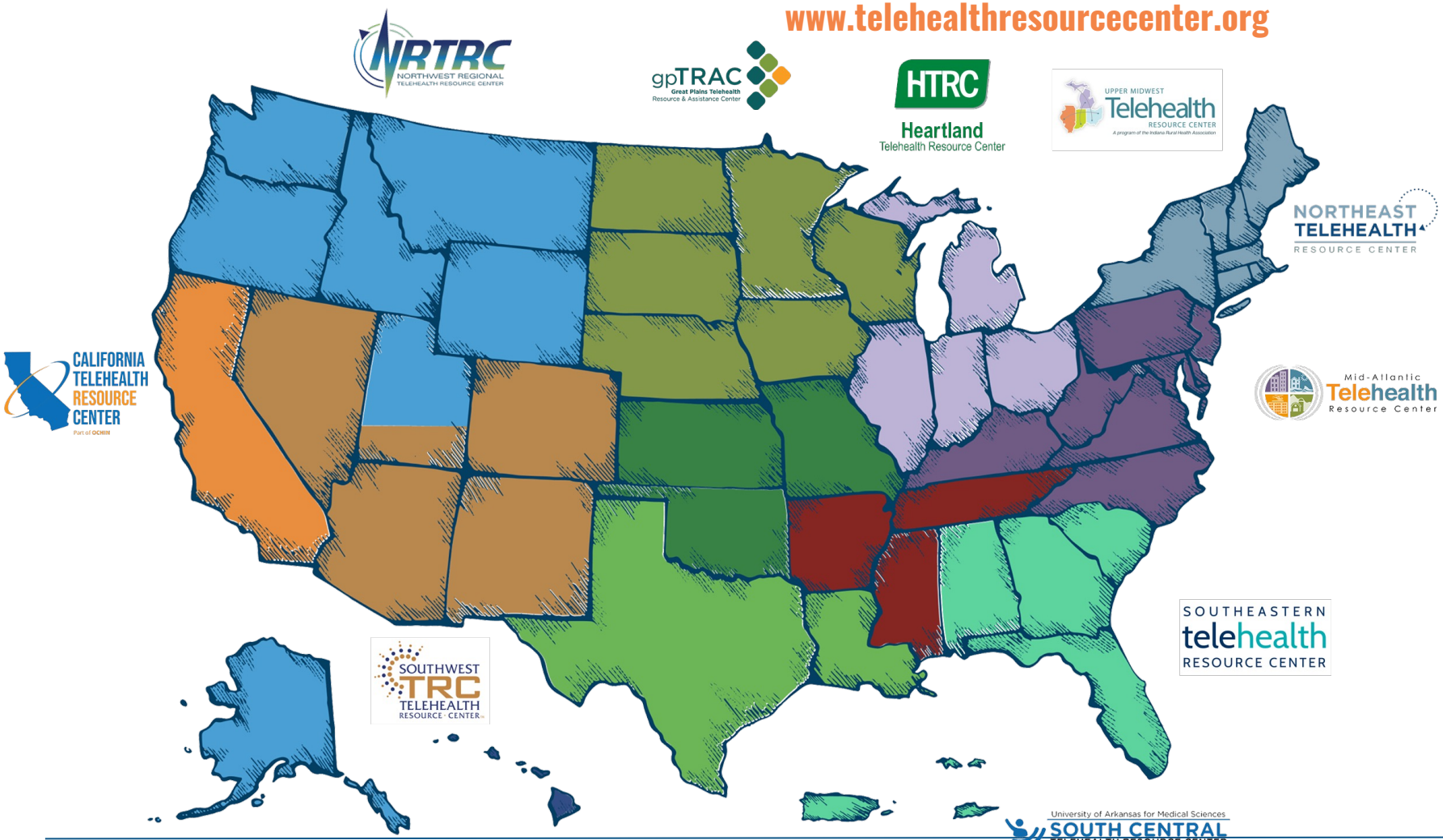
NATIONAL CONSORTIUM OF
TELEHEALTH
RESOURCE CENTERS

Virtually Forgotten: Rural West Texas Telehealth Challenges and Opportunities

September 21, 2023

HRSA Funded Telehealth Resource Centers

www.telehealthresourcecenter.org



NRTRC	gpTRAC	NETRC
CTRC	HTRC	UMTRC
SWTRC	SCTRC	MATRC
PBTRC	TexLa	SETRC

12 REGIONAL RESOURCE CENTERS

TTAC TelehealthTechnology.org

CCHP

2 NATIONAL RESOURCE CENTERS

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Telehealth Awareness Week

- Telehealth Awareness Week – September 17 – 23
- Visit www.telehealthawareness.org for more information!
- For additional telehealth awareness events, visit the NCTRC events page at www.telehealthresourcecenter.org/events/

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ata For more information, visit **TelehealthAwareness.org**

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TexLa
Telehealth Resource Center

TEXAS TECH UNIVERSITY
HEALTH SCIENCES CENTER™
at the Permian Basin

Timothy Benton, M.D., FAAFP

- Dr. Benton received his medical degree from the TTUHSC School of Medicine in 1994 and completed a residency in Family Medicine from the University of Texas Health Center at Tyler. In addition, he completed a faculty development fellowship from the Keck School of Medicine with the University of Southern California in 2006.
- Dr. Benton joined the TTUHSC School of Medicine faculty in Amarillo in 2005, where he served as the Associate Residency Program Director and eventually the Program Director. In 2012, he was recruited to be the Regional Chair of the Department of Family and Community Medicine in the Permian Basin where he began focusing his energies on the residency program and patient care.
- Since 2021 Dr. Benton has served as the regional dean and a Jan & Ted Roden endowed Chair for Permian Basin Campus.

Virtually Forgotten

Rural West Texas Telehealth Challenges and Opportunities

NCTRC Webinar- September 21, 2023

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Permian Basin

Though named after the Permian Period, the Permian Basin got its start as many as 1.3 billion years ago as tectonic shifts started molding the West Texas landscape into what it is today. During the Permian Period, seas teaming with flora and fauna covered the area's basins. Later, these oceans would dry up, leaving behind the organic matter that would later turn into rich petroleum deposits.

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TTUHSC SOM - Permian Basin

This TTUHSC regional campus, located in Odessa, is home to residencies in Internal Medicine, Family and Community Medicine (incorporating 6 rural counties), Psychiatry, Surgery and Obstetrics and Gynecology with fellowships in Cardiology, Endocrinology, Child and Adolescent Psychiatry (and start July ‘24 Pulmonology and Critical Care).

We provide medical education to third and fourth-year medical students in all six core specialties, including Family Medicine, Internal Medicine, Obstetrics and Gynecology, Pediatrics, Psychiatry, and Surgery.

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Permian Basin (West Texas) Challenges

- Expansive Geography (Travel time/distance)
- Largely Rural/Frontier (Limited Resources)
- Urban Centers are Relatively Small
- Health Professional Shortage – Difficult to Recruit
  - Not just physicians
- Community Health Rankings Low Comparatively in State
- Healthcare Disparities
- Broadband

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How Big Is West Texas?

9 hours – 590 miles

7.5 hours – 520 miles

Critical Economically

Food

Fiber

Fuel

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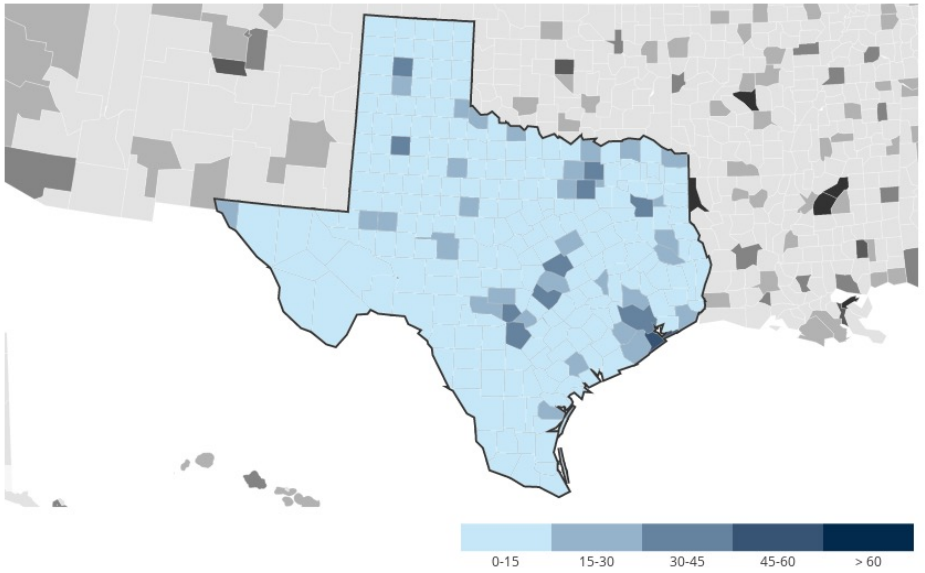
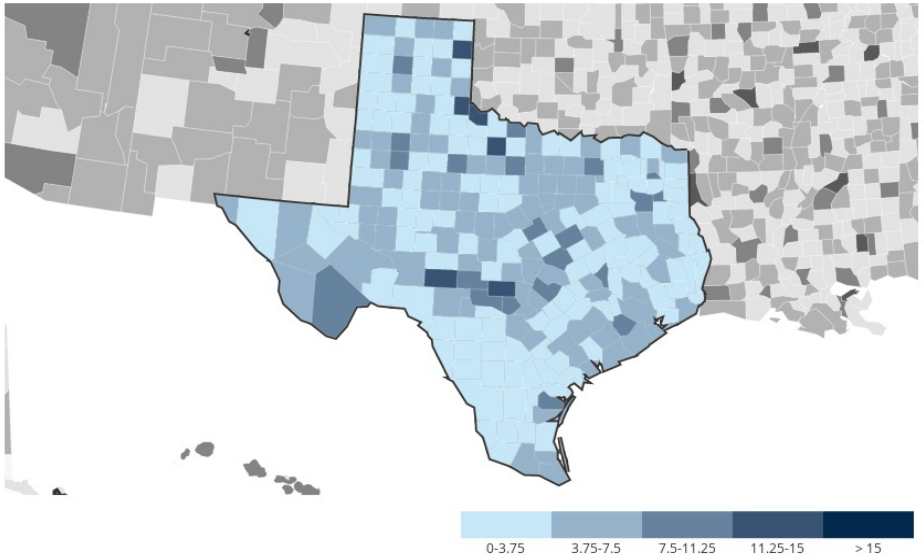


RHIhub Rural Health Information Hub

Note: Rates are calculated using US Census annual population estimates.
Source: HRSA Area Health Resources Files, 2020-2021.

Total Physicians per 10,000 people



RHIhub Rural Health Information Hub

Note: Rates are calculated using US Census annual population estimates.
Source: HRSA Area Health Resources Files, 2020-2021.

Primary Care Physicians per 10,000 people

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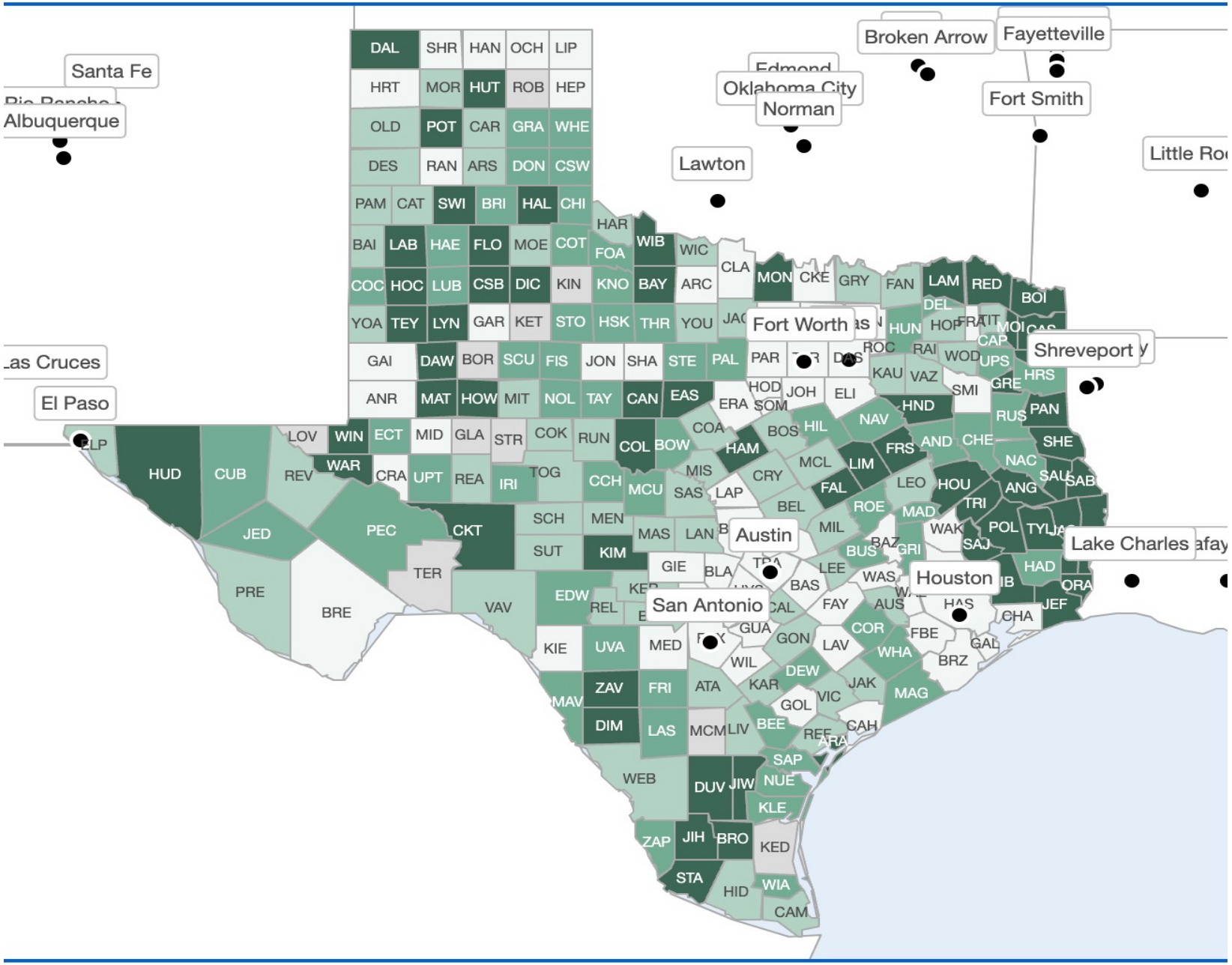
County Health Rankings



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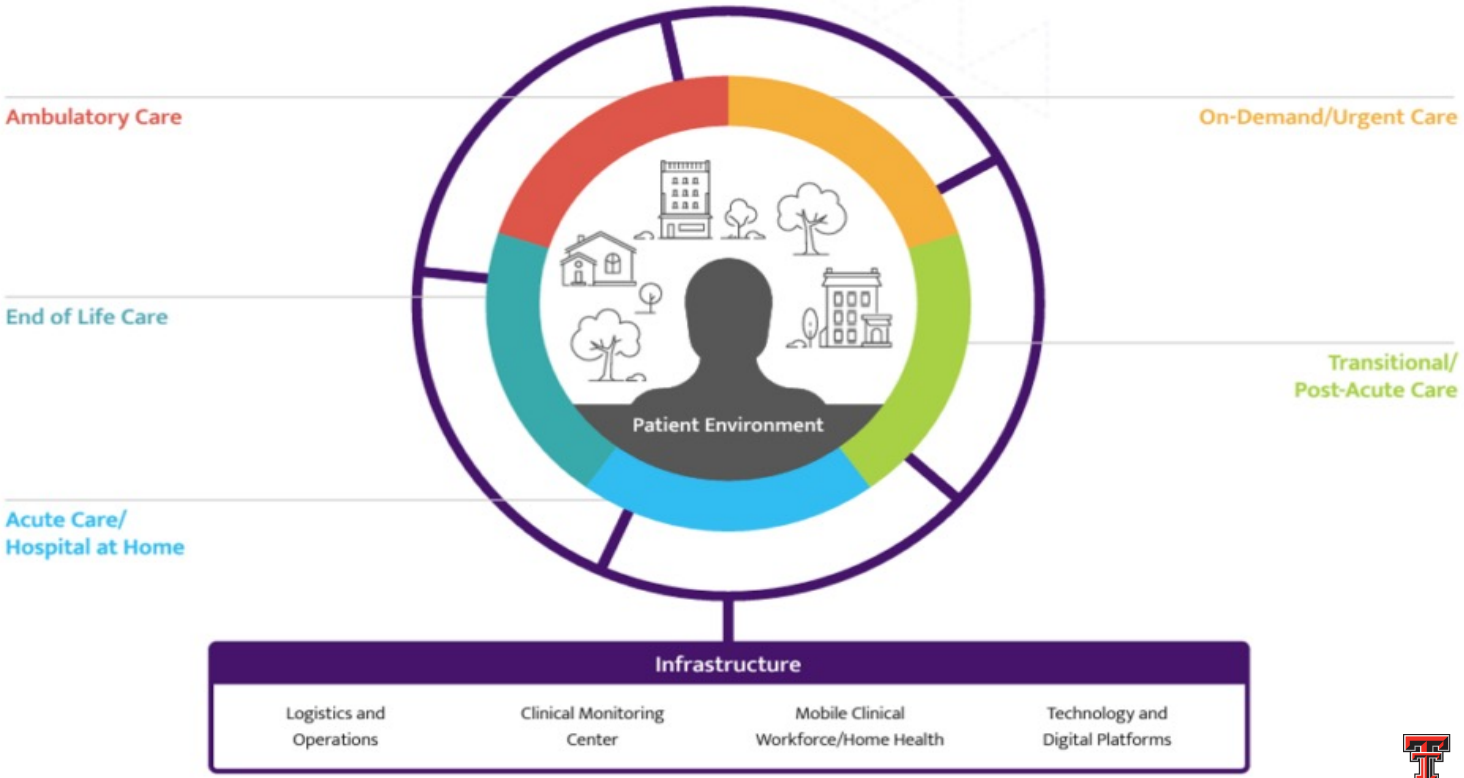
The Health at Home Framework

Based on findings from a literature search, subject matter expert input and interviews with 10 organizations, we developed a Health at Home framework to represent the types of services that are being or can be delivered in the home setting and the infrastructure necessary for doing so successfully.

Fig 1. At the center of the Health at Home Model is the patient's home environment, the place where care is being delivered. The model outlines the types of care (i.e. ambulatory, on demand, transitional, acute and end of life) a patient may receive in their home environment and the tools needed to deliver that care.



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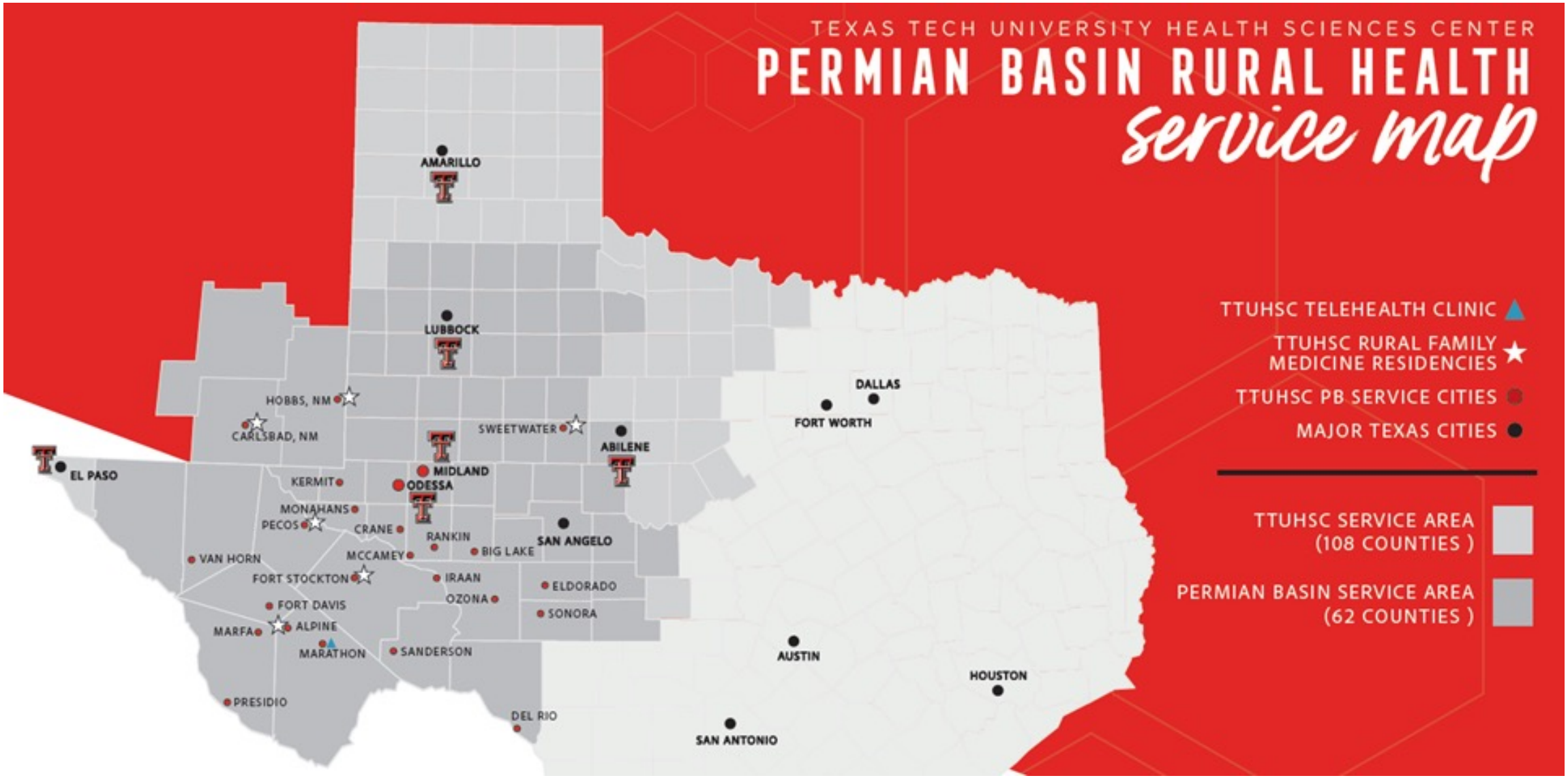
https://www.ama-assn.org/system/files/health-at-home-models.pdf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PERMIAN BASIN RURAL HEALTH
service map
AMARILLO
LUBBOCK
HOBBS, NM
CARLSBAD, NM
SWEETWATER
ABILENE
DALLAS
FORT WORTH
EL PASO
MIDLAND
ODESSA
KERMIT
MONAHANS
PECOS
CRANE
RANKIN
SAN ANGELO
BIG LAKE
MCCAMEY
VAN HORN
FORT STOCKTON
IRAAN
ELDORADO
OZONA
SONORA
FORT DAVIS
ALPINE
MARFA
MARATHON
SANDERSON
AUSTIN
HOUSTON
PRESIDIO
DEL RIO
SAN ANTONIO
TTUHSC TELEHEALTH CLINIC
TTUHSC RURAL FAMILY MEDICINE RESIDENCIES
TTUHSC PB SERVICE CITIES
MAJOR TEXAS CITIES
TTUHSC SERVICE AREA (108 COUNTIES)
PERMIAN BASIN SERVICE AREA (62 COUNTIES)

https://www.youtube.com/watch?v=MNK2nIvID_s

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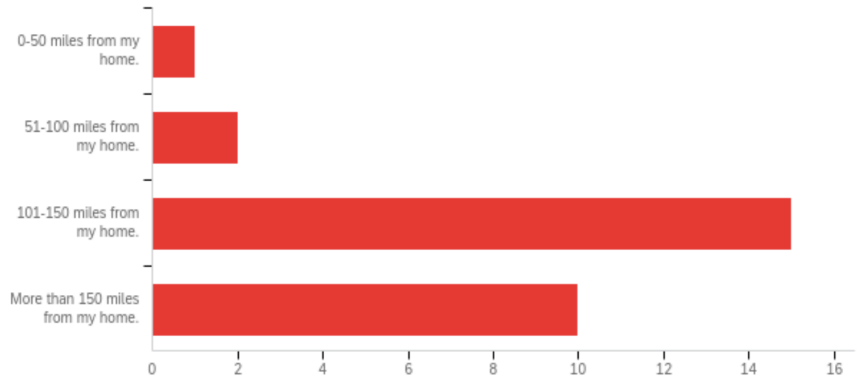
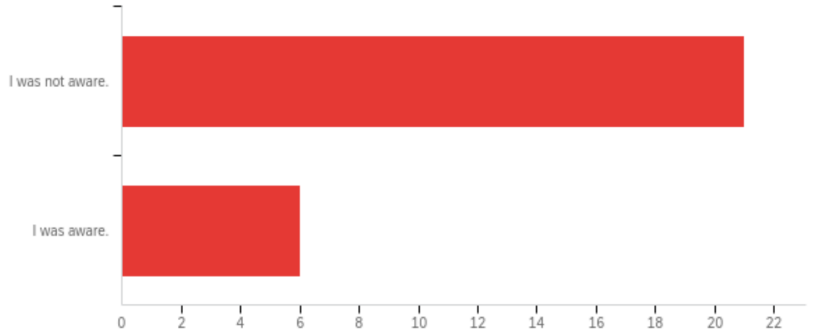
San Vicente, Texas – Survey (population 286)

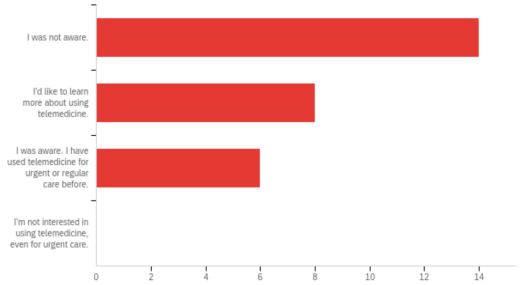
Q2 - Please provide an estimate of the distance you travel for regular or emergency medical care when the need arises:



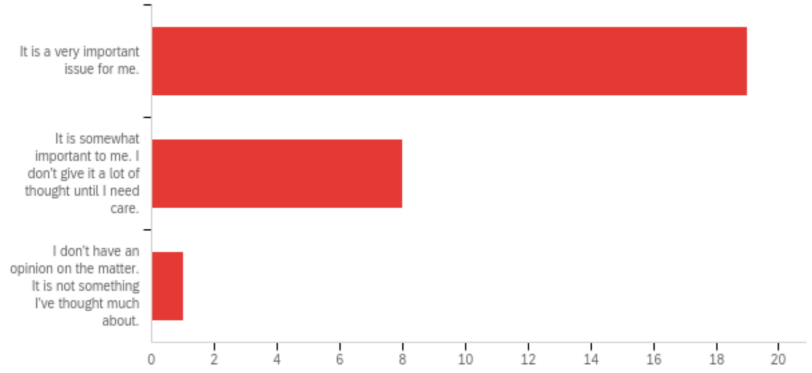
Q4 - Did you know that telemedicine stations, such as the one proposed for San Vicente, include exam equipment that relay images and results to the attending physician in real-time? These include an otoscope for examining inside the ear, stethoscope, blood oxygen device, blood pressure and diabetes testing equipment, ... and other tools found in an exam room.



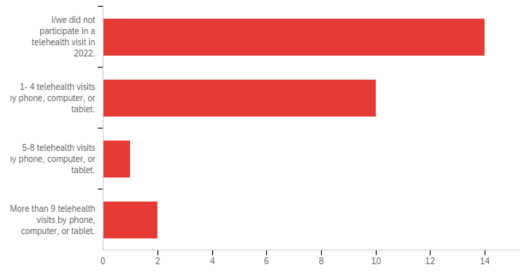
Q5 - Were you aware that telehealth medical care can be used to manage chronic conditions such as diabetes and heart conditions, assess common and sudden illnesses such as ear infections, cold and the flu, and provide referrals to specialists? Please feel free to provide any feedback regarding this type of service where applicable.



Q1 - Considering your needs and those of your household, what is your opinion regarding access to regular and non-complicated emergency medical services:



Q7 - Please provide an estimate of the number of telehealth visits your household took part in in 2022:



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Terlingua, Texas, (population 127)

St. Lawrence Catholic Church, Garden City, Texas (population 292)

Medicine on the Move

Balmorhea, Texas, (population 398)

Coynosa, Texas, (population 205)

Center of Excellence for Diabetes and Endocrinology

Internal Medicine Residency Program

Cardiology Fellowship
Pulmonology Fellowship
Critical Care Fellowship

Obstetrics and Gynecology

Maternal Fetal Medicine

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SCHOOL OF MEDICINE

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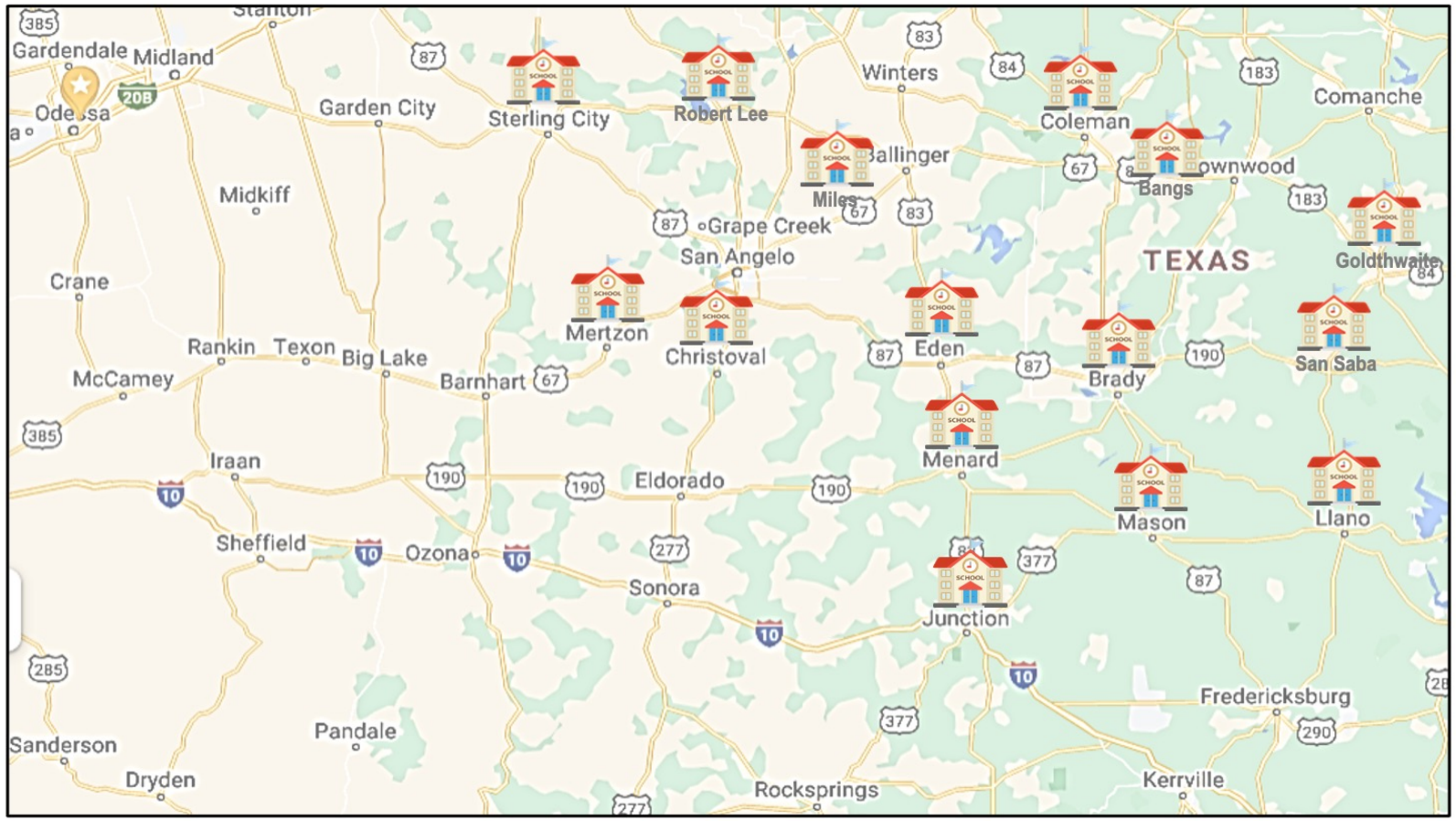
School-based Telehealth – US Congress District 11



District 11 School-Based Telehealth Clinics

Kimble County, Junction ISD
McCulloch County, Brady ISD
Concho County, Eden ISD
Coke County, Robert Lee ISD
San Saba County, San Saba ISD
Mills County, Goldthwaite ISD
Menard County, Menard ISD
Coleman County, Coleman ISD
Irion County, Metzon ISD
Llano County, Llano ISD
Runnels County, Miles ISD
Brown County, Bangs ISD
Sterling County, Sterling City ISD
Mason County, Mason ISD
Tom Green County, Christoval ISD

Mental Health

Primary Care

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So why are we doing this?

- No Longer Forgotten People
- Call to Action for Healthcare Needs
- Limited Resources
- The School of Medicine Sits at the Center
- Economic Engine in Texas (Rural Contributes)

What Does the Literature Suggest – Limited Review

"Telehealth Interventions and Outcomes Across Rural Communities in the United States: Narrative Review"
Butzner M, Cuffee Y. Journal of Medical Internet Research. 2021;23(8).

- Acceptability and increased satisfaction
- Lower healthcare resource utilization
- Improved physician recruitment and retention
- Improved access
- Included: mental health, reproductive/women's issues, osteoporosis, orthopedics, stroke, cancer, substance abuse, ophthalmology, emergency medicine

"Early Patient-centered Outcomes Research Experience with the Use of Telehealth to Address Disparities: Scoping Review"
Bailey JE, Gurgol C, Pan E, et al. Journal of Medical Internet Research. 2021;23(12).

- PCORI has funded 89 telehealth effectiveness studies (41 assessed disparities)
- What's most effective:
  - Patient-centered
  - Culturally tailored
  - Actively guided by the patients (customer centered design)
- Best Practices:
  - Delivered by trusted intermediaries (local)
  - Close partnership with payers
  - Safeguards of health information sharing

What Does the Literature Suggest – Limited Review

Telemedicine in the Drivers Seat: New Role for Primary Care Access in Brazil and Canada.

Argarwal P, et al. Canadian Family Physician. 2020;66(2).

- Both countries have scaled models widely and have similar expansive geography
- Both have similar “rural factors”: socioeconomic burden, fewer health services, lower use of healthcare
- Both have regulatory issues limiting use
- Both found sub-specialty access amenable and reduced travel

School-based Telemedicine and Reduced Avoidable Emergency Care Among Rural Pediatric Patients.

Mayfield CA, et al. Telemedicine and 3-Health. May 2023. https://doi.org/10.1089/TMA.2023.013.

- Bottomline: In varying mathematical models unnecessary ED visits reduced 26-32%

Any Questions?

Our Next Webinar

The NCTRC Webinar Series

Occurs 3rd Thursday of every month.

Telehealth Topic: The Southern Regional Disaster Response System (SRDRS) – A Comprehensive Overview
Hosting TRC: Southeastern Telehealth Resource Center (SETRC)
Date: October 19, 2023
Times: 11 AM – 12 PM (PT)

***Please check the NCTRC website for more information on the upcoming webinar.**

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https://www.surveymonkey.com/r/XK7R72F

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