Using Data to Inform Health Workforce Development

Arizona Center for Rural Health Workforce Data Resources

June 6, 2023
Session Overview

• Identify health workforce data resources from the Arizona Center for Rural Health (AzCRH) and other sources like the Arizona Department of Health Services (ADHS),

• Describe how health workforce data can be leveraged in grant applications, policy briefs etc., to educate and inform stakeholders and,

• Collaborate to identify what health workforce data is needed to fully address health workforce needs in rural and underserved Arizona.
Our Workforce Efforts

- **Training** through grants and partnerships with organizations like the AzAHEC and regional centers.
- **Data and analysis** to inform program and policy development.
- **Collaboration** with AzDHS Health Systems Development and other stakeholders.
- **Partnership** with AzDHS and Arizona Alliance for Community Health Centers (AACHC) to support 3RNet, a rural recruitment program for health professionals.

Improve the health and wellness of Arizona’s rural populations.
Health Care Context in Rural Arizona

Definitions of rural vary

Up to 25% of Arizona’s population lives outside of a metro area

Low population, low pop. density, large physical spaces, longer travel distance/time to urban areas

Healthcare resources concentrated in urban areas

Fewer total health care providers and lower ratios of providers per population

AzDHS Rural Counties

= Rural
Access to Care

“The timely use of personal health services to achieve the best health outcomes” (IOM, 1993)

Agency for Healthcare Research and Quality (AHRQ) Elements of Access:

**Affordability**: facilitates entry into the health care system. Uninsured people are less likely to receive medical care and more likely to have poor health.

**Availability**: Having a usual source of care with the requisite resources (staff, equipment, etc.).

**Accommodation**: Timely ability to provide health care when the need is recognized, in a way that meets client preference and need.

**Acceptable**: Care is culturally appropriate, and client is comfortable.

**Accessible**: Services (workforce) are geographically proximal.
Geographic Proximity

- Further away = less likely to receive care, Decreases the likelihood of receiving preventive care
- Disproportionately affects more rural, lower income, lower literacy, older, and under-resourced communities
- Costs include economic, time, social etc.
- Department of Health and Human Services (DHHS) travel standard > 30 minutes is excessively distant
Data is Part of Health Workforce Development

Are program & policies addressing the needs of Arizonans?

Program & policies strengthen the workforce

Proposes solutions

Who, what, where? Identify needs

Educates

Health workforce data & analysis

Informs program & policy proposals

Implements solutions
Arizona Health Workforce Profile Report

Arizona Health Workforce Profile Report
### Arizona Health Professionals

#### Ratio per 10,000

<table>
<thead>
<tr>
<th>Profession</th>
<th>2019</th>
<th>2021</th>
<th>Difference</th>
<th>Difference %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavior Analysts</td>
<td>380</td>
<td>543</td>
<td>163</td>
<td>39.2</td>
</tr>
<tr>
<td>Counselors</td>
<td>4,612</td>
<td>6,243</td>
<td>1,631</td>
<td>13.7</td>
</tr>
<tr>
<td>Marriage &amp; Family Therapists</td>
<td>567</td>
<td>723</td>
<td>156</td>
<td>27.5</td>
</tr>
<tr>
<td>Nurses - Advanced Practice</td>
<td>7,902</td>
<td>8,879</td>
<td>977</td>
<td>11.7</td>
</tr>
<tr>
<td>Nurses - Nurse Assistants</td>
<td>26,417</td>
<td>23,626</td>
<td>-2,791</td>
<td>-10.6</td>
</tr>
<tr>
<td>Nurses - Practical Nurses</td>
<td>8,114</td>
<td>8,038</td>
<td>-76</td>
<td>-0.8</td>
</tr>
<tr>
<td>Nurses - Registered Nurses</td>
<td>76,508</td>
<td>68,490</td>
<td>-8,018</td>
<td>-10.8</td>
</tr>
<tr>
<td>Physician Assistants</td>
<td>2,736</td>
<td>3,149</td>
<td>413</td>
<td>15.1</td>
</tr>
<tr>
<td>Physicians</td>
<td>17,159</td>
<td>18,642</td>
<td>1,483</td>
<td>8.8</td>
</tr>
<tr>
<td>Psychologists</td>
<td>1,548</td>
<td>1,576</td>
<td>28</td>
<td>1.8</td>
</tr>
<tr>
<td>Social Workers</td>
<td>4,607</td>
<td>5,225</td>
<td>618</td>
<td>13.4</td>
</tr>
<tr>
<td>Substance Abuse Counselors</td>
<td>864</td>
<td>850</td>
<td>-14</td>
<td>-1.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>146,273</td>
<td>144,986</td>
<td>-1,287</td>
<td>-0.9</td>
</tr>
</tbody>
</table>

#### Count

<table>
<thead>
<tr>
<th>Count</th>
<th>2019</th>
<th>2021</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>150K</td>
<td>146,273</td>
<td>144,986</td>
<td>-1,287</td>
</tr>
<tr>
<td>100K</td>
<td>146,273</td>
<td>144,986</td>
<td>-1,287</td>
</tr>
<tr>
<td>50K</td>
<td>146,273</td>
<td>144,986</td>
<td>-1,287</td>
</tr>
<tr>
<td>0K</td>
<td>146,273</td>
<td>144,986</td>
<td>-1,287</td>
</tr>
</tbody>
</table>

**Displayed Professions:**
- Behavior Analysts
- Counselors
- Marriage & Family Therapists
- Nurses - Advanced Practice
- Nurses - Nurse Assistants
- Nurses - Practical Nurses
- Nurses - Registered Nurses
- Physician Assistants
- Physicians
- Psychologists
- Social Workers
- Substance Abuse Counselors

Health professional data is from the Arizona licensing boards. The data was requested in 2019-2020 or 2021-2022 and should be considered snapshot data.
Sources of Health Workforce Data

• Healthcare workforce licensing data from the Arizona licensing boards:
  • Nurses (advance practice, registered nurses, nurse assistants, licensed practical nurses)
  • Physicians, physician assistants
  • Dentists, dental hygienists
  • Behavior analysts, counselors, marriage & family therapists, psychologists, social workers, substance abuse counselors
• Combined with geographic data, U.S. Census population data
Arizona Health Workforce Profile Report
Health Professionals by County

State

<table>
<thead>
<tr>
<th>Year</th>
<th>Professionals</th>
<th>Ratio per 10,000</th>
<th>Population 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>144,986</td>
<td>202.1</td>
<td>7,174,064</td>
</tr>
</tbody>
</table>

2021 AZ Profession Ratio by County per 10,000

Count by County

<table>
<thead>
<tr>
<th>County</th>
<th>Professionals</th>
<th>Professional %</th>
<th>2020 Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maricopa</td>
<td>96,340</td>
<td>66.4</td>
<td>4,412,779</td>
</tr>
<tr>
<td>Pima</td>
<td>22,703</td>
<td>15.7</td>
<td>1,038,476</td>
</tr>
<tr>
<td>Yavapai</td>
<td>4,845</td>
<td>3.3</td>
<td>232,396</td>
</tr>
<tr>
<td>Pinal</td>
<td>3,802</td>
<td>2.6</td>
<td>447,559</td>
</tr>
<tr>
<td>Yuma</td>
<td>3,517</td>
<td>2.4</td>
<td>211,931</td>
</tr>
<tr>
<td>Mohave</td>
<td>3,470</td>
<td>2.4</td>
<td>210,968</td>
</tr>
<tr>
<td>Total</td>
<td>144,986</td>
<td>100.0</td>
<td>7,174,064</td>
</tr>
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Behavior analysts
Counselors
Dental Hygienists
Dentists
Marriage & Family Therapists
Nurses – Advance Practice
Nurses – Nurse Assistants
Nurses – Practical Nurses
Nurses – Registered Nurses
Physician Assistants
Physicians
Psychologists
Social Workers
Substance Abuse Counselors
Health Professionals by County

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Ratio by County per 10,000

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<td>Pima</td>
<td>10,366</td>
<td>16.1</td>
<td>1,038,476</td>
</tr>
<tr>
<td>Yavapai</td>
<td>2,280</td>
<td>3.3</td>
<td>232,396</td>
</tr>
<tr>
<td>Cochise</td>
<td>1,670</td>
<td>2.4</td>
<td>142,254</td>
</tr>
<tr>
<td>Pinal</td>
<td>1,661</td>
<td>2.4</td>
<td>447,559</td>
</tr>
<tr>
<td>Mohave</td>
<td>1,609</td>
<td>2.3</td>
<td>210,998</td>
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Health Professionals by County

Ratio by County per 10,000

Year: 2019 - 2021

Count by County

Year: 2019 - 2021

Displayed Professions
Nurses - Registered Nurses

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Data by Tribal Nation Area

Health Professionals by Tribal Area

2021 AZ Profession Count by Tribal Area

Legend: Low to High

Displayed Professions:
- Counselors
- Marriage & Family Therapists
- Physician Assistants
- Physicians
- Psychologists
- Social Workers
- Substance Abuse Counselors

Health professional data is from the Arizona licensing boards. The data was requested in 2019-2020 or 2021-2022 and should be considered snapshot data. Tribal Area information is from the US Census 2020 (ACS) Federal American Indian Reservation data. You can find out more information here. See the methodology page for more information.
Data by Rurality

Health Professionals by Rurality

2021 AZ Profession Ratio by Rurality per 10.000

Ratio by Rurality per 10,000

Count by Rurality

Legend: Low to High

Displayed Professions:
Behavior Analysts, Counselors, Marriage & Family Therapists, Nurses - Advanced Practice, Nurses - Nurse Assistants, Nurses - Practical Nurses, Nurses - Registered Nurses, Physician Assistants, Physicians, Psychologists, Social Workers, Substance Abuse Counselors

Health professional data is from the Arizona licensing boards. The data was requested in 2019-2020 or 2021-2022 and should be considered a snapshot data. ERS code information is from the USDA ERS and can be accessed here. This map uses four rurality groups: urban, large rural, small rural, and isolated rural. These groups were developed by the U.W. Rural Health Research Center. See the methodology page for more information.
Data by ZIP Code Tabulation Area

Workforce Groups:
- Behavioral Health
- Dental
- Physician
- Nurse
Data Warehouse Content

Health Workforce Licensure Data
- Arizona Health Workforce Board Licensure Data - physicians, physician assistants, nurses, psychology, behavioral health
- CMS NPPES, NPI data

Geographic & Population Data
- U.S. Census data, population, social and demographic characteristics
- U.S. Census geographic characteristics, urban-rural, legislative districts
- USDA Rural Urban Commuting Area (RUCA) codes

Population Health & Health System Data
- HRSA Health Professional Shortage Area (HPSA) data
- ADHS licensed facilities data
- ADHS Uniform Account Reports for hospitals, nursing facilities & hospices
Health Workforce Data in Action

• Provided data for grant applications:
  • Rural residency development grant
  • Rural health network development grant

• Data to stakeholders to inform proposed policies (e.g., opportunities for GME support)

• Health system summary data for educational program accreditation needs assessment requirements (physical therapy and physician assistant)

• Data to inform educational program development (e.g., Certified Nurse Midwife)
Data by Request

Health workforce page on the AzCRH website

Form to request data

Email brynak@arizona.edu
Other AzCRH Workforce Data Resources

**Interactive Data Visualizations**
- Arizona Healthcare Employment, Projections, and Wage Report
- Arizona Graduate Medical Education Funding Report

**Workforce Reports and Briefs**
- Physician Specialty
- Direct Care Workers
- Physical Therapists
- Critical Care Workforce

**ArcGIS Maps Hub**
Workforce Data Resources

Arizona Department of Health Services

• Shortage Designations
• Statistical Profiles - Primary Care Area Profiles

HRSA

• HPSA Find
• Workforce Projections
• Data Downloads
Workforce Data Resources (cont.)

Department of Labor Bureau of Labor Statistics
• **Occupational Outlook Handbook** & Occupational Profiles (example – **dental hygienists**)

Arizona Office of Economic Opportunity
• **Labor Market**
  • Industry Employment & Wages
  • **Occupation Employment & Wages**
  • Employment Projections
What Else Do You Need/Want to Know About the Health Workforce?
What Else Do You Need/Want to Know About the Health Workforce?
The Team

Contact: Bryna Koch, DrPH, brynak@arizona.edu

• Dr. Dan Derksen, Associate Vice President for Health Equity, Outreach & Interprofessional Activities, University of Arizona Health Sciences, Walter H. Pearce Endowed Chair & Director, Arizona Center for Rural Health, Professor of Public Health, Mel and Enid Zuckerman College of Public Health

• Leila Barraza, JD, MPH, Associate Professor

• Bryna Koch, DrPH, Assistant Research Professor

• Susan Coates, MBA, Principal Database Specialist

• Charles Drake, MS, MA, Data Architect III