

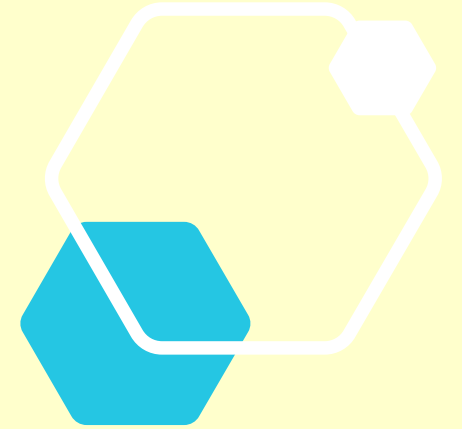


Chinle Service Unit Approaches to Telemedicine During the COVID-19 Pandemic

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Outline

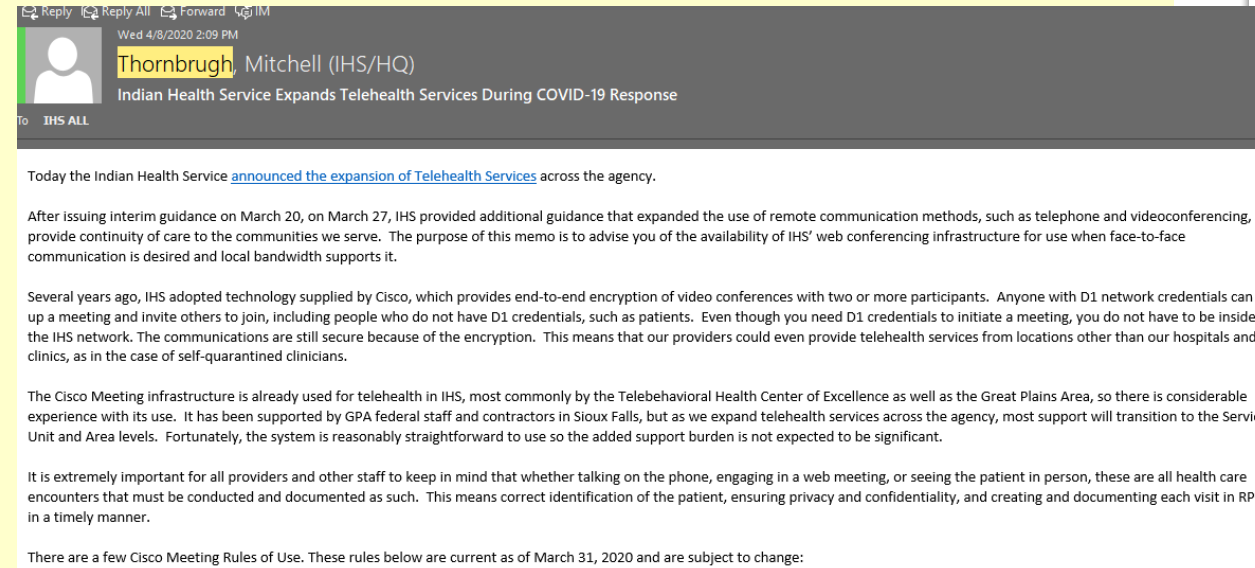


- Challenges limiting use of telemedicine at CSU
- Novel Approaches to the use of telemedicine at CSU in the COVID-19 Response:
 - Respiratory Clinic
 - Emergency Department Intubations
 - Specialty Clinics
 - Virtual visits for high risk patients
- Future Directions in telemedicine at CSU
- Questions and answers

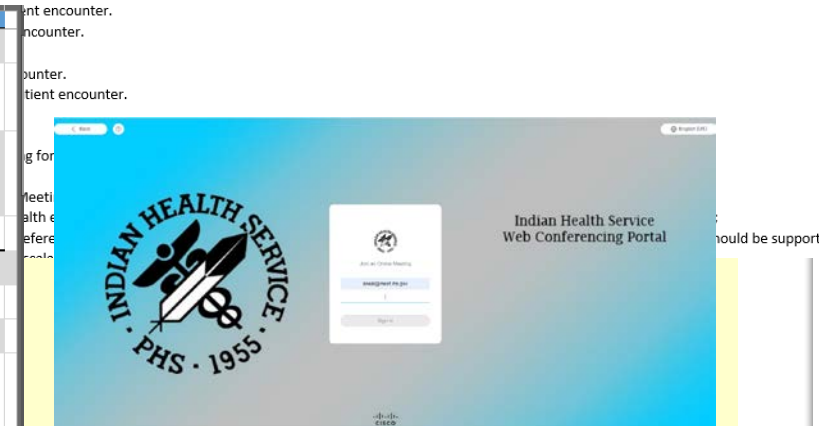
Challenges with telemedicine at CSU

A request to test...

- Request in early April IHS expedited role out of Join.meet platform. Chinle was a test site before enterprise wide deployment.
- To test as fast and in various settings we opened the platform to the medical staff had OT, PT, Optometry, Pediatrics, Family Practice, Internal Medicine, Diabetes Educators, and Dieticians all test.
- Noted a few issues specifically challenge with the connection...

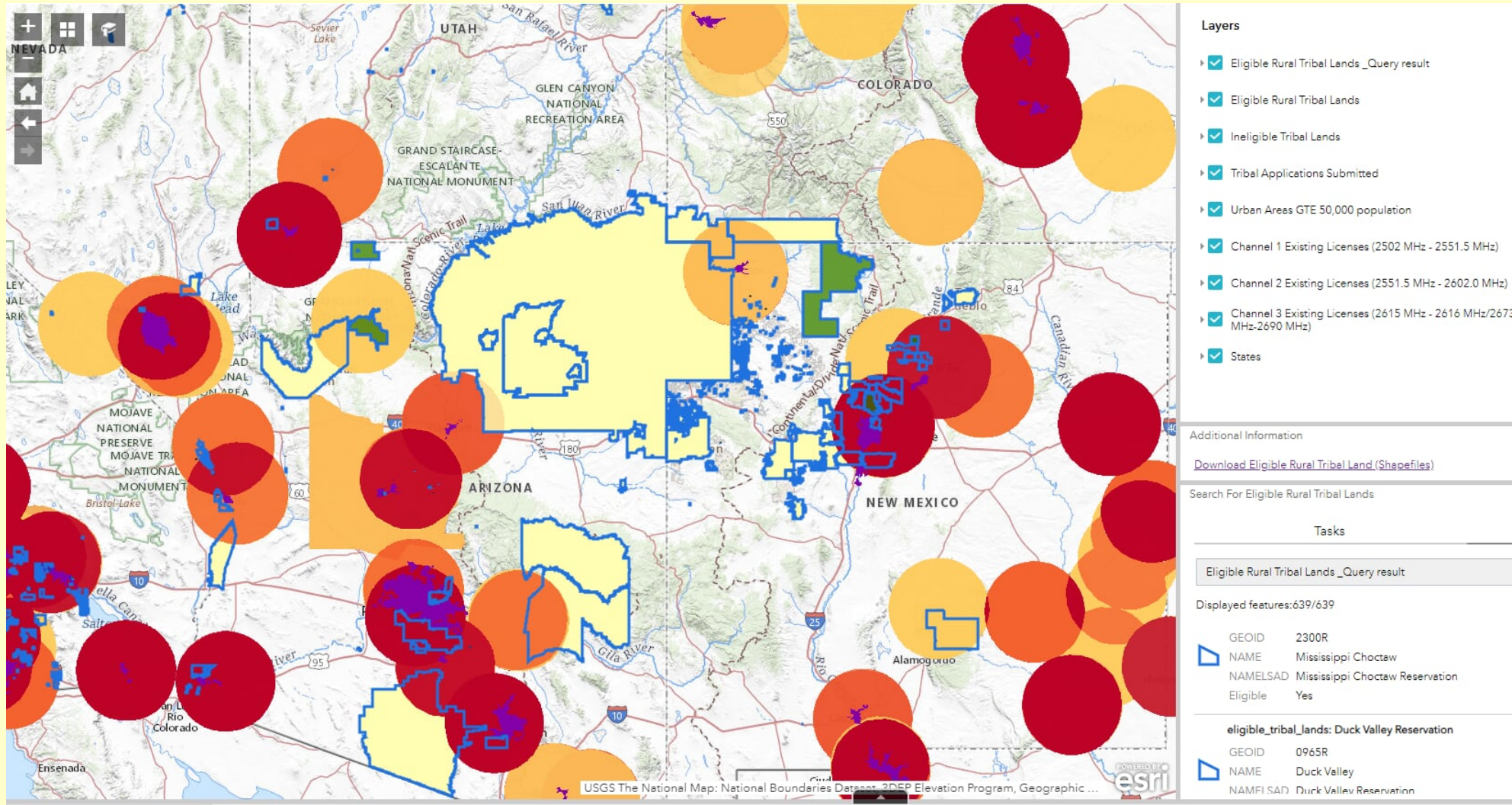


Session number	Provider last Name	Age of Patient (years)	End user assistance provided by?	CSU Web	Patients Web Browser	Patients Device	Audio Quality	Video quality	Aprox call length	Local support required	Area support Required	Comments
7	De Silva	2	Parent	Chrome	Safari	Apple Phone	Poor	Poor	5>	No	No	Unable to fully load link on patient's wifi network, visit converted to phone. Video on computer froze, had parents call back on their phone, video quality and audio quality poor--> converted to phone visit. Parents able to call using home wifi and audio/video quality improved to allow continuation of telemed visit
8	De Silva	2	Parent	Chrome		Laptop PC	Fair	Poor	10	No	No	Pt did not receive email sent multiple times. Had to send a copy link. Took multiple attempts. Patient used browser rather than app. Initially video was pixelated on and off, then froze x1, then she was kicked off on her end. It took so much effort to get it started (20+ minutes) that we didn't try again. Pt has NTUA and even the cellular phone call to set up the appointment was not successful due.
9	Yerman	36	None	Chrome	Safari	Apple Phone	Fair	Poor	20	No	No	Not all of computers in PT exam rooms have cameras. Difficulty finding a quiet area with camera capabilities.
10	Neal	37	None	Chrome	Internet Explorer	Laptop PC	Poor	Poor	5>	No	No	Patient wasn't able to connect with phone and grew frustrated, transferred exam to phone call only.
11	Holtkamp	64	None	Chrome		PC Desktop	Fair	Fair	25<	No	No	Could not download App with cellular service/ visit converted to phone. Cellular One Service
12	Morton	42	None		Internet Explorer	Android phone	Poor	Poor	5>	No	No	Unable to connect with patient; she ultimately ended up coming in for an issue that I could have easily seen her for over the phone. She was using her son's iPhone who was not interested in downloading another app due to inconvenience, likelihood of infrequent use, and did not want to use up his data for the visit (they weren't at home) but also did not report having WiFi at home.
13	Sharpe	32		Chrome	Internet Explorer	Android phone			5>	No	No	Multiple attempts to provide email link. Frustrated with having to download another app. Did reluctantly. Timed out with download after several attempts. Patient reported only cellular no wifi at home. Did convert to phone. Cellular One
14	Runyon	46	None	Chrome	Internet Explorer	Apple Phone			5>	No	No	Using sons phone did not want to download or use data - converted to phone encounter. Cellular One
15	Sharpe	41	None	Chrome	Internet Explorer	Android phone				No	No	
16	Sharpe	52	None	Chrome	Internet Explorer	Android phone				No	No	
17	Neal	52	None	Chrome	Chrome	Laptop PC	Fair	Poor	20	No	No	



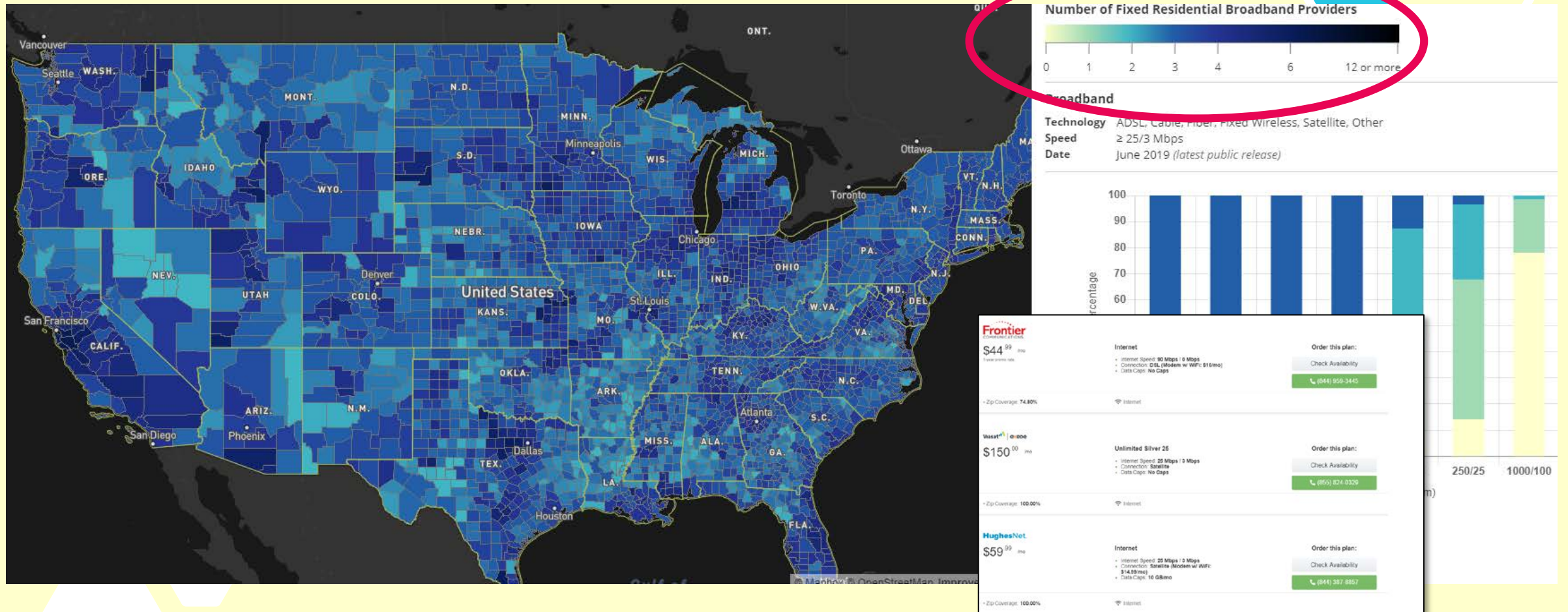
Challenges with telemedicine at CSU

Available broadband license for bid from the FCC. Red is a lot, Dark Orange less, Light Orange less.



Challenges with telemedicine at CSU

Number of available broadband carriers



https://broadbandmap.fcc.gov/#/area-summary?version=jun2019&type=nation&geoid=0&tech=acfosw&speed=25_3&vlat=40.4738198546477&vlon=-100.13810374197885&vzoom=3.855311817029772

Challenges with telemedicine at CSU

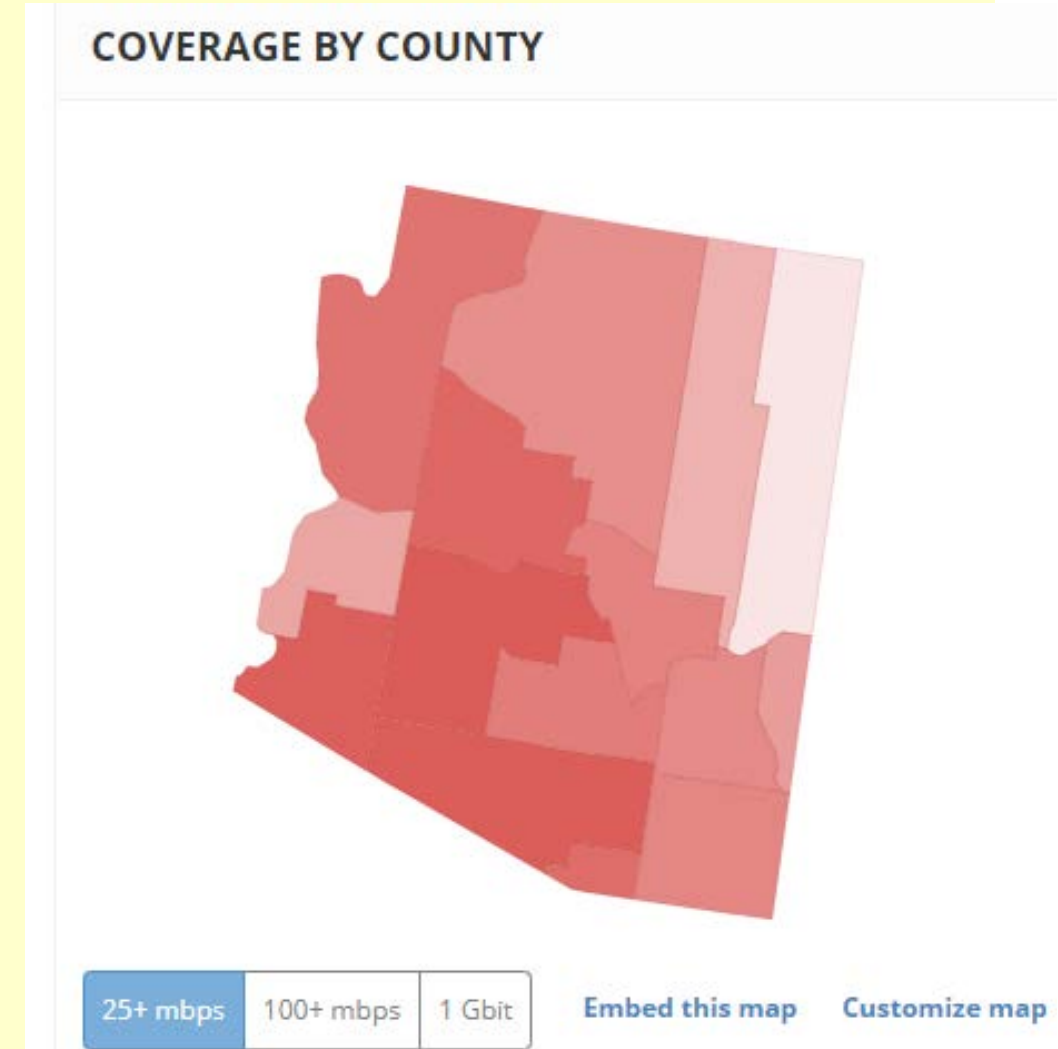
- End users lack quality broad band connectivity, which is a *significant* limitation to a successful telemedicine program.
- Available broadband is Satellite, DSL, Fixed wireless (cellular)
 - All have challenges cost vs lacking functionality issues
- Variability in end user equipment
- Variability in end user technology literacy
- CSU infrastructure challenges:
 - Call manager system (currently upgrading) currently go through Aberdeen.
 - Staffing/workforce (Data point on IHS Facilities average 40 yo)¹

0.16% of Apache County has access to 25 mps...

The next lowest in AZ is la Paz 51.7%

The state average is 79 mps

AZ is #36th State in Broadband coverage in USA ²



[1.https://www.ihs.gov/sites/newsroom/themes/responsive2017/display_objects/documents/RepCong_2016/IHSRTC_on_FacilitiesNeedsAssessmentReport.pdf](https://www.ihs.gov/sites/newsroom/themes/responsive2017/display_objects/documents/RepCong_2016/IHSRTC_on_FacilitiesNeedsAssessmentReport.pdf)

2. Cooper, Tyler. "Arizona Internet Service Providers: Availability & Coverage." *Broadband Now*. Broadband Now, 06 Feb. 2020. Web. Accessed 05 Jul. 2020. <<https://broadbandnow.com/Arizona>>.

The CSU telemedicine response to the SAR-CoV-2 virus

- March 6th Code green announced at CSU
- Had been preparing for our own telemedicine clinic collecting equipment and working with IHS Video admins in Aberdeen.
- Had a challenge of increase demands for testing and increased incidence of COVID-19.
- Most routine outpatient services closed.
- Limited potential for use of telemedicine to patient homes due to poor connectivity.

What we did

We had equipment and a platform that we felt could be useful in our response...

Respiratory clinic (March 22)

Emergency Department (early to mid April)

Nephrology clinics (mid April)

Tablet Pilot Program (mid June-ongoing)

Challenges in the Early Days of the COVID-19 Pandemic

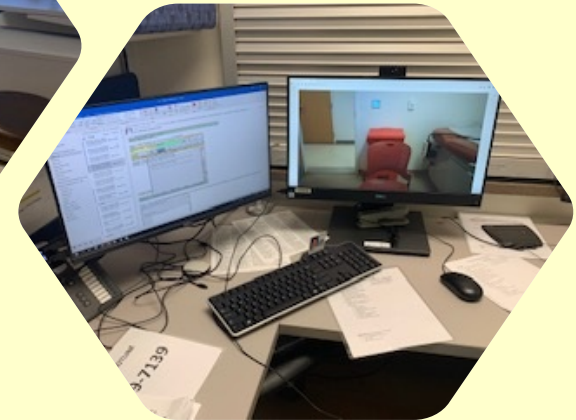
- Large number of worried well patients requesting to be evaluated for COVID-19
- Barriers to outdoor set-up
 - Traffic Flow
 - Temperatures
 - Equipment Malfunctions
 - Documentation
 - Throughput
- High PPE burn rate
- Low provider morale
- Challenges dealing with high acuity patients
- Long wait times



The CSU telemedicine response to the SAR-CoV-2 virus

Respiratory clinic >5100 patients seen

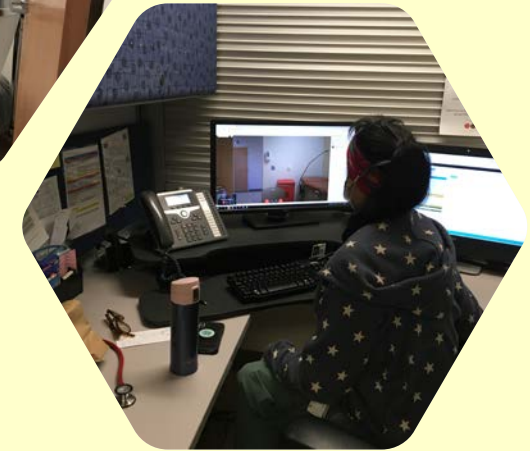
- Created isolation clinic with separate waiting area.
- Indoors for clinic evaluation -> outside for specimen collection. Less infrastructure demands, 24/7, weather/documentation no longer a factor.
- Point to point telemedicine visit on campus.
- Rapid triage of higher acuity patient to the ED.
- Rapid screening exam and discharge for low acuity patients.
- Proximity to lab/ED.



The CSU telemedicine response to the SAR-CoV-2 virus

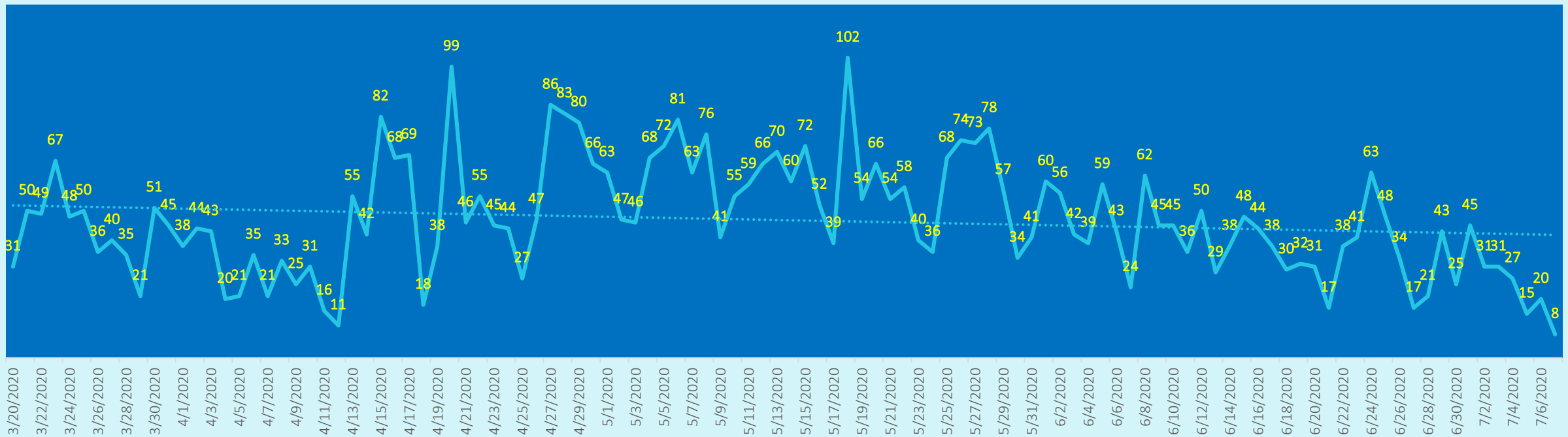
Respiratory clinic Successes

- Optimal space utilization: Providers beam in from anywhere on campus.
- Able to quantify how many patients are seeking help for COVID-like symptoms.
- Able to involve high risk providers in direct patient care.
- Patients appreciate decreased exposure to providers.
- Reduce quarantine probability for providers.
- Decreased PPE burn rate.
- High throughput = High testing rate
- Rapid provider uptake of telemedicine platform with high volume visits.

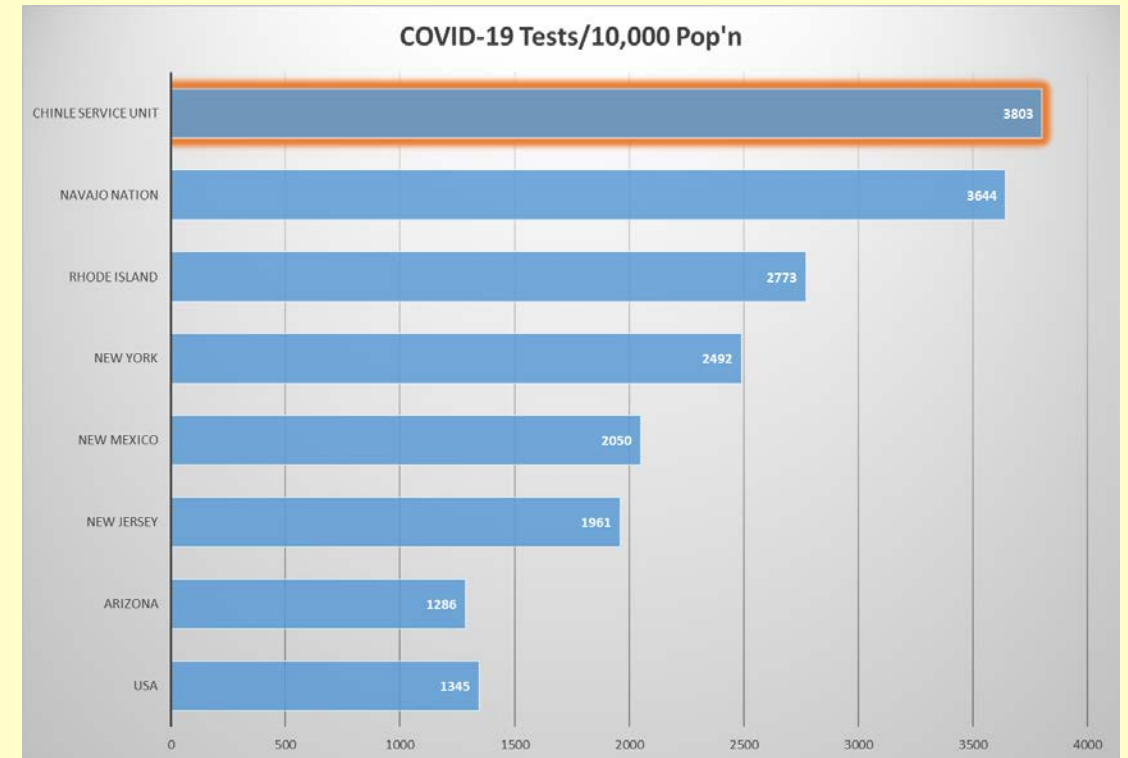
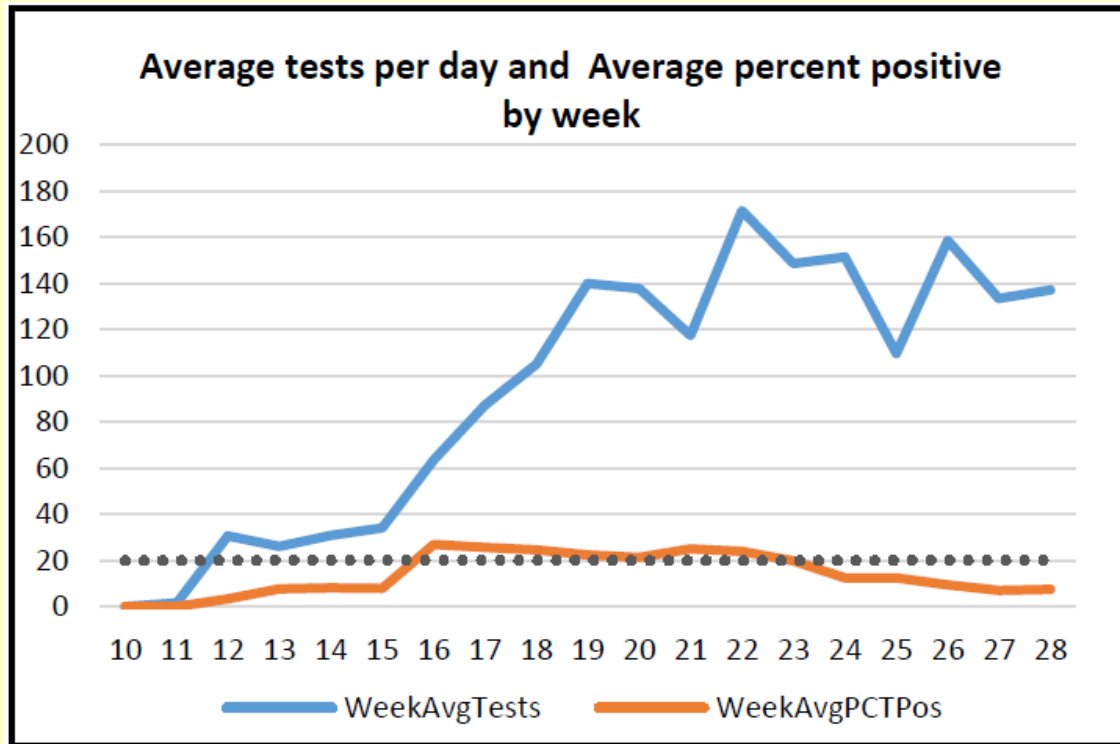


Daily volume in Respiratory Clinic since March 20th (93% via Telemedicine)

RESPIRATORY CLINIC
Total Encounters = 5,151



Chinle Service Unit COVID-19 Testing Volume



One note use - OneNote

FileHomeInsertDrawHistoryReviewView

COVID Walk in clinic sign up...How to use one noteGeneral pageNew Section 1Flow Chart Resp Clinic TriageMask Fit Sign-Up SheetResp Clinic ScheduleServices available at CSUCharting...+

Search (Ctrl+E)

One note use

Thursday, April 2, 202012:33 PM

In order to improve communication, we are using One note is an interactive tool to maintain up to date information. It is constantly changing as we try to improve it. Constructive feedback is always welcomed.

You can click the tabs above to the corresponding topic OR click on Hyperlinks below.

Set up process in Respiratory Clinic:
["How to..." set up telemedicine tool, problem solve, device numbers](#)
[Flow Chart Resp Clinic Triage](#)
[Helpful Phone Numbers](#)
[Test protocol updated 4/16](#)
[Dispo patients to ED/UC or Pharmacy](#)
[Optometry Consults in Respiratory Clinic](#)
[Pregnant Patients in Respiratory Clinic](#)
[COVID vs Hanta Virus](#)
[COVID-19 Return to Work Algorithm](#)
[Return to Work Note](#)

E.H.R. process:
[Charting](#)
[Billing and coding](#)
[Print label for COVID testing](#)

Schedule:
[Scheduling M-F](#)
[Weekend 8am-8pm](#)

Inpatient information:
[April Anesthesia back up](#)

Personal Protective Equipment:
[PPE do's and do nots](#)
[Donning mask/eye PPE](#)
[Doffing Eye PPE](#)

Other information and links:
Nephrology phone numbers

Created a one note document to guide and give "how to..." able to update and share easily on Public Share drive

- Charting
- Billing
- Numbers to contact
- Schedule
- Testing protocol
- What to do if...
- Etc

+ Add Page

One note use

Challenges posed by COVID-19 in the ED

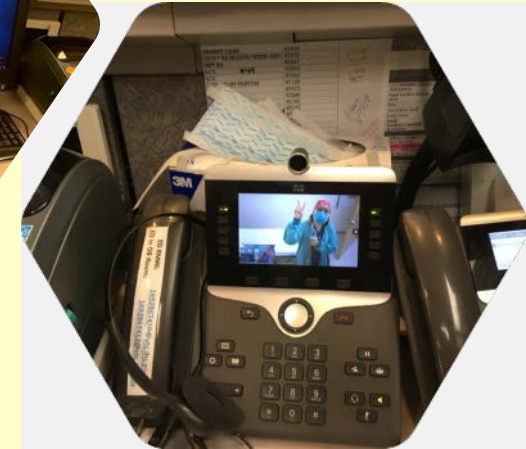
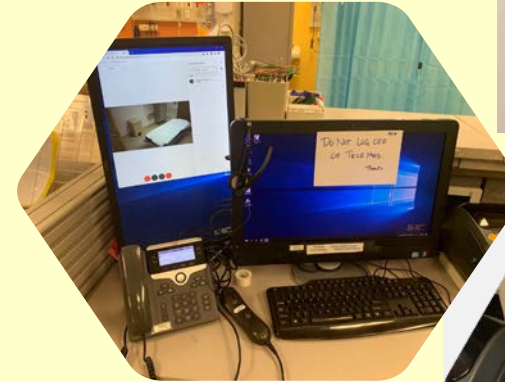
- Open trauma bays with no ability for isolation
- 2 small negative pressure isolation rooms with poor visibility
- Critical care patients requiring large care teams, multiple trips in/out of room
- High PPE burn rate



The CSU telemedicine response to the SAR-CoV-2 virus

The Emergency Department

- Maximize utility of small negative air pressure rooms with poor visibility
- 301 patients seen in 2 negative pressure rooms April 15-June 30. These rooms reserved for COVID+, PUI, or intubations.
- Able to observe, converse, and monitor without direct exposure to the patient.
- Able to rapidly jump from one room to another from the nurse station. Can monitor both at the same time.
- Simple to use in environments like ED: multiple shifts, various comfort with technology, quick to teach



WHAT'S NEW IN EMERGENCY MEDICINE

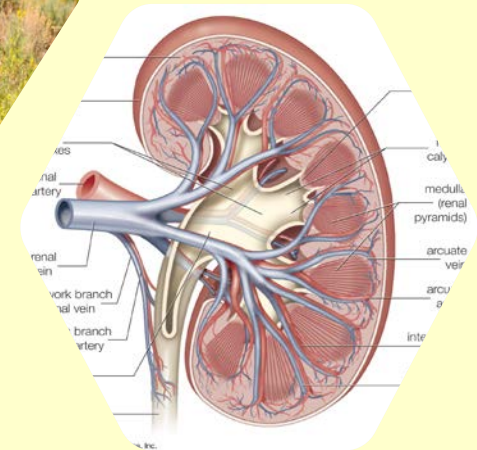
A telehealth program to perform medical screening examinations

Laghezza, Matthew PA-C; Sharma, Rahul MD, MBA, CPE, FACEP; Hsu, Hanson MD; Greenwald, Peter MD, MS, FACEP, EMT-P; Sullivan, Robert PA-C, MS; Eid, Dona Alma Bou MHA [Author Information](#) ✓

A telehealth program to perform medical screening examinations,
Journal of the American Academy of Physician Assistants: July 2020 -
Volume 33 - Issue 7 - p 51-53 doi:
10.1097/01.JAA.0000662420.25306.73

Specialty Clinics and COVID-19

- Nephrologists on the reservation often have a route and go to several clinic sites and dialysis clinics across the reservation.
- Concern about potential provider -> patient exposure.
- Patient population is largely elderly and high risk.
- Canceling clinics meant patients would have to travel off-reservation for specialty care.
- Providers were already on-site at local dialysis center.
- Some providers were resistant to changing practice model.



The CSU telemedicine response to the SAR-CoV-2 virus

Nephrology Clinics

- CSU was able to get 3 Nephrology groups to use IHS Telemedicine platform for remote and on-site clinics with patients.
- The process involved training 7 Nephrologist on Telemedicine
 - VPN access for them
 - training/ trouble shooting
 - support for issues
- This program allows one of our most high-risk patient populations to still be seen by their providers while minimizing their risk of exposure to COVID-19
- Operational with in 10 days



Primary Care Challenges due to COVID-19

- CSU has an intensive case management program BHLC for about 70 patients who have been identified as high risk.
- Many of these patients are difficult to reach, lacking reliable phone or internet access.
- Phone visits not ideal for addressing complex problems and case management.
- Desire to protect these high risk patients from exposure to COVID-19 at the hospital.
- Many patients in remote, difficult to reach areas.



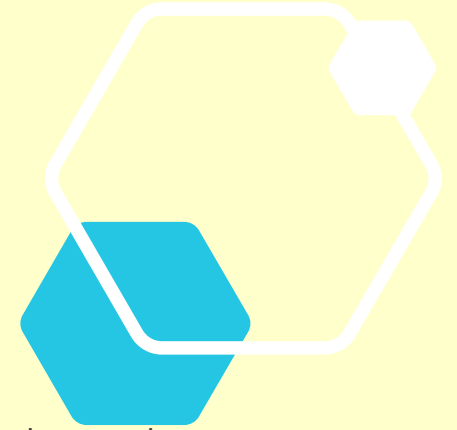
The CSU telemedicine response to the SAR-CoV-2 virus

Tablet Pilot Program

- IHS HQ offered the CSU 2 tablets to create a use case. Ipad Tablets use cellular FirstNet (First responder network), not on the IHS network and limited web access.
- PCPs helped identify their highest risk patients for the tablet program.
- Navajo Nation CHR takes a tablet to the patient's home and PCP and facilitates a telemedicine visit with them.
- Results are promising thus far with respect to patient and provider satisfaction and coordination of care.



Future potential for the CSU and Telemedicine



Pipeline for Growth

- Expanded use of tablets
- Field Clinic Kiosks
 - Chapter Houses, Senior Centers, etc.
- Additional Specialty Services:
 - Asynchronous Dermatology
 - Rheumatology
 - Endocrinology

Potential Growth (Ideas)

- Tele ICU
- Tele Stroke-Center (similar sized institutions have shown ROI, decrease in LOS, and decrease mortality)
- Lactation (take home tablet and return)
- Hospice (take home tablet and return)
- Outfit EMS with Tablets for in the field consults.

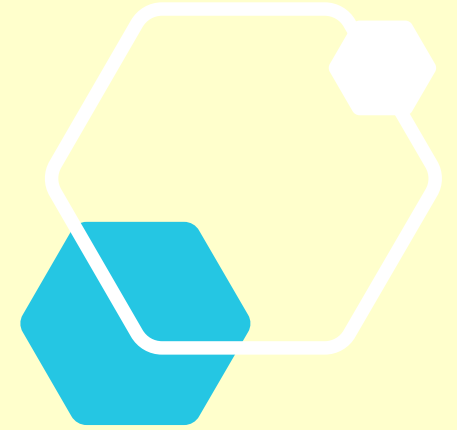
Before able to thrive with telemedicine it would be in our best interest to consider ...

- Increased staffing
- Education growth and opportunity for motivated staff
- Team based approach for management (history of Global Med historically not optimized)
- Infrastructure (call manager, other equipment)
- Data driven approach with strategy, milestones, accountability.



Summary

- Adoption of telemedicine at CSU historically limited by lack of broadband service and low provider interest.
- Point to point on-site telemedicine services offered solutions to these problems.
- Conservation of PPE.
- Limit exposure for patient and provider.
- Enhanced communication/efficiency.
- Leveraged equipment already purchased and added more.
- Rapid adoption by providers who are now expert users.
- Opportunities for future growth in off-site telemedicine services for specialty care and at community access points.





Remember Distance prevents... including Telemedicine



Thank You

👤 Stephen Neal & Eric Ritchie

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