<table>
<thead>
<tr>
<th>Section</th>
<th>Slide</th>
</tr>
</thead>
<tbody>
<tr>
<td>State of Rural Minnesota</td>
<td>7</td>
</tr>
<tr>
<td>What are the demographic characteristics of rural Minnesota?</td>
<td></td>
</tr>
<tr>
<td>Structure of Rural Health System: An Overview</td>
<td>12</td>
</tr>
<tr>
<td>How do people in rural areas access health care? Where are health care facilities in the state?</td>
<td></td>
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<tr>
<td>Rural Health Care Workforce</td>
<td>20</td>
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<tr>
<td>What is the composition, demographics and geographic distribution of the state’s licensed health care workforce?</td>
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<td>Availability of Health Care Services in Rural Minnesota</td>
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<tr>
<td>What health care services are available to people living in rural Minnesota, and has it changed over time?</td>
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<td>Health Care Use in Rural Minnesota</td>
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<tr>
<td>What is the health status of people in rural Minnesota? What are the barriers they face to receiving health services, and what are their health outcomes?</td>
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<td>Financing</td>
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<tr>
<td>What level of competition do we see among rural health care providers? Do we pay more for health care different in rural areas? How are providers doing financially?</td>
<td></td>
</tr>
<tr>
<td>Health Care Transformation</td>
<td>56</td>
</tr>
<tr>
<td>Responding to the Challenges: Trends and Current Thinking in Minnesota</td>
<td></td>
</tr>
</tbody>
</table>
A summary of all data sources and notes are available here: https://www.health.state.mn.us/facilities/ruralhealth/docs/summaries/ruralhealthcbdata2019.pdf

There are a number of ways to report on rurality and geography. This chartbook uses the following four constructs (defined in subsequent slides). The use of a particular construct is informed by the availability of the data.

- Rural-Urban Commuting Area codes (RUCA codes)
- Economic Development Regions (EDRs)
- State Community Health Services Advisory Committee (SCHSAC) regions
- Three-digit zip codes

When possible, the most up-to-date data are used. Therefore, the data year(s) presented may vary across the chart book.

To access this chart book in an alternate format, a summary of the charts, graphs and maps is available here: https://www.health.state.mn.us/facilities/ruralhealth/docs/summaries/ruralhealthcbdata2019.html.

Direct links are listed on each slide.
• Rural-Urban Commuting Areas are one of many ways to measure rurality.

• RUCAs take into account population density, urbanization and daily commuting patterns to identify urban and rural regions of the state.

• Current definitions are based on 2010 census data. More areas of the state became urban between the 2000 and 2010 census.

• For slides with two categories, unless otherwise noted:
  • urban = metropolitan
  • rural = large town + small town rural + isolated rural
• Divides the state into 16 areas based on the first three digits in zip codes

• Crosses county boundaries

• Nine are considered rural and seven are considered urban, based on if the majority of the population of ZIP code tabulation areas is in a rural or urban RUCA.
**Summary of Slide**

**Economic Development Regions**
- 13 regions based on groups of counties
- Created by the Minnesota Department of Employment and Economic Development (DEED)
- Used for labor force and employment characteristics

**State Community Health Service Advisory Committee (SCHSAC) Regions**
- 8 regions based on groups of counties
- Focused on developing, maintaining and financing community health services.

**Defining Rural: Regions**
State of Rural Minnesota

What are the demographic characteristics of rural Minnesota?
Key points – Minnesota rural demographics

- 27% of the state’s population resides in non-metro areas, and 8% live in isolated rural areas
- Rural Minnesotans are older, and more likely to have incomes below the state median
- 122,000 rural Minnesotans live in areas of concentrated poverty
- About 90% of rural residents are white
- Most rural counties have seen population declines since 2010, due to both natural factors (births minus deaths) and migration
- Most counties in the state will be increasingly relying on migration to fuel population growth

The population of Minnesota – and the country – is aging

- By 2030, more than 1 in 5 Minnesotans will be over 65. The total number of older adults (65+) is anticipated to double between 2010 and 2030.
- Residents of rural and small town Minnesota are twice as likely to be age 80 or older than those in urban areas.

Source: Minnesota Demographer’s Office

Summary of Slide
People living in rural Minnesota are more likely to have household incomes below the statewide median income.

More than half of people living in rural areas have household incomes below the statewide median income.

<table>
<thead>
<tr>
<th>Metropolitan</th>
<th>Large Town</th>
<th>Small Town Rural</th>
<th>Isolated Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.7%</td>
<td>51.9%</td>
<td>74.9%</td>
<td>87.1%</td>
</tr>
</tbody>
</table>

In small towns and isolated rural areas, only 2.3 percent and 1.4 percent, respectively, are above the median income.


Summary of Slide
Areas of concentrated poverty occur in both rural and urban areas of the state. There are an estimated 122,000 people living in concentrated poverty areas in rural Minnesota.

There are an estimated 122,000 people living in concentrated poverty areas in rural Minnesota.

Note: The percentages are not statistically different by geographic category. Source: MDH/Health Economics Program analysis of the American Community Survey Five-Year Estimate 2013 to 2017.

Summary of Slide

Note: ‘Concentrated poverty’ is defined here as having more than one in five residents living in poverty at the census tract level.
Structure of Rural Health System: An Overview

How do people in rural areas access health care? Where are health care facilities in the state?
Rural residents are more likely to get health care through public sources, such as Medicare, Medicaid and MinnesotaCare.

While health care facilities are distributed throughout the state, they are more spread out in rural areas.
Rural Minnesotans are more likely to have public health insurance coverage, such as Medicare, Medicaid or MinnesotaCare.

Reasons for higher rates of public health insurance:

1. **Age**: people over 65 are more likely to have Medicare;

2. **Lower Incomes**: more likely to be eligible for state public programs; and

3. **Less access to employer coverage**: fewer people are connected to an employer that offers coverage.

Source: Minnesota Health Access Survey, 2017; Geographies based on RUCA zip-code approximations.

*Indicates significant difference from Metropolitan at the 95% level.

**Summary of Slide**

14
• Of the 129 community hospitals in Minnesota, 77 are designated Critical Access Hospitals.¹ ²

• In total, 91 hospitals are located in rural areas.¹

• Around one-third of all hospital outpatient clinics in the state, 165 of 502 total clinics, are in rural areas.¹ ³

• All but one county, Red Lake, has at least one nursing home as of 2018.⁴

---

¹ Source: MDH Health Economics Program analysis of hospital annual reports, October 2019.
² There are 78 Critical Access Hospitals in Minnesota; however one is an Indian Health Services Hospital. This is not included in the count of community hospitals, which are limited to non-federal short-term general and other special hospitals, and are accessible by the general public.
³ Outpatient clinics are designated by the hospital and may not be co-located with the hospital, but are billed to Medicare under the hospital’s provider identification number.
Primary and specialist clinics are available throughout Minnesota

Primary Care Clinics, 2018

Specialty Care Clinics, 2018

• 37% (266) of all primary care clinics (713) are located in rural areas.
• 19% (227) of all specialty care clinics (1,183) are located in rural areas.
• Minnesota Community Health Centers served 190,690 residents in 2018.

Map Notes: Dots represent the number of clinics, and do not account for patient population or number of practicing physicians. Primary Care includes general family medicine, general internal medicine, and general pediatrics; Specialty Care includes one or more non-primary care specialty. 78.9% of the population lives in urban areas, and 21.1% of the population lives in rural areas.

1 Source: MDH Health Economics Program analysis of the Minnesota Statewide Quality Reporting and Measurement System Physician Clinic Registry; also source for maps.

2 Source: mnachc.org/community-health-centers/health-center-data/
• MDH certifies primary care clinics and clinicians as health care homes, known nationally as a patient centered medical homes
• The health care home clinic team coordinates care with the patient and their family to ensure whole person care and improve health and well-being
• 74% of MN counties have at least one health care home clinic
• 196, or about one half, of the 398 certified health care home clinics are in rural areas (SCHSAC regions)
• Rural health care home clinics serve approximately 1.5 million patients
Rural Emergency Medical Services (EMS) reliance on volunteerism is unsustainable

- Rural EMS agencies rely on volunteers, but face decreasing volunteer roster sizes, and many shifts (weekdays, weekends, holidays) are difficult to fill.
- About 60% of agencies have inadequate staff to cover their call schedule without undue burden.
- 59% of agencies do not have all of their shifts covered at least 24 hours in advance.
- 88% of agencies provide Basic Life Support (not paramedic level services) to their communities.

Source: [https://www.health.state.mn.us/facilities/ruralhealth/flex/docs/pdf/2016ems.pdf](https://www.health.state.mn.us/facilities/ruralhealth/flex/docs/pdf/2016ems.pdf)
Access to critical trauma care is available throughout the state.

121 of 130 hospitals have a trauma designation. 98% of Minnesotans live within 60 minutes of a designated trauma hospital.

74% of Minnesotans live within 60 minutes of a Level 1 or Level 2 trauma hospital.

Source: MDH Trauma System February 2019.
Summary of Slide
What is the composition, demographics and geographic distribution of the state’s licensed health care workforce?
• Nurses make up the largest share of the state’s licensed providers, and are the foundation of the health care system.

• There is a maldistribution of providers in the state—the majority work in the urban areas. Consequently, the rural parts of the state face a severe shortage of all provider types, especially in primary care and mental health.

• 80% of Minnesota counties qualify as mental health professional shortage areas.

• Rural providers are older and closer to retirement.
Registered nurses and licensed practical nurses make up the majority of the health care workforce in Minnesota.

<table>
<thead>
<tr>
<th>License Type</th>
<th>Number of Providers in Minnesota in 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered Nurses and Licensed Practical Nurses</td>
<td>132,044</td>
</tr>
<tr>
<td>Pharmacists and Pharmacy Technicians</td>
<td>39,153</td>
</tr>
<tr>
<td>Physicians</td>
<td>24,977</td>
</tr>
<tr>
<td>Mental Health Providers</td>
<td>23,431</td>
</tr>
<tr>
<td>Advance Practice Registered Nurses</td>
<td>8,976</td>
</tr>
<tr>
<td>Physical Therapy Professionals</td>
<td>7,887</td>
</tr>
<tr>
<td>Dentists</td>
<td>4,140</td>
</tr>
<tr>
<td>Alcohol and Drug Counselors</td>
<td>3,521</td>
</tr>
<tr>
<td>Physician Assistants</td>
<td>3,251</td>
</tr>
</tbody>
</table>

Source: MDH Office of Rural Health and Primary Care analysis. Data provided by Health Licensing Boards, October 2019. This table excludes Respiratory Therapists and some other smaller licensed occupations, including: Chiropractic, Sports Medicine, and Occupational Therapy.
The majority of licensed health care providers work in metropolitan areas.

- **Metropolitan**: 73.5% Population, 80% Health Care Providers
- **Large Town**: 10.1% Population, 10% Health Care Providers
- **Small Town Rural**: 7.5% Population, 6% Health Care Providers
- **Isolated Rural**: 9% Population, 3% Health Care Providers

Very few licensed health care providers work in rural areas.

Source: MDH Office of Rural Health and Primary Care analysis. Data provided by Health Licensing Boards, October 2019. Data includes: physicians, physician assistants, respiratory therapists, oral health professions, pharmacy professions, physical therapy professions, and mental health professions.

Summary of Slide
Rural areas face severe shortages of primary care physicians.

OB/GYNs, Pediatricians, and Psychiatrists are in short supply in rural parts of the state.

Number of Physicians per 100,000 people

Source: MDH Office of Rural Health and Primary Care analysis. Data provided by Board of Medical Practice, June 2019. Counts by region are based on primary practice address that physicians report to the Board.

Summary of Slide
Rural providers are older than their urban counterparts

Source: MDH Office of Rural Health and Primary Care analysis. Data provided by Health Licensing Boards, October, 2019.

*Rural = isolated rural from Rural-Urban Commuting Area codes.

Summary of Slide
Nearly one-third of rural physicians plan to leave the workforce within the next five years.
54 of Minnesota’s 87 counties are designated as Health Professional Shortage Areas in Dental and Primary Care
Availability of Health Care Services in Rural Minnesota

What health care services are available to people living in rural Minnesota, and has it changed over time?
The availability of services, especially in hospitals, has been changing over the past 10 to 15 years:

- Fewer services are available at rural hospitals, or the hospitals have closed.
- Non-metro counties have seen declines in obstetrics services, and inpatient mental health, chemical dependency and cardiac services.
- More than half of the nursing home closures between 2003 and 2018 were in rural counties.
Rural hospitals saw service declines due to hospital closures, consolidation, or service loss over the past decade.

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Hospitals with service available in 2009</th>
<th>Change in Service due to:</th>
<th>Hospitals with service available in 2018</th>
<th>Percent Change 2009 to 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Closure or Consolidation</td>
<td>Lost Service</td>
<td>Added Service</td>
</tr>
<tr>
<td>Surgery</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient Surgery</td>
<td>93</td>
<td>6</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Outpatient Surgery</td>
<td>97</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mental Health/Chemical Dependency Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outpatient Psychiatric</td>
<td>36</td>
<td>2</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>Detoxification Services</td>
<td>10</td>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Diagnostic Radiology Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Tomography (CT) Scanning</td>
<td>98</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Magnetic Resonance Imaging (MRI)</td>
<td>94</td>
<td>7</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Positron Emission Tomography (PET)</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Single Photon Emission Computerized Tomography (SPECT)</td>
<td>16</td>
<td>2</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>Other Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renal Dialysis Services</td>
<td>17</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Cardiac Catheterization Services</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: MDH Health Economics Program analysis of hospital annual reports, October 2019; 2018 data is considered preliminary. Services are considered “available” when they are provided on site by hospital staff, on site through contracted services, or off site through shared services agreement. No rural hospitals had open heart surgery or organ transplant services available in 2009 or 2018.

Summary of Slide

Over the same time period, rural hospitals added outpatient psychiatric services and advanced diagnostic imaging services.
Increases in pre-term births have been associated with the loss of hospital birth services in rural areas.

Nine Minnesota counties lost hospital birth services between 2003 and 2018.

Note: Due to a merger, the hospital in Mower was no longer an independent licensed entity as of the end of 2014; however birth services were offered at that site under the license of the remaining corporate entity.

Source: Minnesota Department of Health, Health Economics Program Analysis of Hospital Annual Reports; U.S. Census Bureau (County Designations)

Definition: Community hospitals were categorized as not offering birth services if they did not have at least one routine birth, had no licensed bassinets, or stated that services were not available.
Other counties lost inpatient cardiac, chemical dependency, and mental health services over the past decade

List of counties and inpatient services lost

- Isanti – chemical dependency services
- Pennington and Nobles – mental health services
- Wadena and Winona – cardiac services

The five counties listed are classified as “urban/town/rural mix” (Isanti and Winona) or “town/rural mix” (Pennington, Nobles, and Wadena) by the Minnesota State Demographic Center. See Greater Minnesota: Refined & Revisited.
Source: MDH Health Economics Program analysis of hospital annual reports, October 2019.

Summary of Slide
The relative decline in nursing homes and nursing home beds was greater in rural Minnesota between 2003 and 2018

- Rural counties\(^1\) have about 1/3 of all nursing homes, but accounted for over half of the closed nursing homes in the state between 2003 and 2018.

- In total, rural counties\(^1\) lost 21 nursing homes, and had a 33% decline in nursing home beds.

- The nursing home population has been declining since 1995, with more options for long-term care, including home care and assisted living becoming more common.

\(^{1}\) Rural counties are those that are either entirely rural, or a rural/town mix (49 counties), as defined by the Minnesota Population center in Greater Minnesota: Refined and Revisited (https://mn.gov/admin/demography/reports-resources/greater-mn-refined-and-revisited.jsp), page 33.


Summary of Slide
What is the health status of people in rural Minnesota?
What are the barriers they face to receiving health services, and what are their health outcomes?
• Rural Minnesotans have more chronic conditions, report poorer health status, and experience higher rates of frequent mental distress and suicide.

• They also have to travel farther to receive inpatient health care services - especially mental health and obstetrics services.

• Rural Minnesotans are more likely to have problems accessing all types of providers, and getting appointments with primary care providers when needed.

• Primary care providers work to fill “gaps” in care, especially in mental health, obstetrics, and pediatric care.

• Rates of adolescent mental health screening are lower in rural areas, and there are higher rates of opioid prescribing.
In aggregate, Minnesota spent $51.3 billion on health care in 2017, 1/3 of the spending - $16.8 billion – was at hospitals.

Most Minnesotans – 93.7% – use health insurance to help pay for health care services.

Even with health insurance to help cover costs, many Minnesotans still face substantial health care costs – 19.8% of Minnesotans struggle with medical bills, and 21.1% forgo needed health care due to cost.
Rural residents report more chronic conditions, and more unhealthy days

- Minnesotans living in rural areas reported frequent mental distress at about the same rate (9.9%) as those living in urban areas (8.5%).

- Age-adjusted suicide rate in greater Minnesota (14.7) was higher than the 7-county metro area (12.0) for 2013-17.

### Summary of Slide

2. *Indicates significant difference from Urban at the 95% level.
4. [Link](https://www.health.state.mn.us/communities/suicide/documents/2017suicidedatabrief.pdf)

#### Average Number of Unhealthy Days in Past 30 Days

- **Urban**: 2.4
- **Rural**: 3.4*

#### Average Number of Mentally Unhealthy Days

- **Urban**: 2.8
- **Rural**: 3.1

#### Percent of Minnesotans with a Chronic Condition

- **Urban**: 35.8%
- **Rural**: 40.3%*
Minnesotans in Rural Areas have to travel longer to get inpatient services – especially mental health services

- Rural patients seeking inpatient mental health and chemical dependency treatment travel three times longer than urban patients.
- Patients receiving medical/surgical care at Critical Access Hospitals experience shorter travel times than those traveling to other types of hospitals.

Source: MDH analysis of Minnesota hospital administrative (discharge) inpatient records for medical-surgical care, obstetrics care, and mental health or chemical dependency care for 2013 to 2017. The analysis calculated the distance between the geographic centroid of each ZIP code to respective hospitals and excluded hospital stays that were transferred to another hospital to avoid duplication. Patients with planned services, such as surgeries, may intentionally travel longer distances. Non-metropolitan ZIP codes are classified as ‘rural’ using RUCA.

Summary of Slide
Rural Minnesotans have more problems accessing providers

- Rural Minnesotans were more likely to be told that a clinic or doctor’s office was not accepting new patients.

- They were less likely to have problems with providers not being in their network.

Source: Minnesota Health Access Survey, 2017
*Indicates significant difference from Urban at the 95% level.
Urban and Rural defined based on RUCA zip-code approximations.
People in rural Minnesota had the most trouble getting primary care appointments as soon as they were needed.

Among those who weren’t able to get an appointment as soon as needed: Rural Minnesotans were more likely to say they couldn’t get an appointment with a primary care provider as soon as they needed.

<table>
<thead>
<tr>
<th>Type of Provider</th>
<th>Not able to get an appointment as soon as needed</th>
<th>Told by a clinic or doctor’s office that they were not accepting new patients</th>
<th>Told by a clinic or doctor’s office that they did not accept their health care coverage</th>
<th>Not able to get an appointment with desired provider, because provider was not in network</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>48.3%</td>
<td>35.0%</td>
<td>33.0%</td>
<td>35.9%</td>
</tr>
<tr>
<td>Rural</td>
<td>64.6%*</td>
<td>42.3%</td>
<td>31.2%</td>
<td>36.2%</td>
</tr>
<tr>
<td>Specialist</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>38.5%</td>
<td>27.6%</td>
<td>35.7%</td>
<td>37.6%</td>
</tr>
<tr>
<td>Rural</td>
<td>24.8%*</td>
<td>21.1%</td>
<td>39.6%</td>
<td>44.6%</td>
</tr>
<tr>
<td>Dentist</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>9.1%</td>
<td>24.9%</td>
<td>22.6%</td>
<td>16.8%</td>
</tr>
<tr>
<td>Rural</td>
<td>6.6%</td>
<td>35.9%</td>
<td>26.1%</td>
<td>17.1%</td>
</tr>
<tr>
<td>Mental Health</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>8.8%</td>
<td>14.3%</td>
<td>7.8%</td>
<td>12.1%</td>
</tr>
<tr>
<td>Rural</td>
<td>8.7%</td>
<td>6.9%*</td>
<td>5.7%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>0.6%</td>
<td>0.2%</td>
<td>4.8%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Rural</td>
<td>0.7%</td>
<td>0.0%</td>
<td>0.9%*</td>
<td>1.3%</td>
</tr>
</tbody>
</table>

Source: Minnesota Health Access Survey, 2017

*Indicates significant difference from Urban at the 95% level.

Percentages for Type of Provider do not sum to 100 because respondents were able to select more than one type of provider. Urban and Rural defined based on RUCA zip-code approximations.

Summary of Slide

People in rural Minnesota had the most trouble getting primary care appointments as soon as they were needed.
Rural primary care physicians are more likely to fill gaps in care than their urban counterparts

- Rural physicians often fill gaps in care when there is a lack or absence in specialty providers to serve rural populations.

- In areas of Obstetrics/Gynecology, Oral Health, and Pediatrics, rural primary care physicians are 15% more likely to provide some level of care than urban primary care physicians.


* Rural = isolated rural from Rural-Urban Commuting Area codes.
** The most common “other” specialties listed include dermatology; emergency medicine; and orthopedics.

Summary of Slide
Fewer adolescent patients in rural areas are screened for mental health or depression problems

- Half of all mental health conditions begin by age 14.¹
- Early treatment may lead to better outcomes in the long term.

<table>
<thead>
<tr>
<th>Geography</th>
<th>2017 Screening Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metropolitan and Large City</td>
<td>86%</td>
</tr>
<tr>
<td>Small Rural Town</td>
<td>66%</td>
</tr>
<tr>
<td>Isolated Rural</td>
<td>70%</td>
</tr>
<tr>
<td>Statewide</td>
<td>83%</td>
</tr>
</tbody>
</table>

Prescription opioid use is higher in rural areas

- Prescription opioid use has declined over time – but is still higher in rural areas.
- Some counties in Northern Minnesota have especially high rates of prescriptions.

https://www.health.state.mn.us/data/economics/docs/opioidbrief20185.pdf
Summary of Slide
What level of competition do we see among rural health care providers? Do we pay more for health care different in rural areas? How are providers doing financially?
More and more rural hospitals are affiliated with larger hospital and provider systems.

System affiliation is associated with higher net incomes for hospitals.

Average per-person spending on health care is higher in rural Minnesota.

Hospitals provide higher levels of community benefit relative to operating expenses.

Community benefit in rural hospitals is more focused on keeping services available than providing charity care.
Hospital markets in Minnesota are not competitive

- Market concentration can lead to higher prices.
- Only two SCHSAC regions had moderately concentrated markets in 2017.

Source: MDH/Health Economics Program calculation of Herfindahl-Hirschman competition (HHI) index based on net patient revenue from Hospital Annual Report Data. Values in chart are subtracted from 2,500, or a highly concentrated market; positive values indicate a competitive market, negative values indicate a concentrated market. For more information on this index, visit the US Department of Justice website at [www.justice.gov/atr/herfindahl-hirschman-index](http://www.justice.gov/atr/herfindahl-hirschman-index). SCHSAC Regions are defined on slide 6.

Summary of Slide
Half of Minnesota’s rural hospitals were affiliated with a larger provider group in 2017

Hospitals are classified based on RUCA census tracts. Health care systems are ordered by total number of hospitals in descending order.

Source: MDH Health Economics Program analysis of hospital annual reports, October 2019.

### Summary of Slide

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Available Beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanford Health</td>
<td>15</td>
<td>419</td>
</tr>
<tr>
<td>Essentia Health</td>
<td>9</td>
<td>335</td>
</tr>
<tr>
<td>Mayo Clinic</td>
<td>8</td>
<td>179</td>
</tr>
<tr>
<td>Catholic Health Initiatives</td>
<td>4</td>
<td>90</td>
</tr>
<tr>
<td>CentraCare Health System</td>
<td>4</td>
<td>95</td>
</tr>
<tr>
<td>Avera Health</td>
<td>3</td>
<td>80</td>
</tr>
<tr>
<td>Allina Health System</td>
<td>3</td>
<td>111</td>
</tr>
<tr>
<td>Unaffiliated or Single Rural Hospital in Hospital System</td>
<td>45</td>
<td>1,307</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>91</strong></td>
<td><strong>2,616</strong></td>
</tr>
</tbody>
</table>

- Critical Access Hospital
- Non-Critical Access Hospital

Hospitals that are part of larger systems:

- May offer increased access to specialty services only available in urban areas;
- May increase financial viability; and
- Lead to consolidation of services to fewer hospitals, meaning some services may be less available in rural areas.
• Critical Access Hospitals (CAHs) that are part of multi-hospital systems have higher net incomes;

• Independent Hospitals that are not Critical Access Hospitals (CAHs) have the lowest net incomes

*Preliminary data.
Source: MDH Health Economics Program analysis of hospital annual reports, October 2019.
Summary of Slide
Small town rural areas have seen most of the decline in nursing homes attached to hospitals in the past 10 years

- Four of the closed nursing homes were associated with Critical Access Hospitals.
- Having nursing home services attached to hospitals may lead to more days at home for patients;
- However, it may cause financial strain for hospitals if nursing homes are operating at low capacity.

Note: 2018 data is preliminary and is based on charges for nursing homes reported by hospitals. Urban and Rural defined based on RUCA Category A designation. Source: MDH Health Economics Program analysis of hospital annual reports, October 2019.
We spend more per-person on medical care in rural areas

- Rural per capita spending is greater than urban areas for all age groups.
- However, spending varies by region and age group.
- This analysis does not include prescription drug spending.


Note: spending is not age-adjusted and is simply stratified by age group (over age 65 and under age 65). Spending does not include retail prescription drugs.

Summary of Slide
Most spending is for hospital inpatient and outpatient services

Major Spending Category Distribution for Under Age 65

- Hospital (Inpatient and Outpatient): 50.3% Rural, 51.5% Urban
- Clinic Services: 29.5% Rural, 25.9% Urban
- Long Term Care (Including Home Health): 14.7% Rural, 21.6% Urban
- Other: 5.5% Rural, 1.0% Urban

Major Spending Category Distribution for Ages 65+

- Hospital (Inpatient and Outpatient): 54.7% Rural, 51.8% Urban
- Clinic Services: 29.0% Rural, 29.4% Urban
- Long Term Care (Including Home Health): 15.5% Rural, 13.9% Urban
- Other: 0.8% Rural, 4.9% Urban

Source: MDH Health Economics Program analysis of All Payer Claims Database Public Use Files (2014) and population data from the American Community Survey Five-Year 2013-2017 Estimate, October 2019. Note: this does not include retail prescription drugs.

Summary of Slide
Rural hospitals rely more on Medicare than their urban counterparts

<table>
<thead>
<tr>
<th></th>
<th>Critical Access Hospitals</th>
<th>Rural, Non Critical Access Hospitals</th>
<th>Statewide Community Hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009</td>
<td>2018(^1)</td>
<td>2009</td>
</tr>
<tr>
<td>Medicare</td>
<td>41.1%</td>
<td>44.9%</td>
<td>32.8%</td>
</tr>
<tr>
<td>State Public Programs(^2)</td>
<td>9.6%</td>
<td>12.3%</td>
<td>11.5%</td>
</tr>
<tr>
<td>Private Insurance</td>
<td>42.2%</td>
<td>38.3%</td>
<td>49.0%</td>
</tr>
<tr>
<td>Self-Pay</td>
<td>4.1%</td>
<td>2.8%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Other Payers</td>
<td>3.1%</td>
<td>1.7%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Hospital Patient Revenue, All Payers</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

\(^1\)2018 data is preliminary

\(^2\)Includes Medical Assistance and MinnesotaCare.

Percent shown is a percent of Hospital Patient revenue.

Source: MDH Health Economics Program analysis of hospital annual reports, October 2019.
Rural hospitals devote a larger percent of operating expenses to community benefit

- Non-profit hospitals provide community benefit as part of their tax-exempt status.

- Community benefit spending can be categorized into four broad categories:
  - Direct patient care or unreimbursed services
  - Research and education
  - Financial and in-kind contributions
  - Community activities

- Most community benefit is in the “direct patient care” category

Source: MDH, Health Economics Program analysis of Hospital Annual Reports and MDH, Hospital Community Benefit Spending in Minnesota, 2013 to 2015
Summary of Slide
Community benefit for direct patient care is different across the state

- Isolated rural areas focus on operating subsidized services – such as keeping emergency rooms open and staffed;

- State health care programs underpayments – the difference between the cost of care provided to state program patients and the actual payment received – are greater in hospitals located in metropolitan areas, large towns, and small rural towns.

Source: MDH, Health Economics Program analysis of Hospital Annual Reports
Most uncompensated care in rural hospitals is bad debt

- The divide between rural and urban hospitals has been decreasing in the past 5 years, due to lower charity care at urban hospitals.
- Bad debt is not considered community benefit.

**Percent of Uncompensated Care that is Charity Care, 2009 to 2018**

- **Bad Debt**: (care provided, payment expected)
- **Charity Care**: (care provided, payment not expected)
- **Uncompensated Care**: (Care provided but not reimbursed)

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1. 2018 data is preliminary
Source: MDH, Health Economics Program analysis of Hospital Annual Reports.

Summary of Slide
Health Care Transformation

Responding to the Challenges
Trends and Current Thinking in Minnesota
Key points – Health care transformation

• Transforming the health care delivery system and controlling costs while improving access and quality have presented a “wicked problem.”

• Minnesota is responding to this challenge by:
  • Using providers in emerging professions to create more access to care;
  • Leveraging broadband investments through telehealth to deliver expert and specialty care in areas with workforce shortages;
  • Tracking investments in primary care; and
  • Reforming mental health and substance use care systems to deliver more timely and comprehensive services to all in need.
Wicked problems & considerations

What makes it a wicked problem?

• Health care system is fractured—standard market principles don’t apply
• One person’s health expenditure is another’s income
• Economics of low volume/high complexity/high cost care in rural areas
• The value of health is tough to quantify; savings are tough to earn and track
• Focus on medical care vs. health/well-being
• Rural health care facilities are an important part of the economic fabric and history of their communities

Considerations/Responses:

In response to greater patient demand for personalized, digitized and instantaneous value-based access to care:

• More clinics and clinicians are becoming certified as medical and behavioral health care homes;
• Telehealth is being more widely used;
• Efforts are underway to securely & meaningfully exchange health data; and
• Quality measurement and reporting are enhancing market transparency and driving health care quality improvement.

Payment reform and collaboration are leading to discussions of:

• Global budgeting to encourage focus on the needs of the whole community and whole patient, including population health goals; and
• New partnerships and collaboratives to share services when appropriate and create efficiencies.
New and emerging health care roles

Changes in health care delivery have led to an evolution of existing roles and required new and emerging roles in order to meet:

- Shifts from volume to value-based care;
- Changes in cost centers from inpatient to outpatient care;
- Calls to improve patient experience and shared decision-making;
- Need for personalized care; and
- More options for provider-patient cultural concordance.

In Minnesota, emerging providers include Collaborative Practice Dental Hygienists, Community Paramedics, Community Health Workers, and Dental Therapists.
Emerging providers extend provider reach and access

<table>
<thead>
<tr>
<th>New Role/Profession</th>
<th>Role/Need</th>
<th>Credential</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Immigrant Medical Graduate (IIMG)*</td>
<td>Foreign-trained physicians who would like to bring their expertise to serve their new home, and want to become licensed as physicians, nurses or physician assistants.</td>
<td>License</td>
<td>168</td>
</tr>
<tr>
<td>Community Paramedic (CP)</td>
<td>A paramedic with additional training who delivers primary and preventive health care services, often in patients’ homes and community settings, and connects patients to local community and public health resources.</td>
<td>Certificate</td>
<td>144</td>
</tr>
<tr>
<td>Dental Therapist (DT)</td>
<td>A mid-level oral health provider trained to provide both clinical and therapeutic care as part of the dental team in clinic and non-clinic settings. Dental therapists are required to serve the uninsured, underinsured and underserved.</td>
<td>License</td>
<td>100</td>
</tr>
<tr>
<td>Community Health Worker (CHW)</td>
<td>A frontline public health worker who is a trusted member of the community and serves as a liaison to community, health and social services to ensure culturally competent delivery of services and increase access.</td>
<td>Certificate</td>
<td>700+</td>
</tr>
<tr>
<td>Peer Recovery Support Specialist</td>
<td>Provide support for recovery from substance use or co-occurring mental health disorders based on their own lived experience with substance use, recovery strategies and skills.</td>
<td>Certified</td>
<td>227</td>
</tr>
<tr>
<td>Collaborative Practice Dental Hygienist (CPDH) β</td>
<td>A dental hygienist authorized to provide preventative oral health care in non-clinic settings.</td>
<td>License</td>
<td>&lt; 11% of licensed hygienists</td>
</tr>
</tbody>
</table>

* IIMG is not a new provider type. IIMG Assistance program began in 2015 to address barriers and explore pathways to integrate IIMGs into MN’s health delivery system. IIMGs need to US MD license to practice.  
* Foreign credential evaluated for equivalence. US clinical skills assessment & foundational skills building assistance offered.  
β Initially authorized as limited authorization for dental hygienist. 2017 amendment to CPDH – expands location, eliminated clinical requirements, general supervision, DAs can help.  
Summary of Slide.
• Telemedicine is a strategy for addressing some provider shortages and improving access to care in rural areas.

• In Minnesota, from 2010 to 2015, telemedicine services were primarily real-time provider-initiated services in non-metropolitan areas. This may have served to expand access to specialty services for patients enrolled in Medicare and Minnesota Health Care Programs.

• In 2015, over 50 percent of physician-provided telemedicine services in Minnesota were provided by psychiatrists.
Greater investments in primary care are associated with:
  • Lower costs;
  • Higher patient satisfaction; and
  • Fewer ER visits.

As health care systems and payors recognize and acknowledge the benefits listed above, resources and budgets are being shifted to allocate more spending to preventive care and primary care.

In Minnesota, less than 14% of all commercial health care spending is on primary care.

Source: MDH, Health Economics Program, preliminary unpublished analysis from the Minnesota All Payer Claims Database
Efforts are underway in Minnesota to move from “Rule 25” assessments by counties and tribes to providing “direct access” to publicly funded SUD treatment in order to:

• Minimize barriers;

• Ensure timely access to needed services; and

• Provide choice to continue Substance Use Disorder treatment services.

Efforts are also underway to address mental health needs which include:

• Increasing the capacity of inpatient psychiatric beds to provide the right level of care at the right time and in the right facility;

• Ensuring a successful return to the community by providing a continuum of care and services; and

• Developing new services to fill the identified gaps in the mental health care system.
A summary of the charts and graphs contained within is provided at
https://www.health.state.mn.us/facilities/ruralhealth/docs/summaries/ruralhealthcbdata2019.html
Direct links are listed on each page. If you need the information in a different format, please use the contact links above.

Appendix of Data Sources Available Here:
www.health.state.mn.us/facilities/ruralhealth/docs/ruralhealthcbdata2019.pdf

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www.health.state.mn.us/data/economics/chartbook/

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