<td>Critical care</td>
<td>5</td>
</tr>
</tbody>
</table>
### Help Wanted Online

**Search Definition:** Mental Health and Substance Abuse Social Workers in Minnesota

<table>
<thead>
<tr>
<th>Skills</th>
<th>Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licensed Independent Clinical Social Worker (LICSW)</td>
<td>215 ads with this certification</td>
</tr>
<tr>
<td>Licensed marriage and family therapist (LMFT)</td>
<td>130 ads with this certification</td>
</tr>
<tr>
<td>Licensed Professional Clinical Counselor (LPCC)</td>
<td>124 ads with this certification</td>
</tr>
<tr>
<td>Driver's License</td>
<td>100 ads with this certification</td>
</tr>
<tr>
<td>Licensed Psychologist</td>
<td>86 ads with this certification</td>
</tr>
<tr>
<td>Master Addictions Counselor (MAC)</td>
<td>79 ads with this certification</td>
</tr>
<tr>
<td>Licensed Clinical Social Worker (LCSW)</td>
<td>26 ads with this certification</td>
</tr>
<tr>
<td>Licensed Alcohol and Drug Counselor (LADC)</td>
<td>20 ads with this certification</td>
</tr>
<tr>
<td>First Aid certification</td>
<td>19 ads with this certification</td>
</tr>
<tr>
<td>Continuing Education (CE)</td>
<td>16 ads with this certification</td>
</tr>
<tr>
<td>Licensed Professional Counselor (LPC)</td>
<td>14 ads with this certification</td>
</tr>
<tr>
<td>Health and Fitness Specialist</td>
<td>9 ads with this certification</td>
</tr>
<tr>
<td>Substance Abuse Counselor</td>
<td>7 ads with this certification</td>
</tr>
<tr>
<td>Licensed Social Worker (LSW)</td>
<td>7 ads with this certification</td>
</tr>
<tr>
<td>Licensed Clinical Professional Counselor (LCPC)</td>
<td>7 ads with this certification</td>
</tr>
<tr>
<td>Marriage Family Therapist (MFT)</td>
<td>7 ads with this certification</td>
</tr>
<tr>
<td>ICD-10 / ICD-9</td>
<td>6 ads with this certification</td>
</tr>
</tbody>
</table>
Questions?
Discussion?
Contact Information

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