Challenges and Opportunities to Improve the Health of Texans

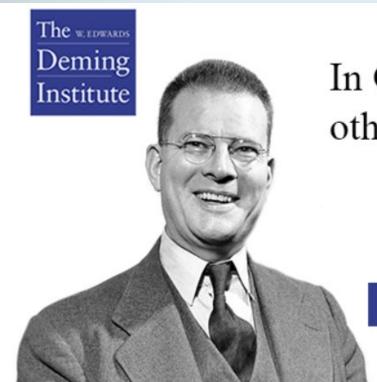
David Lakey, M.D.

Vice Chancellor for Health Affairs and Chief Medical Officer

The University of Texas System

Texas Rural Health Association June 8, 2022





In God we trust, all others must bring data.

*attribution disputed, see source link

W. Edwards Deming

source: quotes.deming.org/3734

Our Challenge

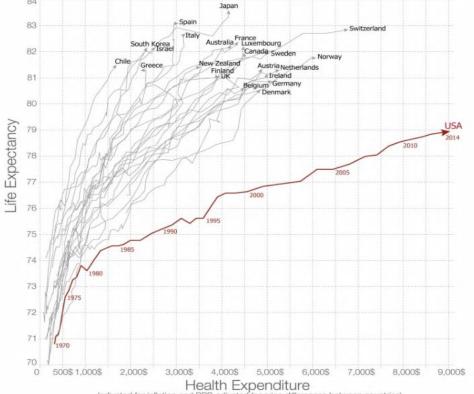
- The United States Ranks #1 in Health Expenditures at 17.9% of GDP
 - Roughly \$3 Trillion aggregate annual cost
 - \$8,895 per capita in 2012
 - This crowds out other state and national priorities
- The United States has mediocre population health outcomes
 - Ranks 34th Life Expectancy
 - Ranks 42nd Infant Mortality



Christopher Ingraham, This chart is a powerful indictment of our current health-care crisis, The Washington Post, March 8, 2017



Health spending measures the consumption of health care goods and services, including personal health care (curative care, rehabilitative care, long-term care, ancillary services and medical goods) and collective services (prevention and public health services as well as health administration), but excluding spending on investments. Shown is total health expenditure (financed by public and private sources).



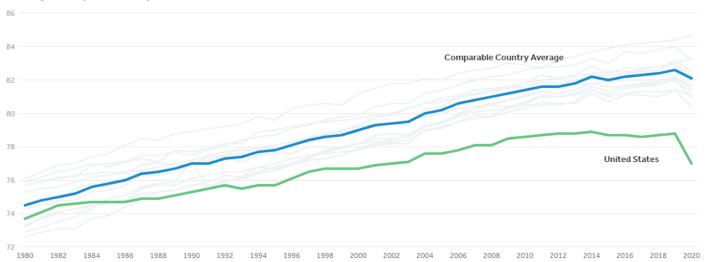
(adjusted for inflation and PPP-adjusted for price differences between countries)

Data source: Health expenditure from the OECD; Life expectancy from the World Bank Licensed under CC-BY-SA by the author Max Roser. The data visualization is available at OurWorldinData.org and there you find more research and visualizations on this topic



Life expectancy improved for the U.S. and most comparable countries in 2019 but decreased in 2020 due to COVID-19





Notes: 2019 & 2020 data for the United States is from CDC. 2020 life expectancy value for Australia is the unweighted average of male and female life expectancy from the Australian Bureau of Statistics. Break in series for Canada in 1982, Germany in 1991, Switzerland and Belgium in 2011, and France in 2013. 2020 values for Germany and United Kingdom are provisional.

Source: KFF Analysis of CDC, Austrlian Bureau of Statistics and OECD data • Get the data • PNG

Peterson-KFF

Health System Tracker



Vital Directions for Health and Health Care

Priorities from a National Academy of Medicine Initiative

Victor J. Dzau, National Academy of Medicine; Mark McClellan, Duke University; Sheila Burke, Harvard Kennedy School; Molly J. Coye, AVIA; The Honorable Thomas A. Daschle, The Daschle Group; Angela Diaz, Icahn School of Medicine at Mount Sinai; The Honorable William H. Frist, Vanderbilt University; Martha E. Gaines, University of Wisconsin Law School; Margaret A. Hamburg, National Academy of Medicine; Jane E. Henney, National Academy of Medicine; Shiriki Kumanyika, University of Pennsylvania Perelman School of Medicine; The Honorable Michael O. Leavitt, Leavitt Partners; J. Michael McGinnis, National Academy of Medicine; Ruth Parker, Emory University School of Medicine; Lewis G. Sandy, UnitedHealth Group; Leonard D. Schaeffer, University of Southern California; Glenn D. Steele, xG Health Solutions; Pamela Thompson, American Organization of Nurse Executives; Elias Zerhouni, Sanofi

March 21, 2017

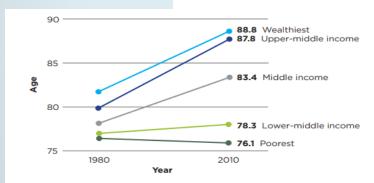


FIGURE 1-1 | Widening inequality in life expectancy for men in the United States. SOURCE: Data from NASEM, 2015.

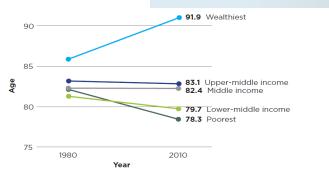


Figure 2 | Widening inequality in life expectancy for women in the United States. SOURCE: Data from NASEM, 2015.



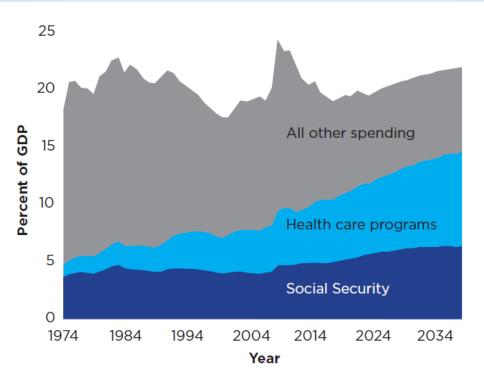


Figure 3 | Historical and projected federal spending: health care and other programs. SOURCE: Data from Congressional Budget Office.



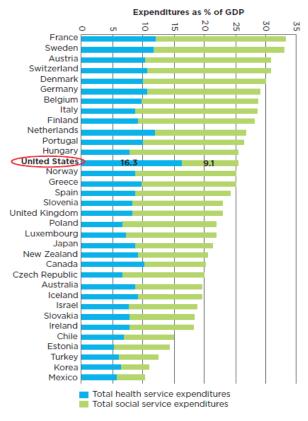


Figure 6 | Health care and social services spending (%GDP) across OECD countries. SOURCE: Adapted from Bradley and Taylor, 2013. Used with permission.



Annual potentially preventable deaths based on average death rates for the three states with the lowest rates for each cause

Centers for Disease Control and Prevention



Morbidity and Mortality Weekly Report

May 2, 2014

Weekly / Vol. 63 / No. 17

Potentially Preventable Deaths from the Five Leading Causes of Death — United States, 2008–2010

Paula W. Yoon, ScD¹, Brigham Bastian², Robert N. Anderson, PhD², Janet L. Collins, PhD³, Harold W. Jaffe, MD⁴
(Author affiliations at end of text)



Potentially Preventable Deaths in Texas

	Observed	Expected	Potentially Preventable	Percent Preventable Texas	Percent Preventable United States
Heart Disease	19,939	12,683	7,256	36%	34%
Cancer	27,141	22,143	4,998	18%	21%
Chronic Lower Respiratory Disease	5,061	3,139	1,922	38%	39%
CVD/ Stroke	4,254	2,471	1,783	42%	33%
Unintentional Injury	7,612	4,551	3,061	40%	39%



How does Texas health statistics compare to the rest of the United States?





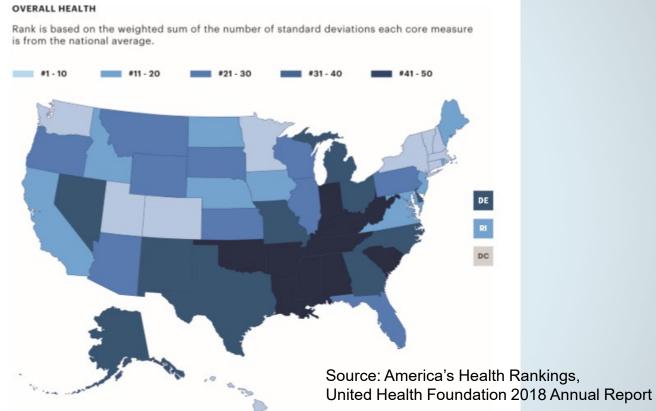
A call to action for individuals and their communities

Annual Report 2018





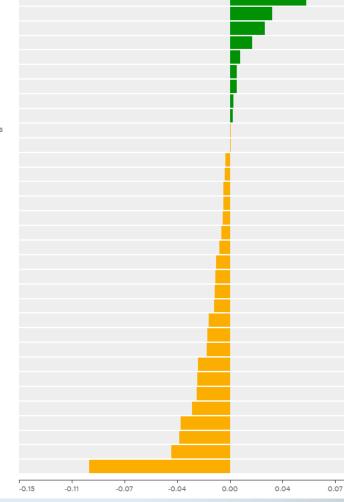
Overall State Health Rankings





Core Measures Impact: Texas







Areas Where Texas is Above the National

Average

High School Graduation	
Smoking	
Drug Deaths	
Cancer Deaths	
Frequent Physical Distress	
Premature Death	
Infant Mortality	
Disparity in Health Status	
Pertussis	



Lowest Scoring Areas of Texas

Obesity

Dentists

Diabetes

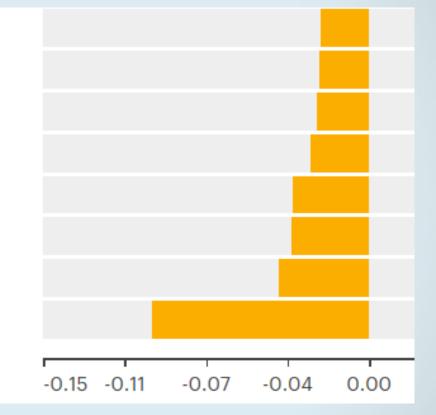
Children in Poverty

Primary Care Physicians

Mental Health Providers

Physical Inactivity

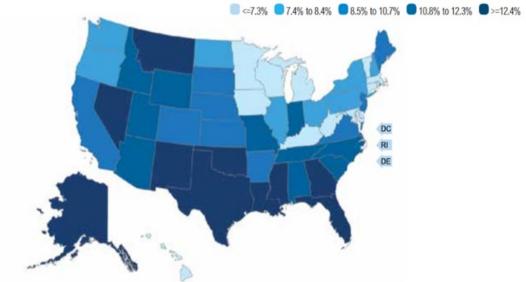
Uninsured





Lack of Health Insurance by State

Percentage of the population that does not have health insurance privately, through their employer, or through the government



Source: https://www.americashealthranking.org

Massachusetts 3.1%

Vermont 4.4%

Hawaii 4.7%

Minnesota 5.2%

lowa 5.6%

United States 10.6%

Top 5 States

Texas 18.1% Alaska 16.1%

Bottom 5 States

Florida 15.0%

Georgia 14.9%

Oklahoma 14.7%

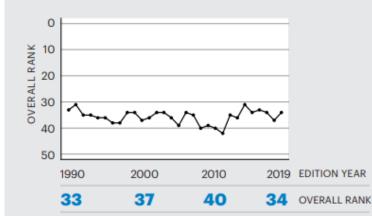
United States 10.6%



Texas









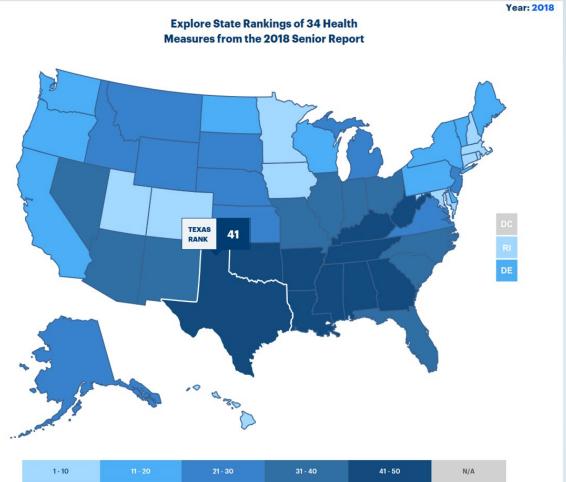


A call to action for individuals and their communities

Senior Report 2018











HEALTH OF WOMEN AND CHILDREN REPORT

MARCH 2018

The full report is available at www.AmericasHealthRankings.org



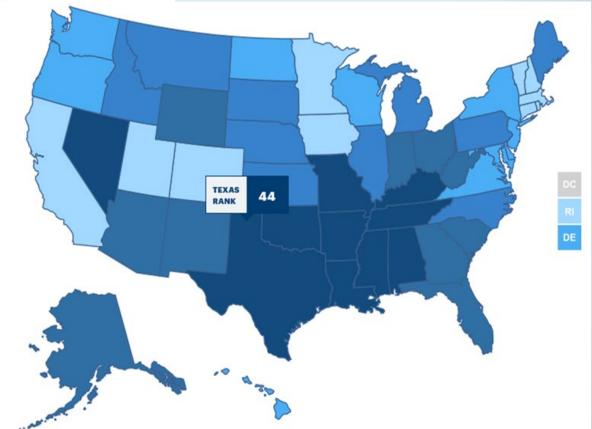


Texas

OVERALL-HWC RANK: 44

CHANGE: ▼3

Source: 2018 Health of Women and Children Report





How Big Is Texas, Compared to Other Land

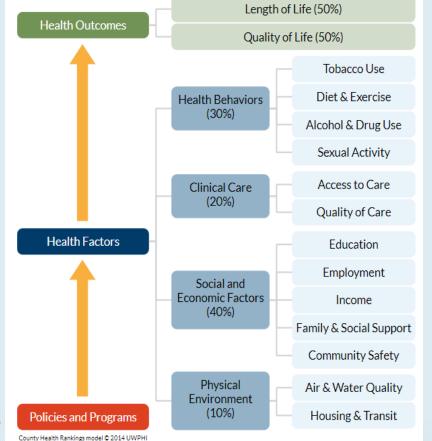
Masses?

Source: Dan Solomon, The Texas Monthly, January 14, 2015





County Health Rankings Model



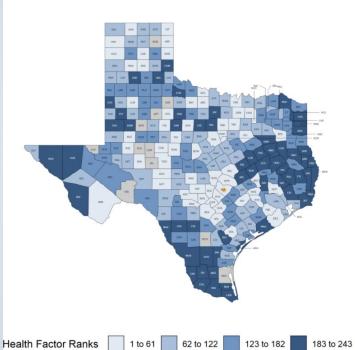
Source:

https://www.countyhealthrankings.org

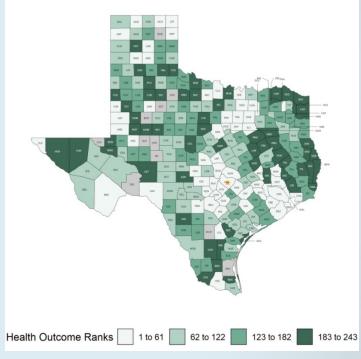


County Health Rankings 2021





2021 Health Outcomes - Texas





Texas Department of Agriculture: Texas Rural Health and Economic Development Advisory Council, December 2018

- "Geographic isolation, a critical lack of physicians and specialty providers, hospital solvency, and socioeconomic factors create considerable barriers for rural residents to receive adequate healthcare services.
- Eighty-four percent of Texas's landmass is rural and expansive distances have significant implications for access to care and the delivery of quality health services.
- Of the state's 254 counties, 177 counties are rural or non-metropolitan.
- An overwhelming majority of rural hospitals are located in one of the state's 139
 federally designated Health Professional Shortage Areas (HPSAs) and 111 Medically
 Underserved Areas (MUAs), measures that signify both provider shortages and
 adverse health outcomes.
- Additionally, 63 Texas counties do not have any hospital and 35 counties do not have a primary care physician."



Health Professional Shortage Areas:

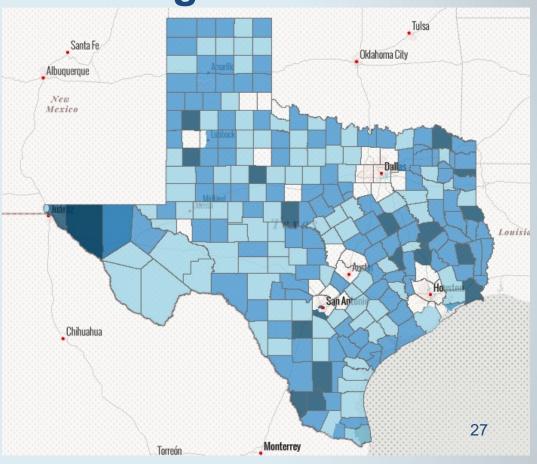
Primary Care

- 223 of 254 Whole Counties are HPSA
- An additional 13 counties have partial HPSA designations
- This data is current as of 5/27/2021

Source:

Health Professional Shortage Areas (arcgis.com)





Health Professional Shortage Areas:

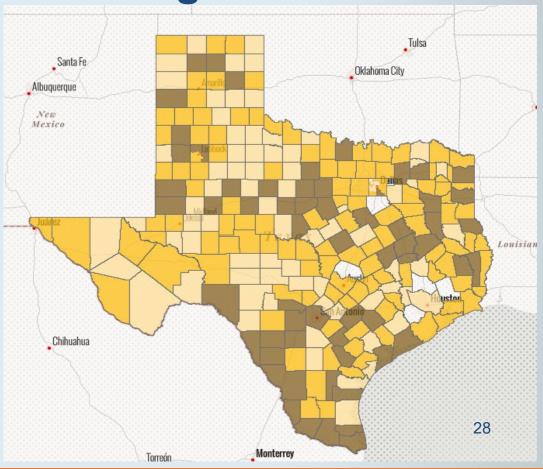
Mental Health

- 246 of 254 counties are Mental Health HPSA
- An additional 2 counties have partial HPSA designations
- This data is current as of 5/27/2021

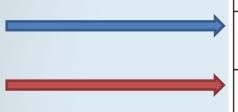
Source:

Health Professional Shortage Areas (arcgis.com)





Specialty Services are Especially Hard to Find in Rural Areas!

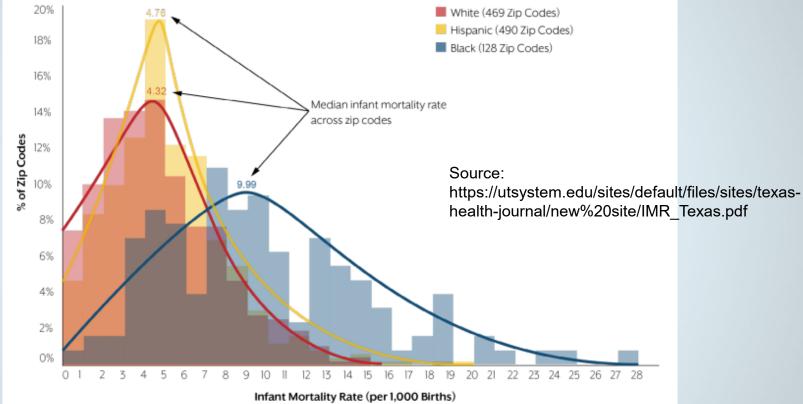


Data from the National Rural Health Association

	National Rural Health Snapshot	Rural	Urban
ľ	Percentage of population	19.3%	80.7%
н	Number of physicians per 10,000 people	13.1	31.2
ш	Number of specialists per 100,000 people	30	263
	Population aged 65 and older	18%	12%
	Average per capita income	\$45,482	\$53,657
	Non-Hispanic white population	69-82%	45%
	Adults who describe health status as fair/poor	19.5%	15.6%



Zip Codes and Infant Mortality in Texas





Zip Codes and Infant Mortality in Texas

(cont.) Zip code: 76164 Overall Infant Mortality Rate: 12.3 per 1,000 births **Fort Worth** Forest Hil Zip code: 76107 Infant deaths per 1000 births Overall Infant Mortality Rate: 1.8 per 1,000 births 8.21 - 10.95 0 - 274



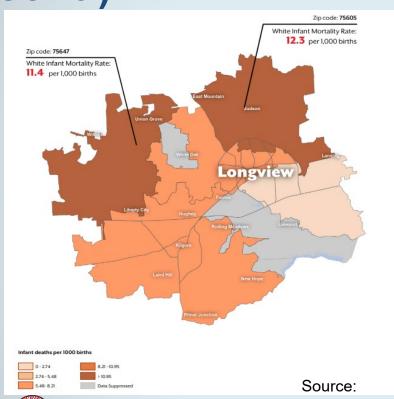
10.95

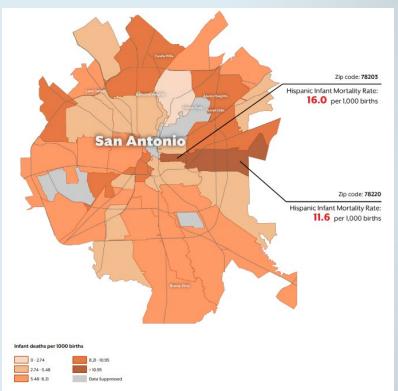
Data Suppressed

Source:

https://utsystem.edu/sites/default/files/sites/texas-health-journal/new%20site/IMR_Texas.pdf

Zip Codes and Infant Mortality in Texas (cont.)







https://utsystem.edu/sites/default/files/sites/texashealth-journal/new%20site/IMR_Texas.pdf

Zip Codes and Infant Mortality in Texas (cont.)

Zip code: 77026

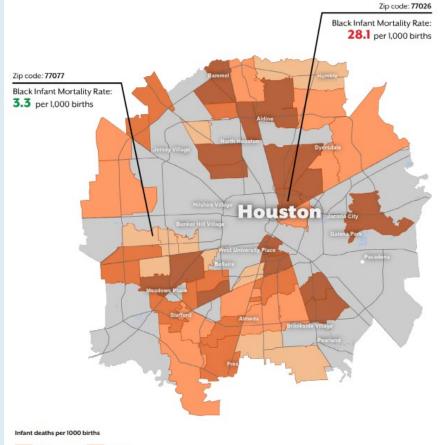
Black Infant Mortality Rate: 28.1 per 1,000 births

0-274

2.74 - 5.48 5.48 - 8.21

Source:

https://utsystem.edu/sites/default/files/sites/texas-health-journal/new%20site/IMR_Texas.pdf



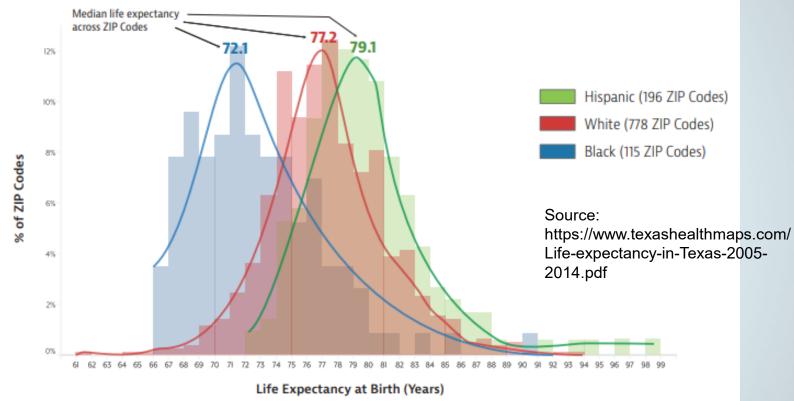




2005-2014



Zip Codes and Life Expectancy in Texas



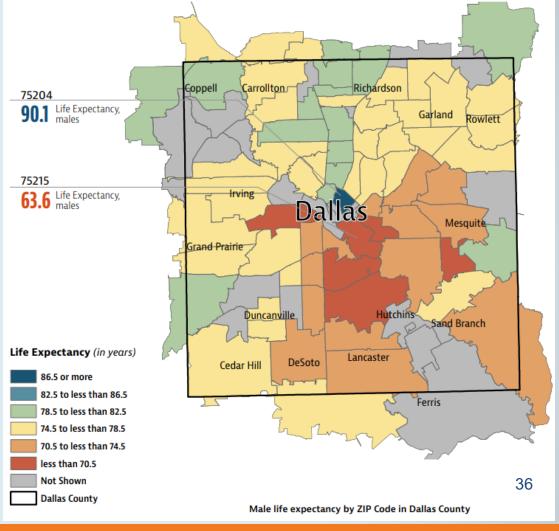


Life Expectancy by Zip Code in Dallas

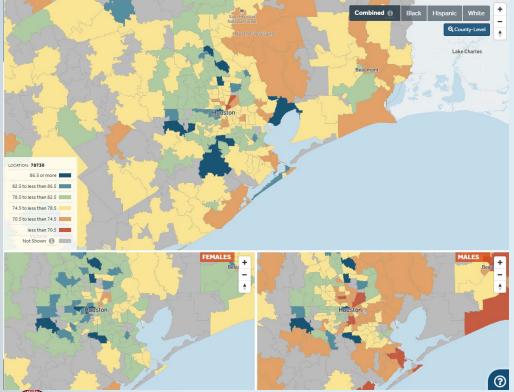
Source:

https://www.texashealthmaps.com/ Life-expectancy-in-Texas-2005-2014.pdf





Life Expectancy by Zip Code in Houston and Texas







Source: https://www.texashealthmaps.com/lfex

Socioeconomic Factors and Life Expectancy

To explore socioeconomic factors associated with life expectancy in Texas, we obtained two ZIP-Code-level measures from the American Community Survey: the percent of population in a ZIP Code who live below the federal poverty level and the percent of population in a ZIP Code under the age of 65 years who do not have health insurance. Results indicate that life expectancy is associated with both indicators of socioeconomic status. Texans living in ZIP Codes

with less than 5 percent poverty lived an average of 82.4 years, versus those living in ZIP Codes with more than 20 percent poverty who lived an average of 76.4 years. Texans living in ZIP Codes wherein less than 10 percent of the population are uninsured lived an average of 83.3 years, versus those living in ZIP Codes with more than 20 percent uninsured, who lived an average of 76.8 years.

Table 1. Average life expectancy by categories of ZIP Code socioeconomic and health insurance status.

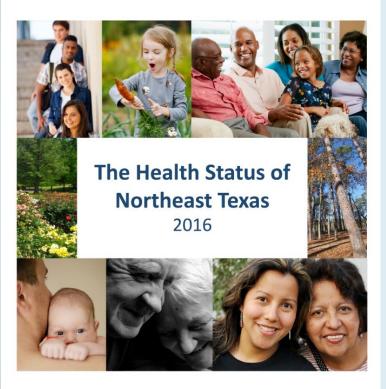
ZIP Code percent of popula- tion living at or below federal poverty line	Number*	Mean life expectancy, in years	Range of life expectancy, in years	
<5%	133	82.4	74.9-97.0	
≥5 - <10%	231	78.9	66.7-89.1	
≥10 - <20%	397	77.0	69.9-94.3	
≥20%	231	76.4	66.7-90.4	
ZIP Code percent of population under age 65 who do not have health insurance	Number*	Mean life expectancy, in years	Range of life expectancy, in years	
<10%	79	83.3	75.5-92.9	
≥10 - <20%	381	78.6	66.7-97.0	
≥20%	532	76.8	66.7-94.3	

^{*}Number of ZIP Codes that did not have 1) fewer than 400 deaths over the entire study period or 2) a difference in the 95% confidence interval lower and upper bounds of more than 4 years. (See Suppression section for more information).







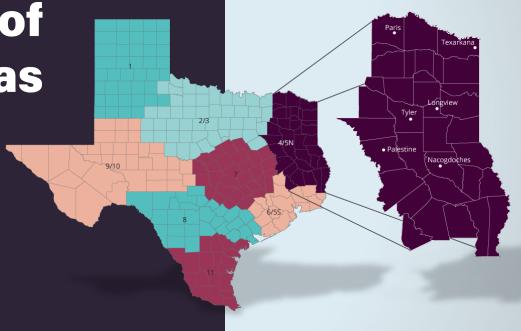


THE HEALTH STATUS OF NORTHEAST TEXAS





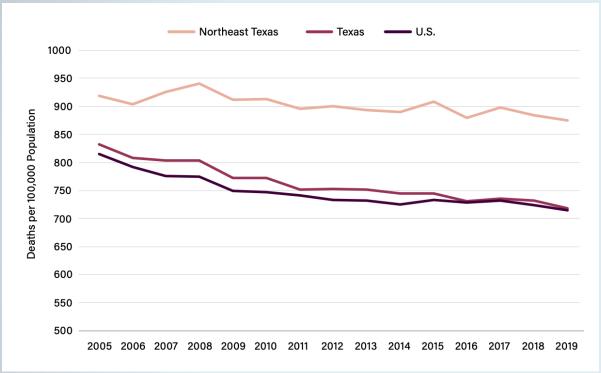
2021 Health
Status Report of
Northeast Texas



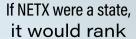




All Cause Mortality Rates



Age-Adjusted All-Cause Mortality Rates: Northeast Texas, Texas, and U.S. (2005-2019)



44th

in age-adjusted **ALL-CAUSE** mortality

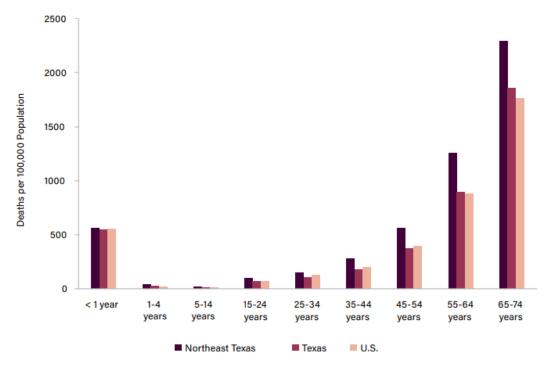
In 2019, mortality raters were:

- 20% higher for males
- 22% higher for females
- 17% higher for Non-Hispanic Whites
- 14% higher for Non-Hispanic Blacks

in Northeast Texas than Texas overall

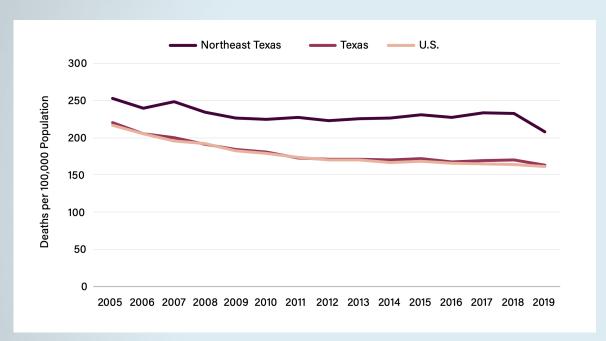
All Cause Mortality Rates by Age Group

Figure 17. All-Cause Mortality Rates by Age Group: Northeast Texas, Texas, and U.S. (2019)





Heart Disease (#1 Cause of Death in NETX)



Age-Adjusted Heart Disease Mortality Rates: Northeast Texas, Texas, and U.S. (2005-2019)

If NETX were a state, it would rank

47th

in age-adjusted **HEART DISEASE** mortality

Modifiable risk factors:

- High blood pressure
- High blood cholesterol
- Cigarette smoking
- Physical inactivity
- Obesity



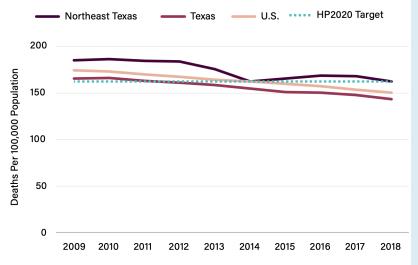
Cancer (#2 Cause of Death in NETX)

If NETX were a state, it would rank

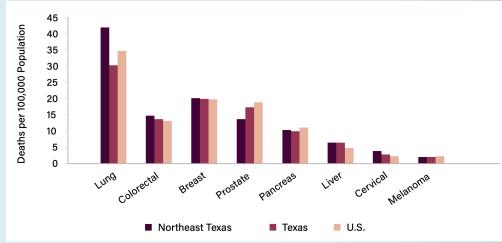
48th

in age-adjusted **CANCER** mortality

Age-Adjusted Cancer Mortality Rates: Northeast Texas, Texas, and U.S. (2009-2018)



Age-Adjusted Cancer Mortality Rates by Type of Cancer: Northeast Texas, Texas, and U.S. (2018)





Chronic Lower Respiratory Disease (#3 Cause of Death in NETX)

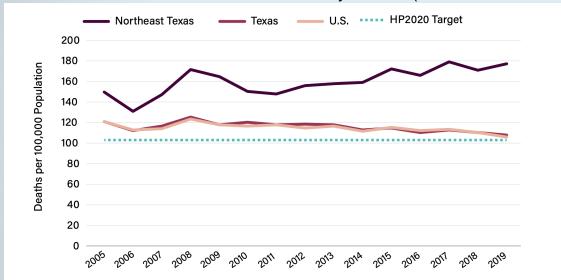
If NETX were a state, it would rank

51st

in age-adjusted
CHRONIC LOWER
RESPIRATORY

DISEASES mortality

CLRD includes Chronic Obstructive Pulmonary Disease (COPD and Asthma



Age-Adjusted Mortality Rates for COPD in Adults ≥45 Years-Old: Northeast Texas, Texas, and U.S. (2005-2019)

THE UNIVERSITY OF TEXAS SYSTEM THIRTEEN INSTITUTIONS, UNLIMITED POSSIBILITIES.

Modifiable Risk Factors for

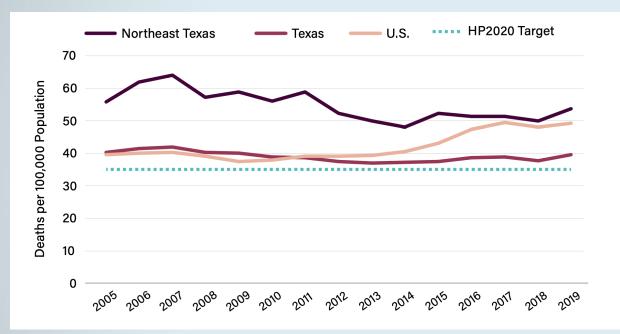
COPD

• Cigarette smoking

Asthma

- Exposure to cigarette smoke, air pollution, microbes, or allergens
- Workplace hazards such as chemical irritants or dusts

Unintentional Injuries (#4 Cause of Death in NETX)



Age-Adjusted Unintentional Injury Mortality Rates: Northeast Texas, Texas, and U.S. (2005-2019)

If NETX were a state, it would rank

25th

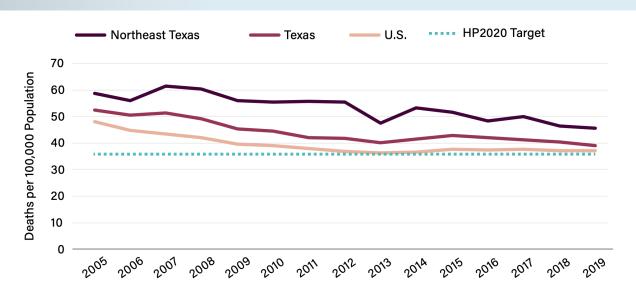
in age-adjusted
UNINTENTIONAL
INJURIES mortality

Top cause of unintentional injury mortality is motor vehicle crashes

In 2019, the motor vehicle crash mortality rate was 77% higher in Northeast Texas than in Texas overall



Stroke (#5 Cause of Death in NETX)



Age-Adjusted Stroke Mortality Rates: Northeast Texas, Texas, and U.S. (2005-2019)

If NETX were a state, it would rank

50th

in age-adjusted **STROKE** mortality

Modifiable risk factors:

- High fat diets
- Physical inactivity
- Heavy alcohol consumption
- Tobacco use



Mortality Rates for Top 5 Causes of Death

Table 6. Age-Adjusted Mortality Rates for Top 5 Causes of Death: Northeast Texas Compared to Texas (2019)

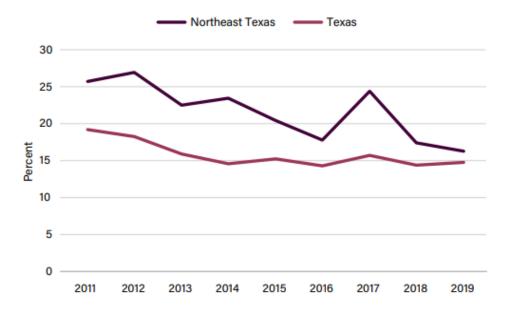
	Texas Rate	Northeast Texas Rate	Rate Difference	% Higher Rate in Northeast TX	TX State Rank*	Northeast TX "State" Rank*
Heart disease	163.4	207.9	44.5	27%	31st	47th
Cancer	141.4	173.9	32.5	23%	16th	48th
Chronic Lower Respiratory Diseases	38.6	63.5	24.9	65%	24th	51st
Unintentional Injuries	39.7	53.7	14.0	35%	5th	25th
Stroke	39.0	45.5	6.5	17%	34th	50th
All causes	717.8	874.6	156.8	22%	24th	44th

^{*}A rank of 1=best (lowest) rate, 51=worst (highest) rate, with Northeast Texas included as a U.S. "state." Data source: National Center for Health Statistics on CDC WONDER database. Rates are per 100,000 population.



Smoking Rates

Figure 10. Estimated Prevalence of Current Smoking among Adults (2011-2019)

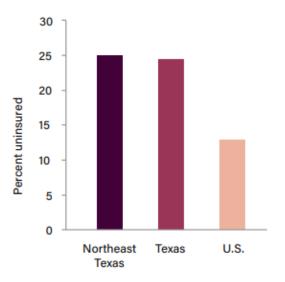


Data source: Behavioral Risk Factor Surveillance System (BRFSS), Center for Health Statistics, Texas Department of State Health Services.



No Health Insurance Coverage

Figure 4. Civilian Non-institutionalized Adults 19-64 Years-old with no Health Insurance Coverage: Northeast Texas, Texas, and U.S. (2019)

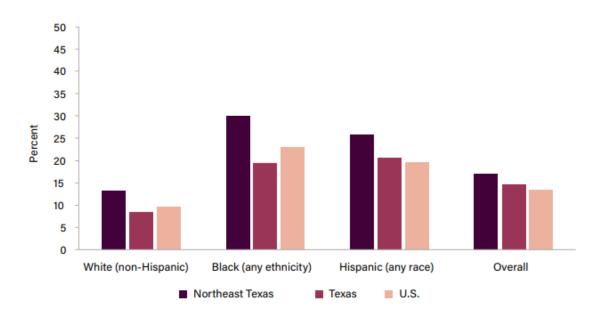


Data source: U.S. Census Bureau, Model-based Small Area Health Insurance Estimates for Counties and States (2019); 2019 American Community Survey 1-Year Estimates: Table DP03



Income Below Poverty Level

Figure 8. Individuals with Income Below Poverty Level, Past 12 Months, by Race or Hispanic Ethnicity: Northeast Texas, Texas, and U.S. (2015-2019)

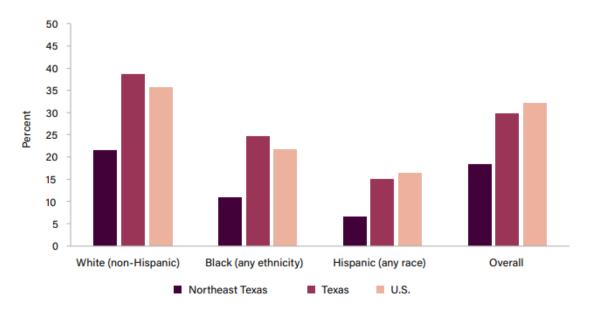


Data source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates. Table S1701. Note that the racial and ethnic groupings used in this figure reflect the available categories in Table S1701, and differ from standard categories used the report, where the Black population only includes non-Hispanic Blacks.



With a Bachelor's Degree

Figure 9. Individuals Aged 25 Years and Older with a Bachelor's Degree, by Race or Hispanic Ethnicity: Northeast Texas, Texas, and U.S. (2015-2019)



Data source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates. Table S1501; note that the racial and ethnic groupings used in this figure reflect the available categories in Table S1501, and differ from standard categories used the report, where the Black population only includes non-Hispanic Blacks.

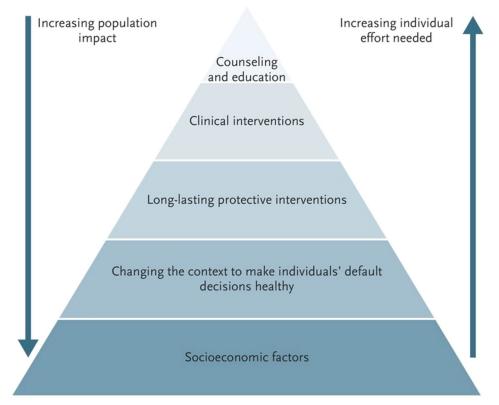


So, what do we do?



Understanding Where Our Approaches Impact Health

- Intense individual focused programs will impact individuals, but will have small impacts on the population at large
- Less intense wide-spread programs will have small impacts on the individual, but will move the population

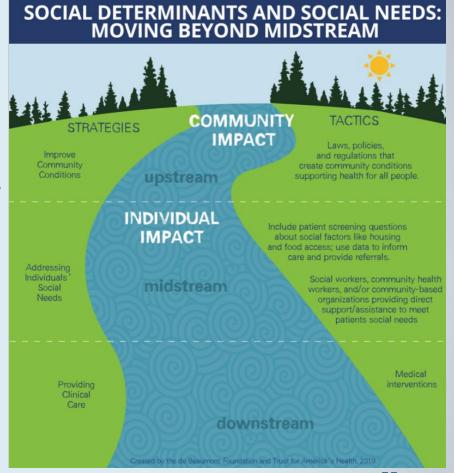




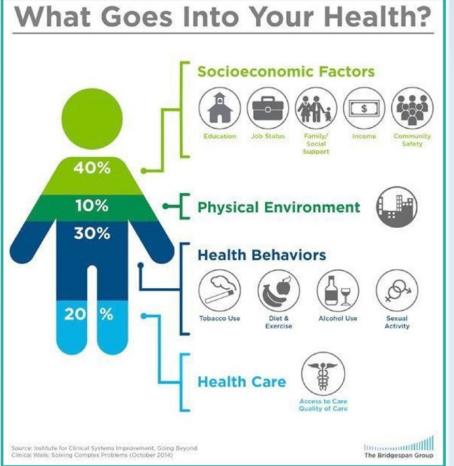
Source: Frieden (2010). A framework for public health action: Health impact pyramid, *Am J. Public Health*

Health Affairs: Meeting Individual Social Needs Falls **Short of Addressing Social Determinants of** Health – de Beaumont **Foundation**

Source: https://debeaumont.org/news/2019/meeting-individual-social-needs-falls-short-of-addressing-social-determinants-of-health/









Social Determinants of Health Education **Health Care** Access and Access and Quality Quality Neighborhood Economic and Built Stability Environment Social and Community Context

Source:

https://health.gov/healthypeople/ objectives-and-data/socialdeterminants-health

Social Determinants of Health Copyright-free









POPULATION **HEALTH**

Initiatives

Health Indicators

Scholars Program

News & Events



WHO WE ARE

Meet our staff and leadership, learn the history of the initiative, contact us, and discover more about what population health means.

Get to know us →

INITIATIVES

We're working on a range of population health issues, including obesity, maternal and infant health, diabetes, tobacco use, mental health, and more,

Learn more →

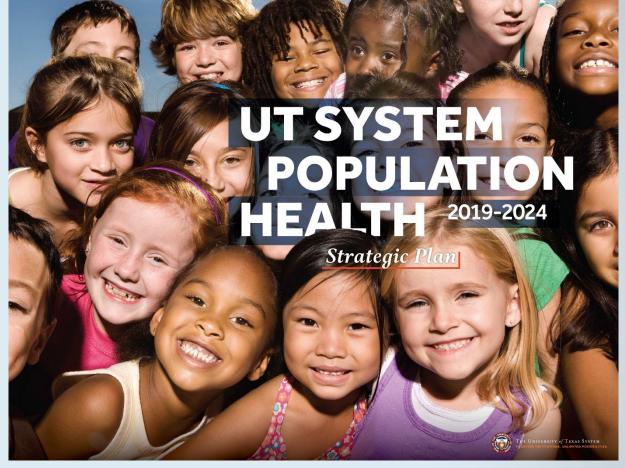
ANALYSES & REPORTS

Our experts are using the latest Texas health data to produce reports, analyses, and visualizations to better inform citizens and policymakers about health in Texas.

See the Numbers →



Prepared at the request of the U. T. System Board of Regents





Source: http://www.utsystempophealth.org/pophealth-strategic-plan/

Six Objectives of the U. T. System Population Health Strategic Plan

- 1. Increase UT System collaborations to address population health.
- 2. Develop strategies to promote data sharing, repository use and analytics.
- 3. Increase use and reach of telemedicine for delivery of primary and secondary care.
- 4. Promote cancer prevention and screening.
- 5. Prioritize mental health and expansion of integrated mental health services.
- 6. Advance health and health care workforce development







The Potential for a Rural Community Health System to Improve Health Care Access and Value in Texas

> Eileen Nehme, PhD MPH Ken Janda, JD Jennifer Meier, MPH Kim Wilson, DrPH David Lakey, MD













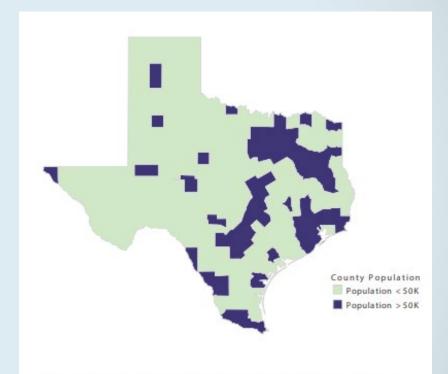


Figure 2: Map of 186 Texas Counties with Populations of Less Than 50,000 in 2020

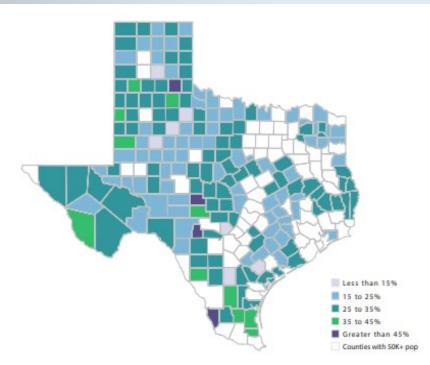


Figure 4. Percentage of 19- to 64-year-olds Uninsured in Counties with Less Than 50,000 Population in 2018
Data source: U.S. Census Bureau; 2018 American Community Survey

5-Year Estimates, Table B27010

Counties with <50K population Employer 25.6% Individual 49.6% ■ Public 2+ types Uninsured Counties with population 50K or greater 23.4% Figure 5. Health Care Coverage Distribution by Source Among 19to 64-year-olds (2014-2018) 54.4% Data source: U.S. Census Bureau; 2018 American Community Survey 5-Year Estimates, Table B27010

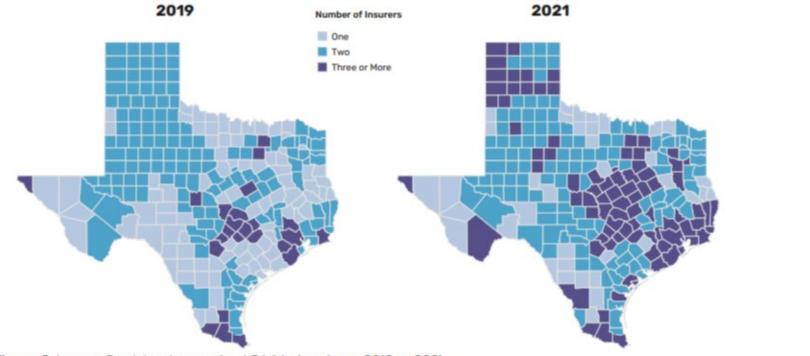


Figure 6. Insurer Participation on the ACA Marketplaces 2019 to 2021

Source: Kaiser Family Foundation analysis of data from Healthcare.gov and a review of state rate filings, available at: https://www.kff.org/private-insurance/issue-brief/insurer-participation-on-the-aca-marketplaces-2014-2021/





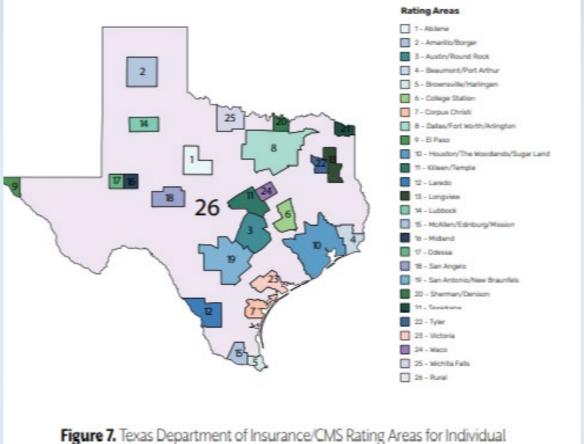


Figure 7. Texas Department of Insurance/CMS Rating Areas for Individual and Small Group Plans



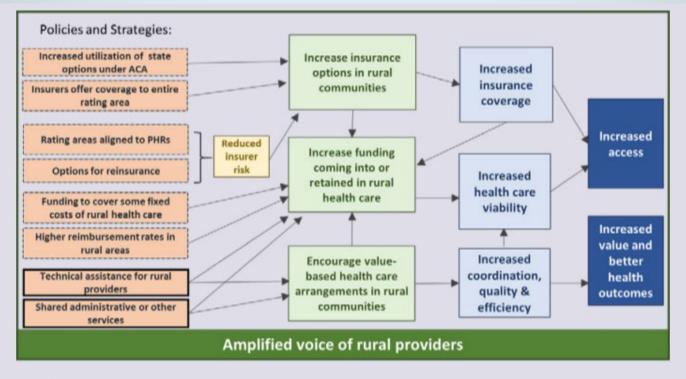


Figure 11: Potential Policies and Strategies to Increase Rural Health Care Access and Value

Note: The solid borders on the orange boxes indicate recommended strategies for an RCHS in the present era.





Opportunities to Improve Rural Health in Texas

Develop new models to address Social Drivers of Health

 Poverty, education, broadband access Expand tobacco and other disease prevention efforts

Expand disease screening efforts using technology (Colon Cancer)

Strategic use of health data

Support primary care providers through technology such as specialty telemedicine, Project Echo, etc.

Enhance the competitiveness of the insurance marketplace in rural Texas

Develop new recruitment mechanisms for primary care providers such as loan repayment

Modernize the public health systems



Thank you!

