

Telehealth In Practice

May 6, 2021



Disparities in Care: Telemedicine Potential

Ted J. Hudspeth, MD, FAAFP

Webinar Series Topics

- Why You Should Develop a Telemedicine Practice
- How to Choose a Telemedicine Platform
- Telemedicine Pre-Visit Workflow
- Telemedicine Visit Workflow and Documentation
- Urgent Care in Telemedicine
- Chronic Care in Telemedicine

Webinar Series Topics

- Marketing Your Telemedicine Practice
- Value Metrics in Telemedicine
- **Disparities in Care: Telemedicine Potential**
- Hardware in Telemedicine
- Literature Review in Telemedicine
- Special Considerations in Telemedicine

Webinar Series Topics: On Demand

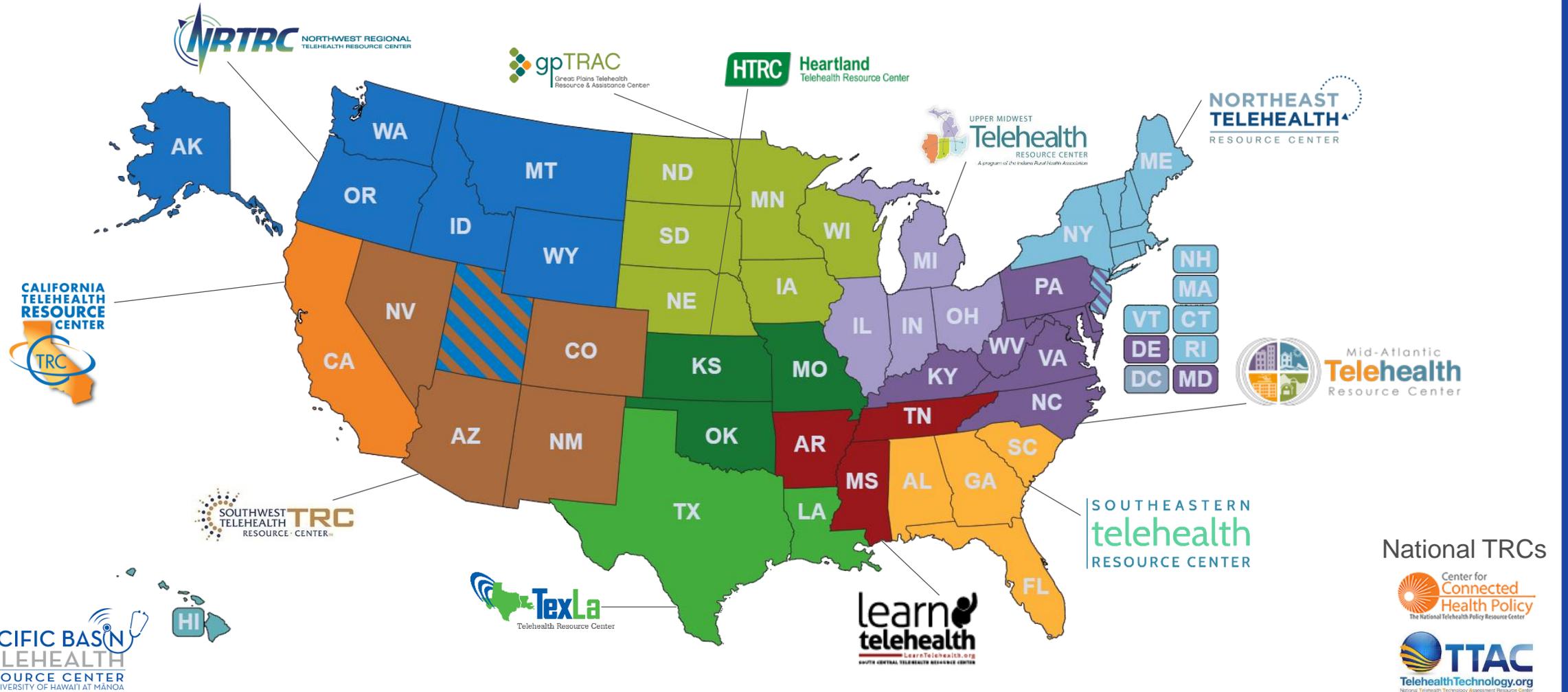
- On Demand: Team Troubleshooting
- On Demand: Professionalism & Legal Considerations
- On Demand: Best Practices & Caring Communication
- On Demand: Telemedicine Billing

TexLa Telehealth Resource Center

- The TexLa Telehealth Resource Center is a federally-funded program designed to provide technical assistance and resources to new and existing Telehealth programs throughout Texas and Louisiana.
- The F. Marie Hall Institute for Rural and Community Health at Texas Tech University Health Sciences Center is the support representative for Texas. Well-Ahead Louisiana, the chronic disease prevention and healthcare access arm of the state Department of Health, is the support representative for Louisiana.

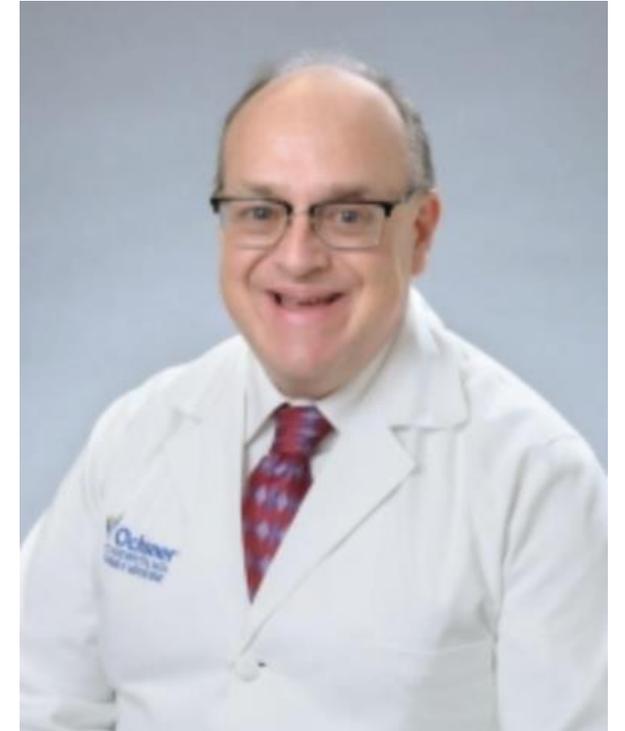
This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number G22RH30359, the TexLa Telehealth Resource Center, in the amount of \$325,000.00. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS, or the U.S. Government.

Telehealth Resource Centers



Speaker

- Ted J. Hudspeth, MD, FAAFP
 - Grew up in Amite, LA
 - BS in Microbiology at LSU Baton Rouge
 - Doctorate at LSUMC in New Orleans
 - Family Practice Residency at LSUMC Shreveport
 - Practices at Ochsner Health Center Hammond and Ochsner Hospital of Baton Rouge since 1993
 - Currently serving as the Ochsner Medical Director of Informatics of the Baton Rouge Region



Q&A FROM PREVIOUS SESSION

“Of all the forms of inequality, injustice in healthcare is the most shocking and inhuman because it often results in physical death.”

—Martin Luther King, Jr.

OVERVIEW

Overview

- Health equity vs. disparity
 - Area Deprivation Index
 - ADI disease studies
 - Louisiana disparity highlights
- Causes of rural health disparities
 - Social determinants of health
- Barriers to care in rural areas
- Cellular and broadband statistics
- Telemedicine opportunities for equity in health
- My recommendations

EQUITY VS. DISPARITY

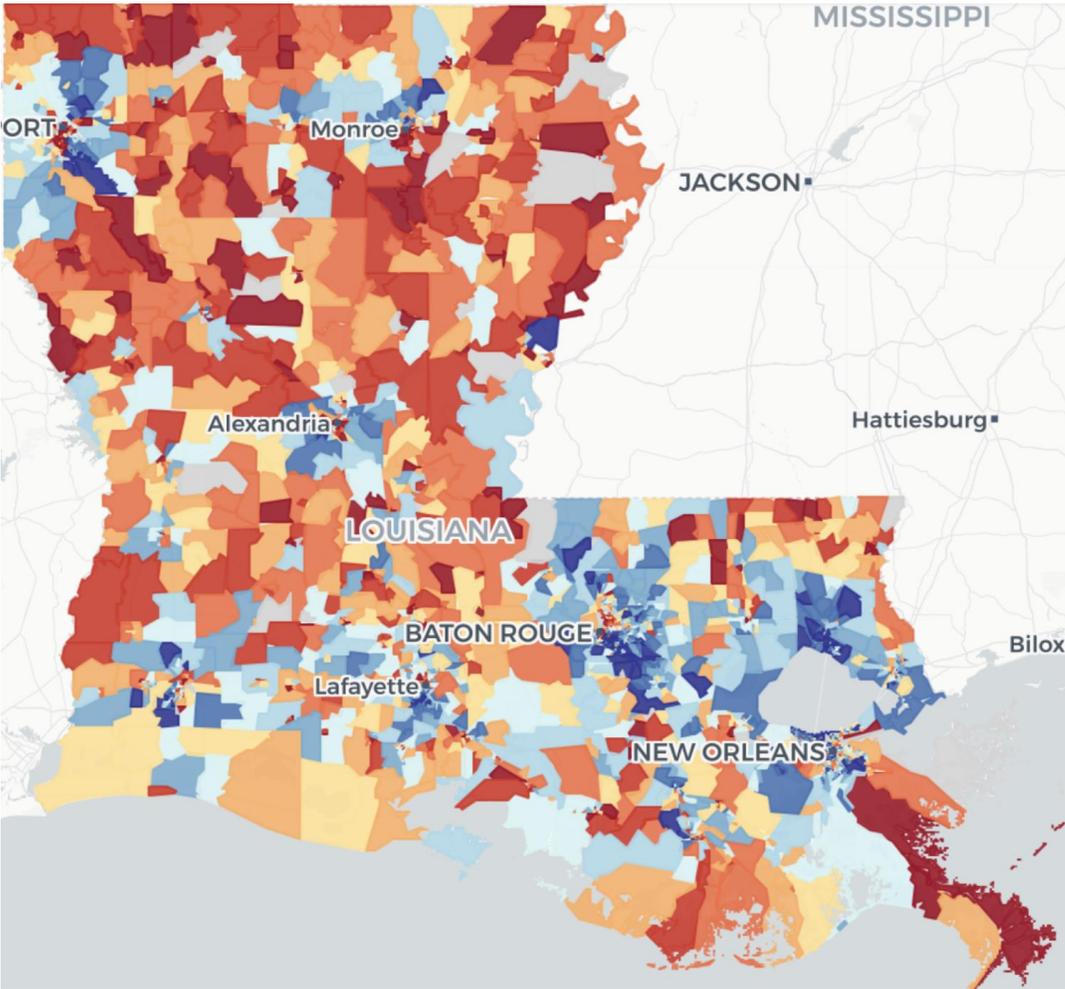
Health Equity Vs. Disparity

- Equity is when people have “the opportunity to ‘attain their full health potential’ and no one is ‘disadvantaged from achieving this potential because of their social position or other socially determined circumstance.’”
- It is also the absence of systematic disparities in health between and within social groups that have different levels of underlying social advantages or disadvantages—that is, different positions in a social hierarchy.

Area Deprivation Index

- Index developed by Amy Kind, MD, PhD at the University of Wisconsin-Madison
- Ranks neighborhoods by socioeconomic disadvantage in a region of interest
- Includes factors for the theoretical domains of income, education, employment and housing quality
- Used to inform health delivery and policy, especially for the most disadvantaged neighborhood groups

Louisiana Area Deprivation Index Map

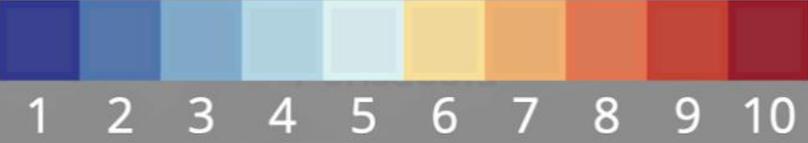


○ State-Only Deciles

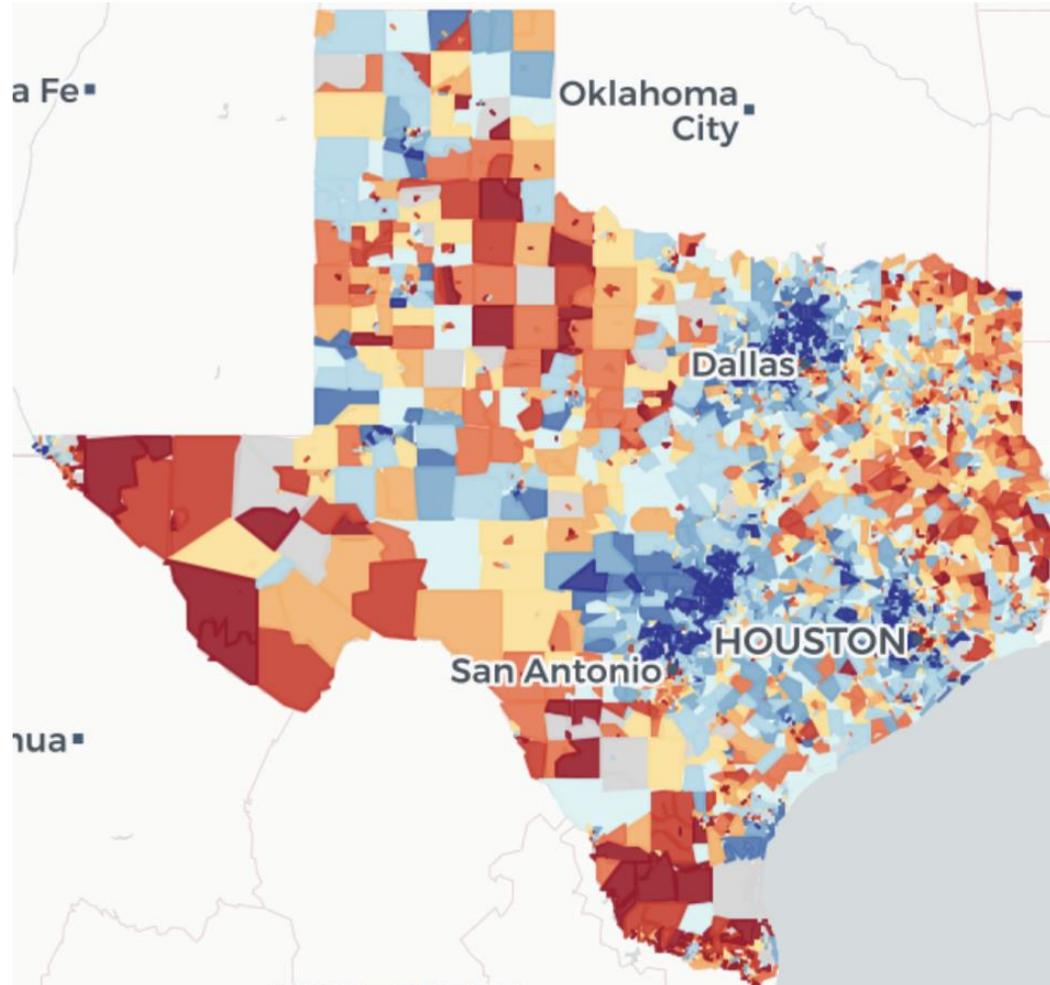
● National Percentiles

ADI scores from within this state alone are ranked from lowest to highest, then divided into deciles (1–10).

least disadvantaged block groups – most disadvantaged block groups



Louisiana Area Deprivation Index Map

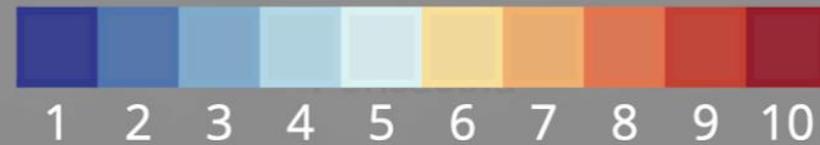


State-Only Deciles

National Percentiles

ADI scores from within this state alone are ranked from lowest to highest, then divided into deciles (1–10).

least disadvantaged block groups – most disadvantaged block groups



Area Deprivation Index Health Studies

Studies Indicating the Link Between Area Deprivation Index and Diseases

- [Area Deprivation Index \(ADI\) Predicts Readmission Risk at an Urban Teaching Hospital](#)
- [Area Deprivation and Widening Inequalities in US Mortality, 1969-1998](#)
- [The effect of area deprivation on COVID-19 risk in Louisiana](#)
 - Individuals residing in the most deprived neighborhoods had almost a 40% higher risk of COVID-19 compared to those residing in the least deprived neighborhoods

ADI and Diabetes

- Neighborhood Deprivation, Obesity and Diabetes in Residents of the US Gulf Coast
 - Neighborhood deprivation is associated with obesity and diabetes in a US region with high baseline prevalence.
- Association Among Individual Deprivation, Glycemic Control and Diabetes Complications
 - Deprivation status is associated with poor metabolic control and more frequent microvascular complications, i.e., retinopathy and neuropathy. The medical and economic burden of deprived patients is high.
- Association Between Neighborhood-Level Deprivation and Disability in a Community Sample of People With Diabetes
 - The inclusion of neighborhood characteristics might be an important step in the identification and interpretation of risk factors for disability in diabetes.
- The effect of deprivation and HbA1c on admission to hospital for diabetic ketoacidosis in type 1 diabetes
 - Those with high HbA1c and those living in more deprived areas have an increased risk of admission to hospital for diabetic ketoacidosis.

ADI and Hypertension

- Association between neighborhood level socioeconomic deprivation and incident hypertension: A longitudinal analysis of data from the Dallas heart study
 - We observed significant associations between residing in the more deprived neighborhoods and
 - Increasing blood pressure over time and
 - Incident hypertension

ADI and Lung Cancer

- Residential area deprivation predicts smoking habit independently of individual educational level and occupational social class
 - Social class, educational level and residential deprivation level independently related to cigarette smoking habit in both men and women
- Area Deprivation Index and Rurality in Relation to Lung Cancer Prevalence and Mortality in a Rural State
 - Lung cancer prevalence and mortality were positively associated with increasing ADI in models adjusted for age, sex and smoking rates

ADI and Breast Cancer

- Breast Cancer Screening, Area Deprivation and Later-Stage Breast Cancer in Appalachia: Does Geography Matter?
 - The most deprived counties had a 3.31 times greater rate of Late Stage Breast Cancer compared to the least deprived

ADI and Cardiovascular Disease

- Widening Geographical Disparities in Cardiovascular Disease Mortality in the United States, 1969-2011
 - Geographical disparities in CVD mortality reflect inequalities in socioeconomic conditions and behavioral risk factors

ADI and Stroke

- Effect of Area-Based Deprivation on the Severity, Subtype and Outcome of Ischemic Stroke
 - Deprivation was associated with readmission to hospital as a result of any vascular event in univariate analysis

Louisiana Disparity Statistics

Louisiana Disparities by Race/Ethnicity

Measurement	White %	Black %	Hispanic %
Population Distribution	58.8	31.9	5.2
Poverty Rate	12.5	29.4	25.3
Uninsured Rates for the Nonelderly	8.7	9.9	29.1
Infant Mortality Rate	5.7	11.1	5.3
Diabetes Deaths per 100,000	19.3	48	Insufficient Data
Heart Disease Deaths per 100,000	200	241	83.8
Cancer Deaths per 100,000	161	198.1	80.3
Breast Cancer Deaths per 100,000	19.2	29.5	Insufficient Data
Cervical Cancer Deaths per 100,000	2.6	5	Insufficient Data
Females With No Personal Doctor	15	18	35
Males With No Personal Doctor	27	33	47

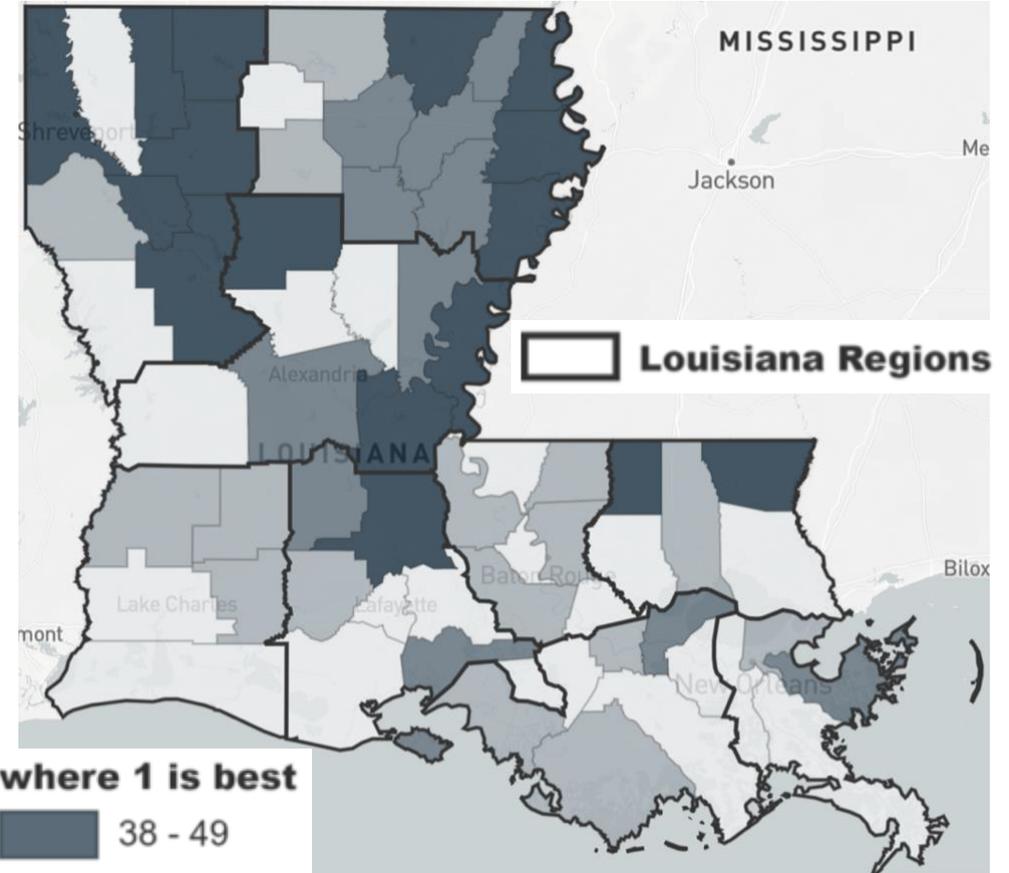
COVID-19 Vaccinations by Ethnicity in Louisiana

	Percent of Vaccinations	Percent of Cases	Percent of Deaths	Percent of Total Population
Whites	61	NR	57	62
Blacks	28	NR	39	32

Louisiana Health Assessment Dashboard

- Louisiana State Health Assessment Dashboard

- Information about the health of Louisiana residents
- Shows where health inequities exist in Louisiana
 - Health outcomes
 - Determinants of health

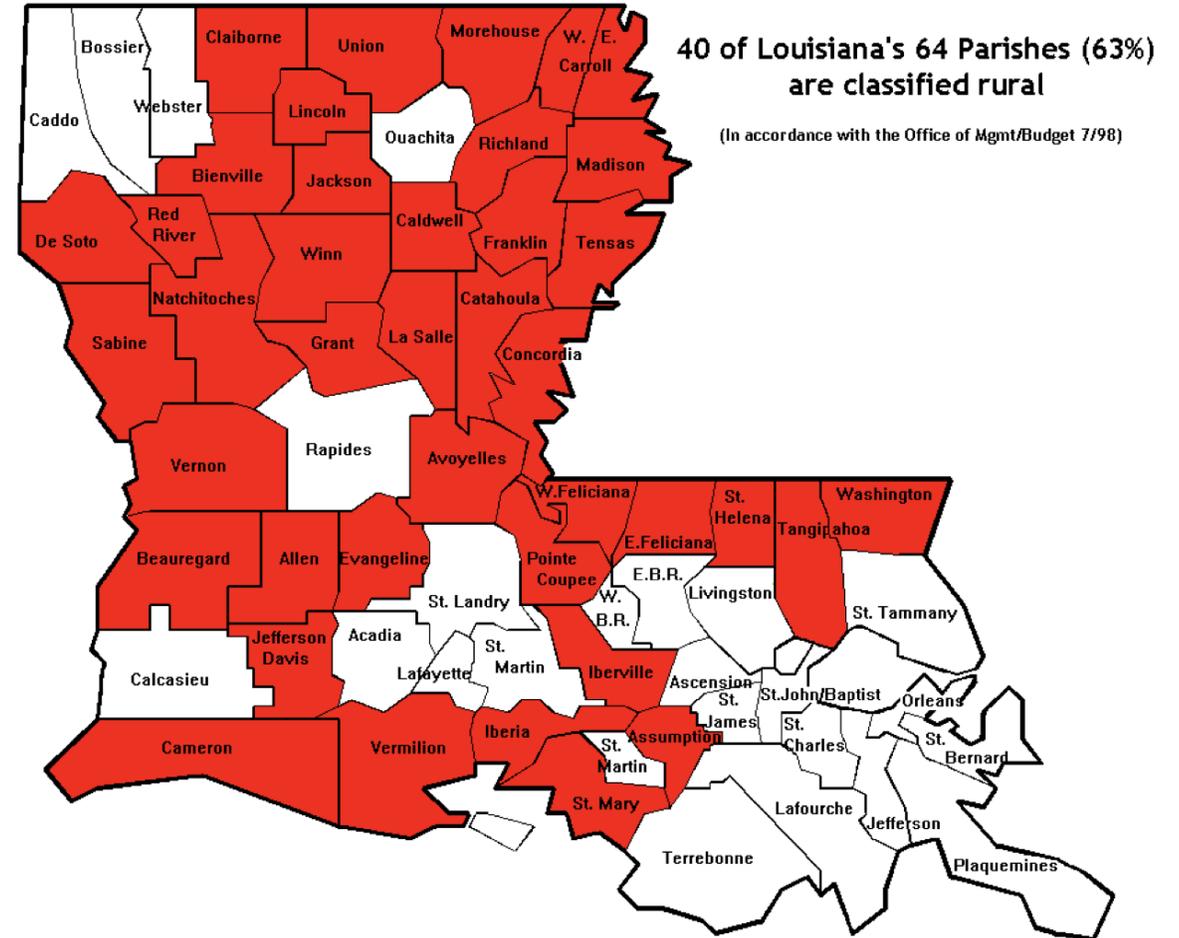
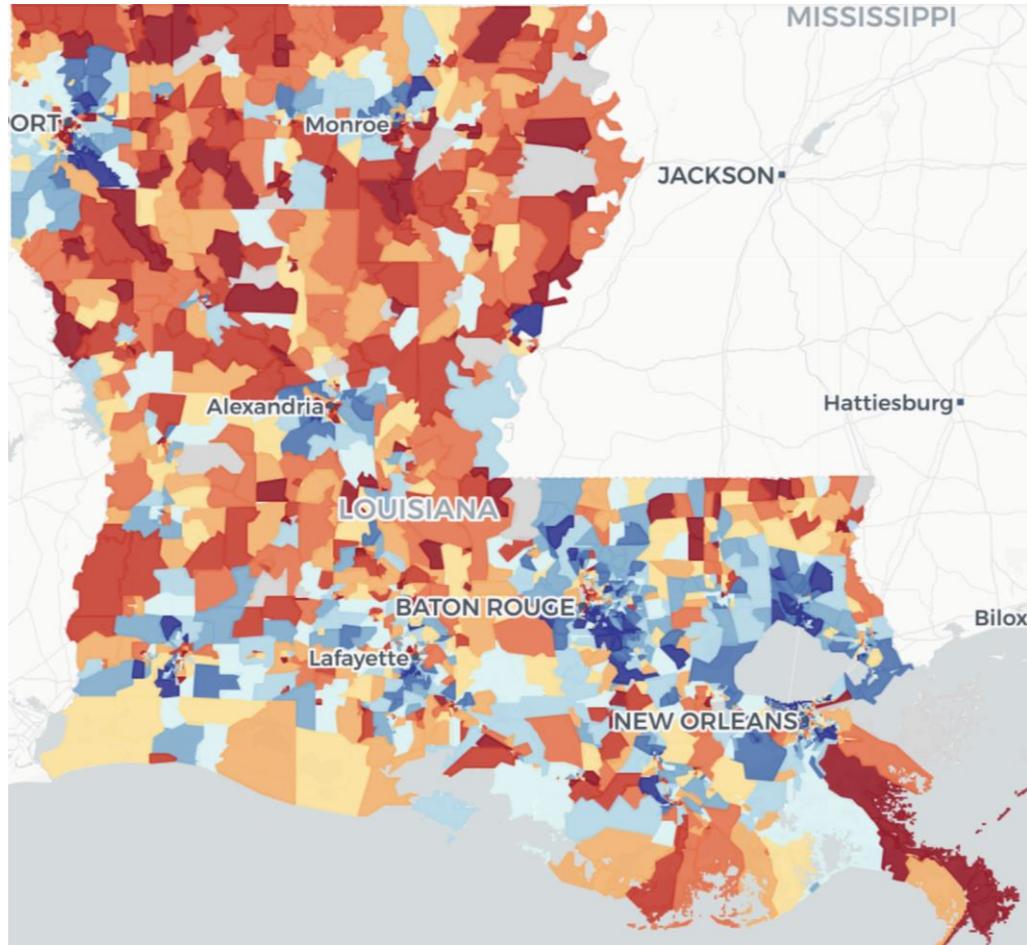


Source: Louisiana Department of Health

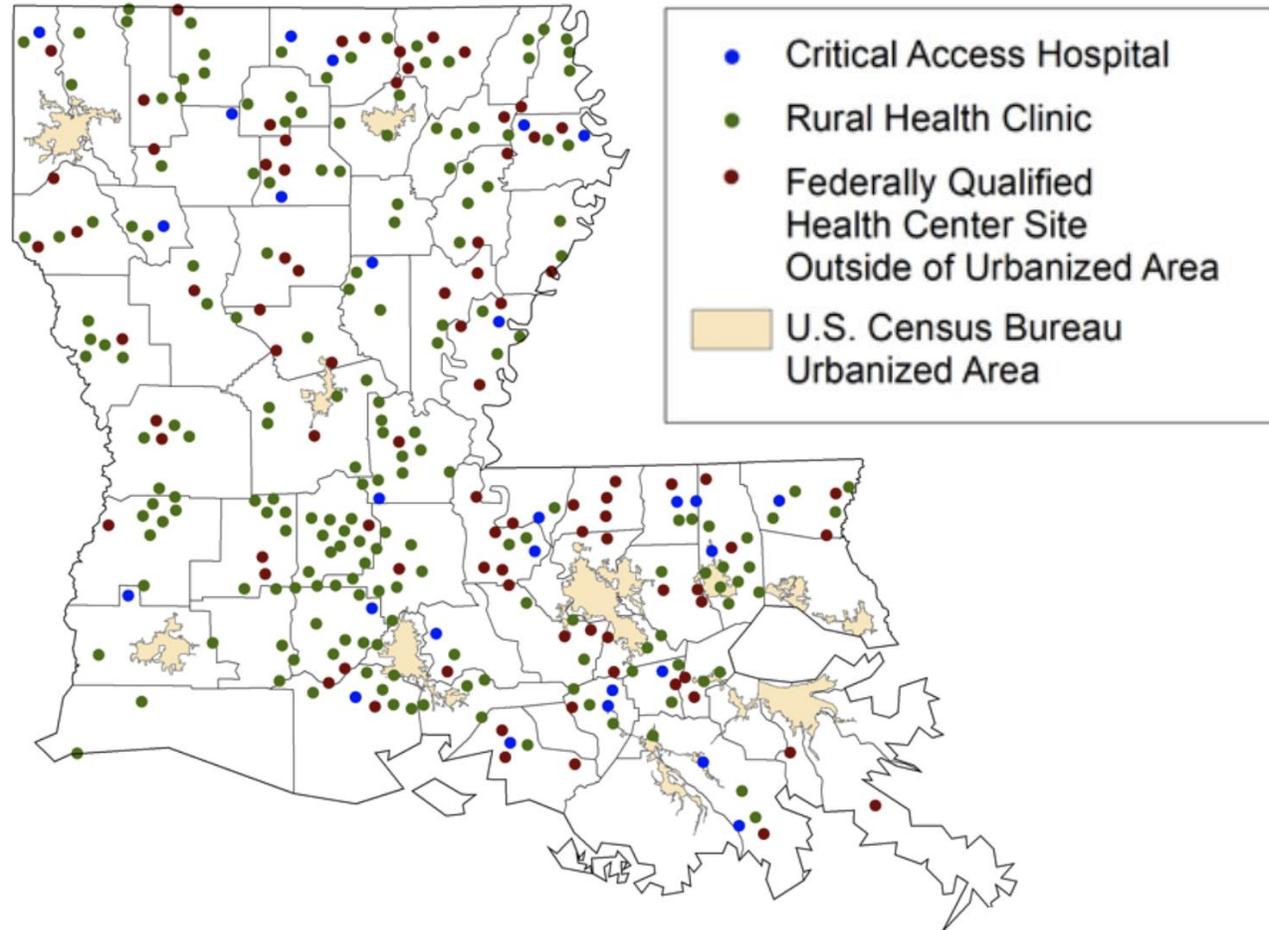
Top Lessons from this Dashboard's Data

- Rural communities don't have the same access to health as urban communities
- Black, Indigenous and People of Color communities don't have the same access to health services as white communities
- Differences in behaviors, exposures and access to healthy choices

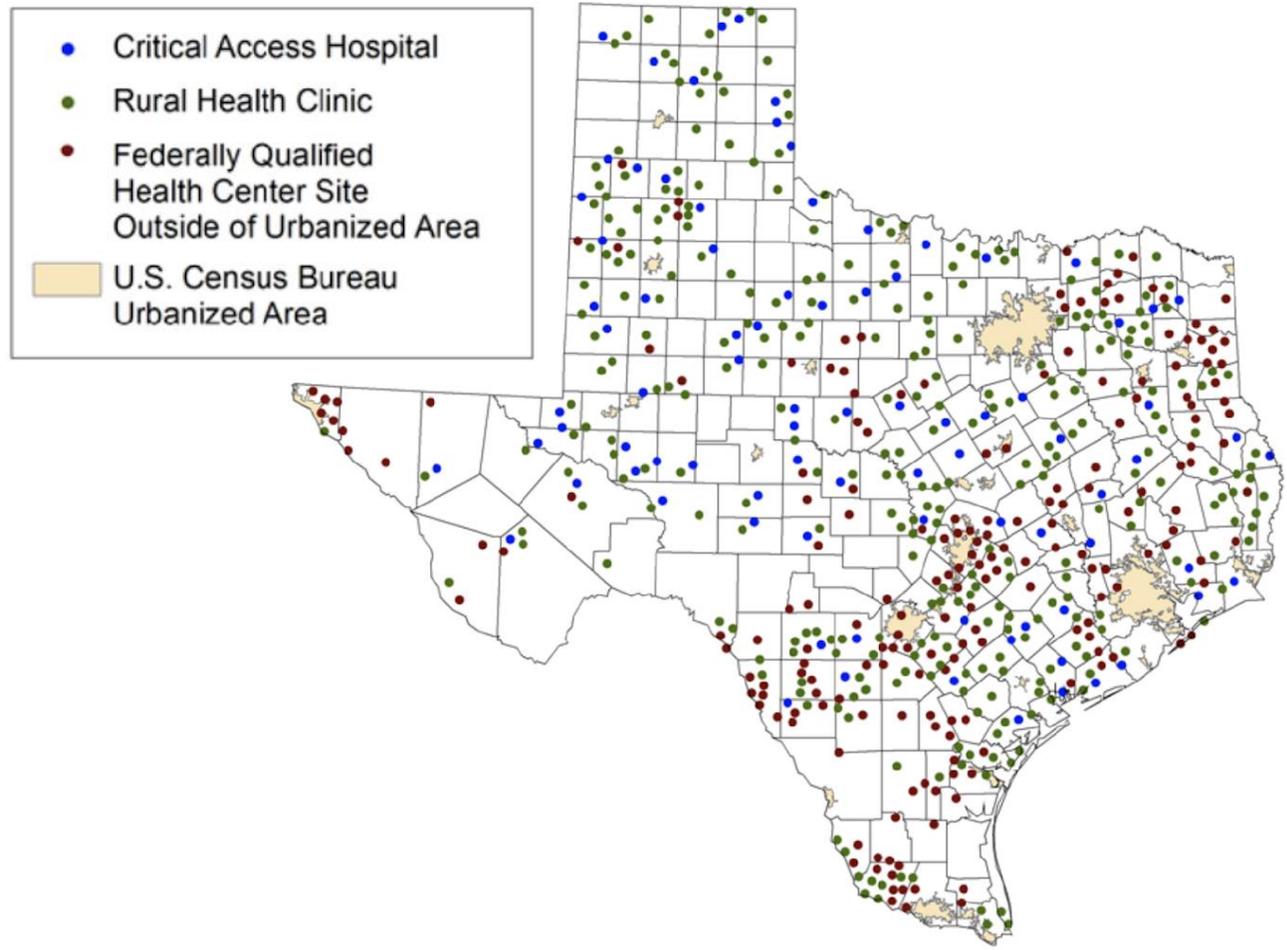
Area Deprivation Index vs. Rural Classification in Louisiana



Rural Healthcare Facilities in Louisiana



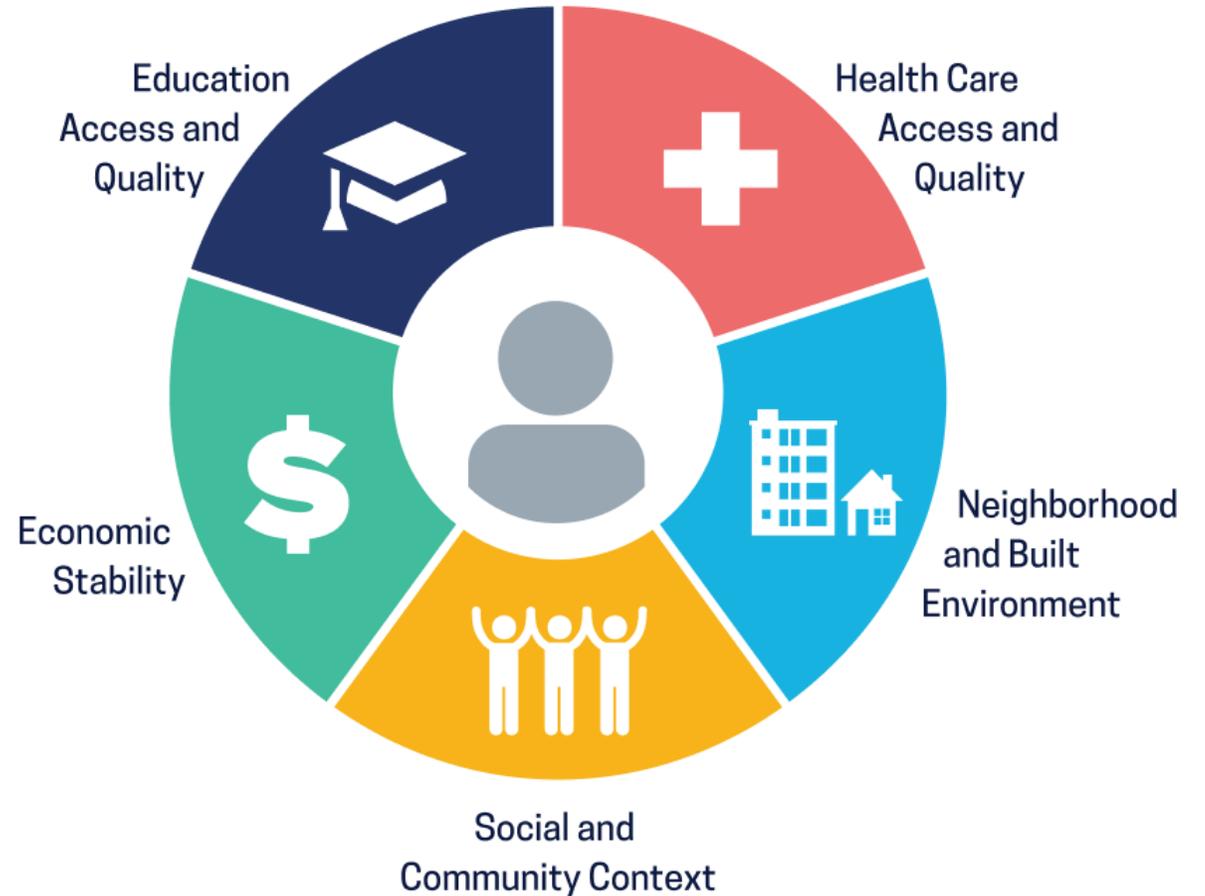
Rural Healthcare Facilities in Texas



CAUSES OF RURAL HEALTH DISPARITIES

Social Determinants of Health

- Conditions in the environments where people are born, live, learn, work, play, worship and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks



Source: Healthy People 2030

Access to Quality Healthcare

- Lack of enough primary health providers
- Lack of specialists
- Higher rates of uninsured
- Distance and transportation issues

Socioeconomic Status

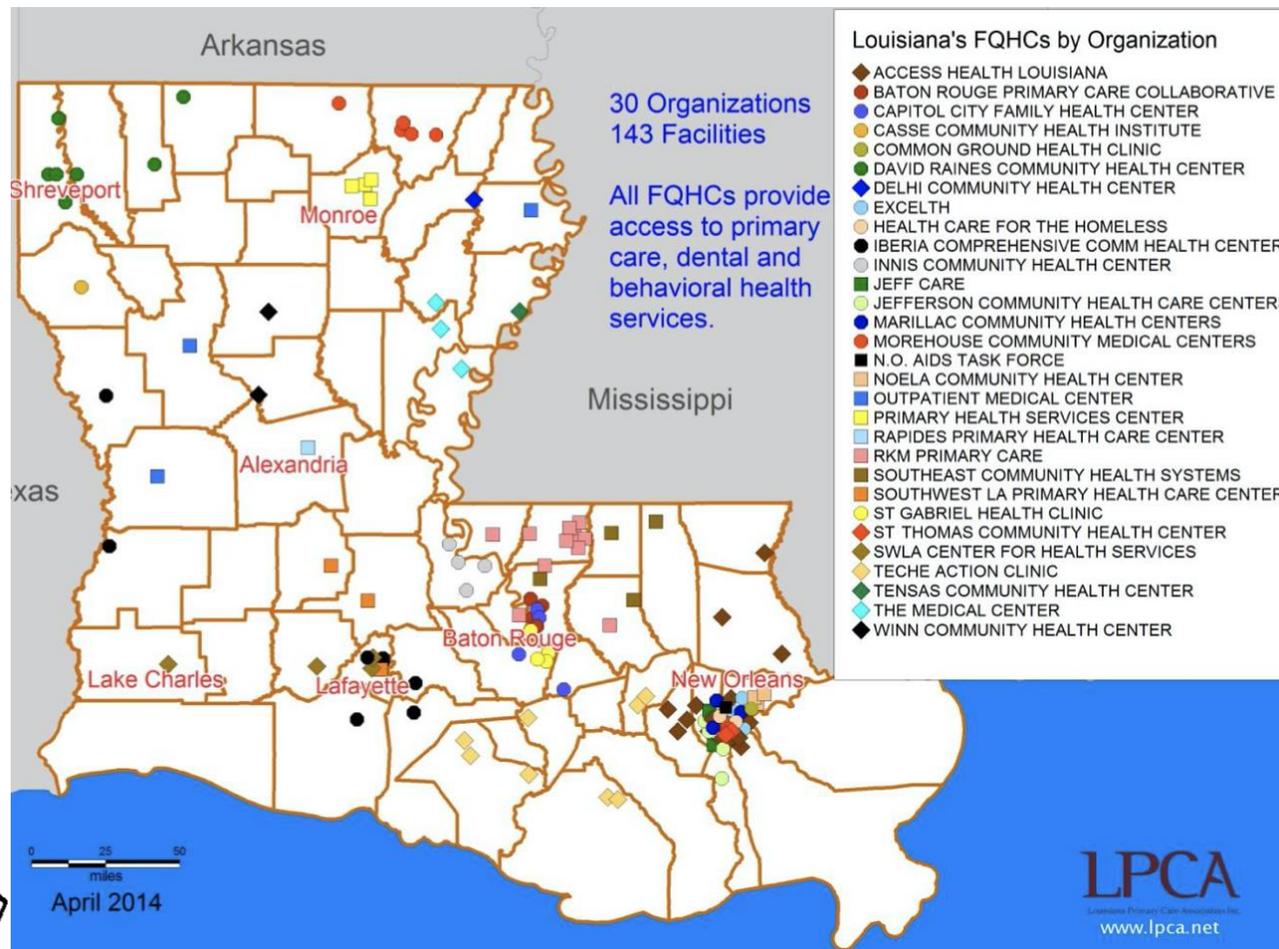
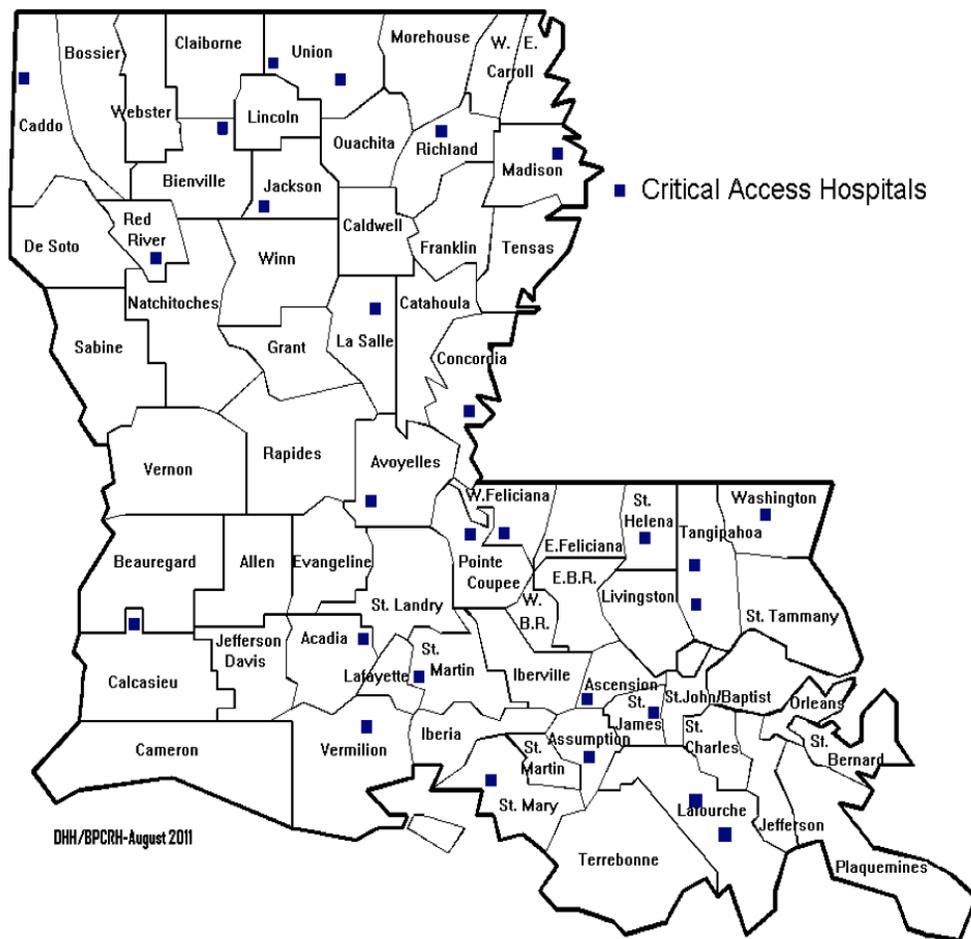
- Higher rates of low to moderate income
- Less likely to have employer-sponsored health
- More likely to be a beneficiary of Medicaid or another form of public health insurance
- More likely to be unemployed
- Less post-secondary education
- Lower median household incomes

BARRIERS TO CARE IN RURAL AREAS

Lack of Hospital Services In Rural Areas

- Rural Americans are 15-20% of the U.S. population
- Per 100,000 people there are 30 specialists in rural communities compared to 263 specialists in urban areas
- 54% of rural counties do not have a hospital with obstetrics services

Louisiana's Critical Access Hospitals and Federally Qualified Health Centers



Transportation

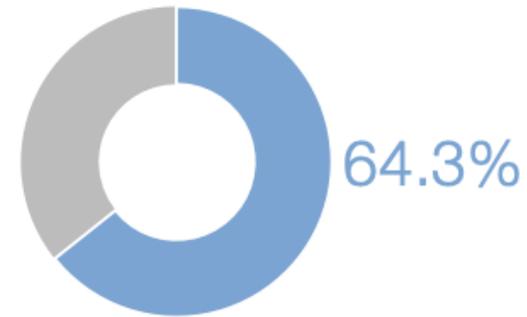
- Many rural people delay screening and evaluation of problems due to distance or transportation issues to a health provider
- 40% of roads in rural areas are not well-maintained
- Average trips for medical or dental services are about 9 miles longer in rural regions
- Not much public transportation
- Despite some facilities in rural areas, disparities still exist

CELLULAR AND BROADBAND STATISTICS

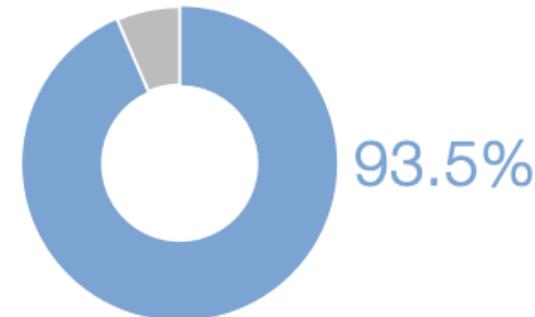
Data Insights Reveal Disparities in Access to Telemedicine Technology

- Access to telemedicine services for healthcare in the U.S. is not evenly distributed
 - Rural residents may live hours from a doctor
 - Rural residents often have limited access to broadband internet which restricted the ability of many in rural communities to access telemedicine pre-pandemic
 - Black and Hispanic Americans own laptops at lower rates than white Americans

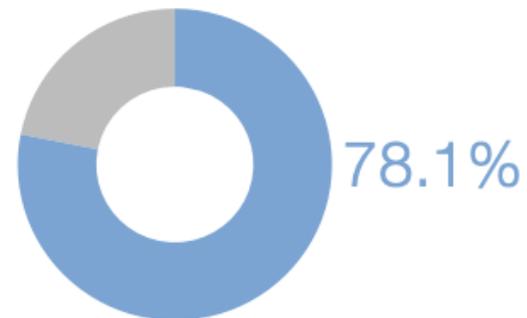
Among households with incomes of \$25,000 or lower



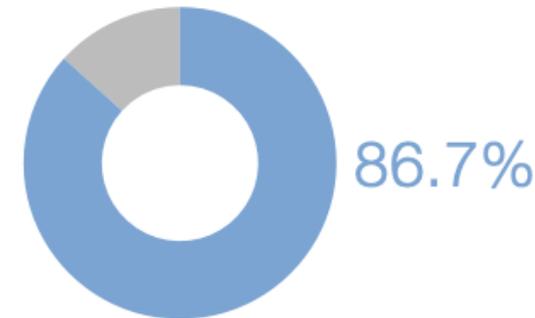
Among households with incomes of \$50,000 or lower



Among households located in non-metropolitan statistical areas

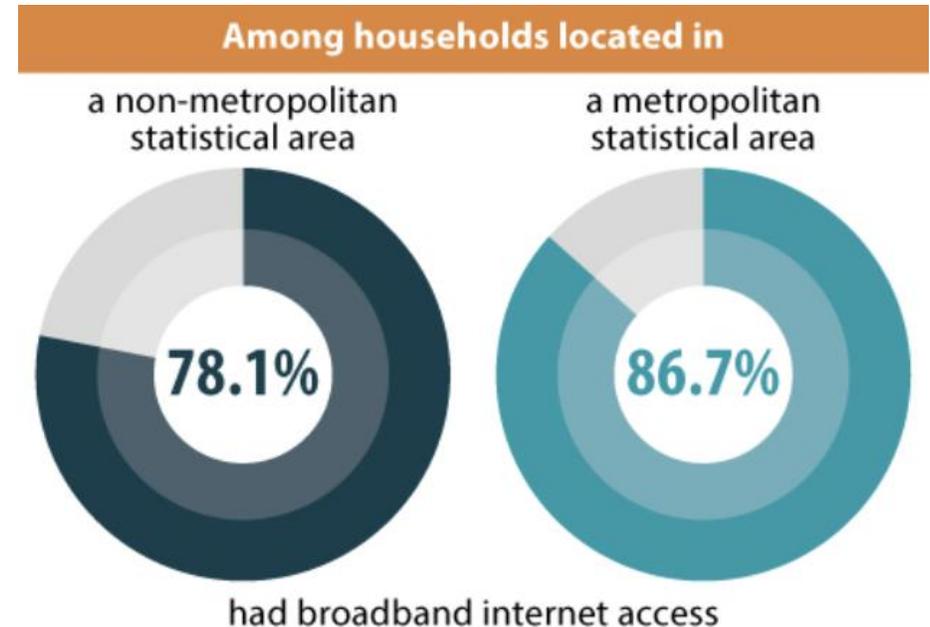


Among households located in metropolitan statistical areas



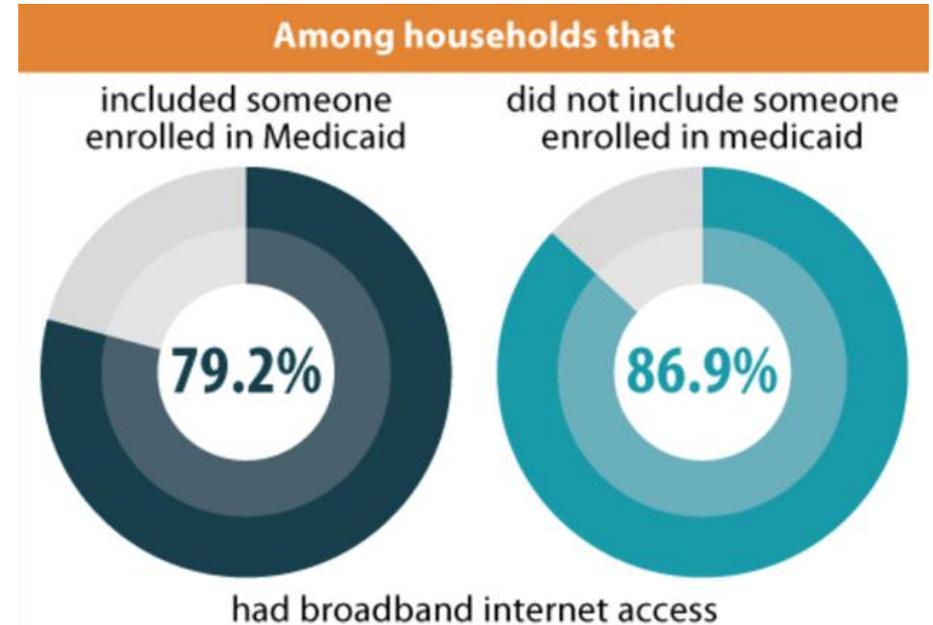
Broadband Access for People Who Live in Metropolitan Areas

- Metropolitan areas are 11% more likely to have broadband internet access than households located in a non-metropolitan area (86.7% vs. 78.1%)
- Among the 44 states where estimates of broadband internet access by MSA/non-MSA were available:
 - Households located in metropolitan areas had higher rates of broadband internet access than households in non-metropolitan areas in 39 states
 - In nine states (Alaska, Arizona, Arkansas, Florida, Georgia, Hawaii, Louisiana, Mississippi, Virginia), households located in metropolitan areas were over 20% more likely to have broadband internet access than their non-metropolitan counterparts



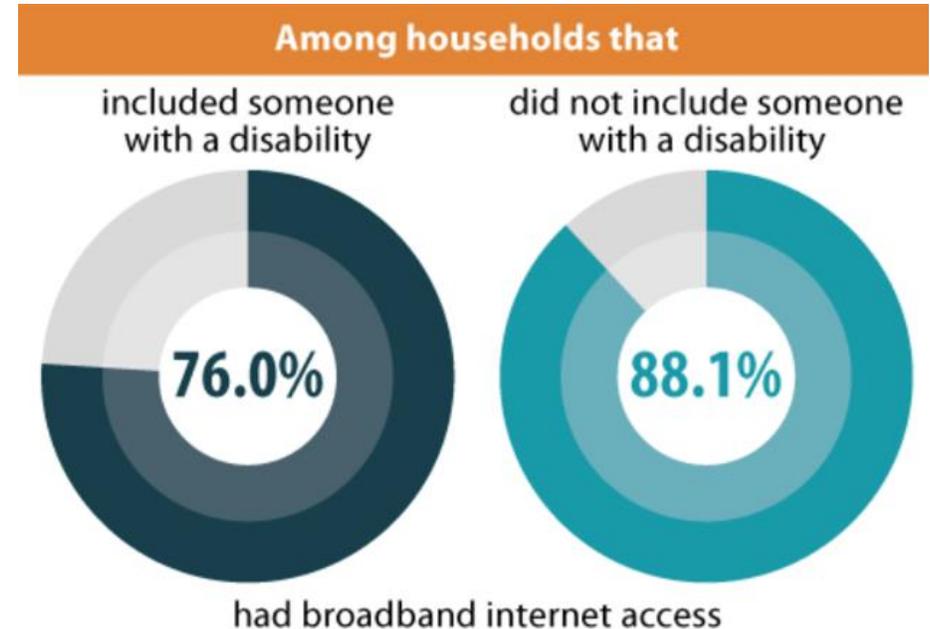
Broadband Access for Medicaid Patients

- Medicaid patients are 9% less likely to have broadband internet access than households that did not include an individual with Medicaid coverage (79.2% vs. 86.9%)
- In 19 states (including D.C.), households that included someone with Medicaid coverage were over 10% less likely to have internet access than households that did not include a Medicaid enrollee



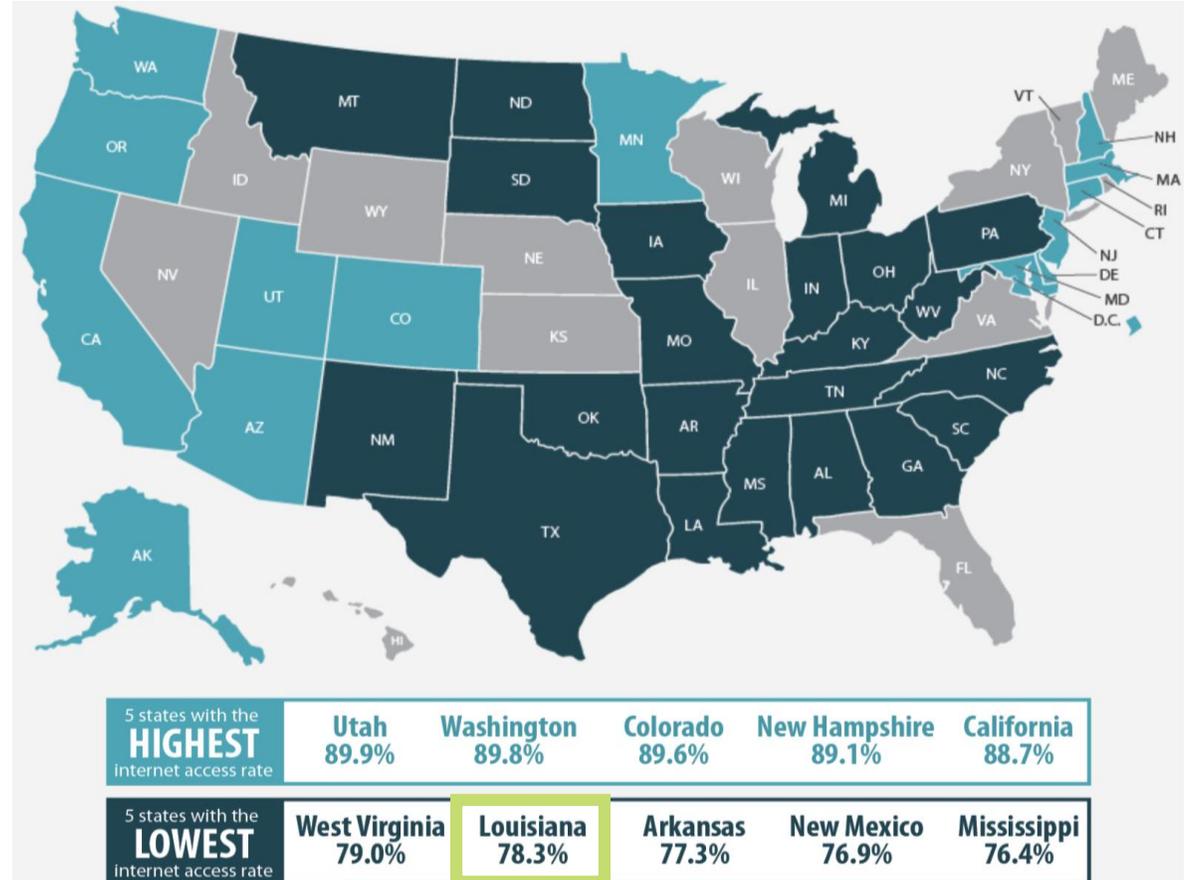
Broadband Access for Disabled Patients

- Disabled patients are 14% less likely to have broadband internet access than households that did not include anyone with a disability (76.0% vs. 88.1%)
- In 23 states (including D.C.), households that included someone with a disability were over 15% less likely to have internet access than households that did include someone with a disability

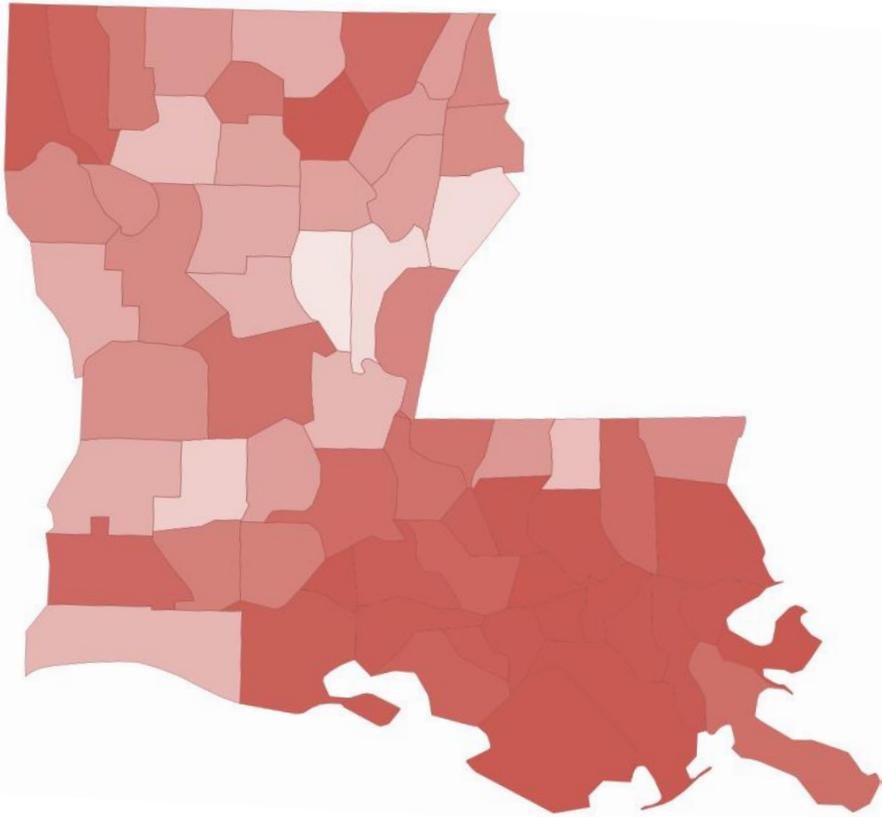


State Variation in Internet Access

- Rates of broadband internet access ranged substantially across states in 2018, from a high of 89.9% in Utah to a low of 76.4% in Mississippi



Percent of People with Broadband Internet Access in Louisiana: 75%



Coverage by County in Louisiana

County Name	% Broadband Coverage
Acadia	73.1%
Allen	24.7%
Ascension	99.9%
Assumption	99.0%
Avoyelles	40.0%
Beauregard	44.4%
Bienville	37.6%
Bossier	91.8%
Caddo	96.8%
Calcasieu	90.2%
Caldwell	55.3%
Cameron	0.4%
Catahoula	1.1%

Louisiana Cities

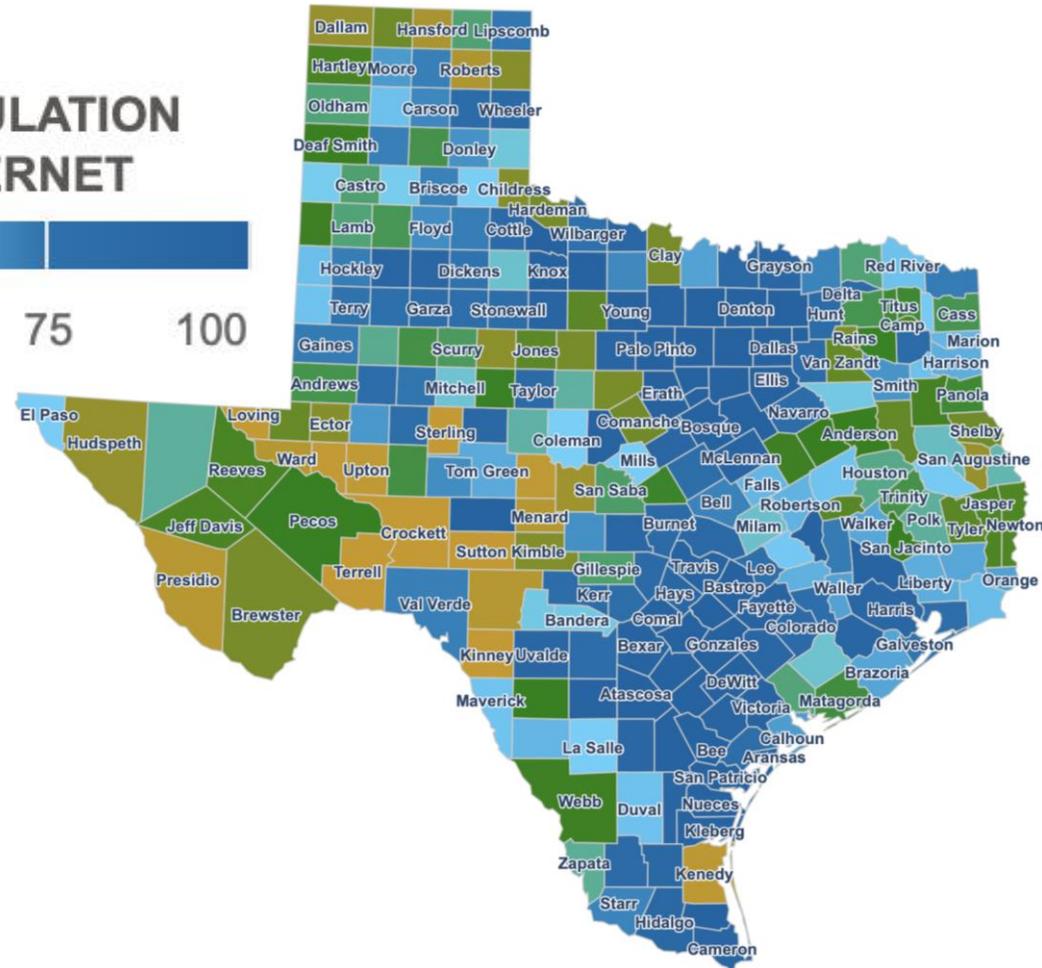
City	Broadband Coverage	Average speed over time	# of Providers
Abbeville	97.1%		13 providers
Abita Springs	96.4%		9 providers
Albany	99.9%		9 providers
Alexandria	93.6%		16 providers
Amite	78.4%		12 providers
Anacoco	54.5%		8 providers
Angie	63.2%		7 providers
Arcadia	74.9%		10 providers
Arnaudville	85.5%		14 providers
Baker	99.8%		11 providers
Ball	94.5%		8 providers
Basile	33.7%		11 providers
Bastrop	89.7%		10 providers
Baton Rouge	98.5%		21 providers

Percent of People with Broadband Internet in Texas: 74.6%

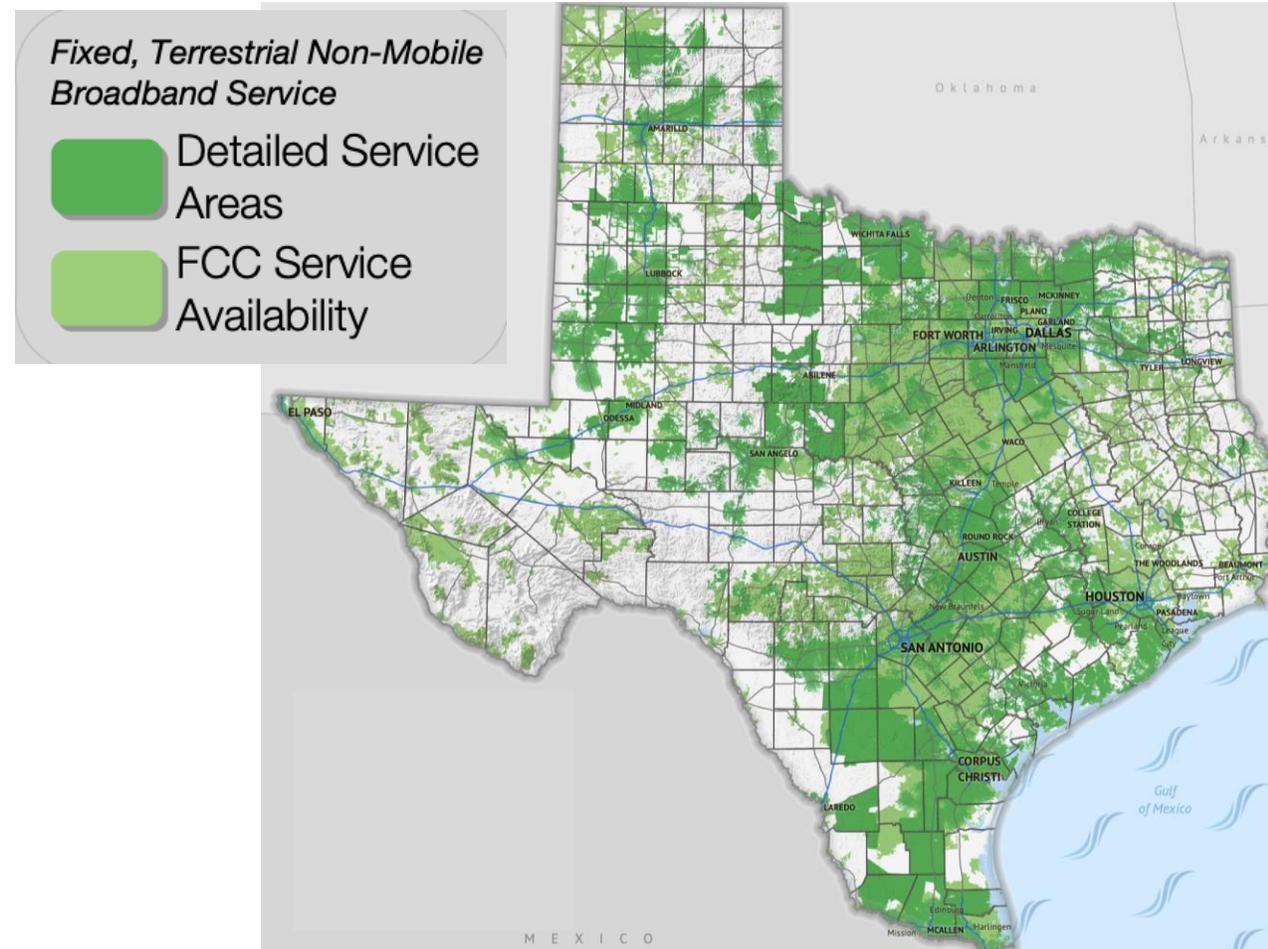
PERCENTAGE OF POPULATION WITH HIGH SPEED INTERNET



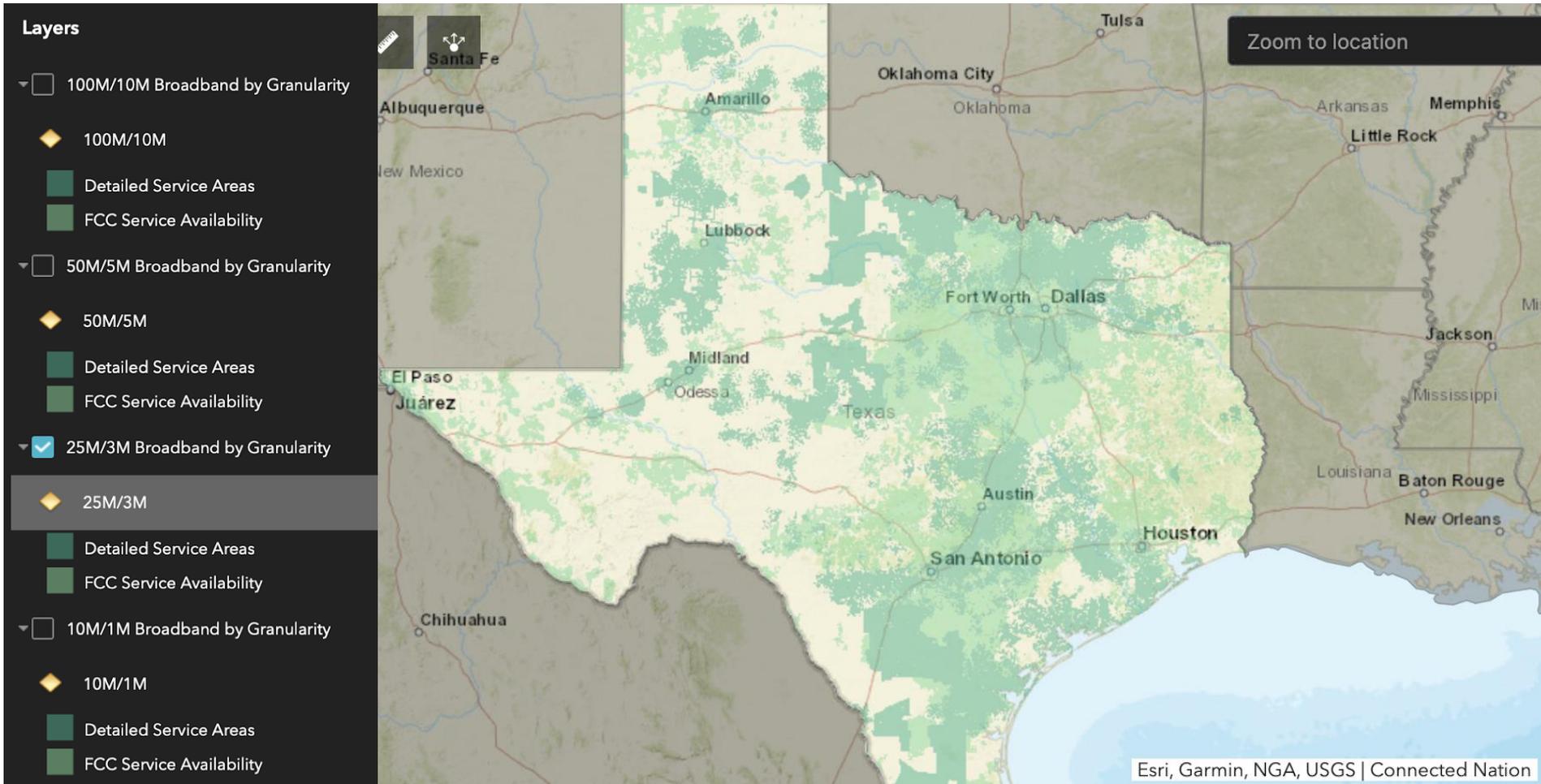
0 25 50 75 100



Percent of People with at Least 25/3 Mbps Broadband Internet Speed

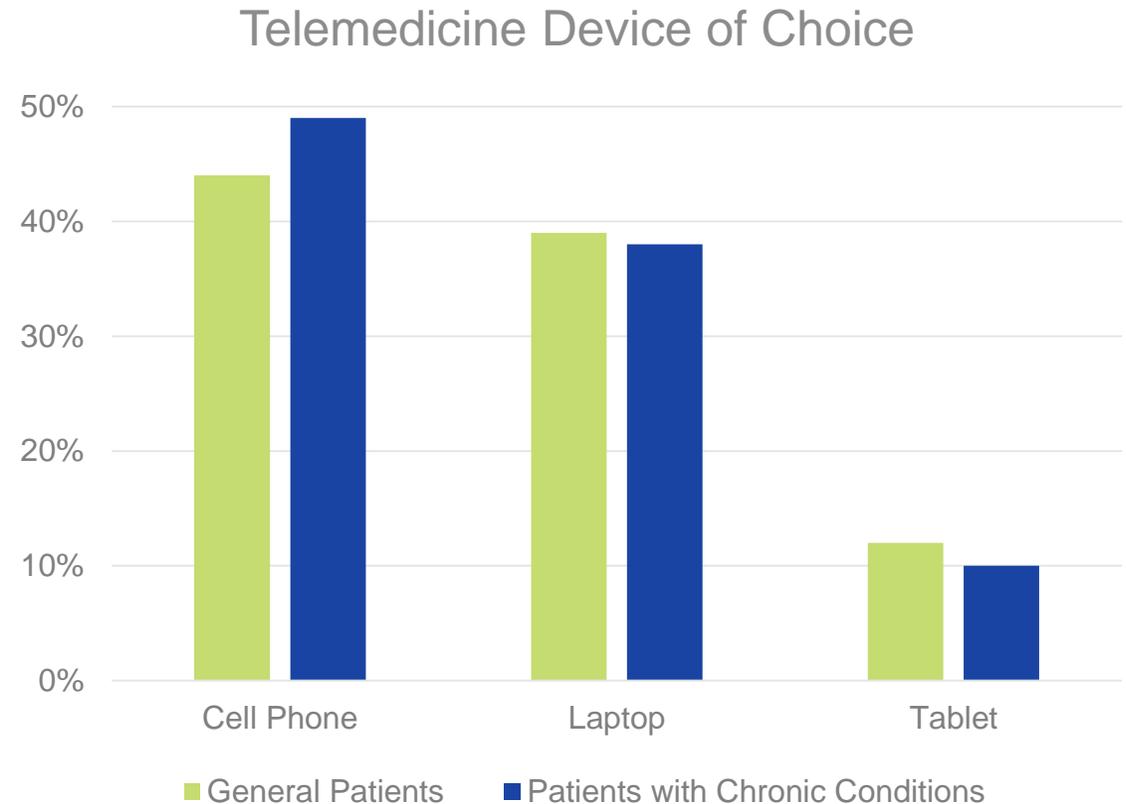


Texas Broadband Interactive Map



Americans Prefer Cell Phones for Telemedicine Visits

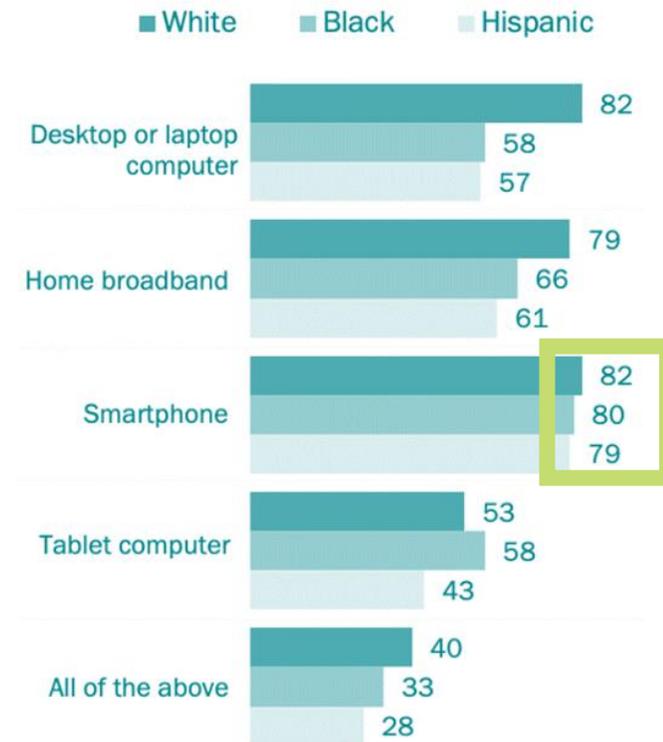
- 45 percent of Americans ranked cell phones as their preferred device and 39 percent preferred laptops for telemedicine visits
- Patients want to communicate with their doctor the same way they communicate with family, friends and employers—using their cell phones
 - With continued innovation and advances in telemedicine technology, some telehealth tools only require patients to have access to a smartphone
 - Since a majority of Americans (81 percent) already own a smartphone, telehealth can help bridge the digital divide in medicine



Health Equity in Medicine Through Telemedicine

- Telemedicine advancements help improve access to care
- Prior to the pandemic, most patients were required to have access to broadband/high-speed internet in order to participate in a telemedicine visit
 - Now, patients can see their doctor using only a smartphone
 - Black and Hispanic Americans own a smartphone at nearly identical rates as white Americans
 - This new capability is helping bridge the digital divide in medicine

Percent of U.S. Adults in Each Group Who Say They Have the Following



**TELEMEDICINE
OPPORTUNITIES FOR
EQUITY IN HEALTH**

Broadband Access

Lifeline Support for Affordable Communications

- Federal Communications Commission program
- Gives low income subscribers a discount on monthly
 - Telephone service
 - Broadband Internet service
 - Bundled voice-broadband packages
- 667,000 Lifeline-eligible households in Louisiana
- 277,570 are participating
- Participation Rate of 42%, of which 58% are over 65



Louisiana's Broadband for Everyone in Louisiana (BEL) Commission

- Bel Commission Mission

- Facilitate private sector providers, public entities and other broadband stakeholders to:
 - Improve both the adoption and availability of broadband service for Louisiana
 - Providing universal access to broadband service with minimum committed speed of 25 Megabits per second (Mbps) download and 3 Mbps upload, scalable to up to 100 Mbps download and 100 Mbps upload, for all Louisianans by 2029

Louisiana's BEL Commission and Healthcare

- Establish baseline data of health centers utilizing telehealth and monitoring strategies by July 1, 2020
 - As new broadband is deployed, ensure 100% of health centers can offer telehealth and monitoring services to their service territory
- Establish a regional goal to increase the number of clients accessing the service
- Promote available healthy living, screening and wellness trainings offered by health centers and organizations
- Explore federal and state opportunities for healthcare providers to submit for reimbursements for telehealth services and for patients who need broadband to use telehealth services

Diseases Treatable via Telemedicine

Telehealth Strategies

- **Live (synchronous) videoconferencing:** Typically a two-way audiovisual link between health care providers or between a patient and a provider
 - Example: stroke specialists at different hospitals can communicate about transferring a patient with stroke from one hospital to another for more specialized care
- **Store-and-forward (asynchronous) videoconferencing:** An exchange of recorded patient health information between providers or between a patient and a provider
 - Example: community pharmacists can send recommendations about medicines to a patient's provider through secure e-mail or a patient portal
- **Remote patient monitoring (RPM):** The use of electronic devices to record a patient's health data for a provider to receive and evaluate at a later time
 - Example: a patient can use RPM to measure their blood pressure regularly and send this information to their provider
- **mHealth:** Refers to health-related applications and programs used on mobile phones and other smart devices
 - Example: mHealth can include text messages or phone applications that help patients manage their blood pressure and cholesterol levels
- **Audio only:** Refers to the use of a landline or mobile phone to connect a patient to a provider

Example: a provider and patient can talk directly about how the patient can manage a chronic disease, condition or risk factor

Chronic Disease Care via Telemedicine

- [Telehealth Interventions to Improve Chronic Disease](#)
- The Community Preventive Services Task Force found that the use of telehealth interventions can improve
 - Medication adherence, such as outpatient follow-up and self-management goals
 - Clinical outcomes, such as blood pressure control
 - Dietary outcomes, such as eating more fruits and vegetables and reducing sodium intake
- Components of telehealth that have been shown to be effective include
 - Text messaging, such as tailored patient education and medication and appointment reminders
 - Web-based content and applications, such as goal-setting and reminder functions on mobile phones
 - Interactive content, such as patients sending health data to their health care provider

CDC and Partner Tools and Resources

- [Legislation and Regulation Tracking](#): a mapping resource from the Center for Connected Health Policy, which monitors state and federal telehealth legislation and regulations
- [National Consortium of Telehealth Resource Centers](#): a web resource that provides telehealth information, such as fact sheets, guides, checklists, and templates, as well as technical assistance to people who request it
 - The consortium consists of 12 regional and two national resource centers
- [American Telemedicine Association](#): an organization that focuses on accelerating the adoption of telehealth
 - Includes technology solution providers and payers, partner organizations, and alliances that can help organizations using telehealth for the first time identify key stakeholders and partners
- [Indian Health Service Telehealth Support](#): a resource that provides telehealth information, including a telebehavioral health toolkit, and support to the Indian Health Service, Tribal and Urban programs

Diabetes Care via Telemedicine

- [Telemedicine in the Management of Type 1 Diabetes](#)
- [Teleconsultation as a replacement for referral to an outpatient clinic](#)
- [A Guide for Using Telehealth Technologies in Diabetes Self-Management Education and Support and in the National Diabetes Prevention Program Lifestyle Change Program](#)
- [Diabetes Self-Management Education and Support](#)

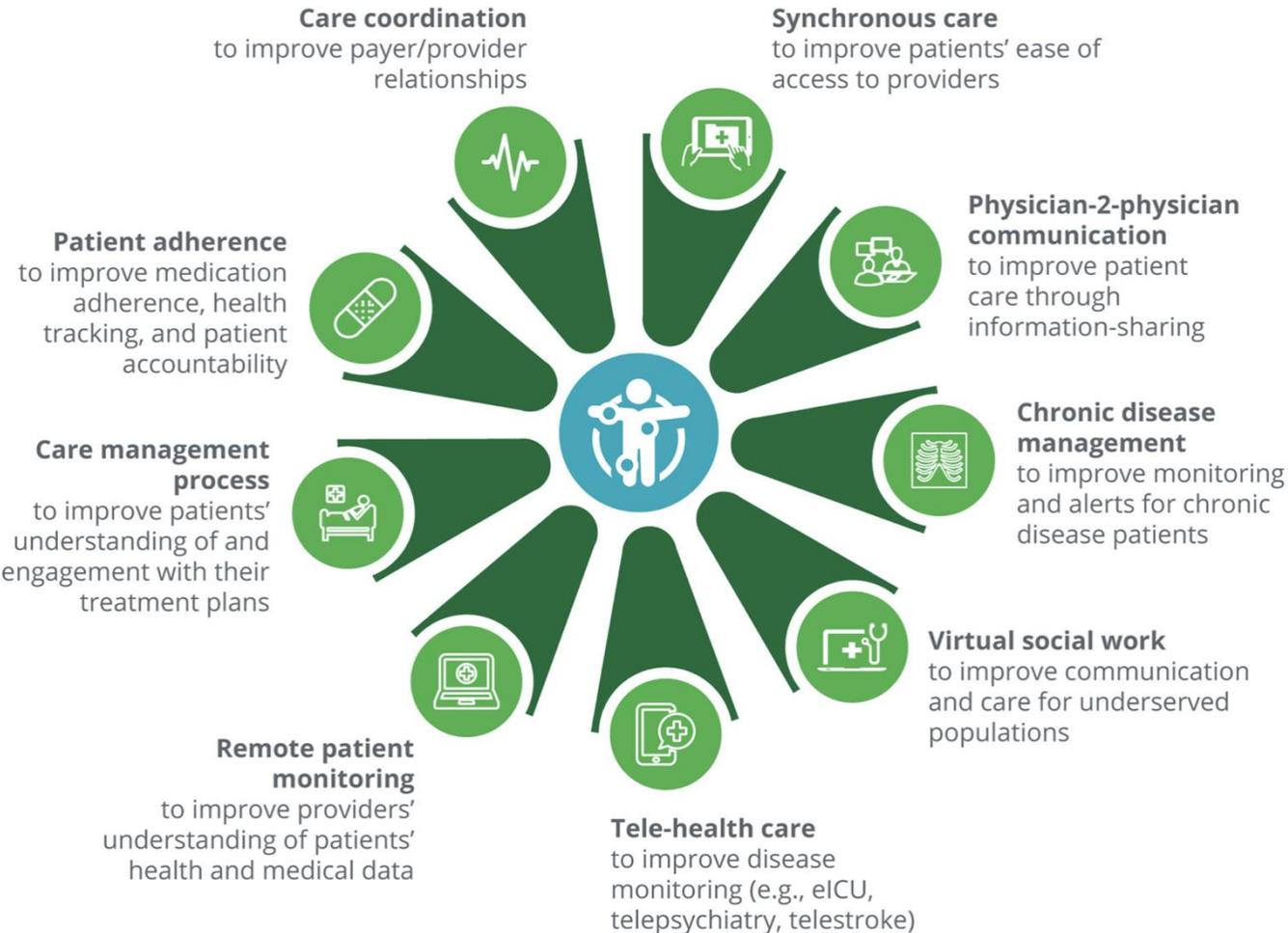
Hypertension Care via Telemedicine

- Managing hypertension in urban underserved subjects using telemedicine—A clinical trial

Tobacco Cessation via Telemedicine

- [The American Lung Association—Telehealth as a Vehicle to Support Tobacco Cessation](#)

Virtual Health Application Models



CMS Medicare Disparities Tool

- CMS data tool to download disparities
- Used to research incidence of specific diseases by parish
- <https://data.cms.gov/mapping-medicare-disparities>

Opportunities and Recommendations

- There is a large need to serve the underprivileged in rural areas
 - Where there is a need, there is opportunity
- Rural Health Clinics are uniquely located to service this need
 - Ethnic disparities in smart phone access in rural areas is negligible but overall access is lower than urban areas
 - Programs are in place to dramatically advance internet access in rural areas by 2029
- Recommend planning telemedicine services via smart phone enabled platform now to grow with current and future need
- Recommend all healthcare workers seek and develop innovations to close gaps in all disparities and service those patients in need via telemedicine

RESOURCES

Resources

- [Texas Medical Association Telemedicine Vendor Evaluation](#)
- [American Medical Association \(AMA\) Digital Health Implementation Playbook](#)
- [Centers for Medicare & Medicaid Services \(CMS\) General Provider Telehealth and Telemedicine Toolkit](#)
- [National Telehealth Technology Assessment Resource Center](#)
- [TexLa Telehealth Resource Center](#)
- [American Health Information Management Association Telemedicine Toolkit](#)

Resources

- [Center For Connect Health Policy Current State Laws And Reimbursement Policies](#)
- [CMS General Provider Telehealth and Telemedicine Tool Kit](#)
- [Patient Take Home Prep Sheet](#)
- [Consumer Technology Association Digital Health Directory](#)

References

- [The Best 10 Free and Open Source Telemedicine Software](#)
- [Comparing the latest telehealth solutions](#)
- [Technical Specifications for Selected Platforms](#)
- [Telemedicine Vendor Evaluation](#)
- [AMA Telehealth Implementation Playbook](#)
- [Picking The Right Telehealth Platform For a Small or Solo Practice](#)
- [Cleveland Clinic Digital Health Playbook](#)

References

- [Comparing 11 top telehealth platforms: Company execs tout quality, safety, EHR integrations](#)
- [Leading Age Technology Selection Tools](#)
- [Best telemedicine software of 2021](#)
- [National Telehealth Technology Assessment Resource Center \(TTAC\)](#)
- [Videoconferencing–Technology Overview](#)

Contact Information

- Well-Ahead Louisiana
 - wellahead@la.gov
 - www.walpen.org/telehealth
- Ted J. Hudspeth, MD, FAAFP
 - tedhudspeth@gmail.com
 - [facebook.com/tedhudspethmd](https://www.facebook.com/tedhudspethmd)
 - [Louisiana Health Professionals Facebook group](#)

QUESTIONS?

Thank You for Joining Us!

May 6, 2021

