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Looking at SDOH through a Rural Lens

NDDoH

May 24, 2022

Health Equity

Presented by Brad Gibbens, Acting Director and Assistant Professor

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- Established in 1980, at The University of North Dakota (UND) School of Medicine and Health Sciences in Grand Forks, ND
- One of the country's most experienced state rural health offices
- UND Center of Excellence in Research, Scholarship, and Creative Activity
- Home to seven national programs
- Recipient of the UND Award for Departmental Excellence in Research

Focus on
- Educating and Informing
- Policy
- Research and Evaluation
- Working with Communities
- American Indians
- Health Workforce
- Hospitals, Public Health, EMS, Primary Care, and other systems.

ruralhealth.und.edu

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Three learning objectives of the presentation:

1. Understand how Social Determinants of Health impact rural areas.

2. Awareness of the primary community health needs in rural ND as measured by Community Health Needs Assessments (CHNA).

3. Identify how rural ND communities are responding.

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The Importance of Values

Ultimately our values guide our perceptions toward health, health care, our view of the importance of "community", and the development of public health policy

"It is not what we have that will make us a great nation, it is how we decide to use it"
Theodore Roosevelt

"Vision is the art of seeing things invisible"
Jonathan Swift

"Americans can always be relied upon to do the right thing…after they have exhausted all the other possibilities"
Sir Winston Churchill

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Why is Community Important in Rural Health?

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What Is Rural Health?

- Rural health focuses on **population health** ("community") and improving overall **health status** for rural community members (service and system development)
- Rural health relies on **infrastructure** – the organizations, resources, providers, health professionals, staff, and other elements of a health delivery system working to improve population health (the **rural health delivery system**)
- Rural health ***is not*** **urban health** in a rural or frontier area
- Rural health focuses on **heath equity and fairness**
- Rural health is very **community focused and driven** – interdependent and collaborative
- Rural health is inclusive of **community sectors** – 1) health and human services, 2) business and economics, 3) education, 4) faith based, and 5) local government

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Rural Community and Rural Health

- Communities are comprised of key sectors that have economic, social, and cultural components – together they comprise the town
  - Health (with human services, more integration of functions)
  - Business (can have one or two dominant business types – ag, oil – economic impact of health and health care- CAH $230 million)
  - Education (an active partner in improved community health)
  - Government – city, county, special districts – role of park board with health care)
  - Faith (social and cultural connections – access to health)
- *Viable health systems* need *viable communities* – strong education, business, faith, government and business, AND those sectors need a strong health system (e.g. health access for employees, general health improvement, health care is a significant employer adding to business and schools)

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Stutsman County

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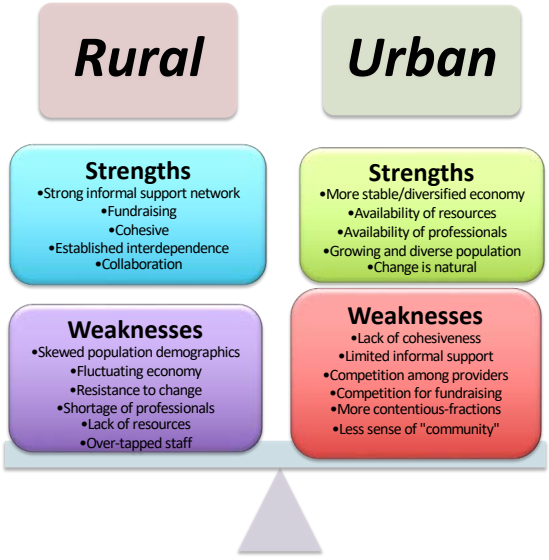
Rural and Urban Strengths and Weaknesses



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It is always about the community

This is what shapes rural health – viable health systems, access to quality health care, improving population health contributes to community health – strong and independent communities

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Why is Community Engagement Important to Rural Health for Population Health Improvement

- Health care providers and organizations cannot operate in isolation from their communities.
- Even more important as we continue to **implement health reform** – new payment models – movement **from volume payments to value based** payments as more and more providers are assessed and reimbursed on outcomes and patient satisfaction. Connect with community.
- **Community members input on needs, issues, and solutions more critical than ever –** community involvement in finding solutions (CHNA) that reflect their needs – **community *ownership* not just the health providers/systems ownership.**
- **Building local leadership and local capacity –** think of the next generation of community health leadership.
- **Communication –** listening to the community – educating the community –meeting community needs –listening to the community. **ESSENTIAL**

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What is population health and how does this relate do social determinants of health?

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Population Health

"Health outcomes of a group of individuals, including the distribution of such outcomes within the group."(Kindig, *What is Population Health?*)

- Groups can be based on geography, race, ethnicity, age, language, or other arrangements of people
- Focus – Health Outcomes (what is changed, what are the impacts, why?)
- What determines the outcomes (determinants of health)?
- What are the public policies and the interventions that can improve the outcomes?

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Health Equity

- "Attainment of the highest level of health for all people. Achieving health equity requires valuing everyone equally with focused and ongoing societal efforts to address avoidable inequalities, historical and contemporary injustices, and the elimination of health and health care disparities." (Healthy People 2020)
- Equity is aspirational and it relates to previous discussion on values.
- To achieve some level of equity we must first address disparities.

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Factors Contributing to Health

Outside Health Care System	Related to the Health Care System	
Societal Factors	**Care Delivery**	**Regulatory Environment**
• Food Safety • Health food availability • Housing conditions • Neighborhood violence • Open space and parks/recreation availability • Genetic inheritance • Disease prevalence • Income levels • Poverty rates • Geographic location • Unemployment rate • Uninsured/underinsured rate • Median age • Sex • Race/ethnicity • Pharmacy availability • Care-seeking behaviors • Health literacy • Patience choice • Morbidity rates • Transportation availability	• Quality of care • Efficiency • Access • Physician training • Health IT system availability • Distance to and number of hospitals, primary and urgent care centers, retail clinics, etc. • Provider supply (MDs, RNs, etc.) • Physician mix (primary versus specialty care) • Payer contracts • Physician employment and payment structure • Disease management • Populations subgroup disparity • Advanced technology availability • Care integration and coordination • Behavioral health availability • Cultural and linguistic access	• Medicare payment rates and policies • Medicare and Medicaid care delivery innovation • CON regulation • Medicaid/CHIP policies (payment rates, eligibility) • Implementation of ACA • Local coverage determinations (LCDs) • Other local, state, and federal laws that impact the way health care is delivered and which treatments are provided

Source: Hospital Research Education Trust, *Managing Population Health, The Role of the Hospital, AHA, 2012*

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Social Determinants

World Health Organization definition:

"the circumstances in which people are born, grow up, live, work and age, and the systems put in place to deal with illness. These circumstances are in turn shaped by a wider set of forces: economics, social policies, and politics."

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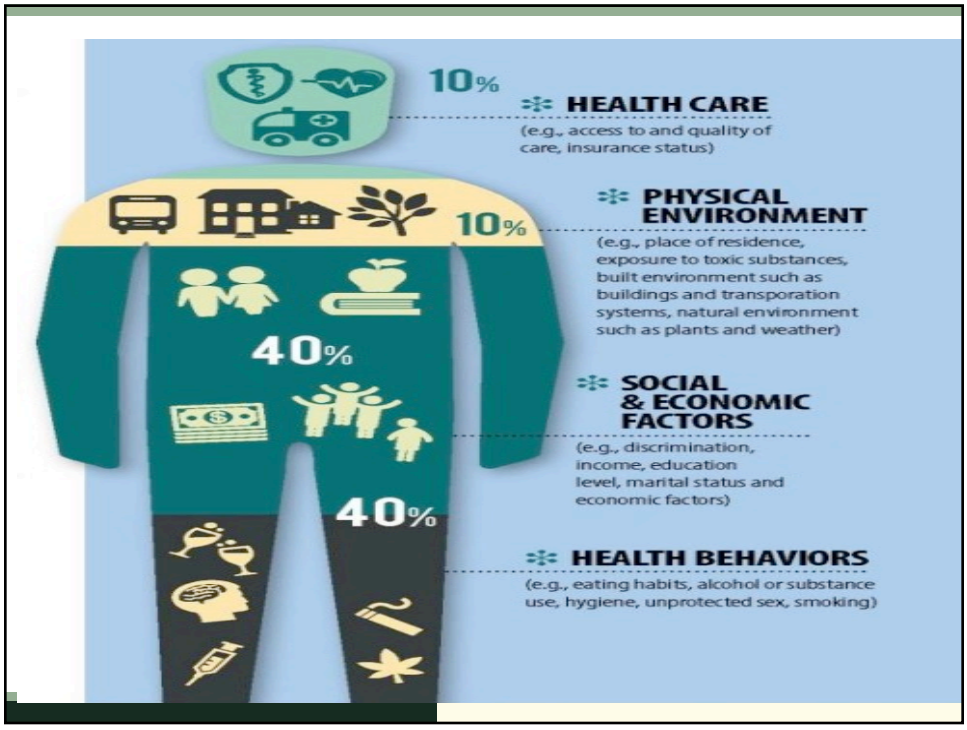

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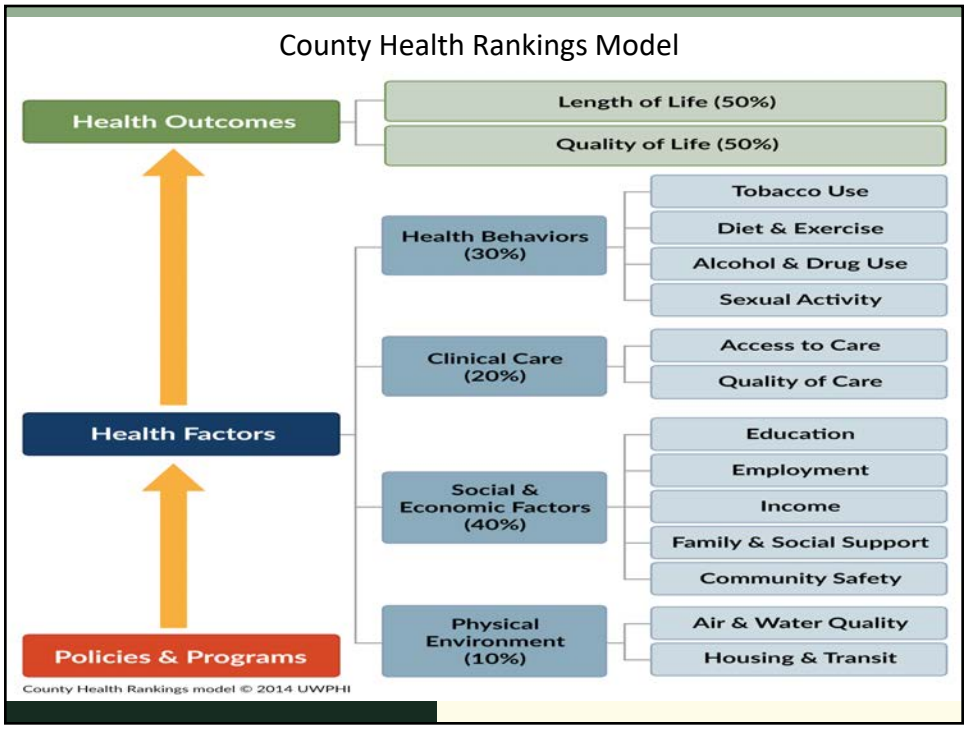
County Health Rankings Model
Health Outcomes
Length of Life (50%)
Quality of Life (50%)
Health Factors
Health Behaviors (30%)
Tobacco Use
Diet & Exercise
Alcohol & Drug Use
Sexual Activity
Clinical Care (20%)
Access to Care
Quality of Care
Social & Economic Factors (40%)
Education
Employment
Income
Family & Social Support
Community Safety
Physical Environment (10%)
Air & Water Quality
Housing & Transit
Policies & Programs
County Health Rankings model © 2014 UWPHI

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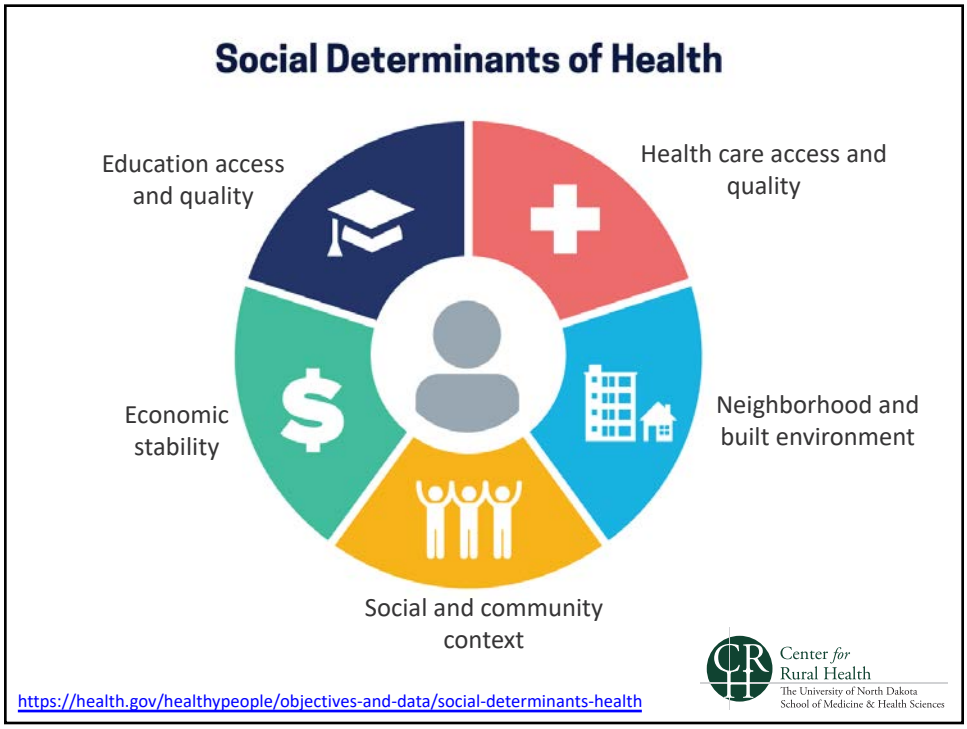
Social Determinants of Health
Education access and quality
Health care access and quality
Economic stability
Neighborhood and built environment
Social and community context
https://health.gov/healthypeople/objectives-and-data/social-determinants-health
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SDOH Toolkit
RHIhub
Rural Health Information Hub
Updates & Alerts | About
Online Library
Topics & States
Rural Data Visualizations
Case Studies & Conversations
Tools for Success
IN THIS TOOLKIT
Modules
1: Introduction
2: Program Models
3: Program Clearinghouse
4: Implementation
5: Evaluation
6: Sustainability
7: Dissemination
About This Toolkit
Rural Health > Tools for Success > Evidence-based Toolkits
> Social Determinants of Health in Rural Communities Toolkit
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Population Health in the Affordable Care Act

- Provisions to expand insurance coverage by improving access to the health care delivery system (Medicaid expansions, state insurance exchanges "Marketplace", support for community health centers, NHSC, safety net)
- Improving the quality of the care delivered (IHI **Triple Aims**, **CMS Center for Medicare and Medicaid Innovation**, and establishment of the **Patient-Centered Outcomes Research Institute)**

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Population Health in the Affordable Care Act

- **CMS Innovation Center** – development and testing of innovative health care payment and service delivery models (better care, better health, and lowered costs through improvements in the health system)
  - **Alternative Payment Models (APM)**
    - This is value based or movement from "volume to value" (care coordination/mg).
    - Accountable Care Organizations (ACO)- Shared Savings is most common-8 CAHs in ND (483 Shared Savings Medicare ACOs nationally 2022-down from 517 in 2020).
    - CMS ACO REACH model – rural oriented.
    - MACRA and MIPS (system change an alternative payment models – clinicians).
    - Continuous change and evolution since 2014.
      - ✓ A range of ACO models and shifts to consolidation – some started and ended.
      - ✓ In 2019 five new Primary Care Initiatives (PCI) – grow out of Comprehensive Primary Care + (Volume to value for clinical providers) (27 rural ND in CPC+)
    - Simultaneous focus on increase quality and lowering cost.
    - Accepting risk – more and more an emphasis "skin in the game" –better outcomes and lower costs
- **BCBSND Blue Alliance**

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Population Health Impacted by 2021 Infrastructure Act

- $1.2 trillion – physical infrastructure that can improve population health
- “Once in a generation investment…think long term”
- Focus
  - Clean drinking water – replace lead water pipes
  - Roads and bridges
  - Air quality
  - Plug orphan oil wells
  - High speed internet –broadband – telehealth access –new Affordable Connectivity Program – rural and tribal impact
  - Electric transmission –invest in a clean energy power grid

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Social and Economic Factors of SDOH

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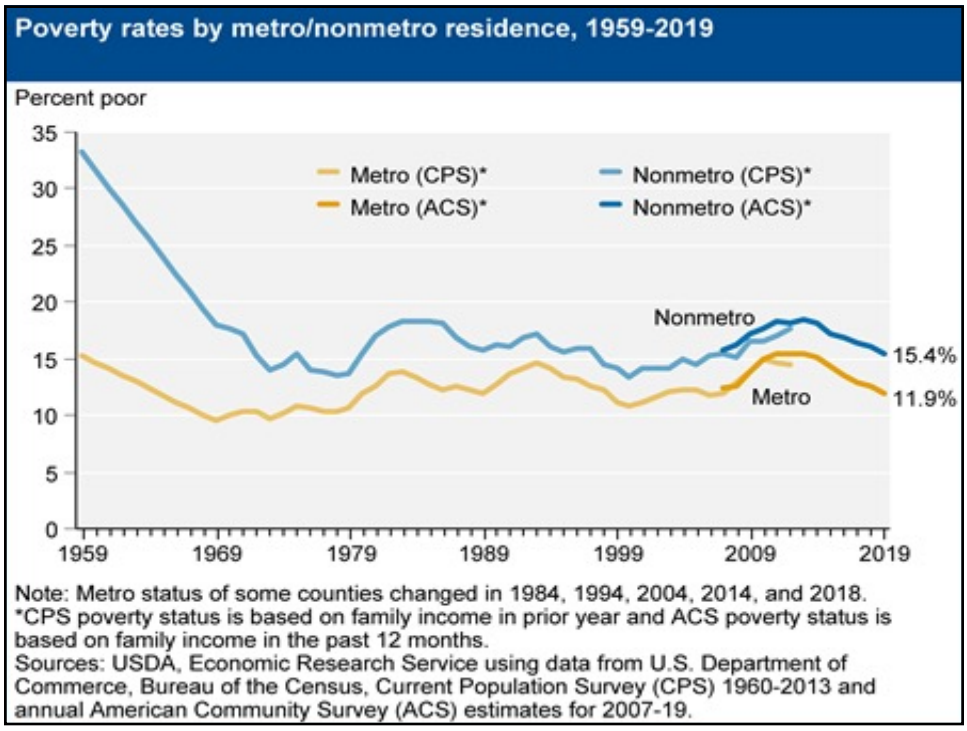

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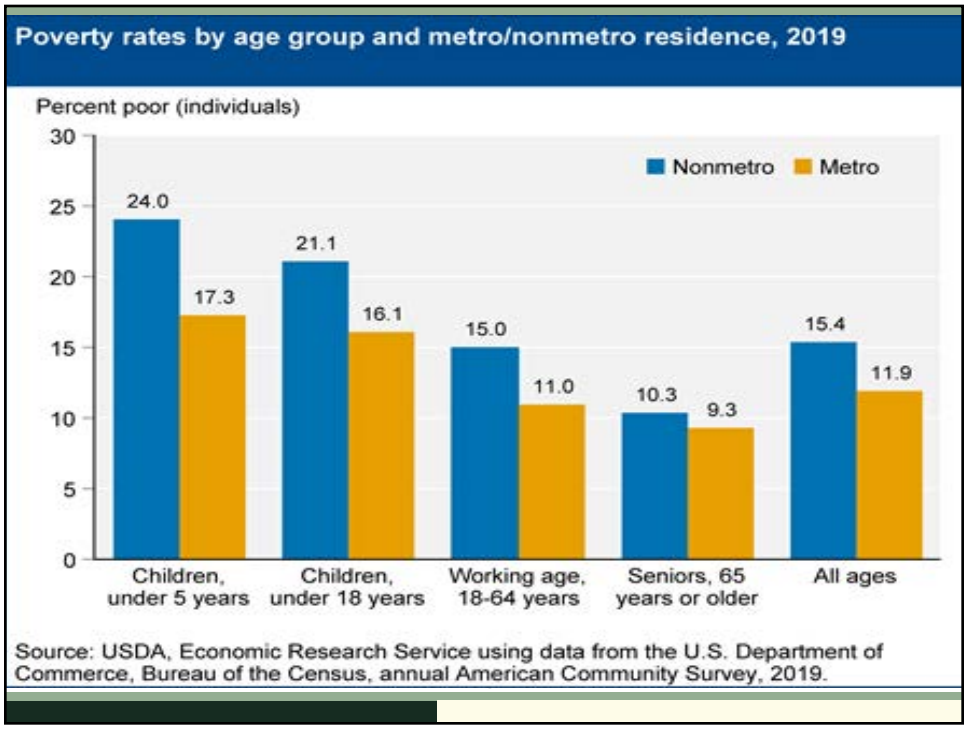
Poverty rates by age group and metro/nonmetro residence, 2019
Percent poor (individuals)
30
25
20
15
10
5
0
Nonmetro
Metro
24.0
17.3
21.1
16.1
15.0
11.0
10.3
9.3
15.4
11.9
Children, under 5 years
Children, under 18 years
Working age, 18-64 years
Seniors, 65 years or older
All ages
Source: USDA, Economic Research Service using data from the U.S. Department of Commerce, Bureau of the Census, annual American Community Survey, 2019.

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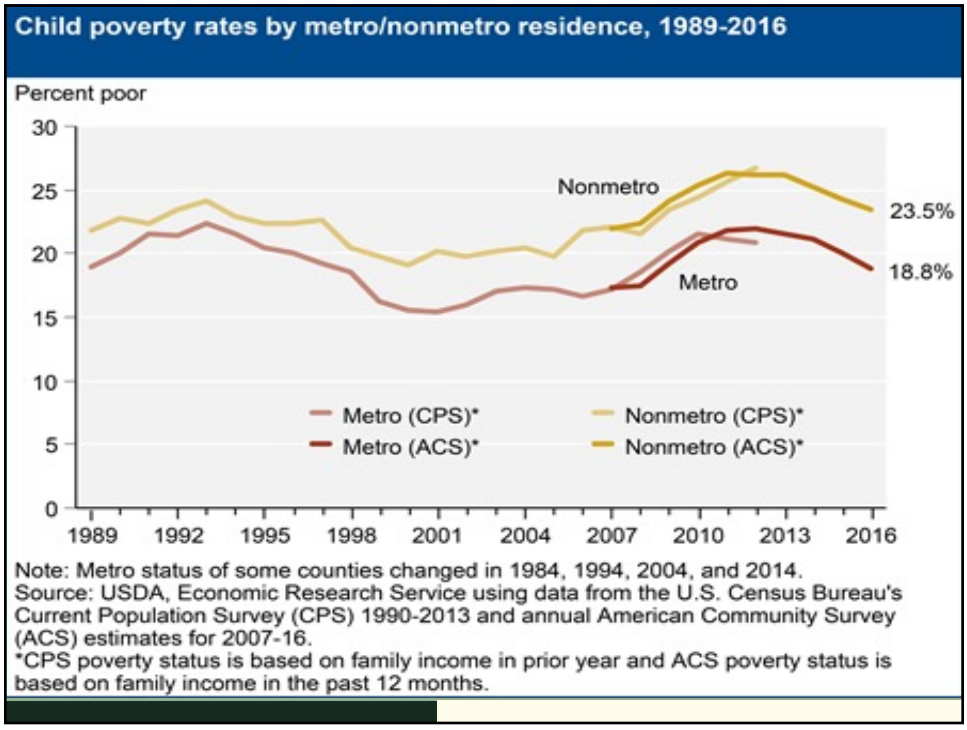
Child poverty rates by metro/nonmetro residence, 1989-2016
Percent poor
30
25
20
15
10
5
0
Nonmetro
Metro
23.5%
18.8%
Metro (CPS)*
Metro (ACS)*
Nonmetro (CPS)*
Nonmetro (ACS)*
1989
1992
1995
1998
2001
2004
2007
2010
2013
2016
Note: Metro status of some counties changed in 1984, 1994, 2004, and 2014.
Source: USDA, Economic Research Service using data from the U.S. Census Bureau's Current Population Survey (CPS) 1990-2013 and annual American Community Survey (ACS) estimates for 2007-16.
*CPS poverty status is based on family income in prior year and ACS poverty status is based on family income in the past 12 months.

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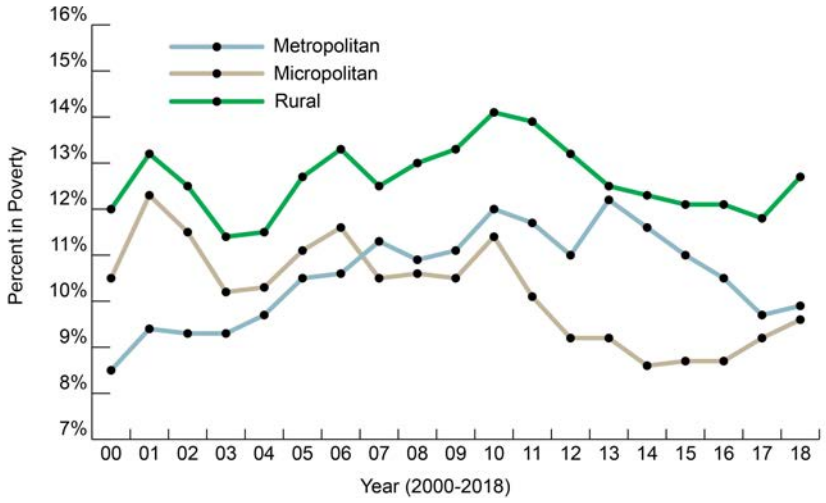
Figure 1.5 Poverty in North Dakota by rural, micropolitan, and metropolitan areas.



In 2018, the federal Office of Management and Budget (OMB) considered the poverty level for a family of two to be $16,460 and for a family of four it was $25,100. In 2018, 10.6% of North Dakota residents were in poverty (the U.S. had 13.1% in poverty) and lived in all regions of North Dakota. Poverty rose from 8.5% to 9.9% in metropolitan areas since 2000, and in rural areas it remained roughly the same, from 12.0% to 12.7%. The poverty rate from 2000 to 2018 was higher in North Dakota than other areas.

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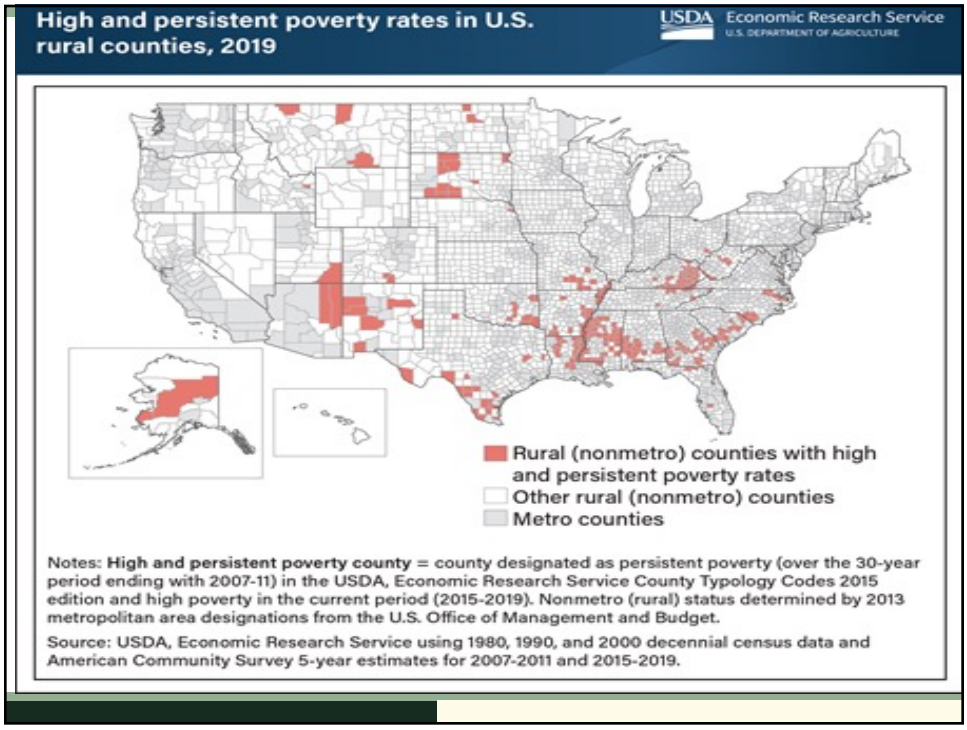
High and persistent poverty rates in U.S. rural counties, 2019
USDA Economic Research Service
U.S. DEPARTMENT OF AGRICULTURE
Rural (nonmetro) counties with high and persistent poverty rates
Other rural (nonmetro) counties
Metro counties
Notes: High and persistent poverty county = county designated as persistent poverty (over the 30-year period ending with 2007-11) in the USDA, Economic Research Service County Typology Codes 2015 edition and high poverty in the current period (2015-2019). Nonmetro (rural) status determined by 2013 metropolitan area designations from the U.S. Office of Management and Budget.
Source: USDA, Economic Research Service using 1980, 1990, and 2000 decennial census data and American Community Survey 5-year estimates for 2007-2011 and 2015-2019.

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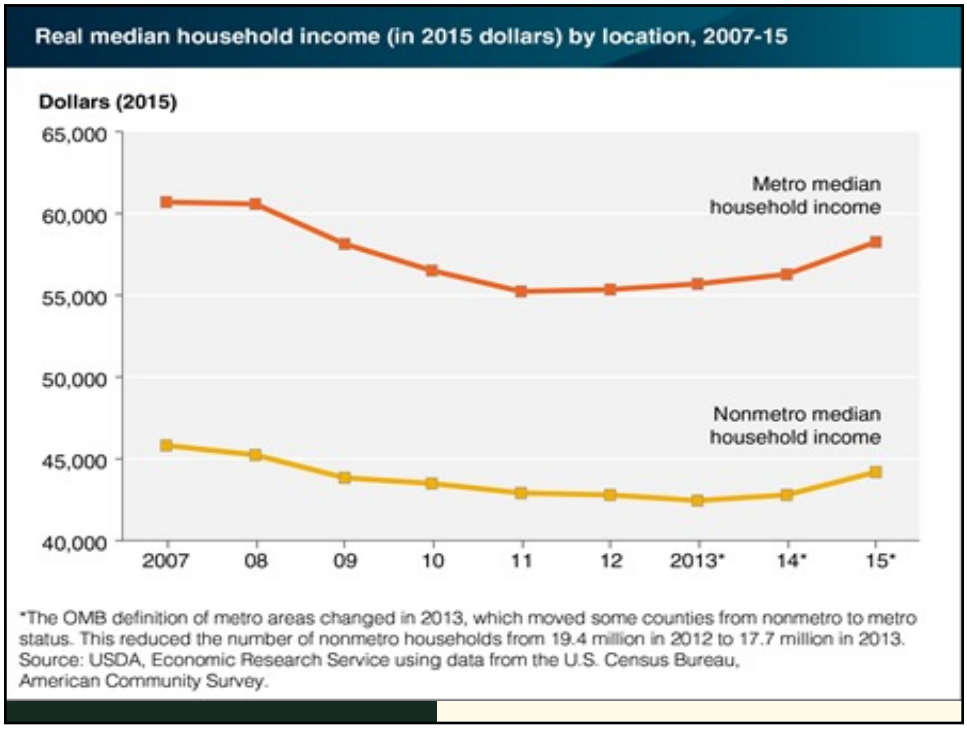
Real median household income (in 2015 dollars) by location, 2007-15
Dollars (2015)
65,000
60,000
55,000
50,000
45,000
40,000
Metro median household income
Nonmetro median household income
2007
08
09
10
11
12
2013*
14*
15*
*The OMB definition of metro areas changed in 2013, which moved some counties from nonmetro to metro status. This reduced the number of nonmetro households from 19.4 million in 2012 to 17.7 million in 2013.
Source: USDA, Economic Research Service using data from the U.S. Census Bureau, American Community Survey.

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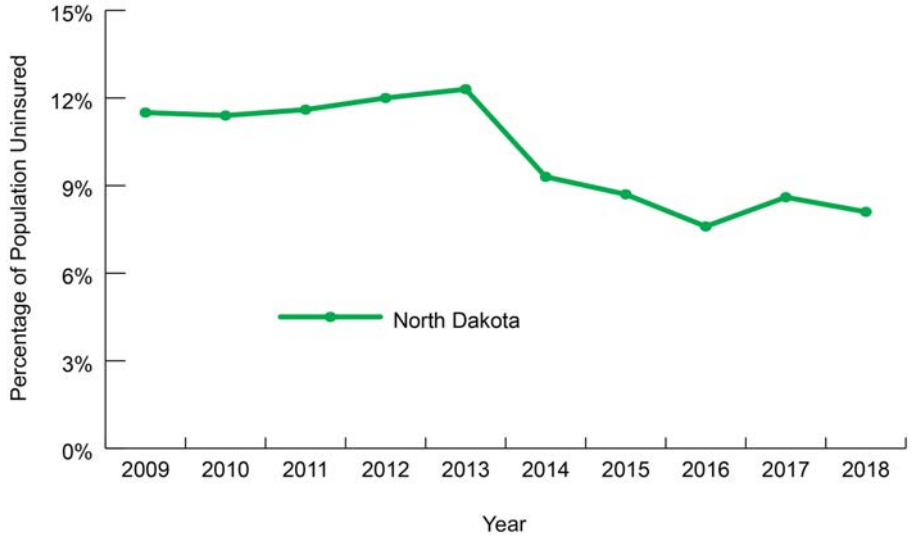
Figure 2.12 Percent of population with no health insurance coverage in North Dakota from 2009-2018



Between 2013 and 2016 North Dakota had a notable drop in the uninsured rate, and since 2013 the uninsured rate has not gone above 10%.

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SDOH for Rural American Indian and Alaska Natives

- **Rural American Indian/Alaska Native (AI/AN) populations experience both personal and community disadvantages**. In 2016, rural AI/AN were:
  - More likely to live in poverty (29%) than their rural white peers (10%).
  - More likely to live in counties falling into the highest quartile in the US for the proportion of households in poverty (61% or rural AI/AN rural residents versus 46% of rural white residents).
  - More likely to live in persistent poverty counties (37%) of rural AI/AN versus 9% of rural white residents).
  - Rural AI/AN adults were much more likely to live in counties where > 16% of the population lacked health insurance (55% versus 19%).
  - Rural AI/AN age adjusted mortality rates were higher than those of white residents.
  - Prevalence of self reported poor/fair health was 23% for AI/AN versus 16% for white residents.
  - Higher obesity – 35% vs. 31%.
  - (Source: *Rural and Minority Health Research Center, University of South Carolina, July 2019).*

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SDOH and Health Care Factors

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General Observations on the Health Care System

- Most people give too much credit to health care/clinical care when thinking of their health and not realizing it is likely 10-20% of health status.
- US spends more on health care than any other country at about $4 Trillion a year ($12,000 per capita vs. Germany, $6,700; France, $5,500; Canada, $5,400; United Kingdom, $5,200; and Japan, $4,700. (2020 data). (Source Commonwealth Fund)
- 19% of US GDP – Germany, 11%; Canada, 11%, and GB, 10%.
- We spend more yet health outcomes are lower.
  - Lower life expectancy with the US at 78.6 years and Switzerland at 83.6 years. (Varies by race). American Indian is about 73 years.
  - US has highest chronic disease burden.
  - US has highest suicide rate.
  - US has highest rates of obesity.
  - US residents visit medical providers less frequently.
  - US second highest rate of hospitalization for hypertension and diabetes.

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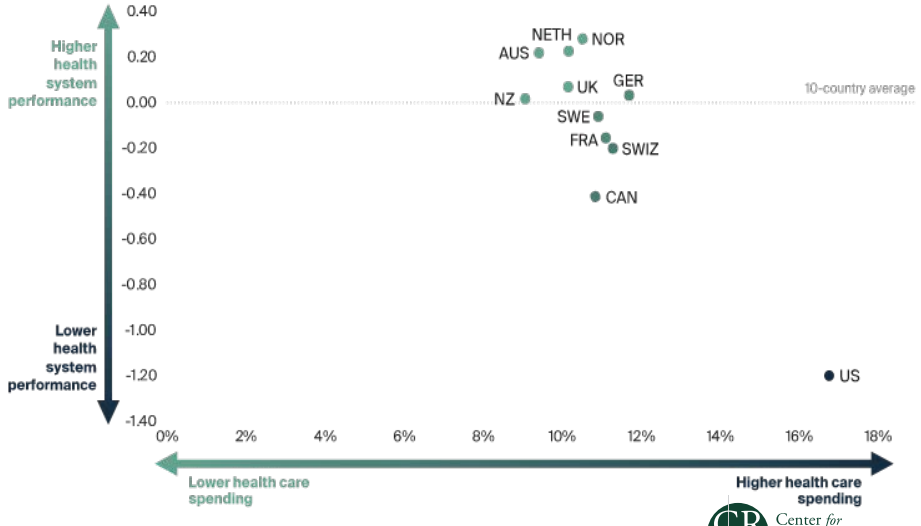
Health Care System Performance Compared to Spending (August 2021 Commonwealth Fund)



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Factors that Influence the North Dakota Health Care System

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welcome to
North Dakota
LEGENDARY

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AD-DIVIDE COUNTY COURT HOUSE-1917

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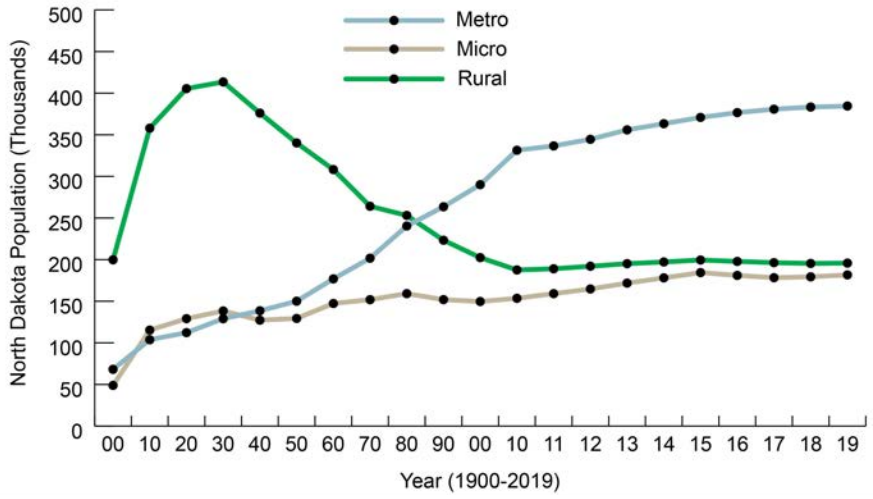
Figure 1.10 Population in North Dakota from 1900 to 2019 by metropolitan, micropolitan, and rural counties.



Rural population decreased from 1930 to 2010, but has remained stable since then. Since 1990, metropolitan population has been higher than rural population. Population in rural North Dakota counties was up to three times as high as metropolitan or micropolitan populations into the 1930s. Then a sharp increase in metropolitan populations and decrease in rural populations caused the rural counties' populations to become less than the metropolitan counties by the 1980s.

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Figure 9.1 Hospitals in North Dakota compared to primary care health professional shortage areas.

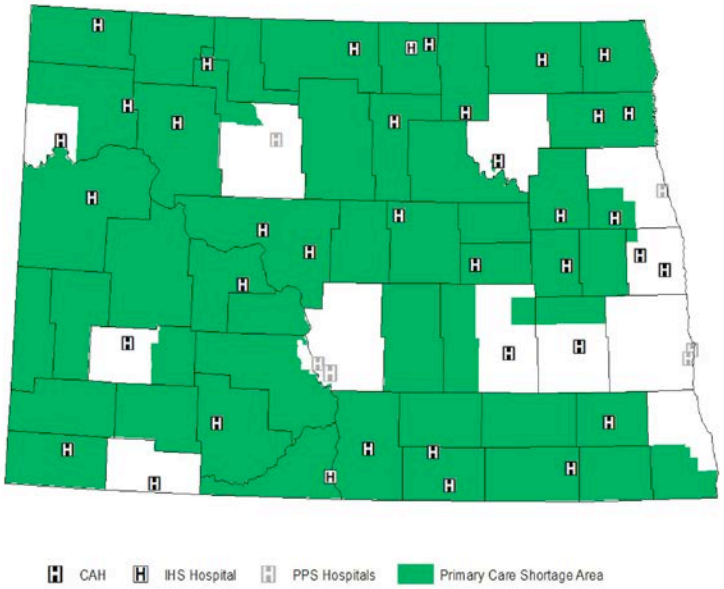

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Figure 9.2 Critical access hospital and tertiary care network service areas.

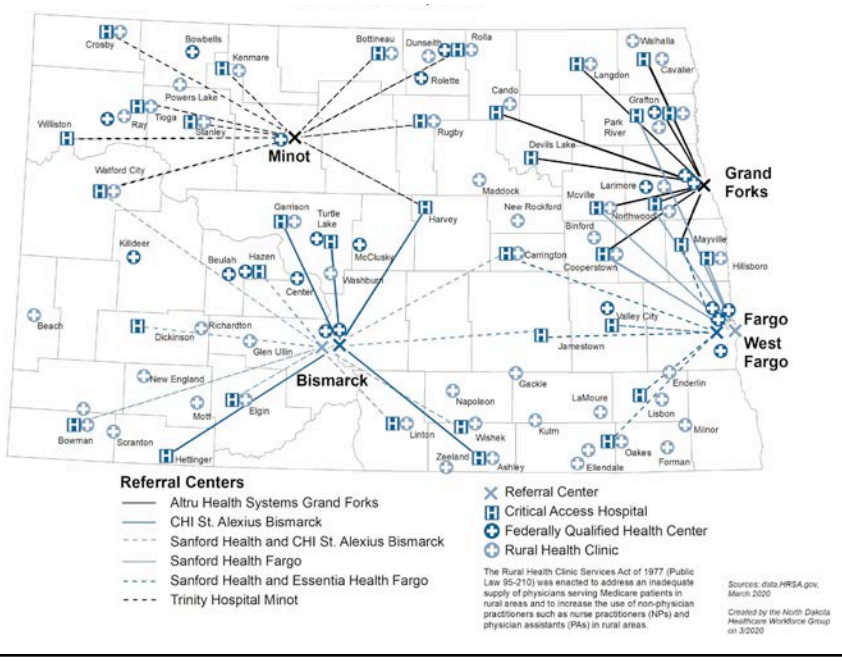

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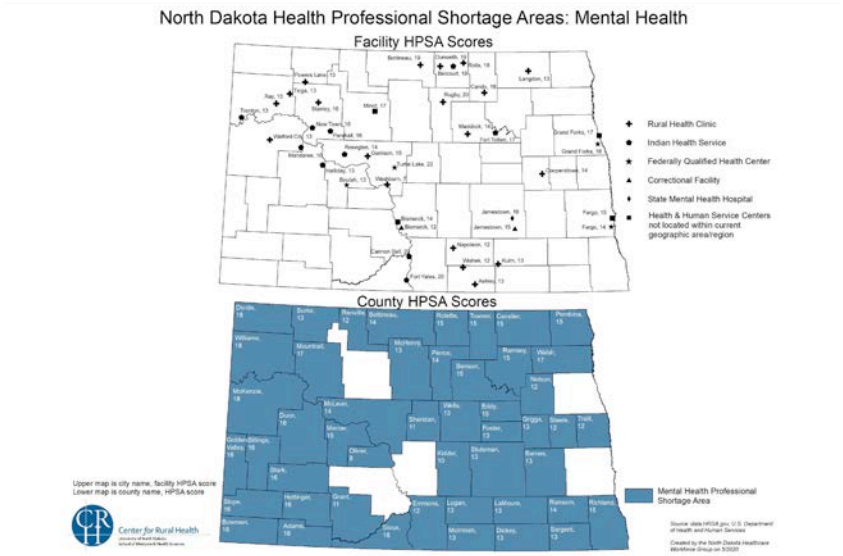
Figure 2.11 Mental health professional shortage areas (HPSAs) and facilities in North Dakota, 2020.



The majority of counties in North Dakota are designated as mental health professional shortage areas.
The ones that are not designated contain or are adjacent to the cities of Grand Forks, Fargo, Bismarck, and Minot.

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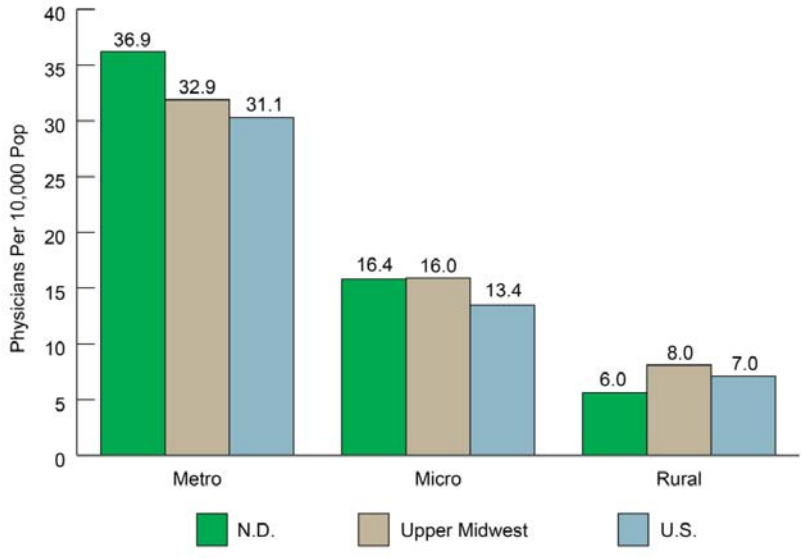
Figure 4.3 Physicians per 10,000 population for North Dakota with comparisons, 2017.



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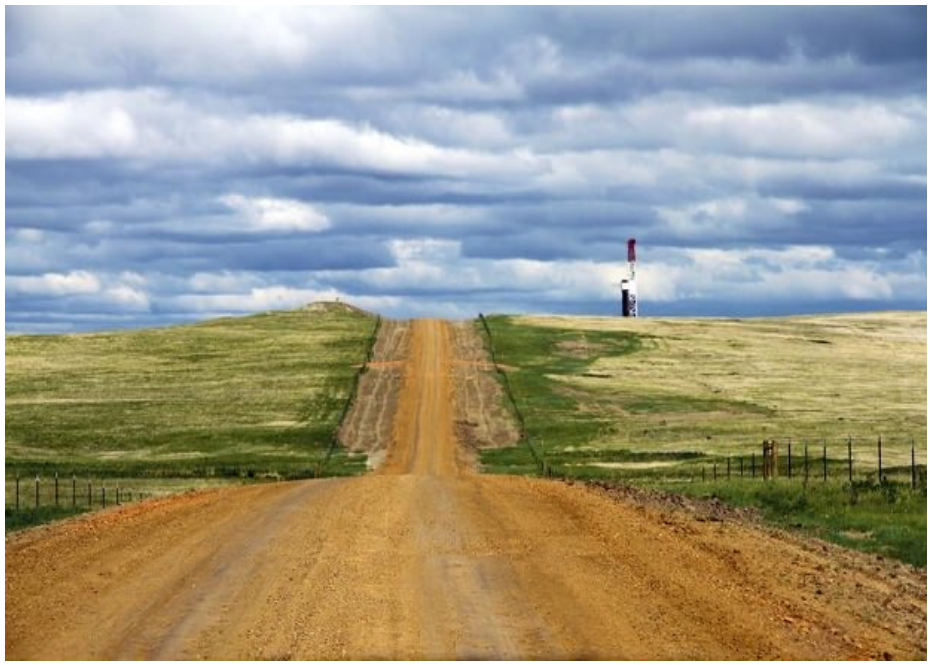

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Figure 5.3 Primary care physicians per 10,000 population in North Dakota, with comparisons, 2017

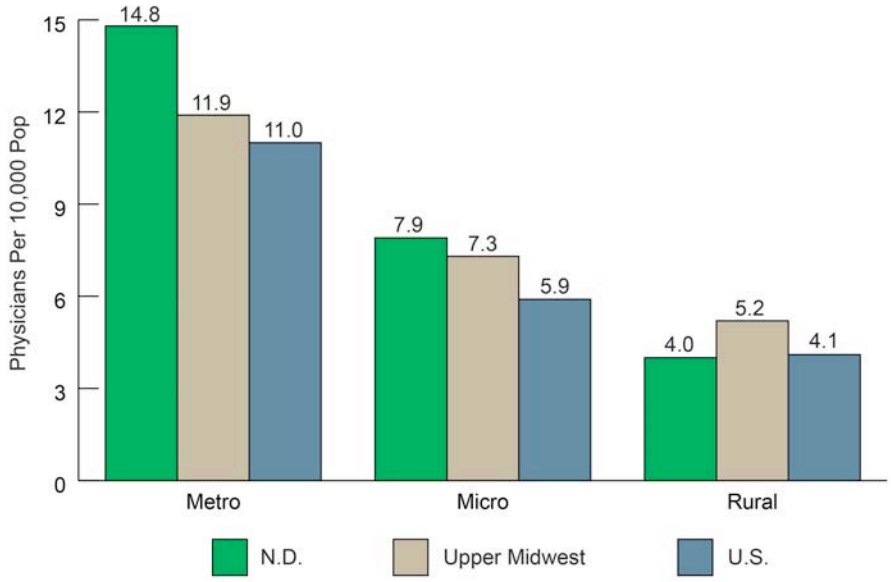

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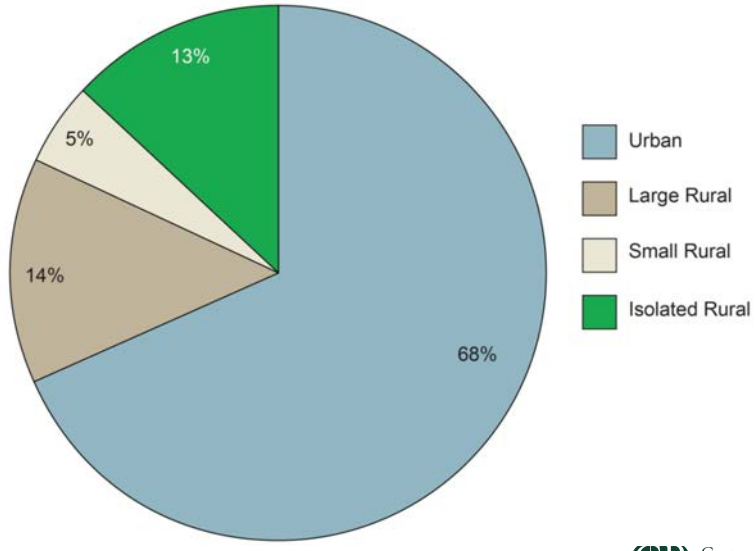
Figure 6.3 RNs' employment based on RUCA code.



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Mortality

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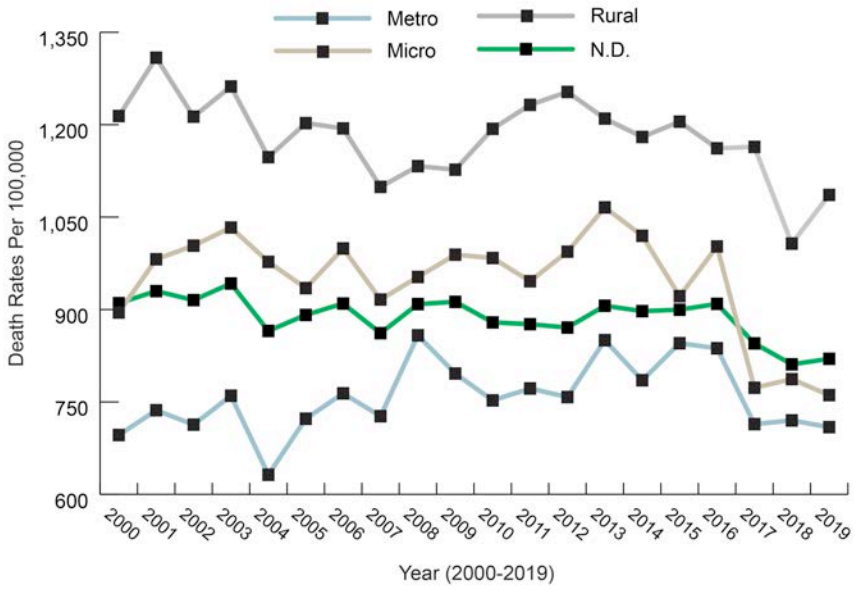
Figure 3.8 Changes in North Dakota mortality rates from 2000 to 2019 for metropolitan, micropolitan, and rural areas.



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It is always about the community

This is what shapes rural health – viable health systems, access to quality health care, improving population health contributes to community health

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CRH Partnership with Rural Communities

- Brain injury resources
- Behavioral Health Bridge
- Community Engagement Tool Kit
- Community Assessments and Analysis
  - Community Health Needs Assessment
  - Special Studies (e.g., assisted living, wellness centers, other)
  - Identifying Our Needs: A Survey of Elders (NRCNAA)
- Focus groups
- Key informant interviews (one-on-one)
- Strategic planning (organizational planning and community health planning)
- Internal Personnel Audit (staff satisfaction with work environment)
- Grant writing workshops
- Grant proposal critiques and background searches
- Rural Health Information Hub –RHI Hub (https://www.ruralhealthinfo.org/)
- Community forum and/or meeting facilitation
- Program Evaluation
- Speakers Bureau – annual meetings or special presentations (rural health, health policy, Native American, aging, engaging your community, evaluation/program sustainability, HIT, quality improvement, TBI, network and system development, veterans, workforce strategies, and other subjects – *just ask!)*
- CAH Quality Network – quality metrics, data, CAH directed
- Quality Collaborative (and Care Coordination training)
- RHC Network (NEW 2022)
- QSP development and training –Originally Native focused now expanded to QSP Hub
- Native Elder Care Giver Curriculum (NECC)
- Education – statewide assessments (hospital and public health), presentations, research, Dakota Conference
- Workforce – R&R, Pathway (HOSA, R COOL Health Scrub Camps and Scrub Academy), HPSA, loan repayment, partner with NDDoH on PCO

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Health Issues According to Rural North Dakotans 2020

- **CRH Community Health Needs Assessment Process (CHNA)** in 2017-2019 conducted with rural hospitals and many public health units (required under ACA for non-profit)
- All 36 CAHs reporting
- Top 2-5 ranked community health issues -139 needs ranked (3.9 per CHNA) -25 categories
- **Issues**

Substance Abuse	30 of 36 CAH communities
Mental Health	30 of 36 CAH communities
Attracting and retaining young families	16
Having enough child daycare services	11
Ability to retain primary care providers	11
Availability of resources elders in their homes	6
Not enough jobs with livable wages	5
Cancer	4
Obesity	4
Affordable Housing	3
Bullying/Cyberbullying	3
Cost of health insurance	3

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Rural ND Addressing Community Health (CHNA)

- **Obesity and physical activity**
  - Community farmer's market
  - Pilot wellness programs with hospital staff
  - Monthly cooking classes
  - 12 week weight management program
  - Community run and/or walk
  - Community access to school fitness center
  - CDM monitor program
  - Target fitness and exercise to elderly (stretching and movement)
  - Step competitions (pedometers)
  - Grants for Community Health

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Rural ND Addressing Community Health (CHNA)

- **Healthcare workforce**
  - Increase use of social media
  - Create community marketing group – hospital, economic development, chamber of commerce
  - Support local students, financial support for nursing and medicine, and other health professions
  - Create local R & R committee with representatives from community – school, bank, business, realtor, church, younger people
  - Create a promotional video
  - Work with CRH workforce specialist

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Rural ND Addressing Community Health

- **Mental health**
  - Hire mental health nursing specialist in the hospital
  - Develop mental health screenings in schools
  - Connect to "Behavioral Health Bridge" at UNDSMHS and UNDCONPD https://ruralhealth.und.edu/projects/behavioral-health-bridge
  - Support groups
  - Work with university MSW, counseling, and psychology programs for student interns
  - Tele-mental health

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Rural ND Addressing Community Health (CHNA)

- **Not Enough Jobs with Livable Wages**
  - Promote jobs in healthcare as they tend to provide high paying jobs. Jobs.net website lists all jobs by North Dakota community
  - Create a liaison between hospital and area economic or jobs development corporation to promote economic impact of healthcare jobs. North Dakota CAHs have an average economic impact of $6.4 million and contribute about 220 jobs to the community
  - Start a local scholarship for health education with understanding recipient returns to the community for service for a specified period of time
  - Focused community dialogue on job growth

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Rural ND Addressing Community Health (CHNA)

- **Child Daycare Services**
  - Offer incentives in the form of subsidies for licensed home daycare providers and/or subsidies to employees
  - Promote Child Care Aware of North Dakota as resource to find local child care centers
  - Offer extended Clinic hours, in evenings and weekends, for working parents
  - Offer hospital supported day care for healthcare employees

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RHIhub
Rural Health Information Hub

Customized Assistance

Tailored Searches of Funding Sources for Your Project

Foundation Directory Search

FREE Service!

info@ruralhealthinfo.org

1-800-270-1898

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Wolf Mountain Prairie

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Rural Health Research Gateway

Gateway provides easy and timely access to research conducted by the Rural Health Research Centers

ruralhealthresearch.org

This free online resource connects you to:

- Research and Policy Centers
- Products & Journal Publications
- Fact Sheets
- Policy Briefs
- Research Projects
- Email Alerts
- Experts
- Dissemination Toolkit

Per Ostmo, MPA, Program Director
Tel: (701) 777-6522 • per.ostmo@UND.edu

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twitter.com/rhrgateway

Funded by the Federal Office of Rural Health Policy, Health Resources and Services Administration.

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Contact us for more information!

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ruralhealth.und.edu

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Additional Slide

- **Not part of formal presentation but useful information**

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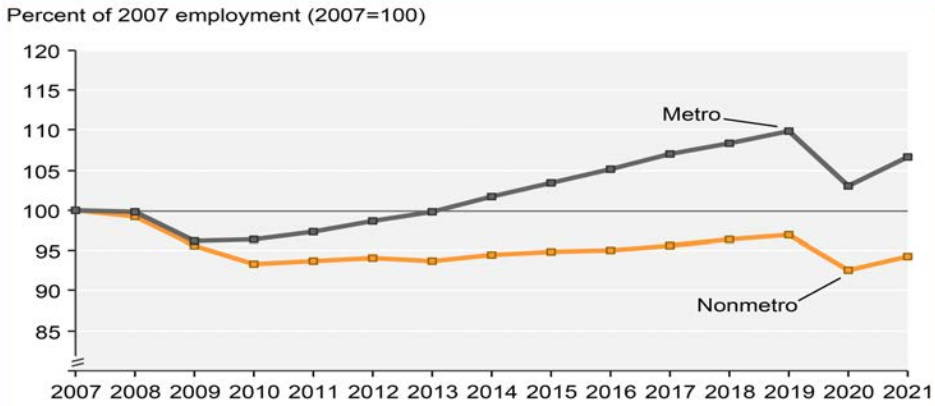
U.S. employment in metro and nonmetro areas, 2007–21



Note: Annual average total employment estimates for 2021 are calculated using preliminary December 2021 data. Metro and nonmetro designations are based on the 2013 definition of metropolitan counties, as determined by the U.S. Office of Management and Budget.
Source: USDA, Economic Research Service using data from the U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics program (March 2, 2022 release).

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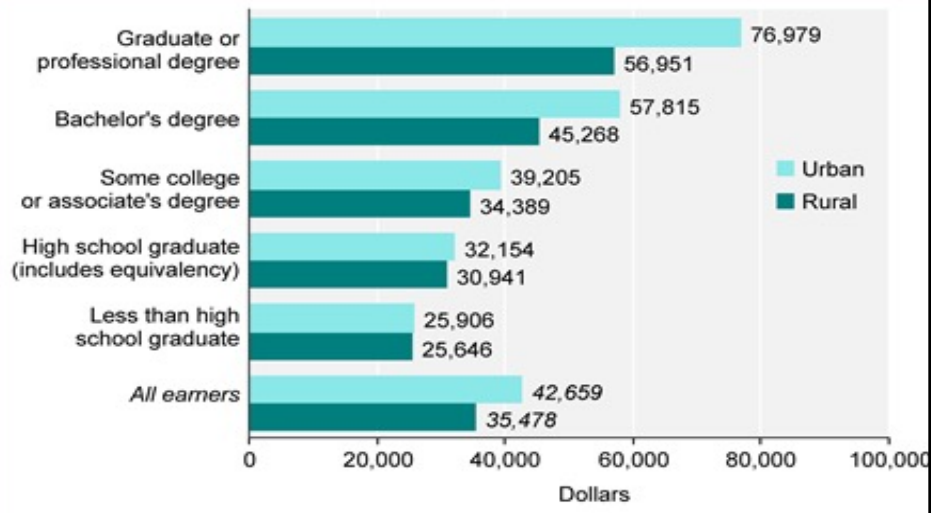
U.S. median earnings in rural and urban areas by educational attainment, 2019



Note: Median earnings in 2019 dollars for all earners 25 and older. Urban and rural status is determined by Office of Management and Budget's 2018 metropolitan area definitions.
Source: USDA, Economic Research Service using data from the U.S. Department of Commerce, Bureau of the Census, 2019 American Community Survey.

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Figure 2.9 Primary care health professional shortage areas (HPSAs) and facilities in North Dakota, 2020.

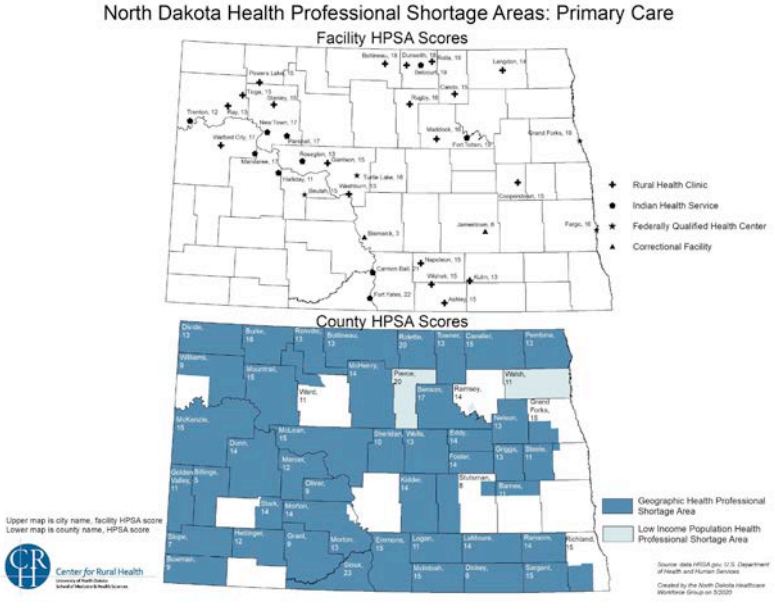

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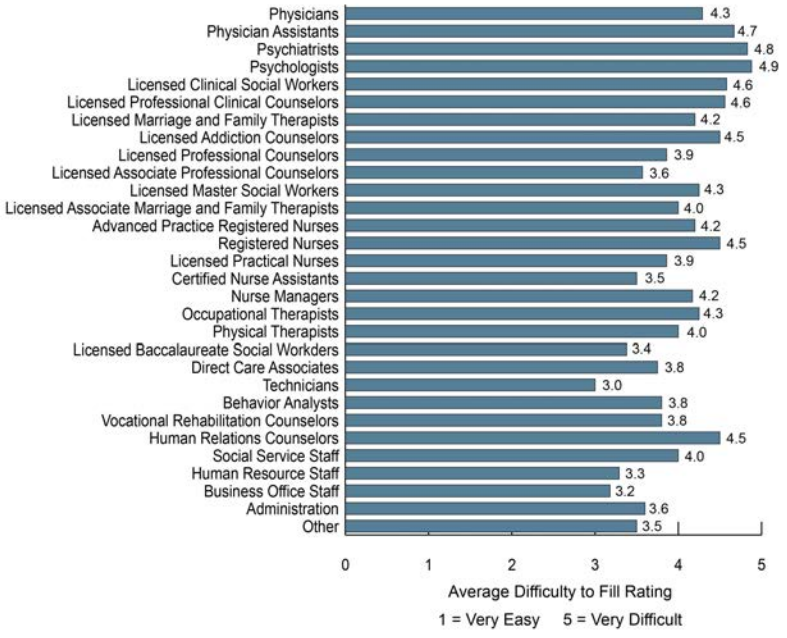
Figure 8.3 Average rated difficulty filing each position type, 2020



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Health Disparity

- "a particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage. Health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group; religion; socioeconomic status; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion." (Healthy People 2020)
- Social Determinants of Health are factors to consider.
- We work to address SDOH to address disparity so as to achieve health equity and to improve population health (very simple).

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Health Behavior Factors on SDOH

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General Observations on Rural Health Behaviors

- **Health behaviors include activities** like physical activity, diet and nutrition, social engagement, safety, avoiding tobacco and other harmful substances, and other actions that contribute to general health and quality of life (Determinants of Health in Rural Communities, Henning-Smith).
- Rural have **limited access to healthy food** and fewer opportunities to be physically active compared to urban.
- Rural residents **higher rates of smoking, higher risk jobs, higher sedentary life style, and lower rates of maintaining healthy body weight** (Henning-Smith).
- Can lead to **greater rates of obesity**, high blood pressure, diabetes, and cancer.
- Can lead to **higher rates of poor health outcomes and mortality** (Henning-Smith).
- Consider how socio-economic, physical, and heath care **all influence health behaviors.**

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Socio-Economic Impact on Health Access

- Poverty, income, education, and employment status contribute to:
  - Health insurance coverage- affordability, access
  - The ability to pay out-of-pocket costs such as co-pays and prescription drug costs
  - Time off from work to go to an appointment
  - A means of transportation to visit a healthcare provider
- The skills to effectively communicate with healthcare providers
- An expectation that they will receive quality care, whatever their race/ethnicity or income level.

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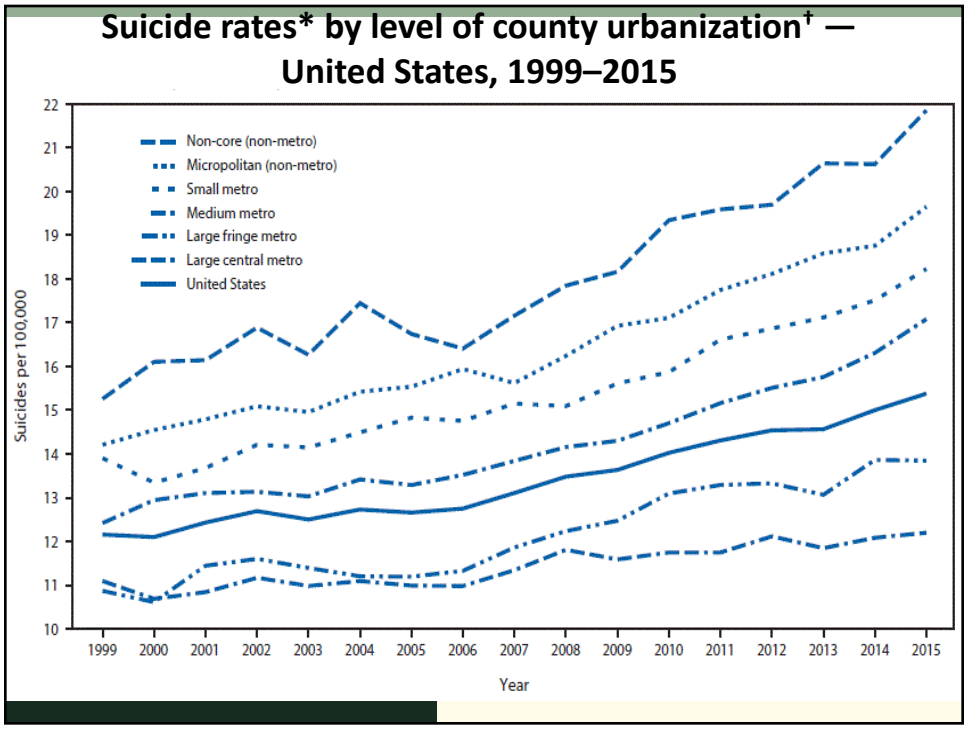
Suicide rates* by level of county urbanization† — United States, 1999–2015
Non-core (non-metro)
Micropolitan (non-metro)
Small metro
Medium metro
Large fringe metro
Large central metro
United States
Suicides per 100,000
Year

87

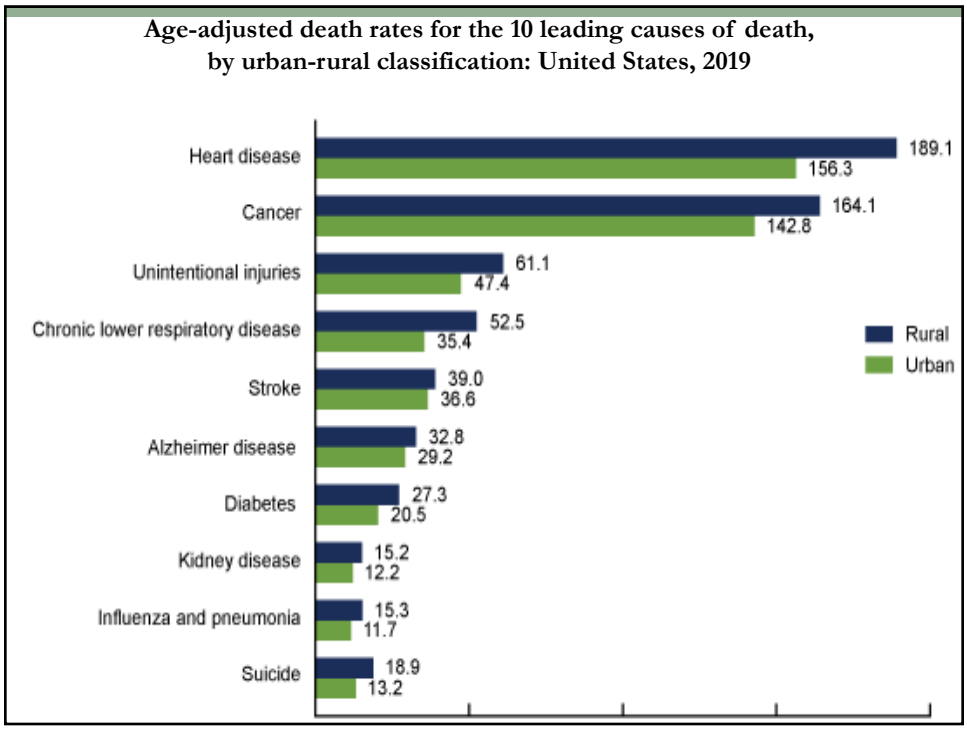
Age-adjusted death rates for the 10 leading causes of death, by urban-rural classification: United States, 2019
Heart disease
189.1
156.3
Cancer
164.1
142.8
Unintentional injuries
61.1
47.4
Chronic lower respiratory disease
52.5
35.4
Stroke
39.0
36.6
Alzheimer disease
32.8
29.2
Diabetes
27.3
20.5
Kidney disease
15.2
12.2
Influenza and pneumonia
15.3
11.7
Suicide
18.9
13.2
Rural
Urban

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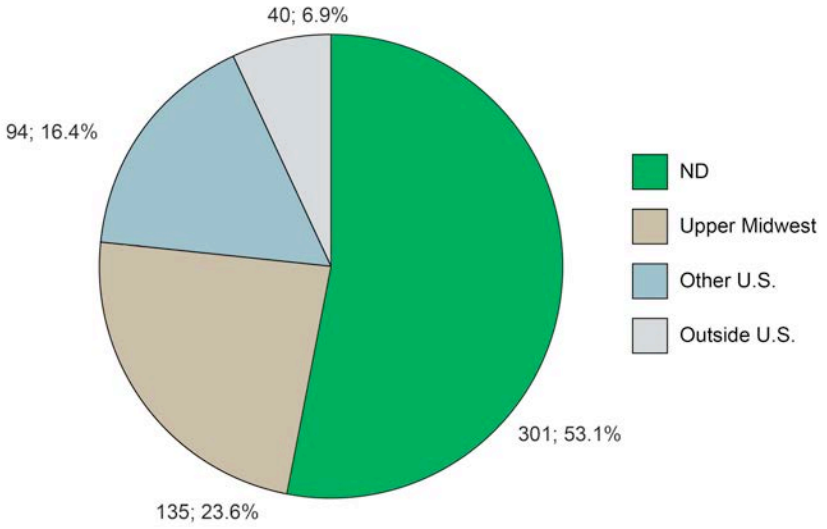
Figure 5.6 Locations where North Dakota primary care physicians completed their residency, 2019



More than half (53.1%) of North Dakota's currently practicing primary care physicians competed their residency training in North Dakota. Primary care physicians who graduated from residency programs outside of North Dakota came from the Midwest (23.6%), other United States (16.4%), Canada and other foreign (6.9%).

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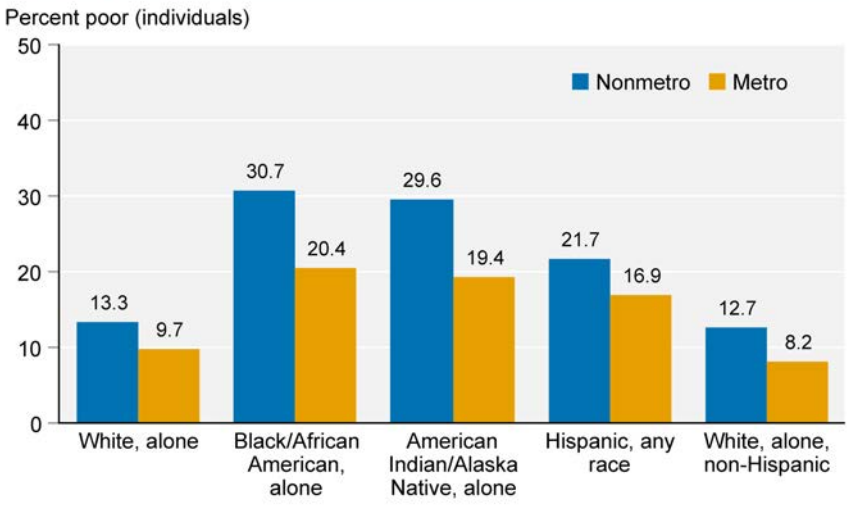
Poverty rates by selected race/ethnicity and metro/nonmetro residence, 2019



Note: "Alone" indicates a single answer to the race question; Hispanics may be any race. "White, alone, non-Hispanic" are individuals who responded "No, not Spanish/Hispanic/Latino" and who reported "White" as their only entry in the race question.
Source: USDA, Economic Research Service using data from U.S. Department of Commerce, Bureau of the Census, annual American Community Survey, 2019.

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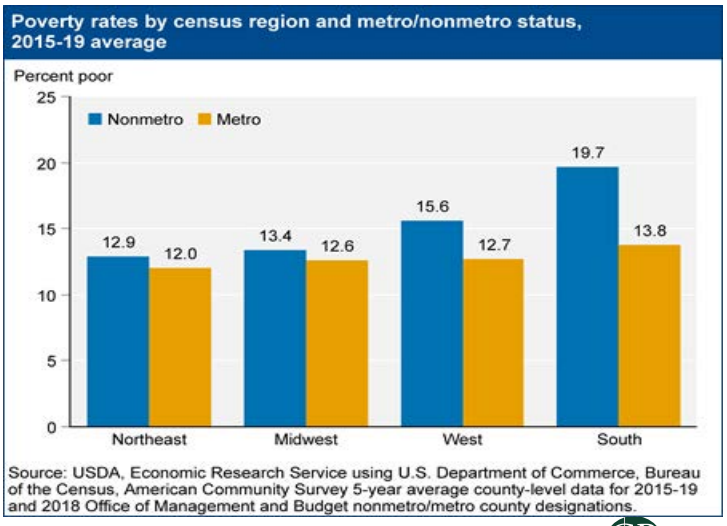

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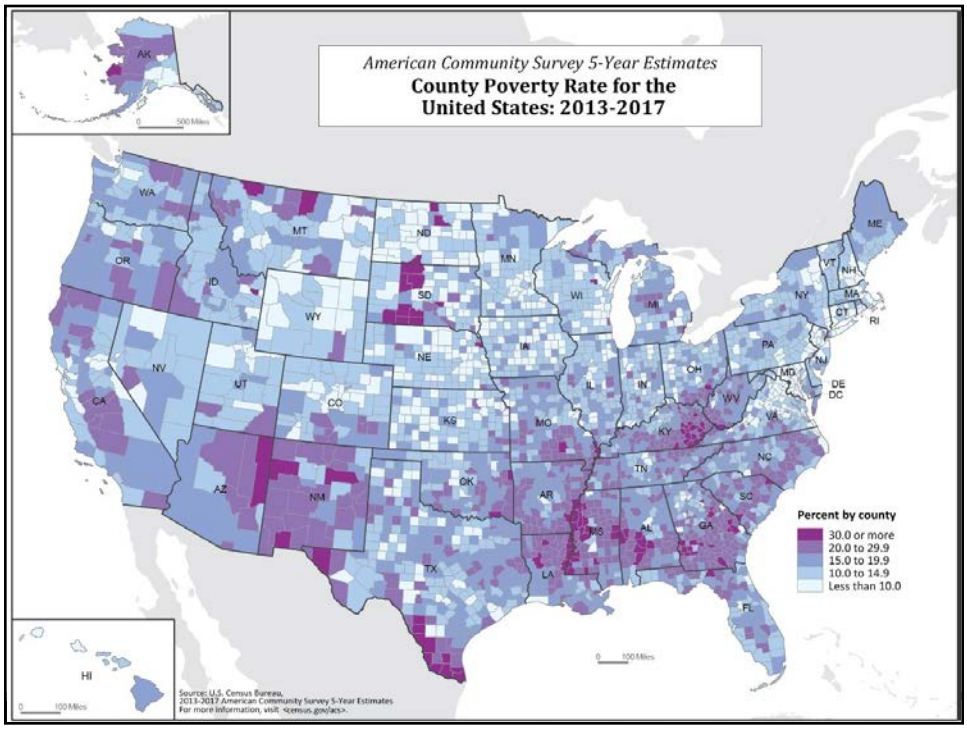
American Community Survey 5-Year Estimates
County Poverty Rate for the United States: 2013-2017
Percent by county
30.0 or more
20.0 to 29.9
15.0 to 19.9
10.0 to 14.9
Less than 10.0
Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates
For more information, visit: <census.gov/acs>.

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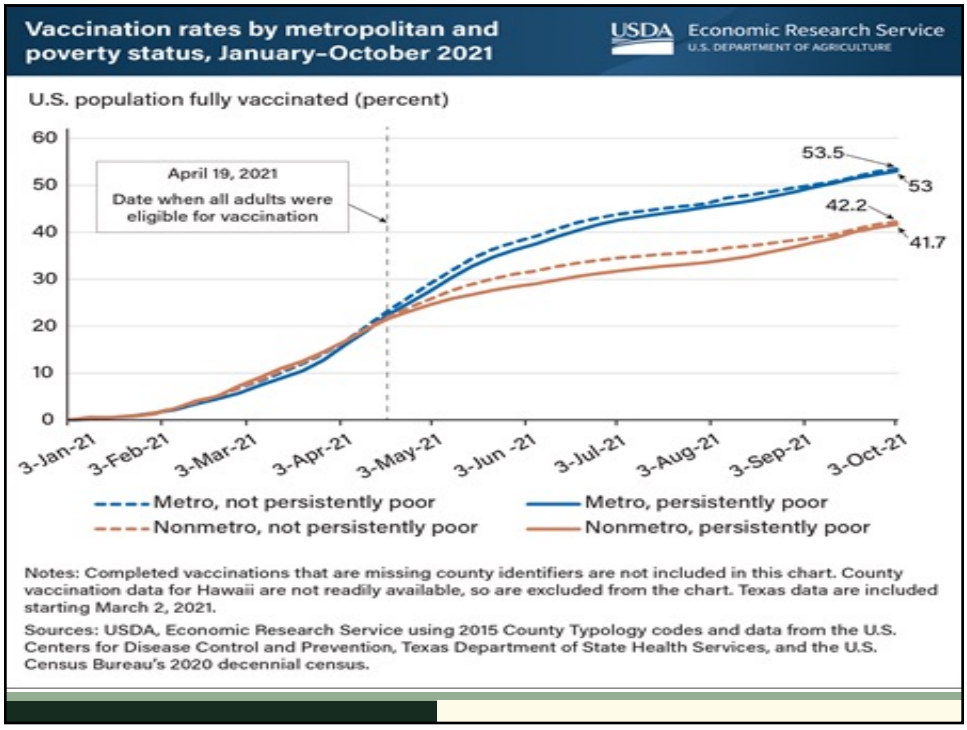
Vaccination rates by metropolitan and poverty status, January–October 2021
USDA Economic Research Service
U.S. DEPARTMENT OF AGRICULTURE
U.S. population fully vaccinated (percent)
April 19, 2021
Date when all adults were eligible for vaccination
53.5
53
42.2
41.7
60
50
40
30
20
10
0
3-Jan-21
3-Feb-21
3-Mar-21
3-Apr-21
3-May-21
3-Jun -21
3-Jul-21
3-Aug-21
3-Sep-21
3-Oct-21
Metro, not persistently poor
Metro, persistently poor
Nonmetro, not persistently poor
Nonmetro, persistently poor
Notes: Completed vaccinations that are missing county identifiers are not included in this chart. County vaccination data for Hawaii are not readily available, so are excluded from the chart. Texas data are included starting March 2, 2021.
Sources: USDA, Economic Research Service using 2015 County Typology codes and data from the U.S. Centers for Disease Control and Prevention, Texas Department of State Health Services, and the U.S. Census Bureau's 2020 decennial census.

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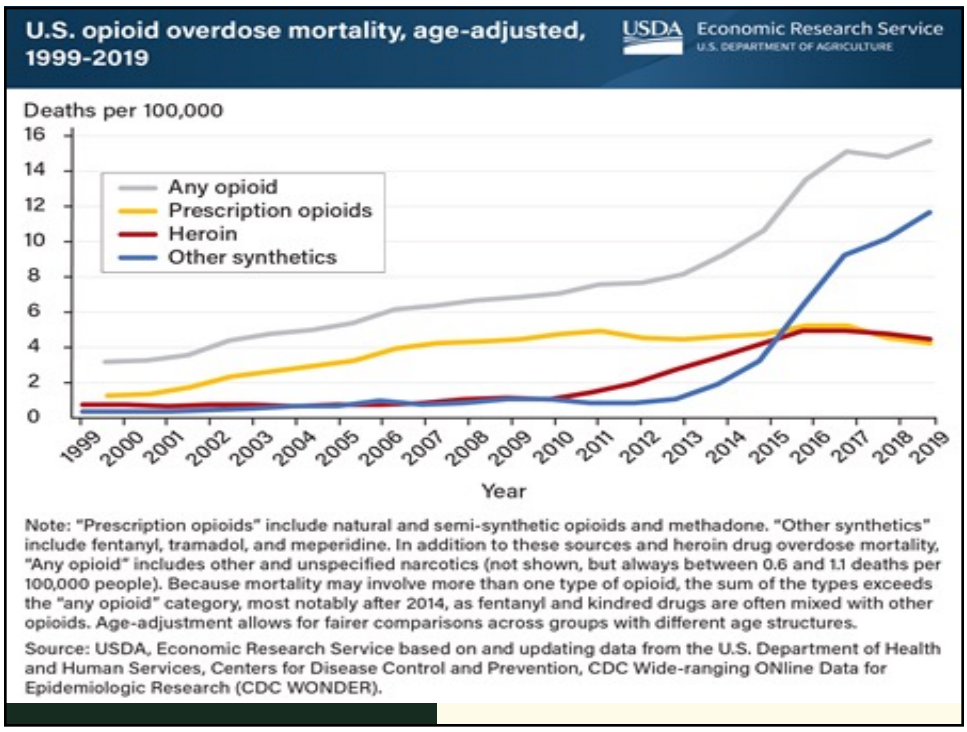
U.S. opioid overdose mortality, age-adjusted, 1999-2019
USDA Economic Research Service
U.S. DEPARTMENT OF AGRICULTURE
Deaths per 100,000
16
14
12
10
8
6
4
2
0
Any opioid
Prescription opioids
Heroin
Other synthetics
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Year
Note: "Prescription opioids" include natural and semi-synthetic opioids and methadone. "Other synthetics" include fentanyl, tramadol, and meperidine. In addition to these sources and heroin drug overdose mortality, "Any opioid" includes other and unspecified narcotics (not shown, but always between 0.6 and 1.1 deaths per 100,000 people). Because mortality may involve more than one type of opioid, the sum of the types exceeds the "any opioid" category, most notably after 2014, as fentanyl and kindred drugs are often mixed with other opioids. Age-adjustment allows for fairer comparisons across groups with different age structures.
Source: USDA, Economic Research Service based on and updating data from the U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, CDC Wide-ranging ONline Data for Epidemiologic Research (CDC WONDER).

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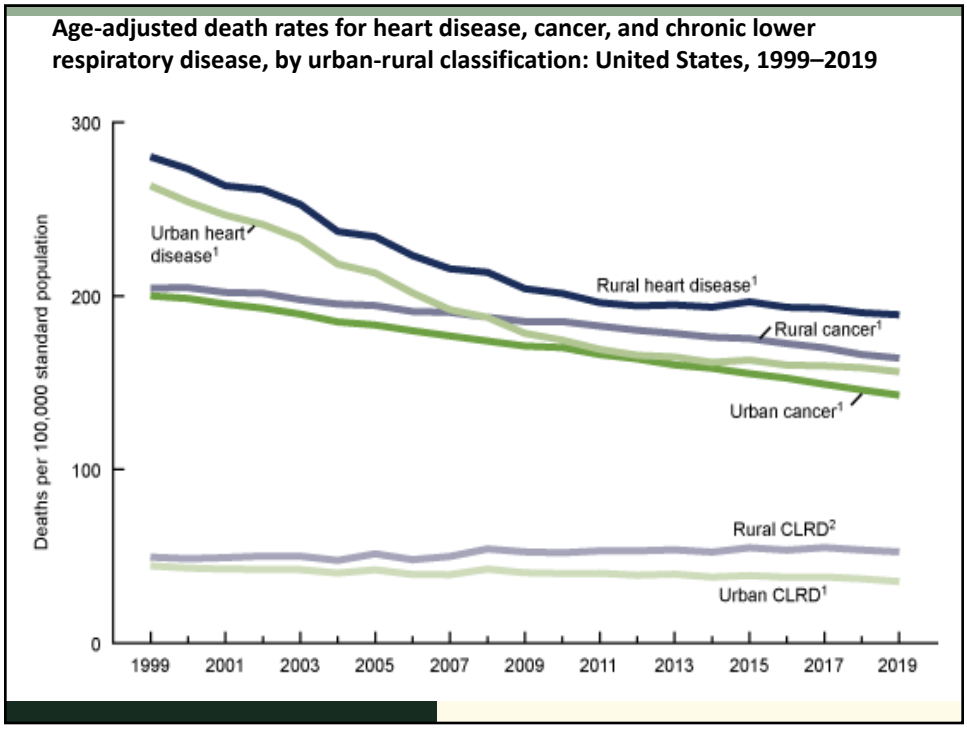
Age-adjusted death rates for heart disease, cancer, and chronic lower respiratory disease, by urban-rural classification: United States, 1999–2019
Deaths per 100,000 standard population
300
200
100
0
Urban heart disease[1]
Rural heart disease[1]
Rural cancer[1]
Urban cancer[1]
Rural CLRD[2]
Urban CLRD[1]
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019

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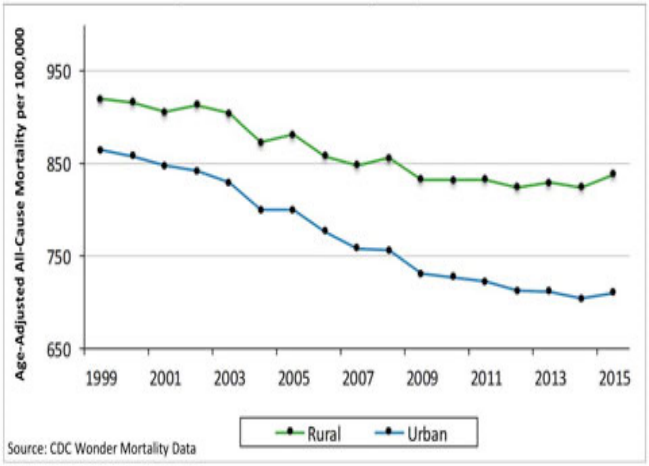
Figure 2: All-Cause U.S. Mortality Rate, 1999-2015



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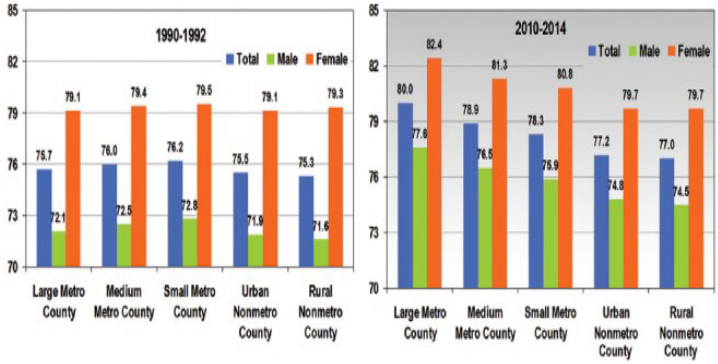
Life Expectancy at birth 199-1992 and 2010-2014



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Community Benefit Examples that Show the Connection to Population Health

St. Francis Memorial Hospital (San Francisco) – gang ridden Tenderloin district – "**Corner Captains**" mothers of school children patrol area watching out for the children – part of **Safe Passage initiative** of **Tenderloin Health Improvement Partnership** funded by hospital – targeting social determinants of health such as violence, poverty, hunger, education, nutrition, and housing

Gang members leave the moms and kids alone

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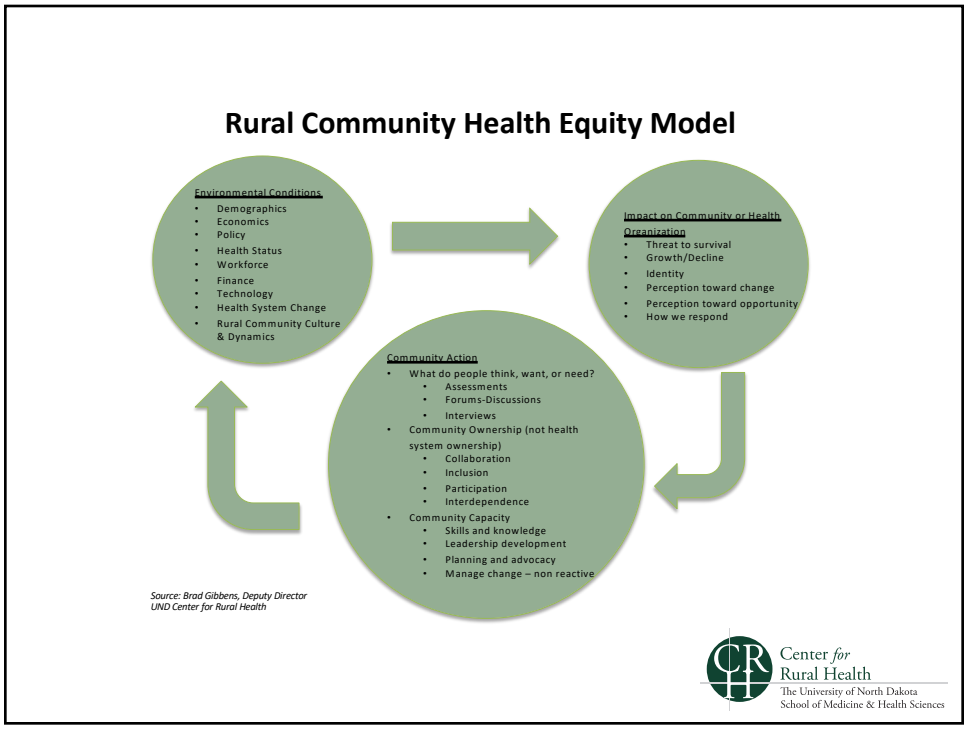
Rural Community Health Equity Model
Environmental Conditions
Demographics
Economics
Policy
Health Status
Workforce
Finance
Technology
Health System Change
Rural Community Culture & Dynamics
Impact on Community or Health Organization
Threat to survival
Growth/Decline
Identity
Perception toward change
Perception toward opportunity
How we respond
Community Action
What do people think, want, or need?
Assessments
Forums-Discussions
Interviews
Community Ownership (not health system ownership)
Collaboration
Inclusion
Participation
Interdependence
Community Capacity
Skills and knowledge
Leadership development
Planning and advocacy
Manage change – non reactive
Source: Brad Gibbens, Deputy Director UND Center for Rural Health
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Rural Community Health Equity Model
Environmental Conditions
Demographics Economics
Policy Health Status
Workforce Finance
Technology System Change
Rural Community Culture & Dynamics
Impact on Community or Health Organization
Threat to survival
Growth/Decline
Identity
Perception toward change
Perception toward opportunity
How we respond
Community Action
What do people think, want, or need?
Community Ownership (not health system ownership)
Community Capacity
102

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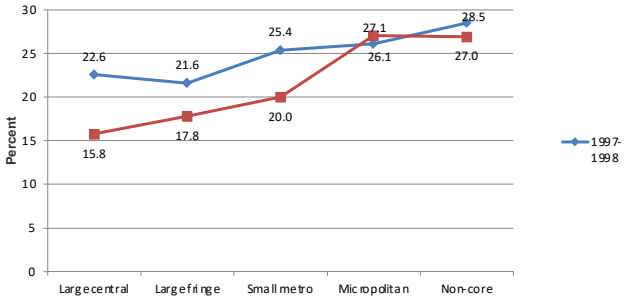
Risk Factors: Adult Smoking

Cigarette smoking among persons 18 years of age and older by rurality



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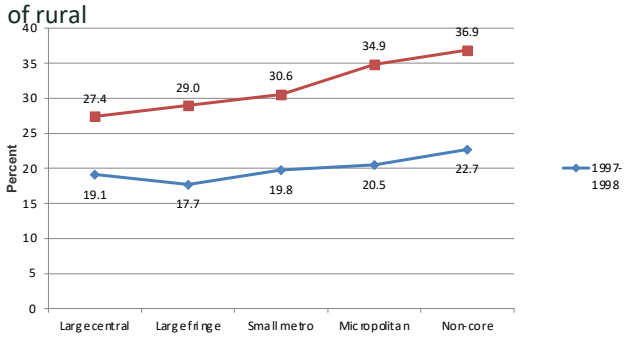
Risk Factors: Obesity

Obesity among persons 18 years of age and older by type of rural



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