The University of Texas System
Virtual Health Network

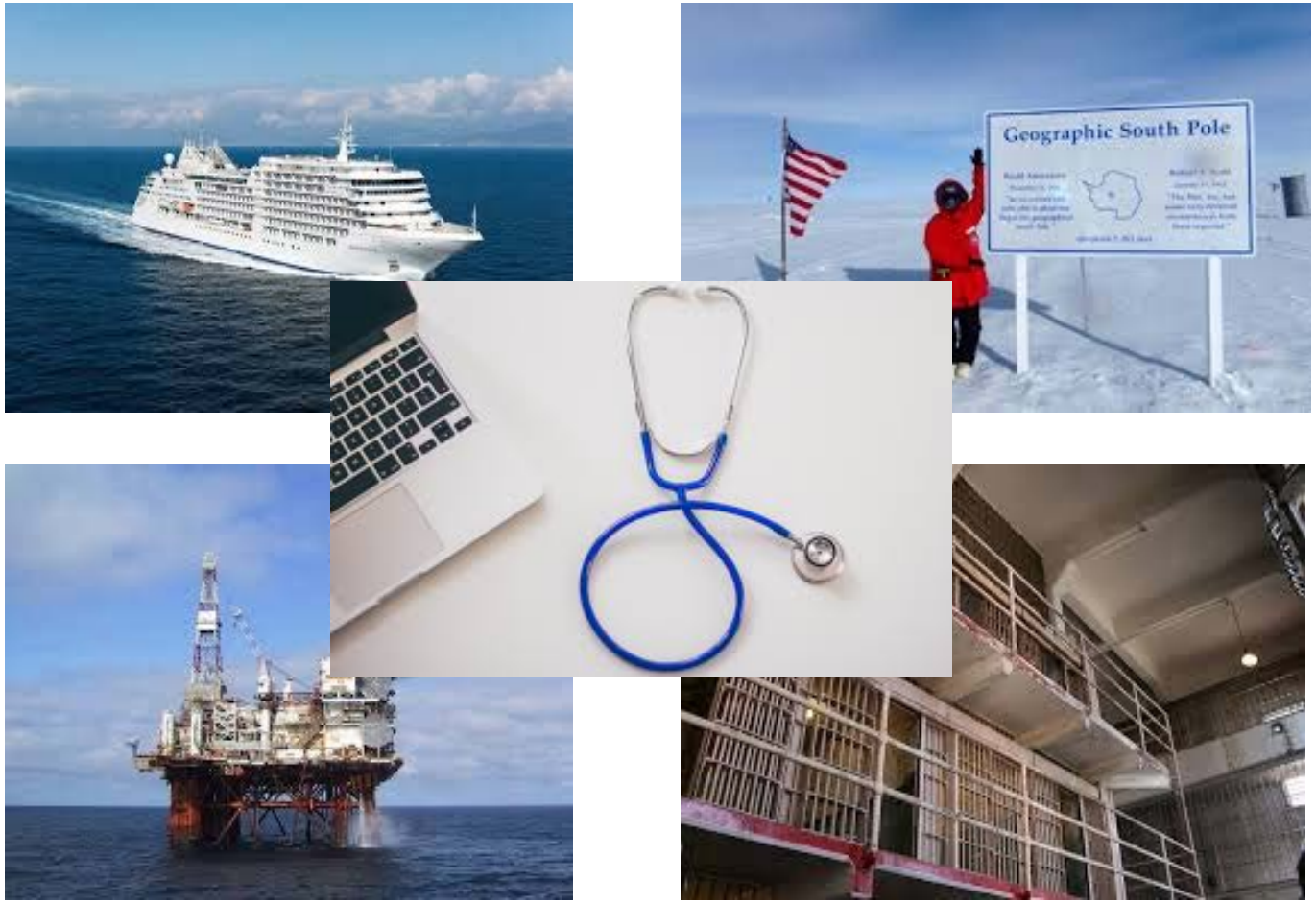
David Lakey, M.D.
Vice Chancellor for Health Affairs and
Chief Medical Officer

Mari Robinson, JD
Director, Telehealth

The UT Virtual Health Network

- Telemedicine uses specialized videoconferencing to enable health care providers to assess and treat patients from a distance.
- UT Medical Branch in Galveston has been practicing telemedicine for more than 20 years.
- The VHN is building on the system's existing capabilities, providing the infrastructure to connect all of UT's health institutions and medical schools under one statewide telemedicine network.
- The VHN was established in 2016, when the UT System Board of Regents approved $10.8 million to improve access to underserved areas of Texas, enhance patient care and increase coordination and collaboration among experts systemwide.

History & Experience



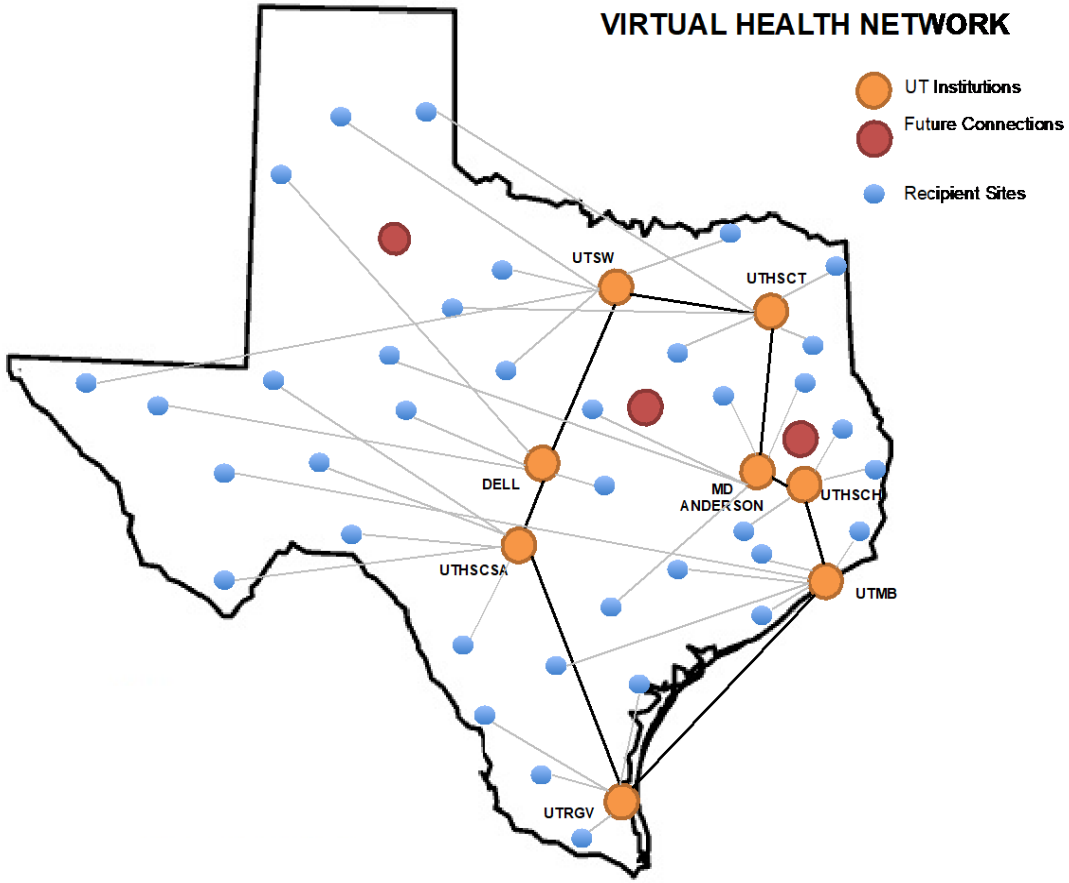
U.T. has a lengthy & robust history with telemedicine and telehealth:

- TDCJ contract
- *Frew* settlement projects
- DSRIP projects
- South Pole services
- Offshore services (oil rigs, cruise ships)

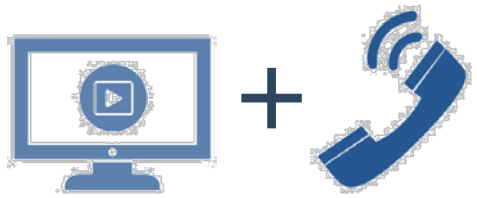
Taking The Lead In Telehealth: The Virtual Health Network

U.T. is leveraging technology to create a model for care delivery that:

- Expands current programs
- Initiates innovations
- Facilitates virtual centers of excellence
- Provides access to every citizen
- Serves as a conduit for coordinated care
- Bridges access to specialty services for rural providers and their patients
- Invites collaborations across institutions

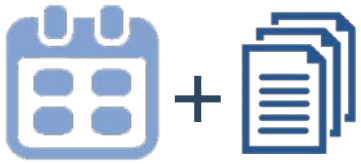


Concurrent & Parallel Undertakings



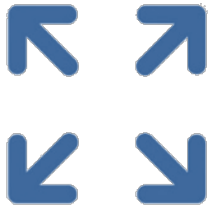
CENTRALIZED & CONNECTED VIDEO

- Design, develop, and deploy a common source of televideo communication connecting patients and telemedicine care providers within any of the UT medical campuses
- Respect & use existing technology systems already in place within each facility



SHARED SCHEDULING & DOCUMENTATION

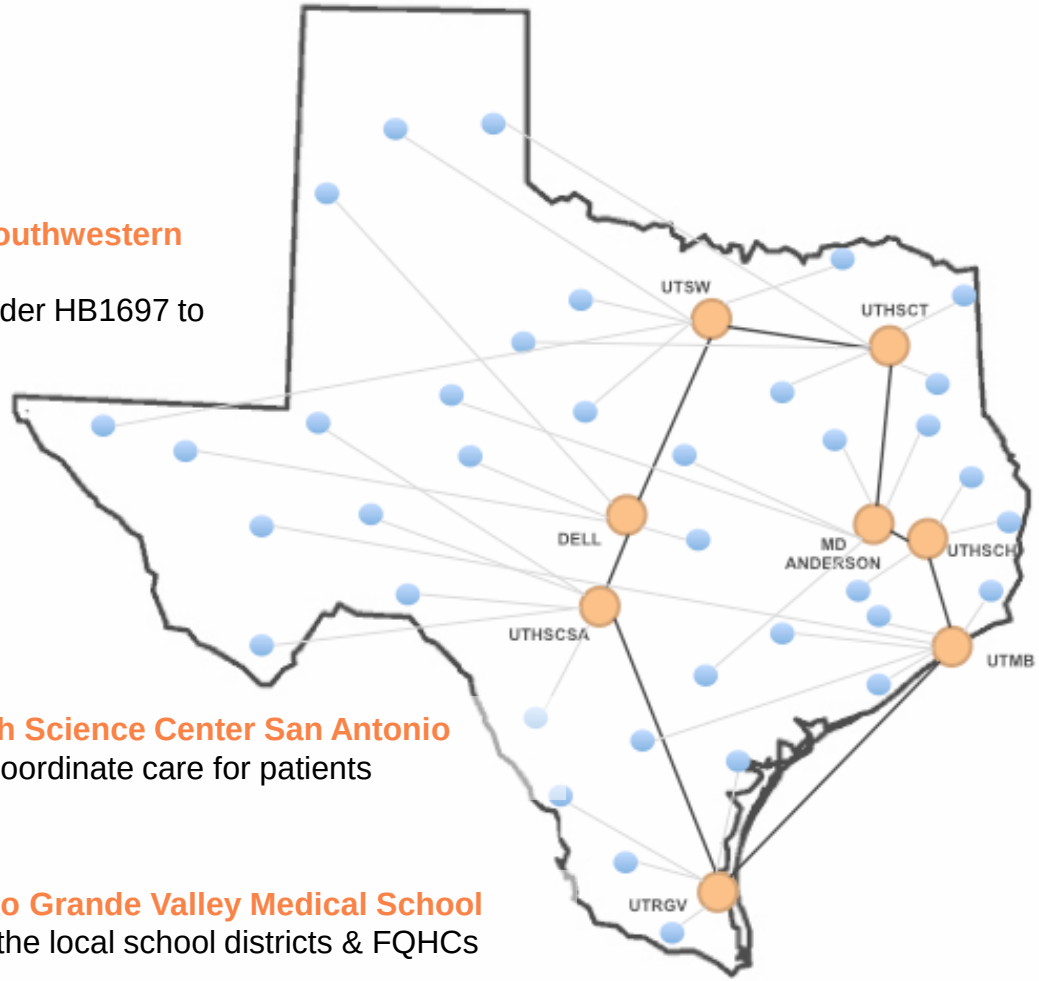
- Design, develop, and deploy a single system to schedule telemedicine appointments, as well as access/ update relevant medical documents to improve care coordination
- Decrease duplication of effort by synchronizing, where possible, with existing schedule + documentation systems



TELEMEDICINE EXPANSION

- Improve patient access to providers, especially in remote areas with fewer specialists
- Facilitate and initiate institutional and collaborative initiatives

Telemedicine Projects



University of Texas Southwestern Medical School
Pilot: Partner HHSC under HB1697 to provide pediatric care

University Texas Health Northeast
Pilot: Dietary Counseling & Genetic Counseling

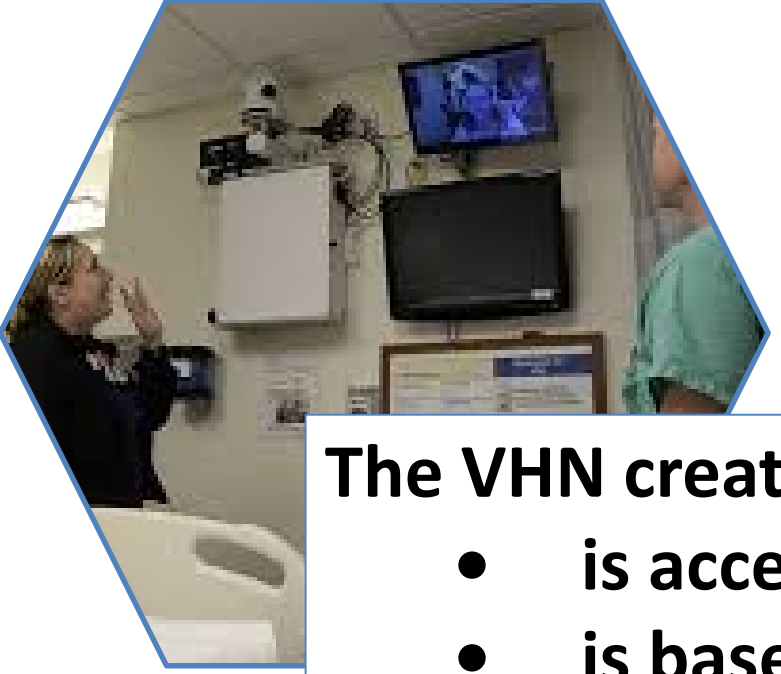
MD Anderson
Pilot: Follow-up care to patients receiving on-going treatment at affiliated infusion centers

University Texas Health Science Center Houston
Pilot: Psychiatric care via telemedicine at state care facilities under the purview of the Department of State Health Services

University Texas Health Science Center San Antonio
Pilot: Join with MDA to coordinate care for patients

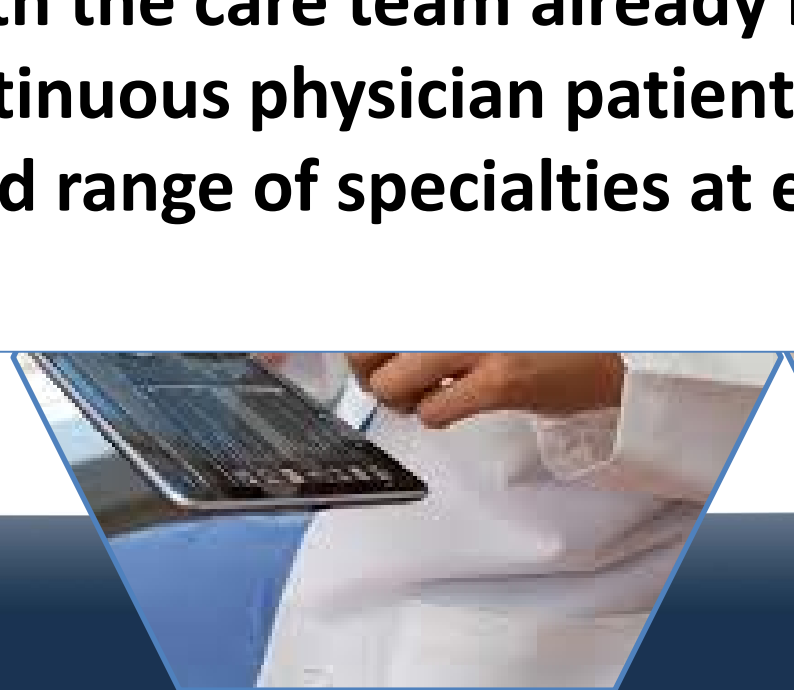
University of Texas Medical Branch
Pilot: Primary care via telemedicine at Mexia state care facility

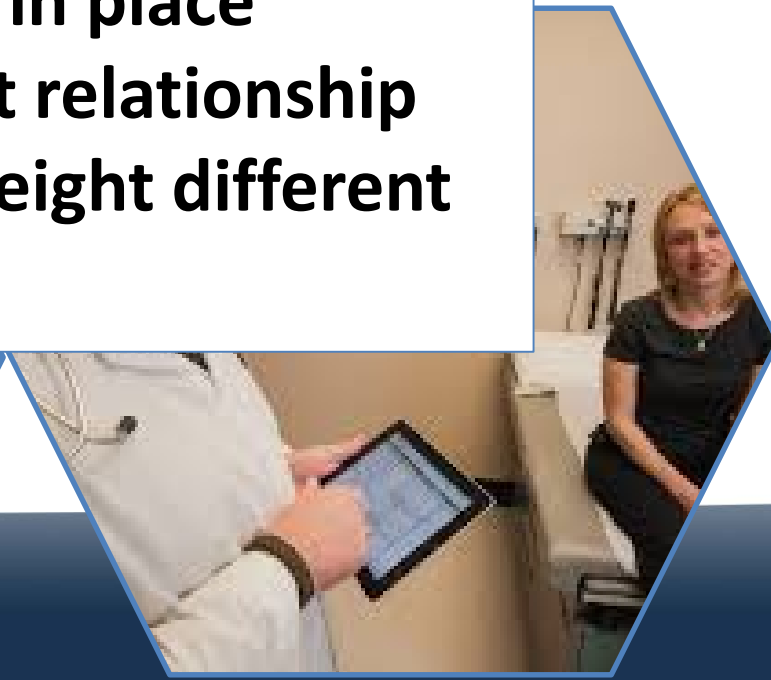
University of Texas Rio Grande Valley Medical School
Pilot: Joint project with the local school districts & FQHCs



The VHN creates access to medical care that

- **is accessible to currently underserved populations**
- **is based in a high quality, academic setting**
- **integrates with the care team already in place**
- **creates a continuous physician patient relationship**
- **covers a broad range of specialties at eight different campuses**





Telemedicine Technology
used in the
Virtual Health Network

Patient Cart

Patient Station

- Camera
- Monitor
- Cart – Medical Grade, smallest footprint possible, stable platform
- Measurement - 29″W x 24″D x ~72”H (adjustable height)

Camera

Processing Unit (CODEC)

Display w/ built in speakers

Horus Scope camera
CODEC microphone

Secure storage drawer

USB to HDMI converter Box

Receptacles & power switch

Locking wheels

The Camera

- High Zoom (12x or better)
- Remote Control Pan, Tilt, Zoom
- High Definition (1920x1080)

Processing Unit

- Polycom, Cisco or PC
  - ITU Standards base
  - High Definition (1920x1080)
  - Encrypted audio and video

Monitor

- Medical Grade
- 1920 x 1080 resolution
- Digital inputs

Electronic Stethoscope

- Thinklabs One
  - Up to 100x amplification
  - 30hz to 1500hz Frequency Response
  - Built in adjustable filtering
  - Built in volume control
  - Rechargeable battery

Medical Camera

Hand Held Chassis

- High Definition (1920 x 1080)
- Interchangeable lenses for different medical specialties
- Built In Screen
- Live Video or Store and Forward File Capability

Medical Camera

- Otoscope Lens
  - Built in Illumination LEDs
  - Provides imaging for tympanic membrane and auditory canal.
  - Uses standard Heine or Welch-Allyn specula (adult and pediatric)

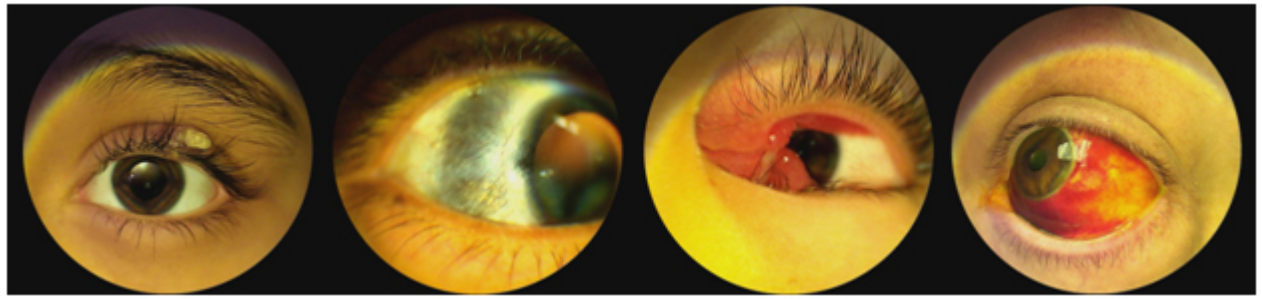
Medical Camera

- General View Lens
  - Built in Illumination LEDs
  - Provides imaging for dermatology, oral examinations, general body images

Medical Camera

- Surface Lens
  - Built in Illumination LEDs
  - Provides imaging for highly magnified images of the skin.
  - Built-in polarization for reduction of skin reflection
  - Equipped with 5mm ruler (1mm increments)

Medical Camera



- Anterior Chamber Lens
  - Built in Illumination LEDs
  - Built in cobalt blue lighting for fluorescein eye stain test
  - Provides highly magnified images of the anterior segment

Provider Station

- Laptop or PC with HD Display
- I7 Quad Core Processor
- 8GB RAM
- 256GB SSD
- Built in Camera
- Video Conferencing Software

Provider Station

- Audio Puck
  - Built in Volume Controls
  - USB interface
  - Plug in headphones with no annoying popup on PC screen
- Headphones
  - 20-20Khz frequency response

THANK YOU!