National Conference of State Legislatures
Rural Health Roundtable – Northeastern States

Muskie School of Public Service

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Maine Rural Health Research Center
University of Southern Maine
August 29, 2022
Objectives

• Rural definitions and lived experience
• Review
  – Northern Border Commission Data
  – Rural health disparities in the U.S. and the northeast
  – Impacts of poverty in the U.S. and the northeast
• Resiliency
• A vision for the future of rural health
Creating a Vision for an Ideal Rural Health System

• Imagine what an ideal rural health systems would look like for your state, region, or the United States as a whole.
  – What would your ideal system look like?
  – Who would be involved? What sectors of society would be involved?
  – What words come to mind?

Please take a few minutes to reflect on your thoughts about an ideal rural health system and jot down some notes. We will have an opportunity to discuss your thoughts at the conclusion of this session.
Defining Rural
Defining Rural

• Census Bureau does not define rural: anything that is not urban is rural
  – Urbanized areas of 50,000 or more people
  – Urban clusters of 2,500 to 49,999 people

• Office of Management and Budget uses counties and population sizes to define rural:
  – Metro area (urban core of 50,000 or more people)-Not rural
  – Micro area (urban core of 10,000-49,999 people)-Rural
  – Counties outside of Metro or Micro Areas-Rural
Challenges of Defining Rural

• Census Bureau overcounts the number of people in rural areas, while the OMB undercounts them

• The Census definition:
  – Does not follow city or county boundaries, making it hard to determine if an area is urban or rural
  – Classifies many suburban areas as rural

• OMB includes some rural areas in metro
  – Example – Bridgeton, Maine is located in Cumberland County (which is defined as metropolitan) but looks very rural to most people
An Alternative Approach to Defining Rural

- Rural Urban Commuting Area (RUCA) codes at the census tract levels (can be rolled up to the county level)
- RUCAAs reflect population and commuting patterns and defines rural as:
  - All non-metro counties
  - All metro census tracts with RUCA codes 4-10 and
  - Large area Metro census tracts of at least 400 sq. miles in area with population density of 35 or less per sq. mile with RUCA codes 2-3
  - Beginning with Fiscal Year 2022 Rural Health Grants, all outlying metro counties without a UA to be rural
The Lived Experience of Rural

- Most people define rural based on their “lived experience”—how they perceive barriers and challenges
- The challenge imposed by travel distances varies from area to area depending on what people are used to
  - Contrast western states (Montana or Wyoming) to New England states (Vermont, New Hampshire, Rhode Island)
- Historically, rural people travel further to obtain health care, go to school, or commute to their jobs
Northern Border Commission

Northern Border Commission

Figure 1. Fiscal Year 2021 categories of distress within the Northern Border Regional Commission region: Maine, New Hampshire, Vermont, and New York

## Demographics

<table>
<thead>
<tr>
<th>Geography</th>
<th>Population</th>
<th>Rurality</th>
<th>Age</th>
<th>Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(N)</td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
</tr>
<tr>
<td>United States</td>
<td>328,239,523</td>
<td>19.3%</td>
<td>22.3%</td>
<td>16.5%</td>
</tr>
<tr>
<td>Maine</td>
<td>1,344,212</td>
<td>61.3%</td>
<td>18.5%</td>
<td>21.2%</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>1,359,711</td>
<td>39.7%</td>
<td>18.8%</td>
<td>18.7%</td>
</tr>
<tr>
<td>New York</td>
<td>19,453,561</td>
<td>12.1%</td>
<td>20.7%</td>
<td>16.9%</td>
</tr>
<tr>
<td>Vermont</td>
<td>623,989</td>
<td>61.1%</td>
<td>18.3%</td>
<td>20.0%</td>
</tr>
</tbody>
</table>

Demographics (cont’d)

<table>
<thead>
<tr>
<th>Geography</th>
<th>Non-Hispanic white (%)</th>
<th>Non-Hispanic Black (%)</th>
<th>Hispanic (%)</th>
<th>American Indian &amp; Alaska Native (%)</th>
<th>Asian (%)</th>
<th>Native Hawaiian/Other Pacific Islander (%)</th>
<th>Not proficient in English (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>60.1%</td>
<td>12.5%</td>
<td>18.5%</td>
<td>1.3%</td>
<td>5.9%</td>
<td>0.2%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Maine</td>
<td>93.0%</td>
<td>1.6%</td>
<td>1.8%</td>
<td>0.7%</td>
<td>1.3%</td>
<td>&lt;0.1%</td>
<td>0.5%</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>89.8%</td>
<td>1.5%</td>
<td>4.0%</td>
<td>0.3%</td>
<td>3.0%</td>
<td>&lt;0.1%</td>
<td>1.0%</td>
</tr>
<tr>
<td>New York</td>
<td>55.3%</td>
<td>14.5%</td>
<td>19.3%</td>
<td>1.0%</td>
<td>9.0%</td>
<td>0.1%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Vermont</td>
<td>92.6%</td>
<td>1.3%</td>
<td>2.0%</td>
<td>0.4%</td>
<td>1.9%</td>
<td>&lt;0.1%</td>
<td>0.6%</td>
</tr>
</tbody>
</table>


¹ Race/ethnicity data may not sum to 100% due to missing data.
## Sociodemographics

<table>
<thead>
<tr>
<th>Geography</th>
<th>Employment</th>
<th>Income</th>
<th>Social support</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Employed full time, ages -16 to 64</td>
<td>Unemployed, 16 and older seeking work</td>
<td>Employed in healthcare and social assistance</td>
<td>Median household income</td>
</tr>
<tr>
<td>United States</td>
<td>66.4%</td>
<td>3.7%</td>
<td>15.8%</td>
<td>65,712</td>
</tr>
<tr>
<td>Maine</td>
<td>63.1%</td>
<td>3.0%</td>
<td>21.7%</td>
<td>58,824</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>65.4%</td>
<td>2.5%</td>
<td>15.4%</td>
<td>78,571</td>
</tr>
<tr>
<td>New York</td>
<td>66.4%</td>
<td>4.0%</td>
<td>19.9%</td>
<td>72,038</td>
</tr>
<tr>
<td>Vermont</td>
<td>62.2%</td>
<td>2.4%</td>
<td>19.0%</td>
<td>63,293</td>
</tr>
</tbody>
</table>

# Access to Healthcare

<table>
<thead>
<tr>
<th>Geography</th>
<th>Access to care</th>
<th>Quality of care</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Uninsured among ages 0-64 (%)</td>
<td>Preventable hospital stays per 100,000 Medicare enrollees (%)</td>
</tr>
<tr>
<td></td>
<td>Uninsured among adults ages 18-64 (%)</td>
<td>Mammography screening among female Medicare enrollees ages 65-74 (%)</td>
</tr>
<tr>
<td></td>
<td>Uninsured among children ages 0-18 (%)</td>
<td>Flu vaccinations among fee-for-service Medicare enrollees (%)</td>
</tr>
<tr>
<td></td>
<td>Ratio of population to primary care physicians (N:1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ratio of population to primary care providers other than physicians (N:1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ratio of population to dentists (N:1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ratio of population to mental health providers (N)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Geography</th>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
<th>(N:1)</th>
<th>(N:1)</th>
<th>(N:1)</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>10.4%</td>
<td>12.4%</td>
<td>5.2%</td>
<td>1,319</td>
<td>942</td>
<td>1,405</td>
<td>383</td>
</tr>
<tr>
<td>Maine</td>
<td>10.2%</td>
<td>11.7%</td>
<td>5.7%</td>
<td>899</td>
<td>655</td>
<td>1,484</td>
<td>202</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>7.1%</td>
<td>8.6%</td>
<td>2.3%</td>
<td>1,100</td>
<td>682</td>
<td>1,302</td>
<td>311</td>
</tr>
<tr>
<td>New York</td>
<td>6.3%</td>
<td>7.7%</td>
<td>2.5%</td>
<td>1,194</td>
<td>787</td>
<td>1,174</td>
<td>329</td>
</tr>
<tr>
<td>Vermont</td>
<td>4.9%</td>
<td>5.9%</td>
<td>1.5%</td>
<td>892</td>
<td>818</td>
<td>1,365</td>
<td>208</td>
</tr>
</tbody>
</table>

## Death Rates/100,000 - Cause Specific

<table>
<thead>
<tr>
<th>Geography</th>
<th>Length of life</th>
<th>Injury-related deaths</th>
<th>Injury-related death subcategories</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Premature death (years of potential life lost before age 75, # per 100,000)</td>
<td>All injury deaths (# per 100,000)</td>
<td>Suicide deaths (# per 100,000)</td>
</tr>
<tr>
<td>United States</td>
<td>6,906.6</td>
<td>72.3</td>
<td>13.8</td>
</tr>
<tr>
<td>Maine</td>
<td>7,020.8</td>
<td>93.0</td>
<td>17.7</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>6,373.8</td>
<td>88.5</td>
<td>17.9</td>
</tr>
<tr>
<td>New York</td>
<td>5,406.3</td>
<td>50.5</td>
<td>8.1</td>
</tr>
<tr>
<td>Vermont</td>
<td>6,277.2</td>
<td>85.6</td>
<td>17.0</td>
</tr>
</tbody>
</table>

# Top Five Causes of Death

<table>
<thead>
<tr>
<th>Geography</th>
<th>Heart disease</th>
<th>Cancer</th>
<th>Accidents (unintentional injuries)</th>
<th>Chronic lower respiratory diseases</th>
<th>Stroke (cerebrovascular diseases)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>164.8</td>
<td>152.3</td>
<td>47.5</td>
<td>40.2</td>
<td>37.3</td>
</tr>
<tr>
<td>Maine</td>
<td>147.8</td>
<td>168.6</td>
<td>63.3</td>
<td>48.6</td>
<td>33.9</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>148.7</td>
<td>153.7</td>
<td>62.6</td>
<td>40.8</td>
<td>27.9</td>
</tr>
<tr>
<td>New York</td>
<td>173.7</td>
<td>141.5</td>
<td>33.7</td>
<td>28.6</td>
<td>24.9</td>
</tr>
<tr>
<td>Vermont</td>
<td>153.1</td>
<td>158.7</td>
<td>55.9</td>
<td>40.6</td>
<td>30.7</td>
</tr>
</tbody>
</table>

Primary Care Shortage Areas

Data source: Health Resources & Services Administration, Area Health Resources Files, 2020-2021.
Mental Health Shortage Areas

Data source: Health Resources & Services Administration, Area Health Resources Files, 2020-2021.
Dental Health Shortage Areas

Figure 4. Dental Health Professional Shortage Areas

Data source: Health Resources & Services Administration, Area Health Resources Files, 2020-2021.
Buprenorphine Practitioners Per County

Data source: Substance Abuse and Mental Health Services Administration, Behavioral Health Treatment Locator, 2021
Substance Use Treatment Facilities

Substance Abuse and Mental Health Services Administration (SAMHSA). Behavioral Health Treatment Services Locator: About the Locator.
Rural Health and Economic Disparities
# Life Expectancy by State and Gender

<table>
<thead>
<tr>
<th>State</th>
<th>Total Age in Years</th>
<th>Female Age in Years</th>
<th>Male Age in Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connecticut</td>
<td>80.3</td>
<td>82.8</td>
<td>77.7</td>
</tr>
<tr>
<td>Maine</td>
<td>78.3</td>
<td>80.9</td>
<td>75.9</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>80.4</td>
<td>82.86</td>
<td>80.4</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>79.4</td>
<td>81.6</td>
<td>77.1</td>
</tr>
<tr>
<td>New York</td>
<td>80.7</td>
<td>83.1</td>
<td>78.2</td>
</tr>
<tr>
<td>Vermont</td>
<td>79.8</td>
<td>82.3</td>
<td>77.2</td>
</tr>
</tbody>
</table>
Life Expectancy at Birth—Maine

Life Expectancy at Birth—New York

Life Expectancy at Birth–Massachusetts

Life Expectancy at Birth–Connecticut

Life Expectancy at Birth–New Hampshire

Life Expectancy at Birth—Vermont

Drug Overdose Death Rates by County – Connecticut

Estimated Crude Death Rates for Drug Overdose by County, United States: 2020

Drug Overdose Death Rates by County – Maine

Estimated Crude Death Rates for Drug Overdose by County, United States: 2020

Drug Overdose Death Rates by County – Massachusetts

Estimated Crude Death Rates for Drug Overdose by County, United States: 2020

Drug Overdose Death Rates by County – New Hampshire

Estimated Crude Death Rates for Drug Overdose by County, United States: 2020

Drug Overdose Death Rates by County – New York

Estimated Crude Death Rates for Drug Overdose by County, United States: 2020

Resiliency
NORC’s Prosperity Index

https://opioidmisusetool.norc.org/
NORC Overdose Mapping Tool
Challenges
Continuing Rural Workforce Shortages

- Government Accounting Office estimates shortages of more than 20,000 primary care physicians (PCPs) in rural areas by 2025.
- In the wake of COVID-19, rural hospitals report critical shortages of registered nurses and other essential staff.
- Workforce shortages impact rural hospitals, nursing homes, primary care clinics, emergency medical services (EMS), and public health departments.
- Projected shortages of psychiatrists; clinical, counseling, and school psychologists; mental health and substance use social workers; school counselors; and marriage and family therapists through 2025 as well as a maldistribution of these providers that favor urban areas.
Financial Vulnerability of Rural Providers

- 181 rural hospitals have closed since 2005
- 453 are estimated to be at risk of closure, with more than 200 at immediate risk of closure
- More than 1/3 of rural ambulance and EMS agencies are also at risk of closure
- Nursing homes and long-term care facilities are in short supply in rural communities, and many are closing
Additional Challenges

- Increases in the pace of mergers and acquisitions
- Loss of essential services – obstetrical care, chemotherapy, and other critical services
- Continued acquisition of physician practices and employment of physicians by rural hospitals
- Declining need for inpatient hospital
- Increased competition by non-hospital providers
- Growth of advance and value-based payment models
- Growth in the adoption of Medicare Advantage plans, accountable care organizations, and managed care
- Growing influence of private equity funding
Evolving Future Challenges

• An increased focus on containing healthcare costs
• Greater demand for health equity
• Growth in patient-centered care and consumerism
• Evolution of non-traditional competitors including “retail” healthcare
• Continued transition of care from hospitals to the community and homes
• Focus on mental health and wellbeing
• Use of technology to transform healthcare
A Vision for the Future
The Future of Rural Health

Re-orienting Rural Health Systems to Emphasize Comprehensive Primary Care (primary care, wellness and prevention, mental health, substance use, chronic care management, oral health, and public health)

• **Regional Medical Center (RMC), Manchester, IA**
  – RMC has 5 Rural Health Clinics (RHCs) that provide an expanded array of primary care and mental health services primary care in rural Iowa

• **Weeks Medical Center (WMC), Lancaster, NH**
  – WMC has four that provide comprehensive primary care, mental health, and substance use services throughout the Lakes Region of New Hampshire. The mental health program was described as the fastest growing department in the WMC system

• **Ozarks Community Hospital (OCH), Gravette, AR**
  – OCH operates 12 RHCs and two other clinics in rural Missouri, Arkansas, and Oklahoma and serves primarily Medicare and Medicaid patients. Most of its 12 RHCs provide comprehensive primary care as well as mental health services using a mix of staff
The Future of Rural Health

Re-imagining the Rural Hospital to reduce emphasis on inpatient beds and emphasize need services – comprehensive primary care, outpatient care, long-term care and social supports

• **Frontier Community Health Integration Project**
  – A federal demonstration to support small, isolated critical access hospitals (CAHs) in frontier communities in eastern Montana and western North Dakota
    • Roosevelt Medical Center, Culbertson MT; McCona County Health Center, Circle MT; Dahl Memorial Healthcare Association, Ekalaka MT; Jacobson Memorial Hospital Care Center, Elgin ND; McKenzie County Healthcare Systems, Watford City ND; and Southwest Healthcare Services, Bowman ND
  – Provides cost-based reimbursement to expand access to needed services in isolated areas including:
    • Hospital owned ambulance services
    • Up to 10 additional swing beds (above the 25 acute/swing beds limit for CAHs) to allow for expanded skilled nursing and long-term care services
    • Distant and originating site telehealth services to provide expanded access to specialty care, remote patient monitoring, chronic care management, and direct care services by hospital staff
The Future of Rural Health (cont’d)

Re-engaging Rural Communities

– Implement community engagement tools to assist communities in taking control of their health systems
– Reducing loss of community input and control
– Reducing bypass behavior

Maine - Making Informed Decisions about Rural EMS

The Informed Community Self-Determination Model was developed by a team in Maine to engage residents of St. George in making informed decisions about their struggling EMS system through:

1. Assessment of the reality and adequacy of the current EMS system (response, operational, and financial characteristics as well as clinical level and performance)
2. Alternative models and cost impact (what levels of services and response capacity, outside of the box alternatives, costs of each alternative)
3. Decision makers forum (broad representation of interests, reports from meetings, straw poll)
4. Choose operating model and commit to funding (designate follow up reporting)
The Future of Rural Health

• Rebuilding the Rural Health Workforce by:
  – Expanding the use of team-based care
  – Explore new staffing types
  – Use technology such as telehealth and artificial intelligence using evidence-based clinical guidelines to expand access to care, transform clinical paradigms, and improve provider productivity

• Forward in Los Angeles, CA is a direct care model that charges members a $149 monthly fee. There are no copays or deductibles. An iPad, not a receptionist, checks patients in and a body scanner records a patient’s pulse, oxygen level, height, weight and temperature during the visit. There is no computer between a physician and patient, as medical information appears on a large wall monitor powered by artificial intelligence and predictive analytics. Forward uses technology to reduce payroll costs and create better outcomes for patients. Forward uses AI to follow what doctors do, step-by-step.
Revisiting the Ideal Rural Health

• Please think about your notes from the beginning of this presentation. Is there anything you would change based on what you heard today?
• Any questions or comments?
Contact Information

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Maine Rural Health Research Center: https://mrhrc.org/
Flex Monitoring Team: https://www.flexmonitoring.org/