

Rurality and its correlates with state-level health resources.

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Main Findings

A larger rural population is associated with higher **maternal mortality**, **teeth extractions** among older adults, **premature death**, and **early death**.

It is also associated with lower **high-speed internet**, **dental providers**, and **geriatric providers**.

Introduction

Rural populations often **face challenges** accessing quality health care.¹ Approximately **60%** of all primary medical, dental, and mental health **Health Professional Shortage Areas** are classified as rural.²

Lack of resources in rural settings may lead to **poor health outcomes**, as has been observed.³

The **correlation** between rurality and measures of health and resources in a **state health scorecard** can **assist in advocacy and policymaking**.

Methodology

Estimated the 2019 state-level rural population using county-level population estimates from the **USDA ERS** and the **U.S. Census Bureau County Rurality Level: 2010** table.

Calculated state-level data for **21 health measures***.

Examined correlations between a states estimated rurality and calculated health measures.

*Full table of measures and findings at the end of the presentation

Results

Strong positive correlation:	Maternal mortality (r=0.83) Teeth extractions among older adults (r=0.65)
Moderate positive correlation:	Premature death (r=0.45) Early death (r=0.45)
Moderate negative correlation:	High-speed internet access (r=-0.52) Dental providers (r=-0.41) Geriatric providers (r=-0.47)
No Correlation:	Primary care providers (0.01) Publicly-Funded Women's Health Services (-0.01)

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- Data available at <https://www.AmericasHealthRankings.org/>

References

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Table of Results

Measure	Correlation with Rural Population
Adequate Prenatal Care	0.37
Cancer Screenings - Ages 65-75	-0.27
Cervical Cancer Screening	0.31
Dedicated Health Care Provider	0.12
Dental Care Providers	-0.41
Developmental Screening	0.10
Early Death - Ages 65-74	0.45
Geriatric Providers	-0.47
High-speed Internet	-0.52
Home Health Care Workers	-0.30
Hospice Care	-0.19
Maternal Morbidity	-0.13
Maternal Mortality	0.83
Mental Health Providers	-0.14
Preventive Dental Care - Children	-0.15
Primary Care Providers	0.01
Publicly-Funded Women's Health Services	-0.01
Teeth Extractions - Ages 65+	0.65
Well-Child Visit	-0.09
Well-Woman Visit	-0.14
Women's Health Providers	-0.24

Definitions

Measure	Definition	Data Source
Adequate Prenatal Care	Percentage of live births in which the mother received prenatal care beginning in the first four months of pregnancy with the appropriate number of visits for the infant's gestational age.	March of Dimes, Perinatal Data Center, 2018
Cancer Screenings (Ages 65 – 75)	Percentage of women ages 65-74 who reported receiving a mammogram in the past two years and the percentage of adults ages 65-75 who reported receiving colorectal cancer screening within the recommended time period.	CDC, Behavioral Risk Factor Surveillance System, 2018
Cervical Cancer Screening	Percentage of women ages 21-44 who received a Pap smear within the past three years.	CDC, Behavioral Risk Factor Surveillance System, 2018
Dedicated Health Care Provider	Percentage of adults who reported having a personal doctor or health care provider.	CDC, Behavioral Risk Factor Surveillance System, 2019
Dental Care Providers	Number of general dentists and advanced practice dental therapists per 100,000 population.	U.S. HHS, Centers for Medicare & Medicaid Services, National Plan and Provider Enumeration System, September 2019
Developmental Screening	Percentage of children ages 9-35 months whose parent completed a standardized developmental screening tool in the past 12 months (2-year estimate).	National Survey of Children's Health, U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB), 2018-2019
Early Death	Deaths per 100,000 adults ages 65-74	CDC WONDER, Multiple Cause of Death Files, 2019
Geriatric Providers	Number of family medicine and internal medicine geriatricians and nurse practitioners per 100,000 adults ages 65 and older.	U.S. HHS, Centers for Medicare & Medicaid Services, National Plan and Provider Enumeration System, September 2019
High-Speed Internet	Percentage of households that have a broadband internet subscription and a computer, smartphone or tablet.	U.S. Census Bureau, American Community Survey, 2019

Definitions

Measure	Definition	Data Source
Home Health Care Workers	Number of personal care and home health aides per 1,000 adults ages 65 and older with a disability.	U.S. Department of Labor, Bureau of Labor Statistics; U.S. Census Bureau, American Community Survey, 2019
Hospice Care	Percentage of Medicare decedents who were in hospice at time of death.	National Hospice and Palliative Care Organization, NHPCO Facts and Figures, 2018
Maternal Morbidity	Number of instances in which the mother experienced admission to the ICU, a ruptured uterus, a transfusion and/or an unplanned hysterectomy per 1,000 births.	CDC WONDER, Natality Public Use Files, 2016-2018
Maternal Mortality	Number of deaths from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, per 100,000 live births.	CDC WONDER, Multiple Cause of Death Files, 2018
Mental Health Providers	Number of psychiatrists, psychologists, licensed clinical social workers, counselors, marriage and family therapists, advanced practice nurses specializing in mental health care as well as providers that treat alcohol and other drug abuse per 100,000 population.	U.S. HHS, Centers for Medicare & Medicaid Services, National Plan and Provider Enumeration System, September 2019
Premature Death	Number of years of potential life lost before age 75 per 100,000 population, one year estimate	CDC WONDER, Multiple Cause of Death Files, 2016-2018
Preventive Dental Care – Children	Percentage of children ages 1-17 who had one or more preventive dental care visits during the past 12 months (2-year estimate).	National Survey of Children's Health, U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB), 2018-2019

Definitions

Measure	Definition	Data Source
Primary Care Providers	Number of active primary care providers (including general practice, family practice, obstetrics and gynecology, pediatrics, geriatrics, internal medicine, physician assistants and nurse practitioners) per 100,000 population.	U.S. HHS, Centers for Medicare & Medicaid Services, National Plan and Provider Enumeration System, September 2019
Publicly-funded Women's Health Services	Percentage of likely need for contraceptive services among women with a family income 250% below the federal poverty level and women younger than 20 years met by publicly-funded clinics.	Guttmacher Institute, Publicly Supported Family Planning Services in the United States: Likely Need, Availability and Impact, 2016
Rurality	Percentage of a state's total population estimated to live in a rural area	U.S. Department of Agriculture, Economic Research Service, 2019
Teeth Extractions (Ages 65+)	Percentage of adults ages 65 and older who reported having all teeth removed due to decay or gum disease	CDC, Behavioral Risk Factor Surveillance System, 2018
Well-Child Visit	Percentage of children ages 0-17 who received one or more preventive visits in the past 12 months (2-year estimate).	National Survey of Children's Health, U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB), 2017-2018
Well-Woman Visit	Percentage of women ages 18-44 with a preventive medical visit in the past year	CDC, Behavioral Risk Factor Surveillance System, 2017-2018