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Population Health: It's a Rural Necessity Now

NURS 565 Rural Populations and Rural Health

June 14, 2016

UND College of Nursing and Professional Disciplines

Presented by Brad Gibbens, Deputy 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 and Facilities

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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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What is this whole "community thing" and rural health?

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What Is Rural Health?

- Rural health focuses on **population health** for an area ("community") and improving overall **health status** for rural community members
- 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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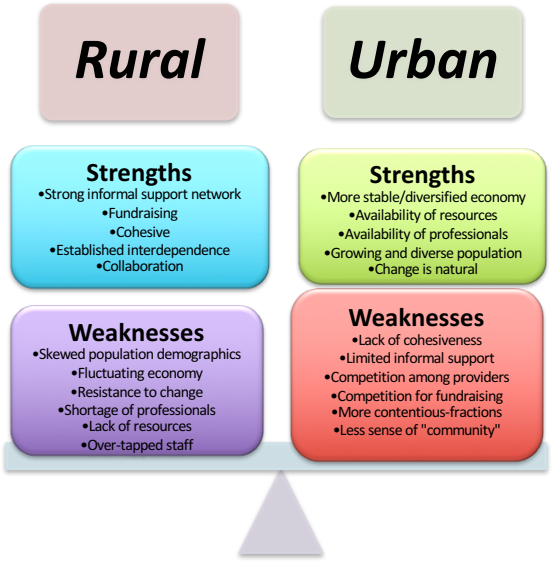
Stutsman County

Rural and Urban Strengths and Weaknesses



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Why is Community Engagement Important to Rural Health

- Health care providers and organizations cannot operate in isolation
- Even more important as we 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
- 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
- Building local leadership and local capacity – think of the next generation of community leadership
- Communication – listening to the community – educating the community

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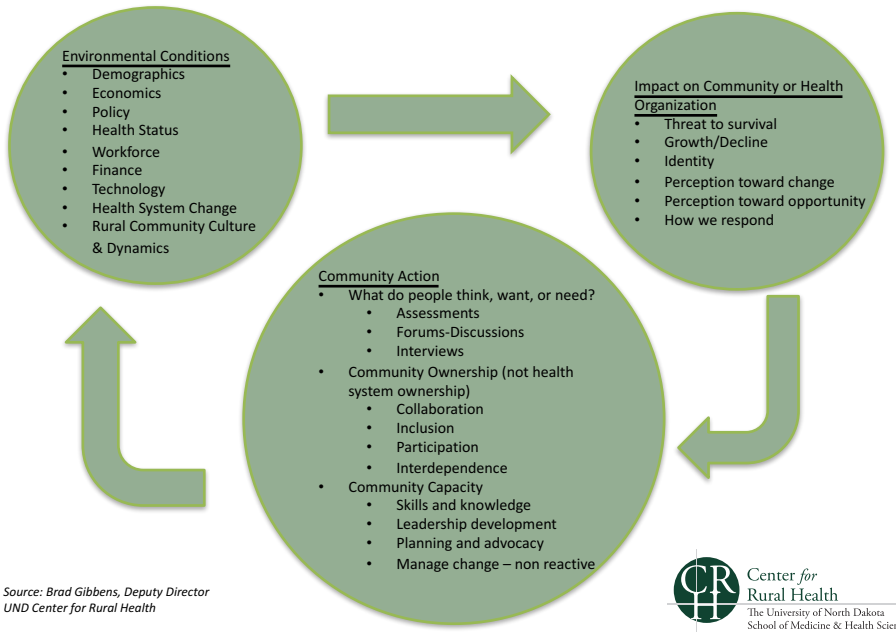
Rural Community Health Equity Model



Source: Brad Gibbens, Deputy Director
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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, what results?)
- What determines the outcomes (determinants of health)?
- What are the public policies and the interventions that can improve the outcomes?

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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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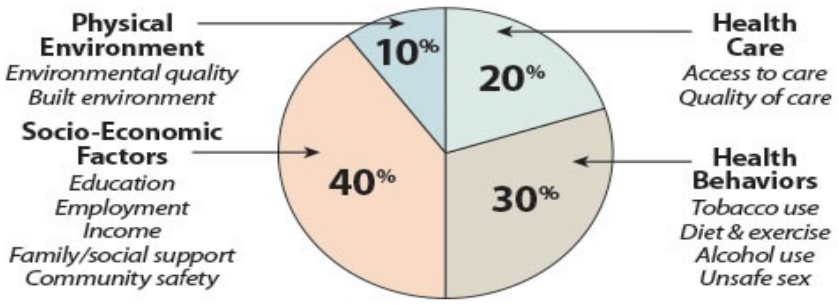
Social Determinants of Health

Population Health



Source: Authors' analysis and adaption from the University of Wisconsin Population Health Institute's *County Health Rankings* model ©2010, http://www.countyhealthrankings.org/about-project/background

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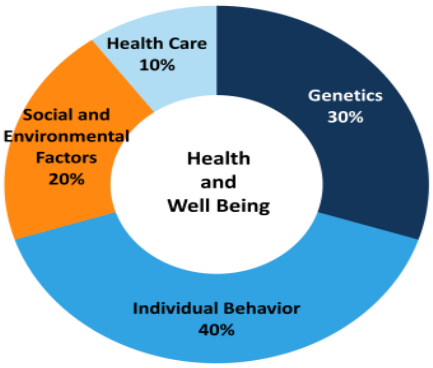
Figure 1

Impact of Different Factors on Risk of Premature Death



SOURCE: Schroeder, SA. (2007). We Can Do Better — Improving the Health of the American People. *NEJM*. 357:1221-8.

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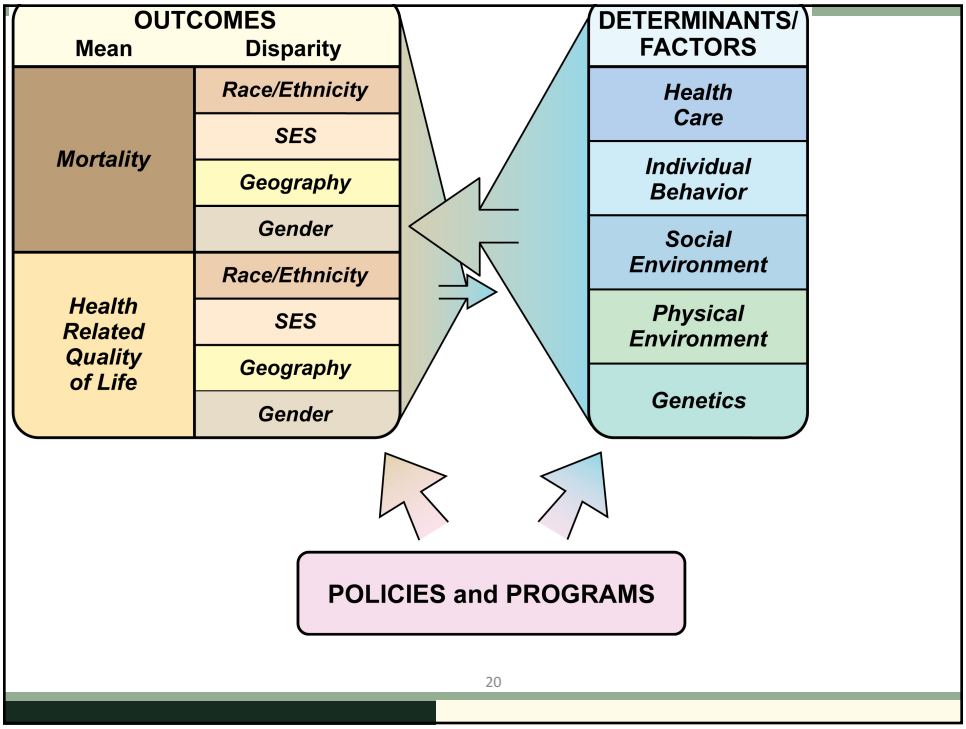
OUTCOMES
Mean
Disparity
Mortality
Race/Ethnicity
SES
Geography
Gender
Health Related Quality of Life
Race/Ethnicity
SES
Geography
Gender
DETERMINANTS/ FACTORS
Health Care
Individual Behavior
Social Environment
Physical Environment
Genetics
POLICIES and PROGRAMS

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Social Determinants of Health

1) Economic stability
   - Poverty, employment, food security, housing stability
2) Education
   - High school graduation, enrollment in higher education, language and literacy, early childhood education and development
3) Social and community context
   - Social cohesion, civic participation, perceptions of discrimination and equity, incarceration/institutionalization
4) Health and health care
   - Access to health care, access to primary care, health literacy
5) Neighborhood and built environment
   - Access to healthy foods, quality of housing, crime and violence, environmental conditions

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Social Determinants of Rural Health

Rural residents tend to be poorer than urban residents

- Average median household income is $42,628 for rural counties ($52,204 for urban counties) (2013)
- The average percentage of children living (ages 0-17) in poverty is 26% in rural counties (21% urban) (2013)

Rural residents' educational attainment (2009-2013) - Averaged across counties

- 16.5% have < high school education (14.7% urban)
- 36.3% have only a high school diploma (31.9% urban)
- 17.4% have a Bachelor's degree or higher (24% urban)

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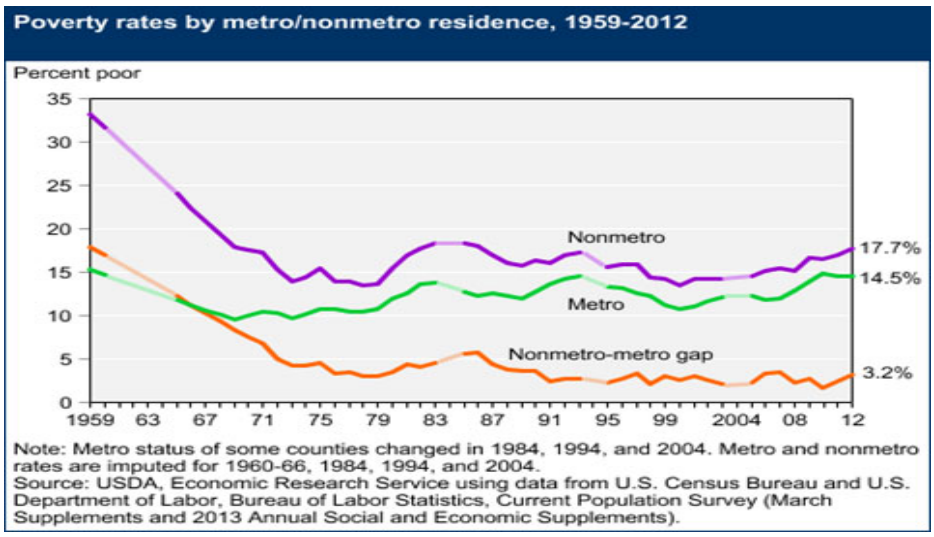

Source: Poverty Overview, USDA Economic Research Service

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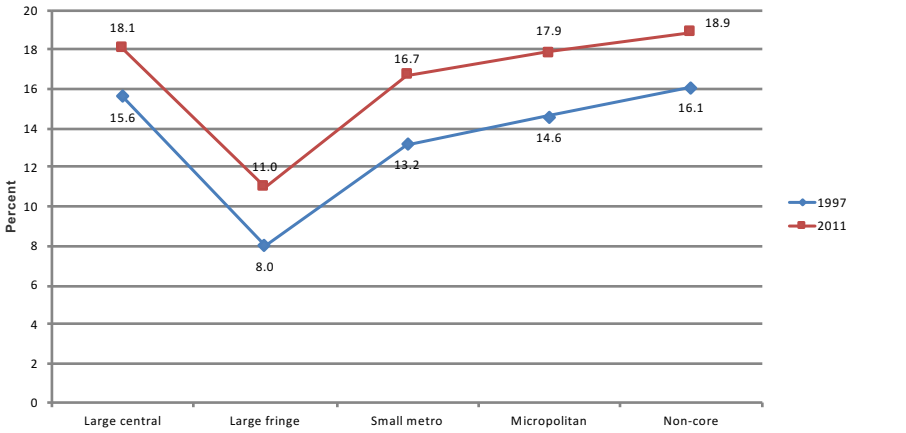
Population: Poverty

Population in poverty by rurality



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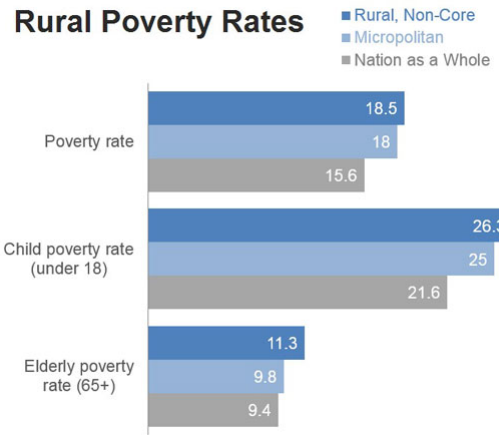

Source: Geographic Comparison Tables 1701, 1702, & 1703, 2010-2014 American Community Survey 5-Year Estimates

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Annual Median Earnings, Age 25 and Older, by Education Level

Source: Table B20004, 2010-2014 American Community Survey 5-Year Estimates

	Rural	Nation as a Whole
All education levels	$33,646	$36,034
Less than high school graduate	21,150	19,954
High school graduate	29,062	27,868
Some college or associate's degree	33,353	33,988
Bachelor's degree	46,437	50,515
Graduate or professional degree	59,660	66,944

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Social Determinants Impact on Access to Health Care

- Poverty, income, and employment status contribute to:
  - Health insurance coverage
  - The ability to pay out-of-pocket costs such as co-pays and prescription drug costs
  - Time off 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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Mortality

- Cause-specific mortality is often higher in rural counties than urban counties
- Risk factors contribute to high mortality rates in rural areas
  - Smoking
  - Obesity
  - Physical inactivity
- High mortality rates and risk factors are a reflection of the physical and social environment in which people live and work

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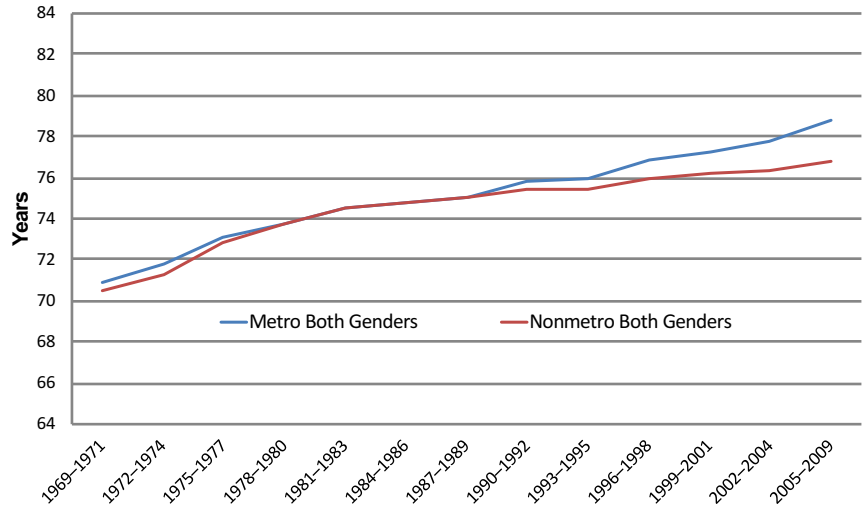
Life Expectancy at Birth in Metro and Nonmetro Areas, 1969-2009



Source: Singh and Siahpush, Widening Rural-Urban Disparities in Life Expectancy, U.S., 1969-2009. American Journal of Preventive Medicine, 2014; 46(2):e19-e29.

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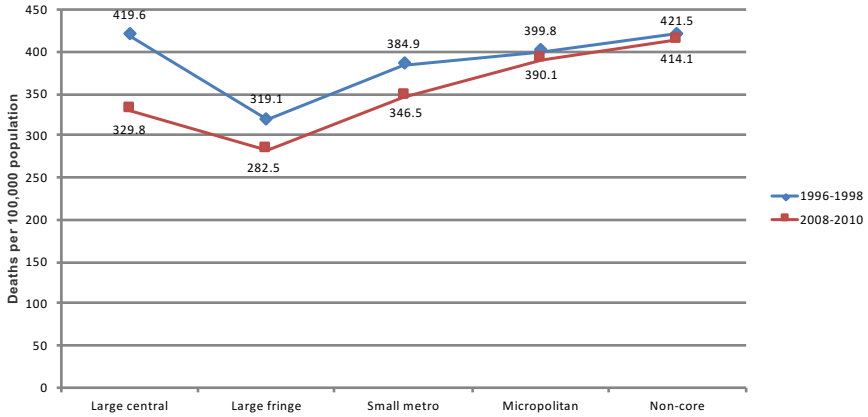
Mortality: Working-Age Adults

Death rates for all causes among persons 25-64 years of age by rurality



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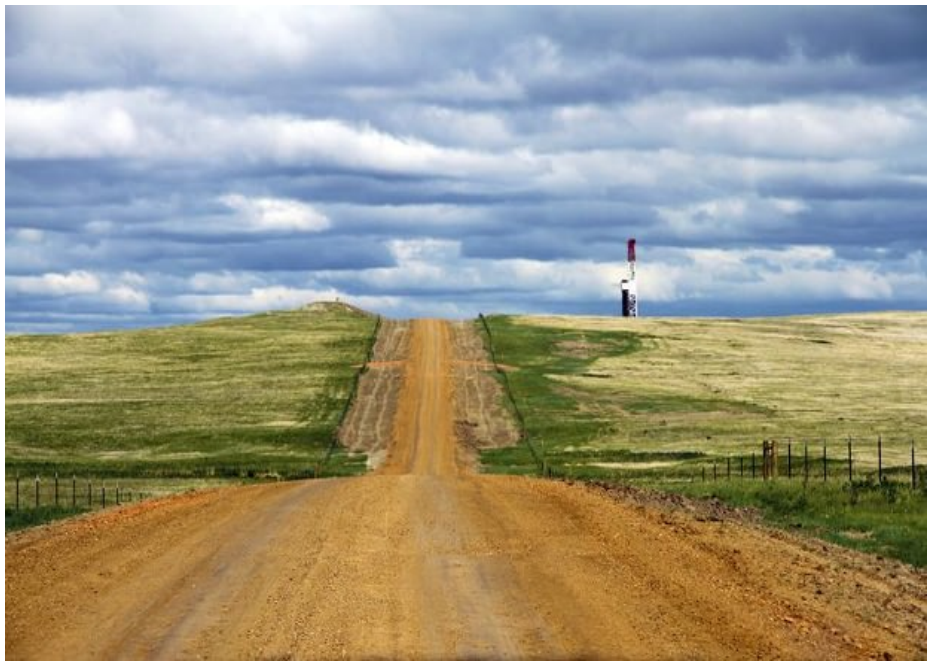

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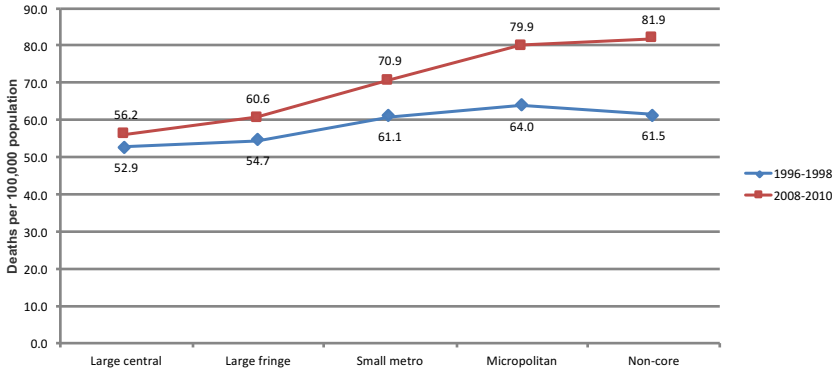
Mortality: Chronic Obstructive Pulmonary Diseases

Death rates for chronic obstructive pulmonary diseases among persons 20 years of age and over by rurality



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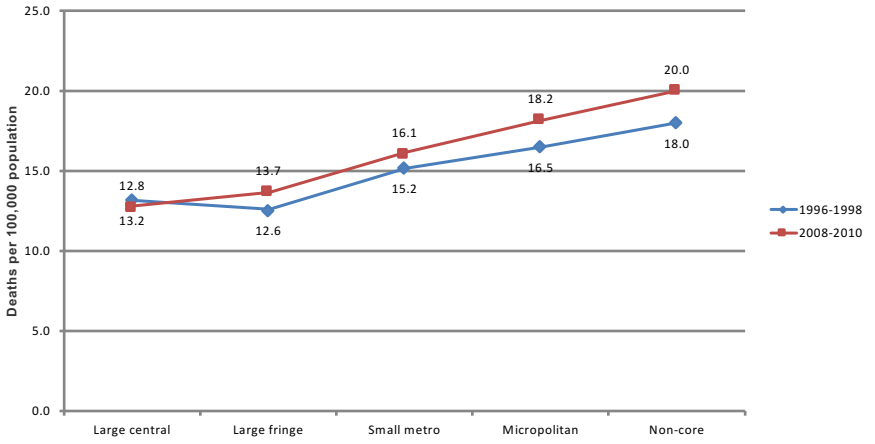
Mortality: Suicide

Suicide rates among persons 15 years of age and over by rurality



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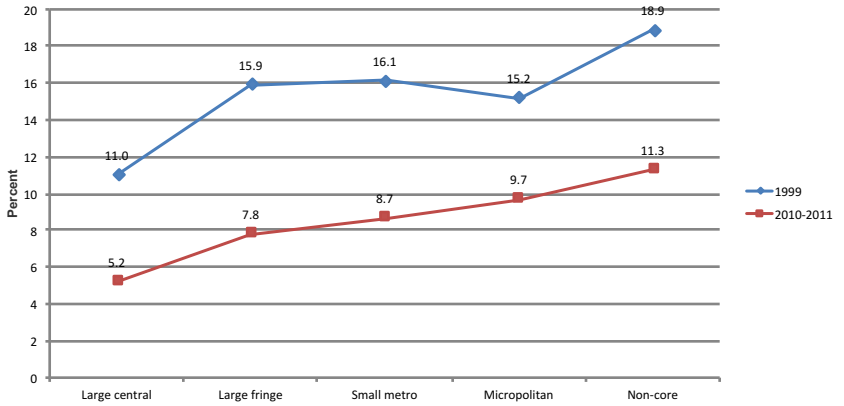
Risk Factors: Adolescent Smoking

Cigarette smoking in the past month among adolescents 12-17 years of age by rurality



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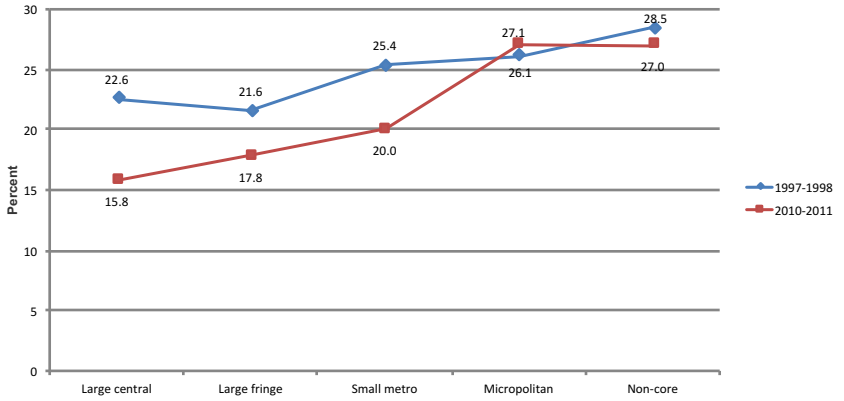
Risk Factors: Adult Smoking

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



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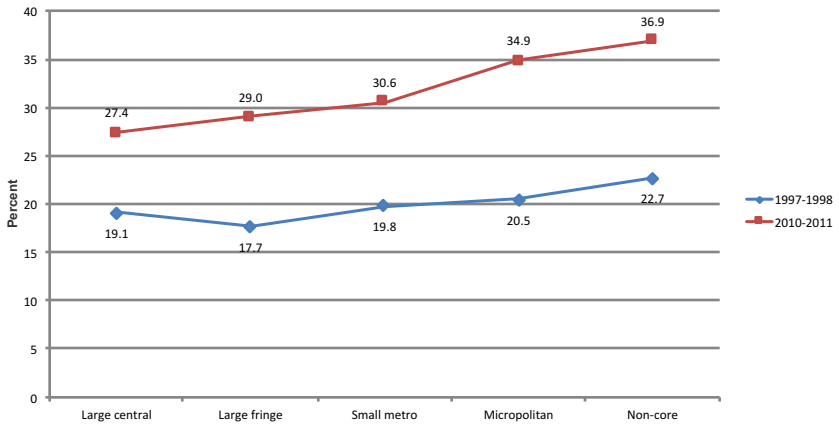
Risk Factors: Obesity

Obesity among persons 18 years of age and older by rurality



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Ok, I get the rural and community angle, and I get the population health and determinants of health so where does health reform come into this picture? Ah, community benefit, what is it?

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Community Benefit

- **Language conversion** (conceptualization changes) – moving population health, outcomes, and determinants of health into the language of the Affordable Care Act and making it more relevant to the hospital or other segments in the health care delivery system
- Program or activities that provide treatment and/or promote health in **response to an identified community need**. Key criteria:
  - Generates a low or negative margin (financial performance measurement)
  - Responds to needs of special populations (e.g., uninsured)
  - Supplies a service/program that would likely be discontinued if it were based on financial criteria
  - Responds to public health needs but you first need to identify them
  - Involves education or research that improves overall community health

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Community Benefit- Program and Activities

- **Community Benefit Services Categories**
  - **Community health improvement services**
    - **Community health education**, **community based clinical services** (screenings, health fairs, free clinics) **health care support services** (enrollment in public programs, trans.)
  - **Health professional education**
    - **Physicians/medical students/residents, nurses/nursing students, other health professionals** (internships and residency training, job shadowing and mentoring, scholarships/loan repayment, and in-service programming)
  - **Subsidized health services**
    - **Services provided to the community that are not expected to be self sustaining** (hospital outpatient services, emergency and trauma, women's and children's services, behavioral health, outpatient palliative care, subsidized continuing care, and renal dialysis services)

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Community Benefit- Program and Activities

- **Research**
  - **Involved in clinical research** (unreimbursed/unfunded costs of studies on therapeutic protocol) and community health research (studies on health issues for vulnerable populations and research studies on innovative health care delivery models)

- **Financial and in-kind contributions**
  - **Cash donations, grants, in-kind donations, and cost of fund-raising for community programs** (contributions and/or matching funds to not-for-profit organizations, event sponsorship, meeting space for non-profit organizations and groups, and services of hospital grant writer to assist local health agencies)

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Community Benefit- Program and Activities

- **Community building activities (community health improvement services) – IRS says do not generate inpatient or outpatient bills)**
  - **Physical environment** –interventions to improve community health (community vegetable gardens or walking trails); Support system and workforce enhancement (recruitment of providers for medically underserved areas); Leadership development for community members (advocacy training for community members); Coalition building(disaster preparedness committees); and community health improvement advocacy

- **Community benefit operations**
  - **Community health needs assessments** – also community benefit planning and administration – activities associated with fundraising or grant writing for community programs

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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

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Community Benefit Examples that Show Connection to Population Health

Adventist Health System – increased spending on health and wellness programs by 14% - example placing full time community health workers in ED to provide care-management to patients to improve heath and lower inappropriate use of the ED – charity care has decreased by over 5% of gross patient service revenue.

Dignity Health (San Francisco) – awarded social innovations grant to Silicon Valley entrepreneurs who seek to tackle community health improvement in low-income neighborhoods

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Community Benefit Examples that Show Connection to Population Health

Other Examples:

- Lifestyle education – focusing on self-care, early detection, and disease management
- Targeted resources to "at risk" populations such as domestic abuse, chemical dependency, mental illness, HIV, and socio-economic disadvantage
- Grant assistance to community non-profit agencies addressing community health
- Internship for students working with low income patients – connect with services

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What are Some Important Rural Health Issues? (CHNA)

- **Health care workforce shortages** **(28 of 39)**
- **Obesity and physical inactivity** **(16 of 39)**
- **Mental health (inc. substance abuse)** **(15)**
- **Chronic disease management** **(12)**
- **Higher costs of health care for consumers** **(11)**
- **Financial viability of the hospital** **(10)**
- **Aging population services** **(9)**
- **Excessive drinking** **(7)**
- **Uninsured adults** **(6)**
- **Maintaining EMS** **(6)**
- **Emphasis on wellness, education, & prevention** **(6)**
- **Access to needed equipment/facility update** **(6)**
- **Marketing and promotion of hospital services** **(5)**
- **Violence, traffic safety, elevated rate of adult smoking, lack of community collaboration, and cancer tied with (3) – lack of day care/housing (2)**

Source: CHNA conducted 2011-2013 (39 of 41 ND hospitals)

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North Dakota CAHs and Community Benefit

- **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)

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North Dakota CAHs and Community Benefit

- **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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North Dakota CAHs and Community Benefit

- **Mental health**
  - Develop mental health screenings in schools
  - Support groups
  - Work with UND MSW, counseling, and psychology programs for student interns
  - Tele-mental health

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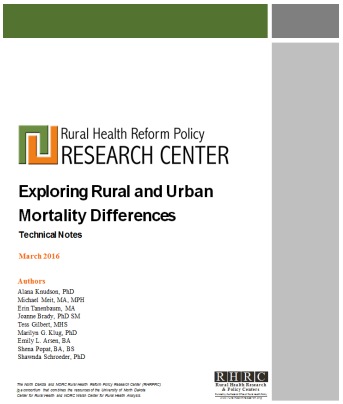
Exploring Rural and Urban Mortality Differences



https://ruralhealth.und.edu/projects/health-reform-policy-research-center/rural-urban-mortality

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Exploring Rural and Urban Mortality Differences

Exploring Rural and Urban Mortality Differences examines the impact of rurality on mortality and explores regional differences in mortality rates. This study used a quantitative analysis approach drawing upon the data available from the National Vital Statistics System (NVSS) at CDC WONDER. This project builds off of the recently developed 2014 Update of the Rural-Urban Chartbook (Rural Health Reform Policy Research Center, The Rural-Urban Chartbook, October, 2014) which examined health status by level of rurality (five rural-urban statuses), sex, and region (four regions). Exploring Rural and Urban Mortality Differences contains visual aids which display indicators of mortality rates by age group, rural-urban status, region, and sex (for populations 15 years of age and older) cross-referenced to tables and statistical results. Individual data tables are available, as well as online tools which allow you to interact with the data and select variables of interest. Data and visuals are presented for 10 leading causes of death for each age group as reported by the Centers of Disease Control and Prevention.

Products

- Excel Workbook Tables: Mortality Rates among Persons by Cause of Death, Age, Region, and Rural-Urban Status: United States, 2011-2013
  Contains 5 tables that describe mortality rates for five different age groups: Infants (under 1 year of age), children (1-14 years of age), adolescents and young adults (15-24 years of age), working-age adults (25-64 years of age), and seniors (65 years of age or older). Data are presented on 10 leading causes of death for each age group as reported by the Centers of Disease Control and Prevention. Results draw upon the data available from the National Vital Statistics System (NVSS) at CDC WONDER.
- Online Tool: Index for Mortality Rates by Cause Related to the National Rate among Persons by Age, Region, and Rural-Urban Status: United States, 2011-2013
  An interactive data visualization Tableau dashboard that displays the mortality rate index by age group, rural-urban status, sex (only for populations 15 years of age and older), and region (Health and Human Services Regions, Appalachia, Delta). These charts compare mortality rates in subgroups to the national average. Data are presented for the 10 leading causes of death (as reported by the Centers of Disease Control and Prevention) and figures display standardized differences between urban, rural, and national death rates. Results draw upon the data available from the National Vital Statistics System (NVSS) at CDC WONDER.
- Online Tool: Mortality Rates among Persons by Cause of Death, Age, and Rural-Urban Status: United States, 2011-2013
  An interactive data visualization Tableau dashboard that maps mortality rates by age group, rural-urban status, HHS region, and sex (only for populations 15 years of age and older). These maps compare mortality rates in the 10 HHS regions to one another based on rural-urban status. Data are presented for the top 10 leading causes of death as reported by the Centers of Disease Control and Prevention. Results draw upon the data available from the National Vital Statistics System (NVSS) at CDC WONDER.

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- Exploring Rural and Urban Mortality Differences by HHS Region (color) | (black & white)
  A slide deck that serves as an offline and printable version of the Online Tool: Index for Mortality Rates. It contains 81 figures from the Online Tool displaying mortality rate indices by age group, rural-urban status, HHS region, and sex (only for populations 15 years of age and older). Data are presented for the top 10 leading causes of death as reported by the Centers of Disease Control and Prevention. Figures display standardized differences between urban, rural, and national death rates. Results draw upon the data available from the National Vital Statistics System (NVSS) at CDC WONDER.
- Mapping Rural and Urban Mortality Differences by HHS Region (color) | (black & white)
  A slide deck that serves as an offline and printable version of the Online Tool: Mortality Rates among Persons. It contains 80 figures from the Online Tool mapping mortality rates by age group, rural-urban status, HHS region, and sex (only for populations 15 years of age and older). Data are presented for the top 10 leading causes of death as reported by the Centers of Disease Control and Prevention. Results draw upon the data available from the National Vital Statistics System (NVSS) at CDC WONDER.
- Exploring Rural and Urban Mortality Differences in the Appalachian Region (color) | (black & white)
  A slide deck that serves as an offline and printable version of the Online Tool: Index for Mortality Rates in the Appalachian Region. It contains 9 figures from the Online Tool displaying mortality rate indices by age group, rural-urban status, and sex (only for populations 15 years of age and older) within the Appalachian Region. Data are presented for the top 10 national leading causes of death as reported by the Centers of Disease Control and Prevention. Figures display standardized differences between urban, rural, and national death rates. Results draw upon the data available from the National Vital Statistics System (NVSS) at CDC WONDER.
- Exploring Rural and Urban Mortality Differences in the Delta Region (color) | (black & white)
  A slide deck that serves as an offline and printable version of the Online Tool: Index for Mortality Rates in the Delta Region. It contains 9 figures from the Online Tool displaying mortality rate indices by age group, rural-urban status, and sex (only for populations 15 years of age and older) within the Delta Region. Data are presented for the top 10 national leading causes of death as reported by the Centers of Disease Control and Prevention. Figures display standardized differences between urban, rural, and national death rates. Results draw upon the data available from the National Vital Statistics System (NVSS) at CDC WONDER.

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User Guides and Technical Notes

- Users Guide for Graph Interaction
  Index for Mortality Rates by Cause Related to the National Rate among Persons by Age, Region, and Rural-Urban Status: United States, 2011-2013 Online Tool
  This user's guide demonstrates ways to display graphs of mortality rate indices by Health and Human Services (HHS) region, cause of death, age, and rural-urban status. Graphs can be created dynamically for 10 mortalities or for a single mortality. Figures display standardized differences between urban, rural, and national death rates. Results draw upon the data available from the National Vital Statistics System (NVSS) at CDC WONDER based on the top 10 leading causes of death as reported by the Centers of Disease Control and Prevention.
- Users Guide for Map Interaction
  Mortality Rates among Persons by Cause of Death, Age, and Rural-Urban Status: United States, 2011-2013 Online Tool
  This user's guide demonstrates ways to view maps of mortality rates from the Top 10 Causes of Mortality as reported by the Centers of Disease Control and Prevention. This document guides users to create dynamic maps for a single cause of mortality by Health and Human Services (HHS) region, cause of death, age, and rural-urban status. Results draw upon the data available from the National Vital Statistics System (NVSS) at CDC WONDER.
- Technical Notes: Exploring Rural and Urban Mortality Differences
  Review technical notes related to the study's methods and data analyses. This study examines the impact of rurality on mortality and explores regional differences in mortality rates. The study used a quantitative analysis approach drawing upon the data available from the National Vital Statistics System (NVSS) at CDC WONDER for the top 10 leading causes of death as reported by the Centers of Disease Control and Prevention.

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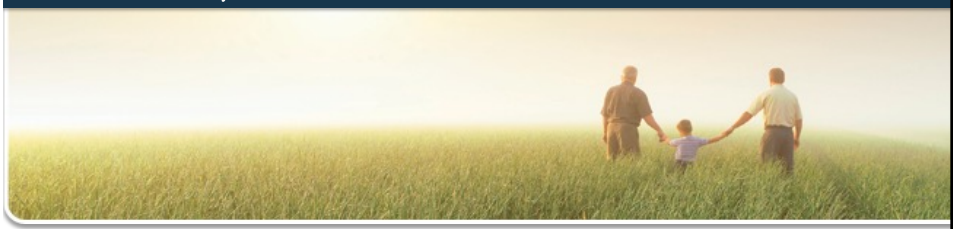

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