

Right Care, Right Time, Right Setting

UNIVERSITY OF MISSISSIPPI MEDICAL CENTER
CENTER FOR TELEHEALTH



Utilizing Telehealth to Transform Patient Care Across the Care Continuum

March 28, 2022



A National Telehealth Center of Excellence

Disclosures



- I have no actual or potential conflict of interest in relation to this program/presentation.
- UMMC or I have no relevant financial interest in any organizations related to commercial products or services discussed in this program.



Telehealth Modalities



Deliver care using interactive media and electronic information exchange (e.g., video, monitoring, transmitted images)



Telemedicine: Distance Care via Live (Audio-Video) Interaction

- Scheduled and unscheduled visits



Emergency Medicine



Specialty Care (e.g., Behavioral Health, Child Development)



Corporate Health



Store & Forward & Diagnostic Tests Interpretation

Providers can share patients' medical information such as lab reports and images with physicians and patients, across time zones and locations



Dermatology



Ophthalmology



Radiology



Mobile Health & Remote Patient Monitoring

Transmission of physiologic and other data electronically to remote care team.



Endocrinology (e.g., diabetes)



Congestive Heart Failure & Hypertension



Pulmonary (e.g., Asthma, COPD)

Benefits of Telehealth



Telehealth improves access, efficiency, quality of health care delivery

Patient satisfaction

Improved timely
access to healthcare

Improved Clinical Outcomes

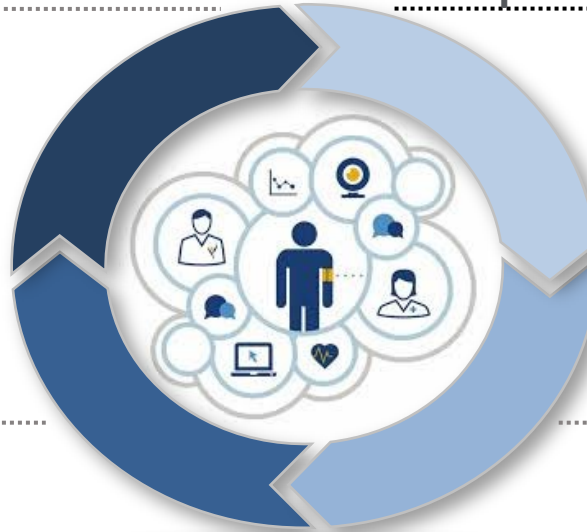
Reduced
hospitalizations and
ER visits

Financial outcomes

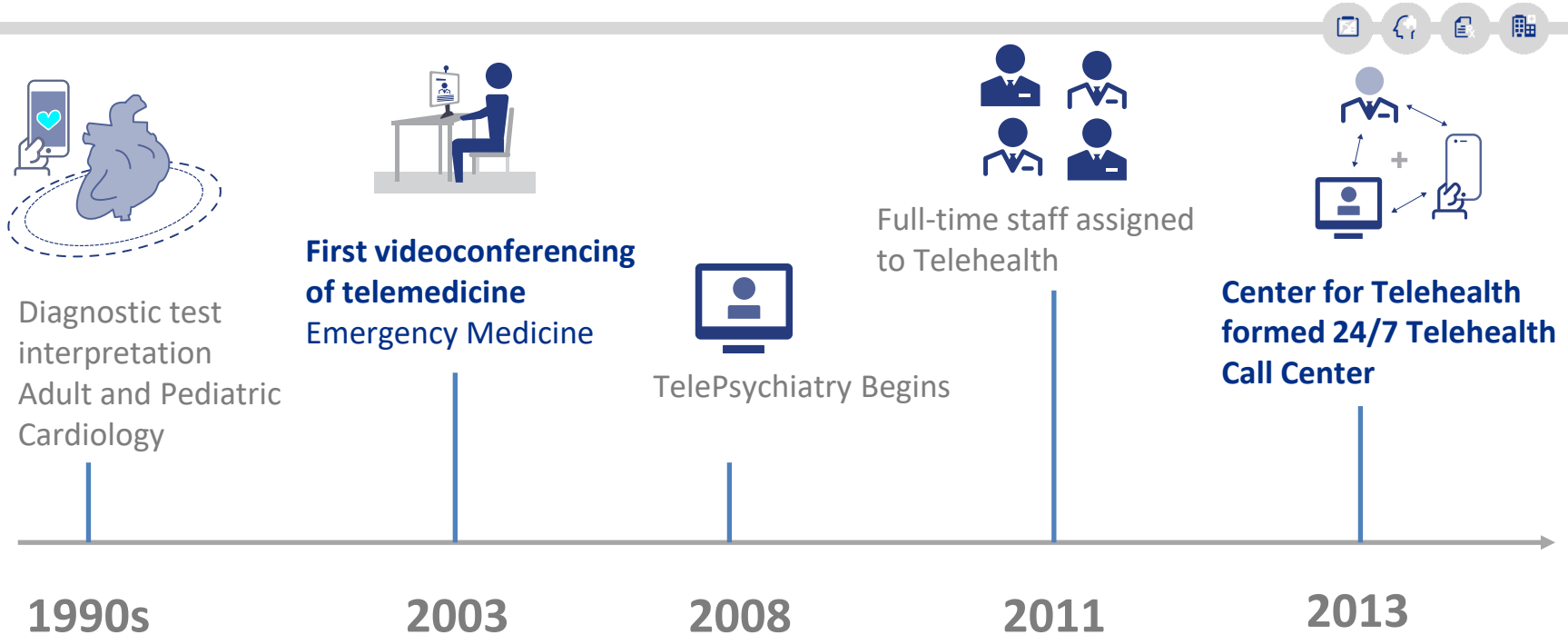
Increased revenue,
Cost Avoidance

Provider Satisfaction

Reduce Burn out



Center for Telehealth History



Center for Telehealth History



Telehealth Center of
Excellence awarded to
UMMC



Video is embedded
within Epic using Cisco
ExtendedCare



FCC Funding for RPM



Telehealth Center of
Excellence awarded to
UMMC

2017

2020

2021

2021

UMMC CENTER FOR TELEHEALTH: A SNAPSHOT

53 of Mississippi's 82 counties are more than a 40-minute drive from specialty care. The CFT extends care by providing specialty services across multiple care settings.



SETTINGS SERVED

- Community Hospitals & Clinics
- Corporations
- Federally Qualified Health Centers (FQHCs)
- Mental Health Clinics
- Patient's Homes
- Prisons
- Schools & Colleges



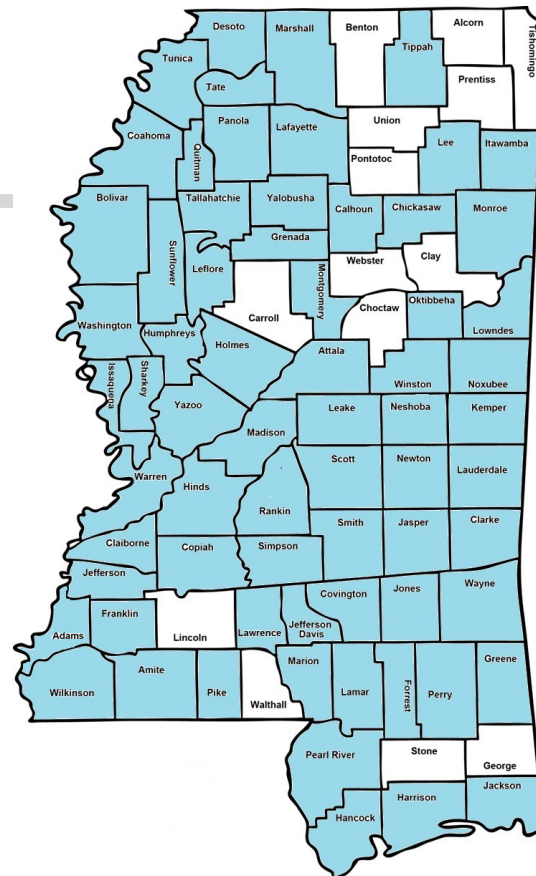
KEY SERVICES PROVIDED

Adult Services

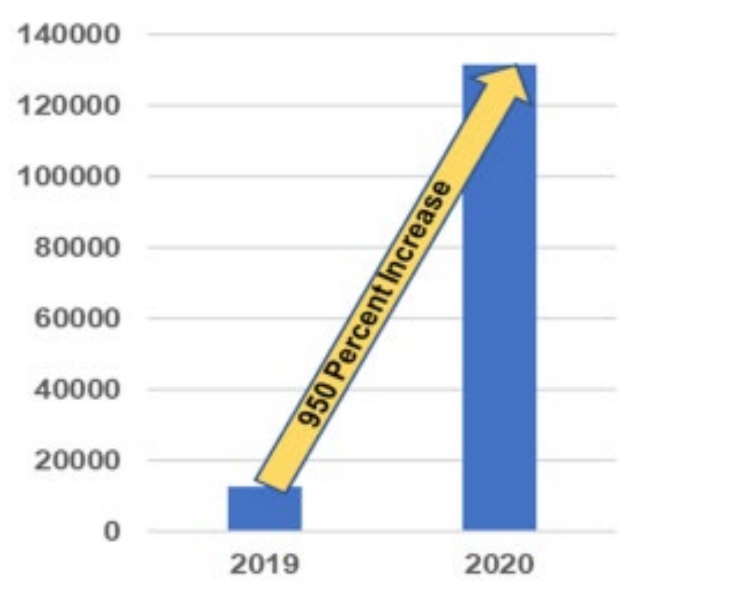
- Alzheimer's / Dementia Care (The MIND Center)
- Cardiology
- Corporate Health
- Dermatology
- Infectious Diseases
- Mental Health Services
- Radiology
- Emergency Medicine

Pediatric Services

- Cardiology
- Child Development
- Child Safe Center
- Genetics
- Neurology
- Mental Health Services



Exponential Growth in Telehealth in 2020



UMMC Data: Completed outpatient Telehealth visits in the years 2019 and 2020

Exponential Growth in Telehealth in 2020



Report from the Office of Inspector General (OIG), March 15, 2022.

- 28 million Medicare beneficiaries used telehealth during the first year of the pandemic. (40% beneficiaries)
- Telehealth was critical for providing services to Medicare beneficiaries during the first year of the pandemic.

AMA survey shows widespread enthusiasm for telehealth (March 23, 2022)

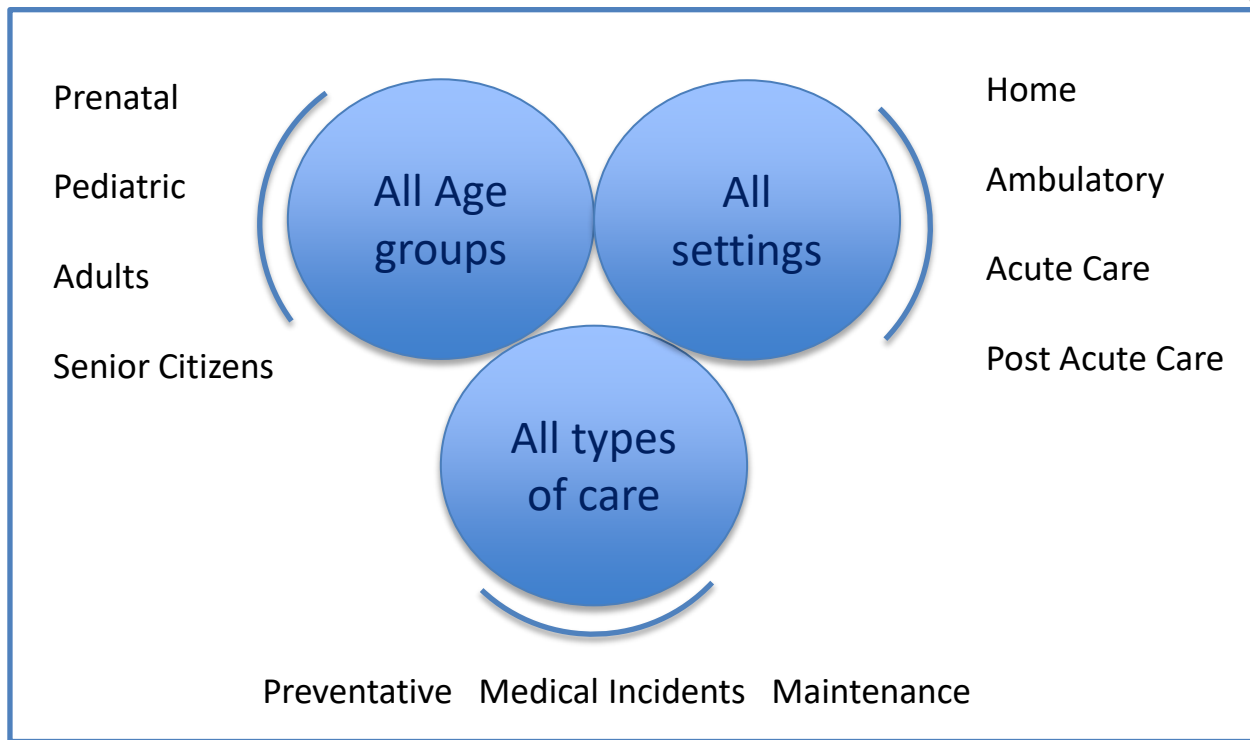
- 85% of physician respondents using Telehealth.

Framework for Telehealth Programs

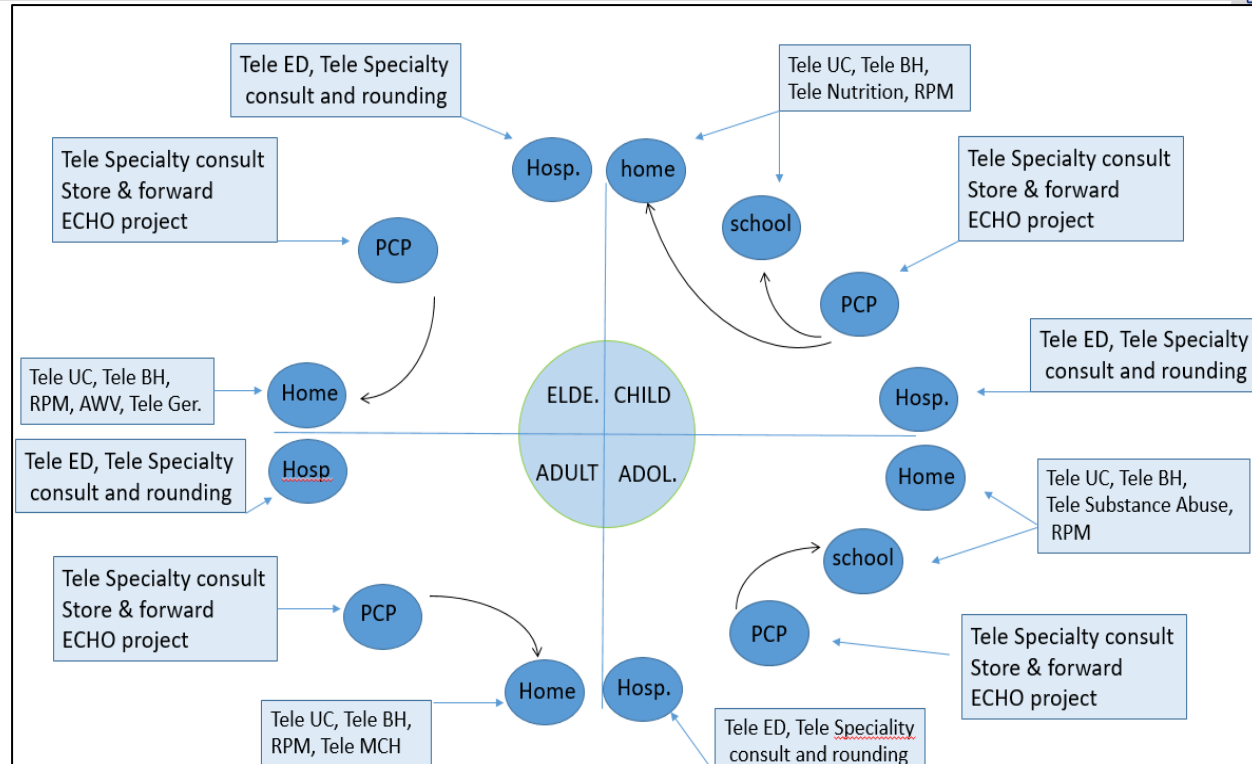


- Integrate with existing care delivery model.
- Should not lead to fragmentation of care.
- Bridge gaps in existing care models with the net result of enhancing care and not substitution of care.
- Telehealth programs should create and demonstrate value for multiple stakeholders.
- Telehealth programs should transform care across the ‘care continuum’.

What is the care continuum.



The Vision: Healthcare Delivery across continuum of care via Telehealth



Telehealth Programs



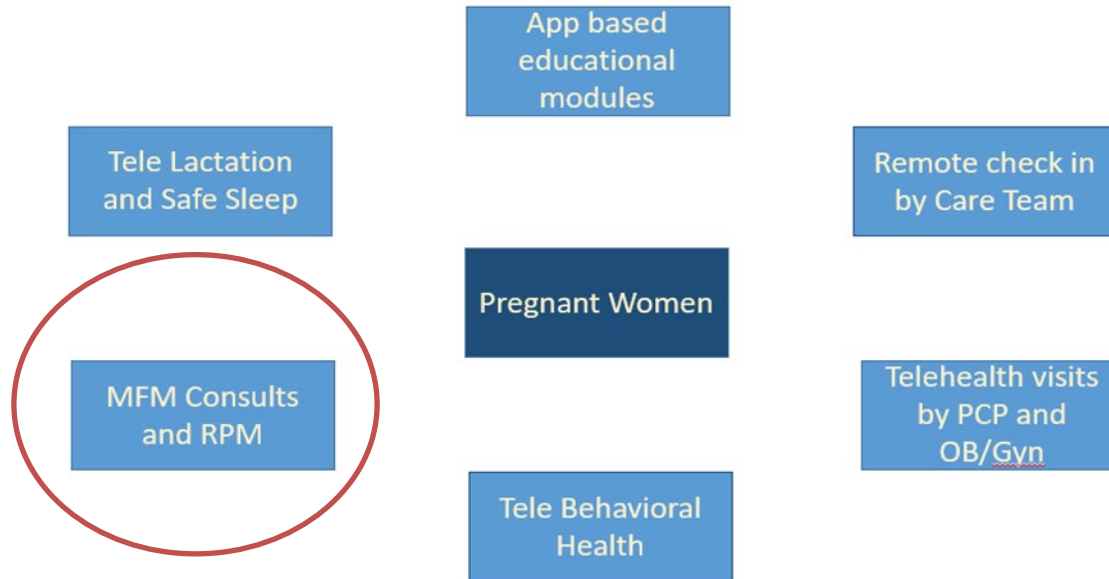
Targeting Maternal Health



Rationale:

- U.S. has lagged behind other high-income countries in obstetrical outcomes, often attributed to poor access to prenatal care, high rates of chronic disease, and the highest rate of skipping necessary health care due to cost barriers. Poorer obstetrical outcomes are particularly pronounced among Black women and American Indian/Alaska Native women, as well as women living in rural areas.
- Ten million women in the U.S. live in rural counties where obstetricians are scarce and pregnant people often must travel significant distances to access care due to hospital closures.

Targeting Maternal Health



Various elements of a Comprehensive Telehealth Program focused on Maternal Health.



Connected Prenatal

Pregnancy Home Blood Pressure Monitoring Study



THE UNIVERSITY OF
MISSISSIPPI
MEDICAL CENTER

The University of Mississippi Medical Center is conducting a study on home blood pressure monitoring for pregnant patients through 2 months postpartum. High blood pressure in pregnancy can cause serious problems including preterm delivery and maternal stroke. *Connected Prenatal* is a research project to see if home blood pressure monitoring with online and telephone support from trained nurses can help pregnant women and babies affected by high blood pressure stay healthy.

What Is Involved In This Study?

Participants will receive:

- A blood pressure cuff for use during the study
- A web-connected tablet with a system to monitor blood pressures and provide feedback. This and the blood pressure cuff will be returned at the end of the study.
- Contact with a telehealth nurse who will help monitor blood pressures
- Gift cards for enrolling and completing the study

Participants are asked to:

- Participate in an initial online education session with a nurse using the mobile tablet to learn how to use the blood pressure cuff and what to do about the measurements.
- Measure blood pressures at least one time each week during pregnancy and daily for first week postpartum, then once a week until 8 weeks
- Complete a brief survey

Targeting Pediatric Health



Home: Urgent Care, Behavioral Health, Remote Patient Monitoring

School: Urgent Care, Behavioral Health, Prevention Programs

Specialty Consults:

Specialty consultation to remote rural UMMC clinics: Pediatric Genetics, Pediatric Neurology, Pediatric Endocrinology, Child Safe, Pediatric Urology and Adult Cardiology

Inpatient Consults: NICU, PICU, Cardiology, Neurology.

School Based Telehealth Program



- Student health and well-being can greatly influence children's academic performance.
- Absenteeism resulting from illness can encumber their overall achievement.
- School-based telehealth programs connect children in schools to health care providers using 2-way video conferencing and electronic examination equipment.
- Multiple studies have shown positive impact of school based Telehealth Programs

School Based Telehealth Program- Scope of the Project

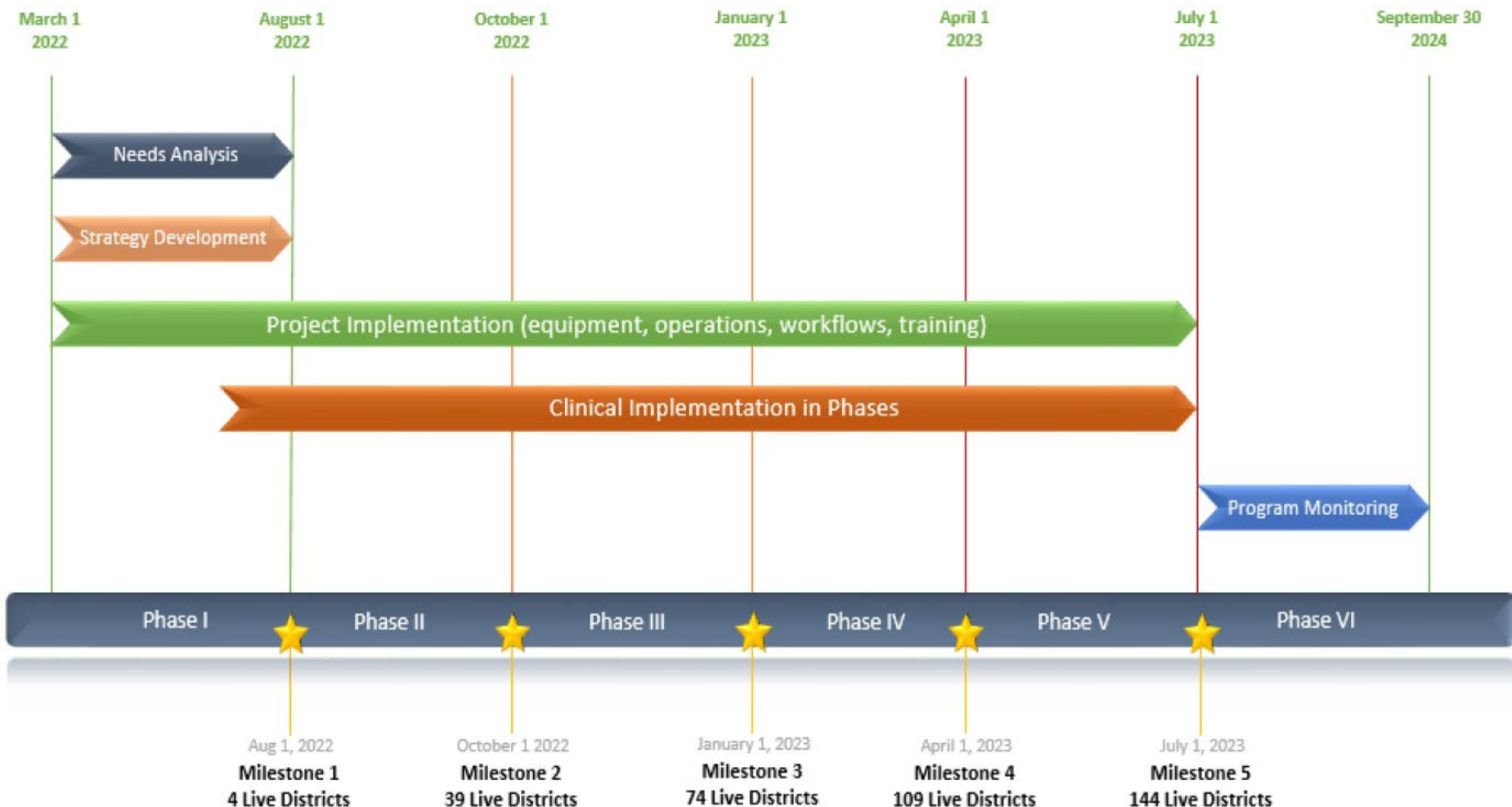


- Create a Telehealth delivery infrastructure for all eligible schools in the State (144 school districts, ~800+ schools). This includes need assessment of individual school districts/schools and delivery, setup, maintenance and training of all nursing staff on the required Telehealth equipment and clinical workflows for the delivery of Telehealth services.
- Operationalize and implement Telehealth delivery services in the following key areas:
 - a. Tele Urgent Care: will provide ‘on-demand’ access to MS licensed and board certified providers of Urgent Care for non-emergent care that will be delivered at school during school hours and facilitated by a school nurse.

School Based Telehealth Program- Scope of the Project



- Tele Behavioral Health: will provide access to scheduled MS state licensed Behavioral Health providers for evaluation, therapy and medical management of acute and chronic behavioral health conditions. This includes access to self-guided programs, available 24/7, delivered digitally from any smartphone, tablet, or computer when appropriate.
- c. Promotion of Dental Health via education of school nurses by providers from the UMMC School of Dentistry.
- d. Lifestyle coaching of students at risk for developing Diabetes.



Targeting Adult Health



Home: Urgent Care, Behavioral Health, Remote Patient Monitoring

PCPs: Ambulatory visits, Store and Foreword, eConsults, ECHO Projects.

Inpatient Consults: Telestroke, TelEmergency, Tele ICU.

Tele Urgent Care



Telehealth providers examine and treat patients remotely, in real time, using online streaming video technology via UMMC 2 U app.

- Fast, convenient minor medical care online
- Access to a board- certified UMMC provider via your smartphone, tablet or computer
- An alternative to taking off work and sitting in a waiting room to receive treatment for minor illnesses
- Same-day appointments, which typically take 15 minutes or less
- Appointments are available 24/7, 365 days a year.



TeleMental Health



The Center for Telehealth offers general and specialized psychiatric services provided by experienced mental health providers.

Delivery Models

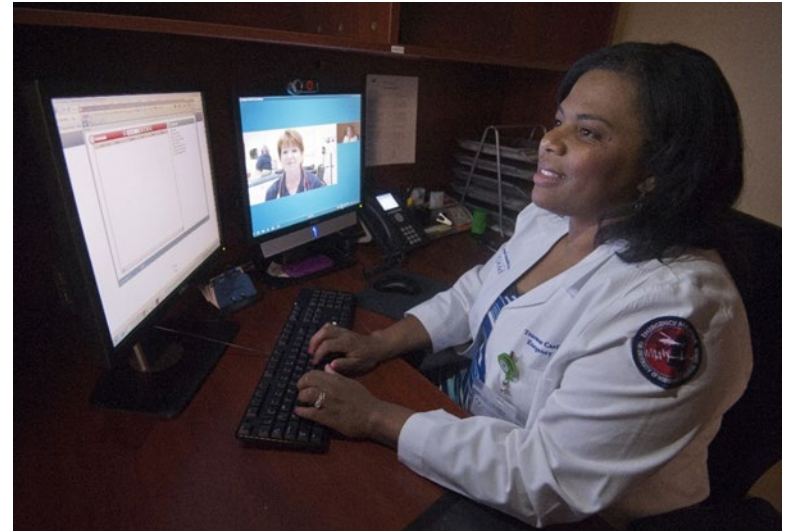
- Outpatient, inpatient, scheduled and/or unscheduled
- All age types: child, adolescent, adult, geriatric

Multiple Services

- Mental health evaluations
- Commitment evaluations/ consultations
- Medication management
- Treatment for acute and chronic mental illnesses
- Assessment/ management of age-related conditions

Types of Locations

- Hospitals
- Clinics
- Schools/ Universities
- Community Mental Health Centers
- Prisons/ Detention Centers



TelEmergency



25% reduction in rural
emergency room staffing costs

20% reduction in unnecessary
transfers

Produces patient outcomes in rural
hospital that are on par with those of
the academic medical center



- Connects 20 emergency departments in rural hospitals with UMMC's Level One Trauma Center
- Uses real-time video and audio connections

Tele-Critical Care Pilot Project



- The Tele-Critical Care Pilot Project is a technology driven program that utilizes A/V technology and enables remote critical care providers to support the ICU and bedside staff in providing care for critically ill patients.





Benefits of Tele-Critical Care



Patient satisfaction

Receive higher quality of care locally in the community.

Improved Clinical Outcomes

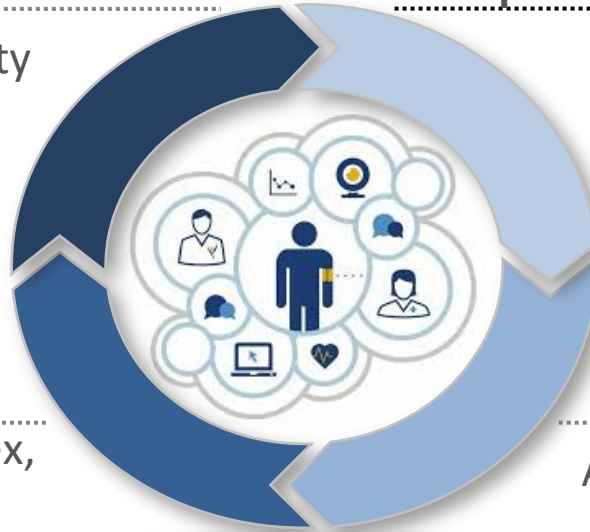
ICU and Hospital mortality, LOS, Days on Vent, Less Complications

Financial ROI

Higher case mix index,
Less transfers

Provider Satisfaction

Access to critical care experts,
less burn out



Project Summary

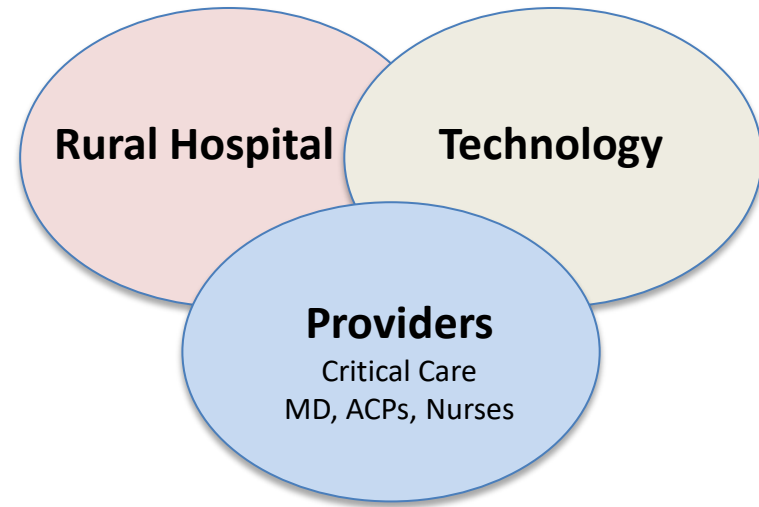


- UMMC aims to:
 - Identify 10-20 rural hospitals in need of critical care support
 - Provide technology infrastructure to support sharing of clinical data
 - Provide access to critical care specialists and clinical support staff
- Implementation plan:
 - Projected “go live” May 2022.
 - Length of pilot: 9-12 months
 - **No cost** to participating hospitals

Partner Expectations



- Rural Hospitals would be active participants
- Rural Hospitals will share data for analyzing clinical and financial ROI
- Provide feedback for process improvement

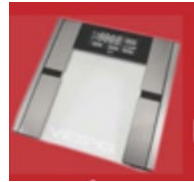


Remote Patient Monitoring (rpm)



- Remote patient monitoring is a form of Telehealth that uses technology to enable monitoring of patients outside of conventional clinical settings, such as in the home or in a remote area, which may increase access to care and decrease healthcare delivery costs.
- Remote patient monitoring uses digital technologies to collect medical and other forms of health data from individuals in one location and electronically transmit that information securely to health care providers in a different location for assessment and recommendations.

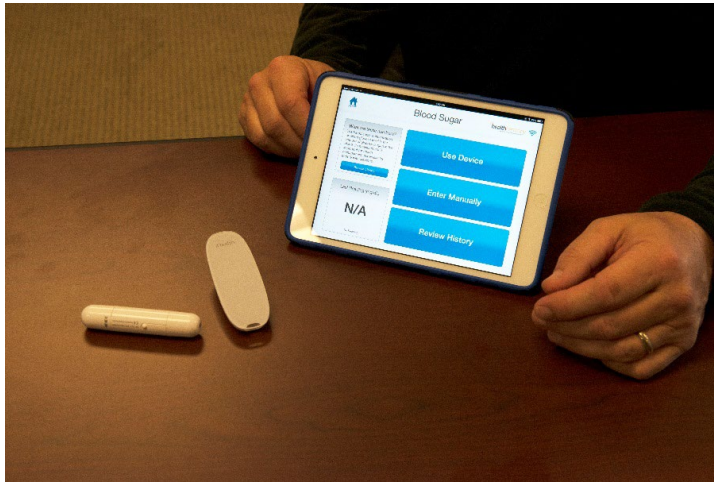
Remote Patient Monitoring (rpm)



Remote Patient Monitoring (RPM)



Chronic disease management in the patient's home including:



Daily Health
Sessions

Personalized
Interventions

Targeted
Education

Health
Coach

Behavior
Modification

Patient
Empowerment

Remote Patient Monitoring (RPM)



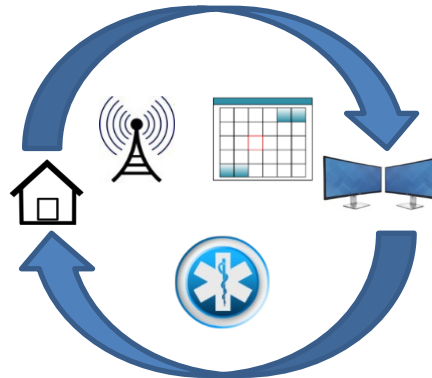
Chronic disease management in the patient's home including:



Remote Patient Monitoring (RPM)

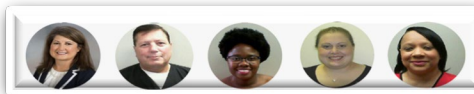


- Telemonitoring kit
- Linked with Epic EHR
- Full tech support



- RN daily monitoring
- Health education
- Safety alerts & protocols
- Patient engagement

- Weekly team meetings
- Monthly data reviews
- PharmD med titration



Remote Patient Monitoring



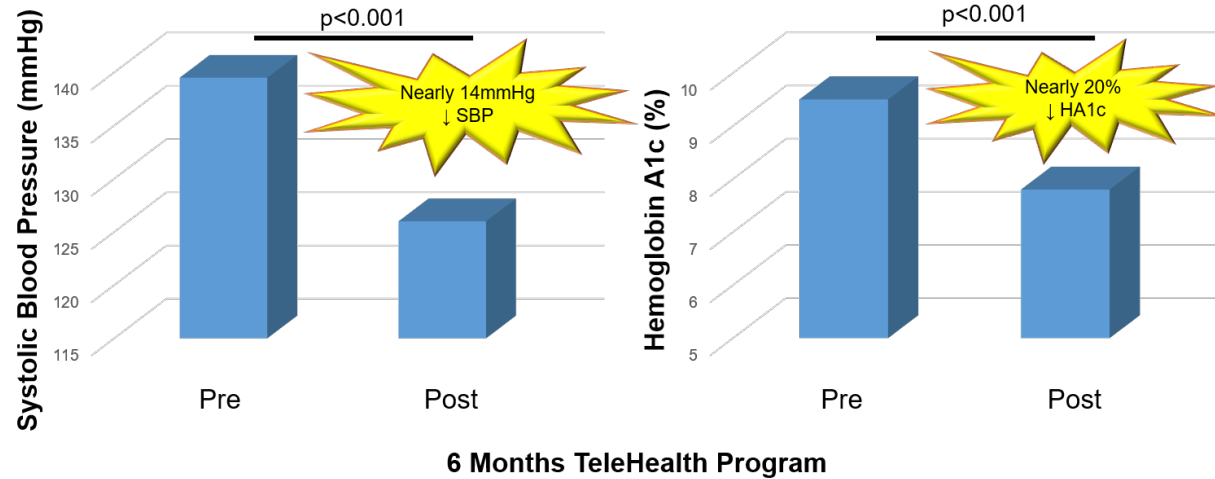
CURRENT RPM PROGRAMS

- Chronic diseases
 - Asthma (Adults and Peds)
 - Diabetes (Adults and Peds)
 - Congestive Heart Failure
 - Hypertension
 - Maternal Hypertension

FUTURE RPM PROGRAMS

COPD
Asthma

Clinical Outcomes



Patient Feedback



I would recommend
this program to others.



I feel this is an
important step in my
care.



The equipment was
easy to use.



If I had a problem, someone
was available to help me.

Putting it all together



Choosing the Right Clinical Programs and Creating the Right Team

Tele Urgent
Care

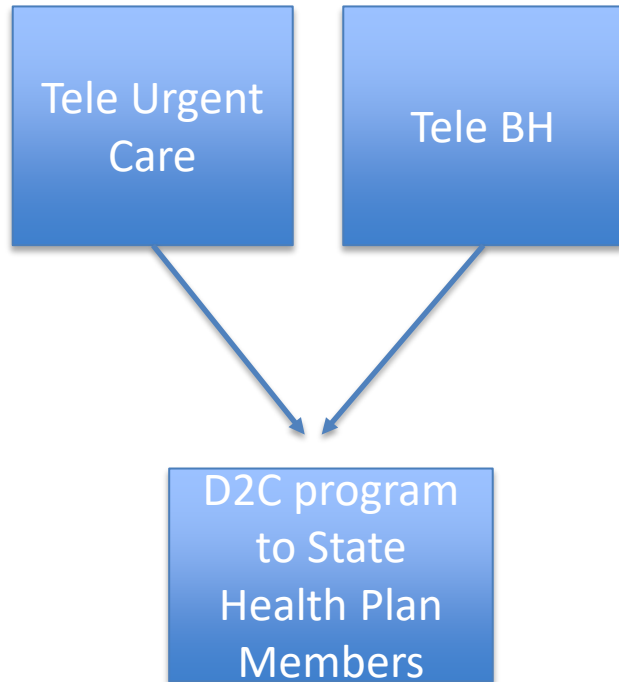
Tele BH

Tele
Emergency

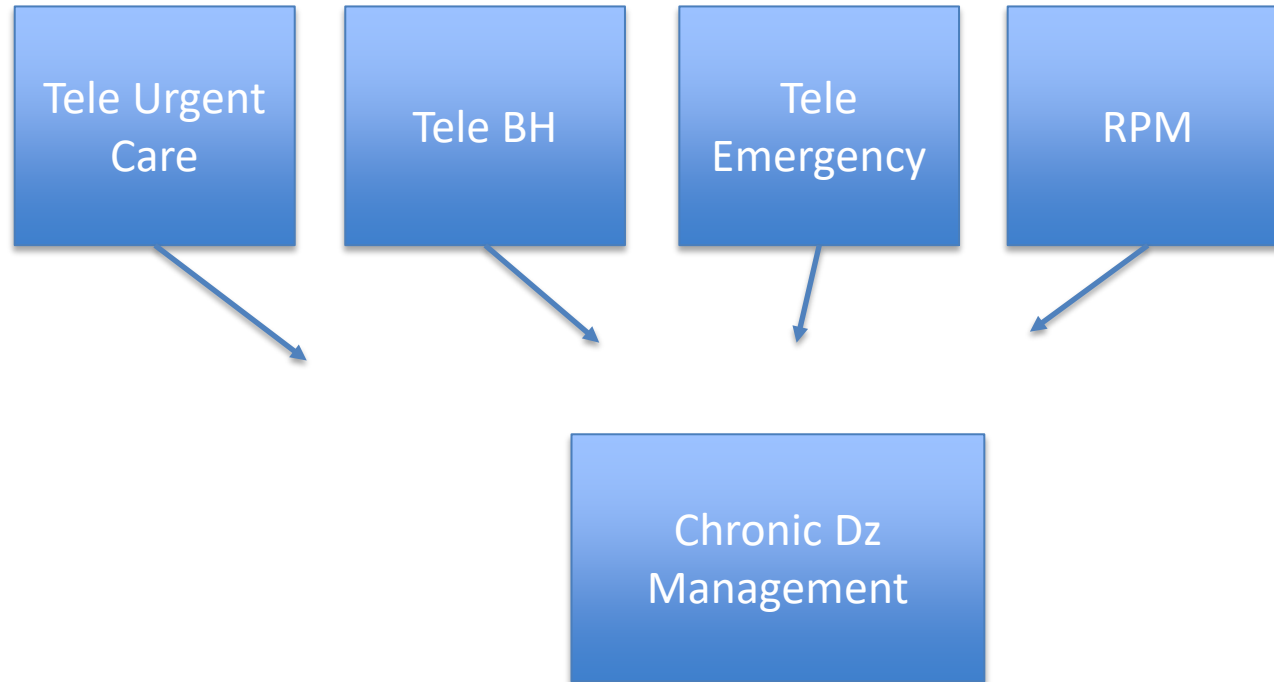
RPM

Specialty
Consults

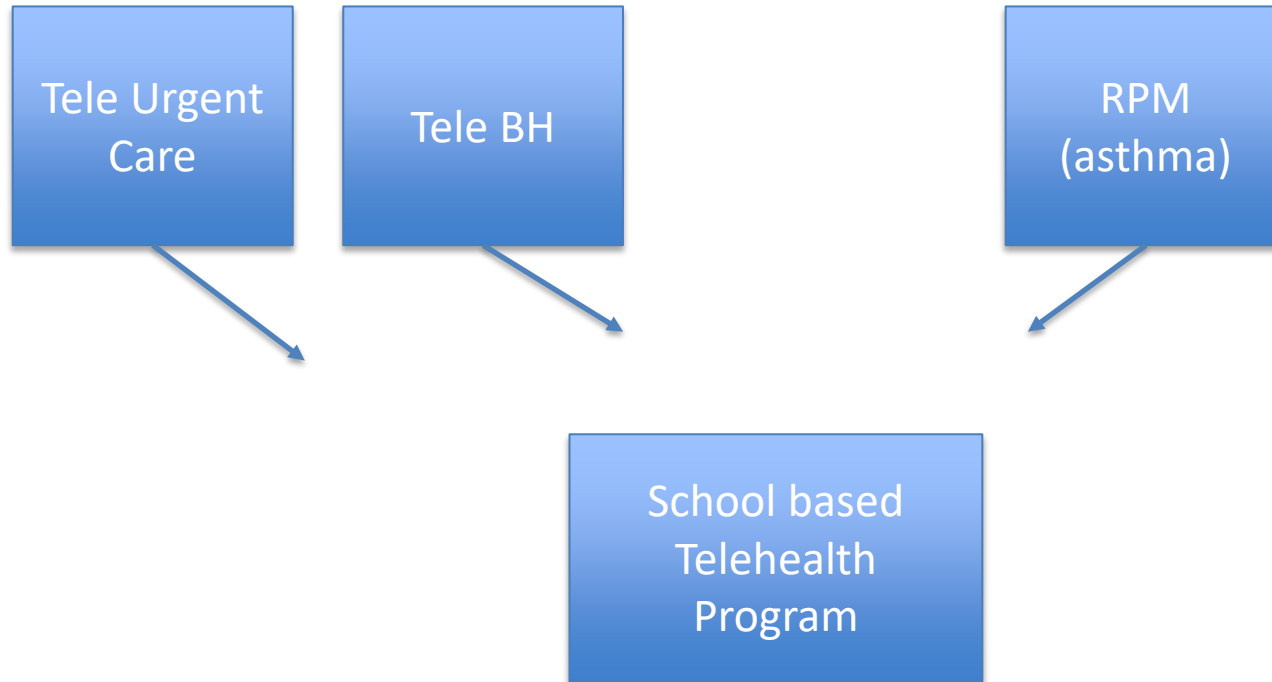
Putting it all together



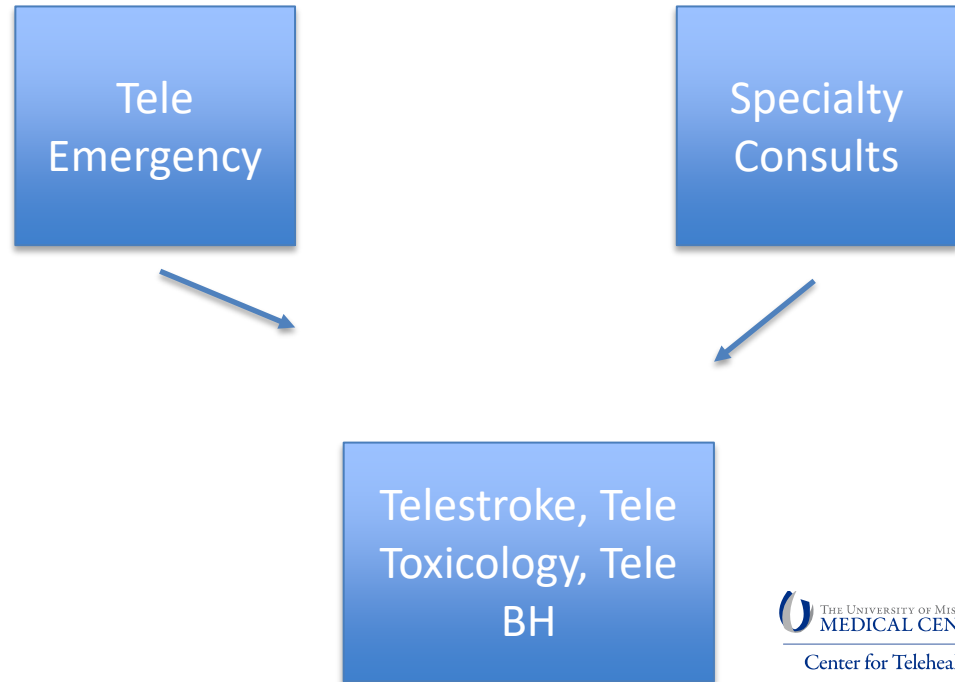
Putting it all together



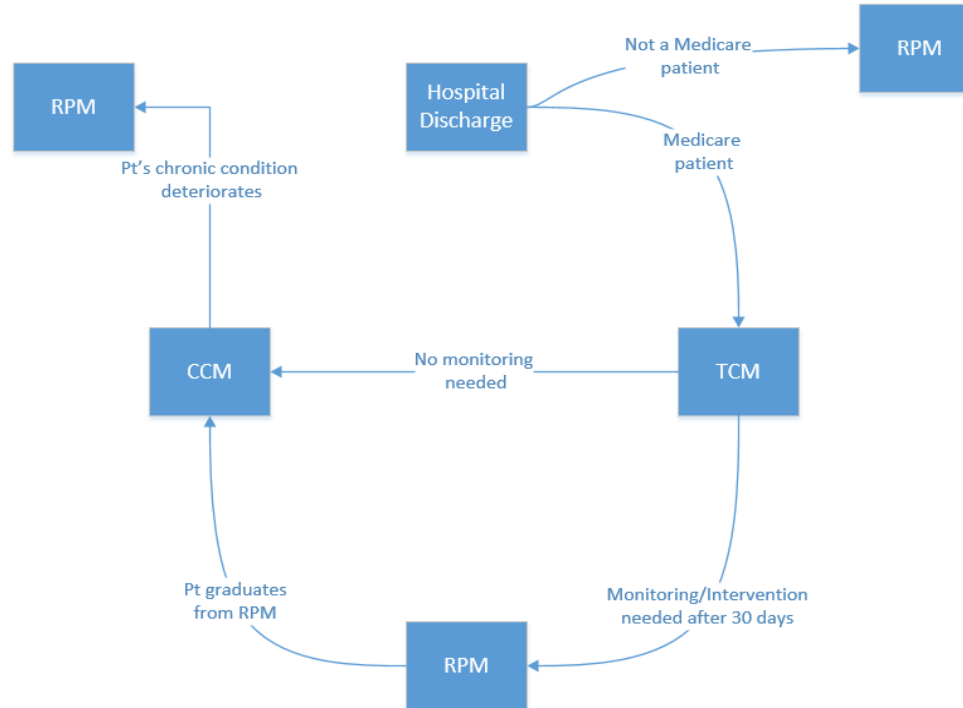
Putting it all together



Putting it all together



Connected Care for Medicare Patients



Connected Care

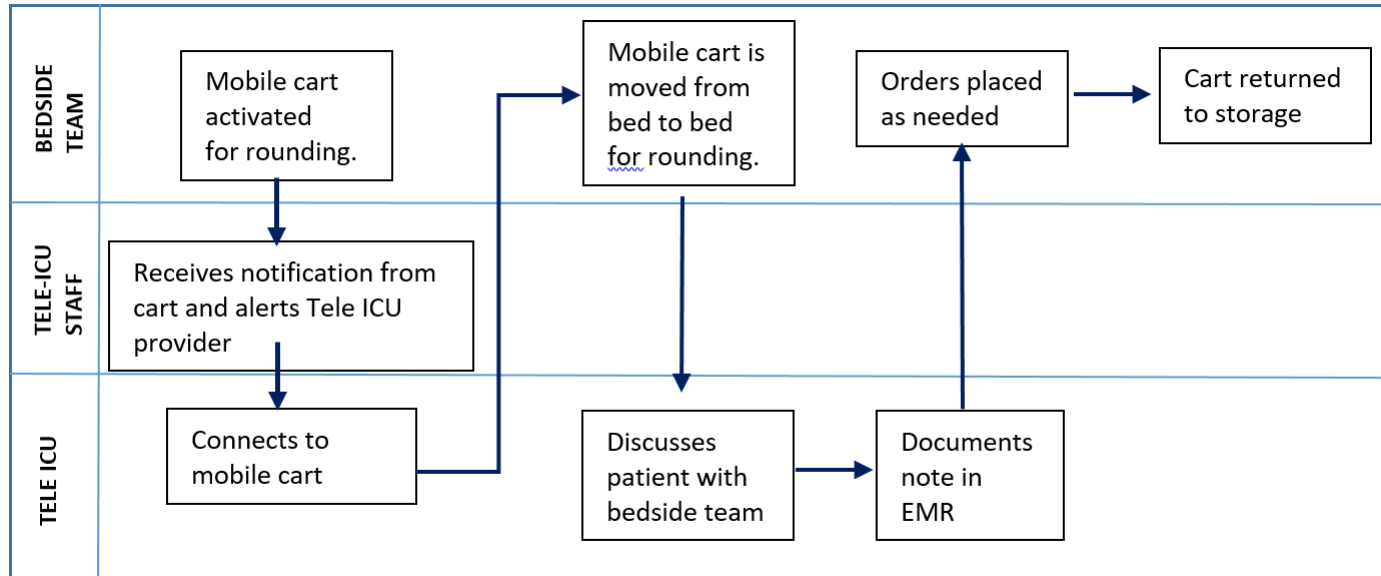
Putting it all together



Creating the Right Clinical Team

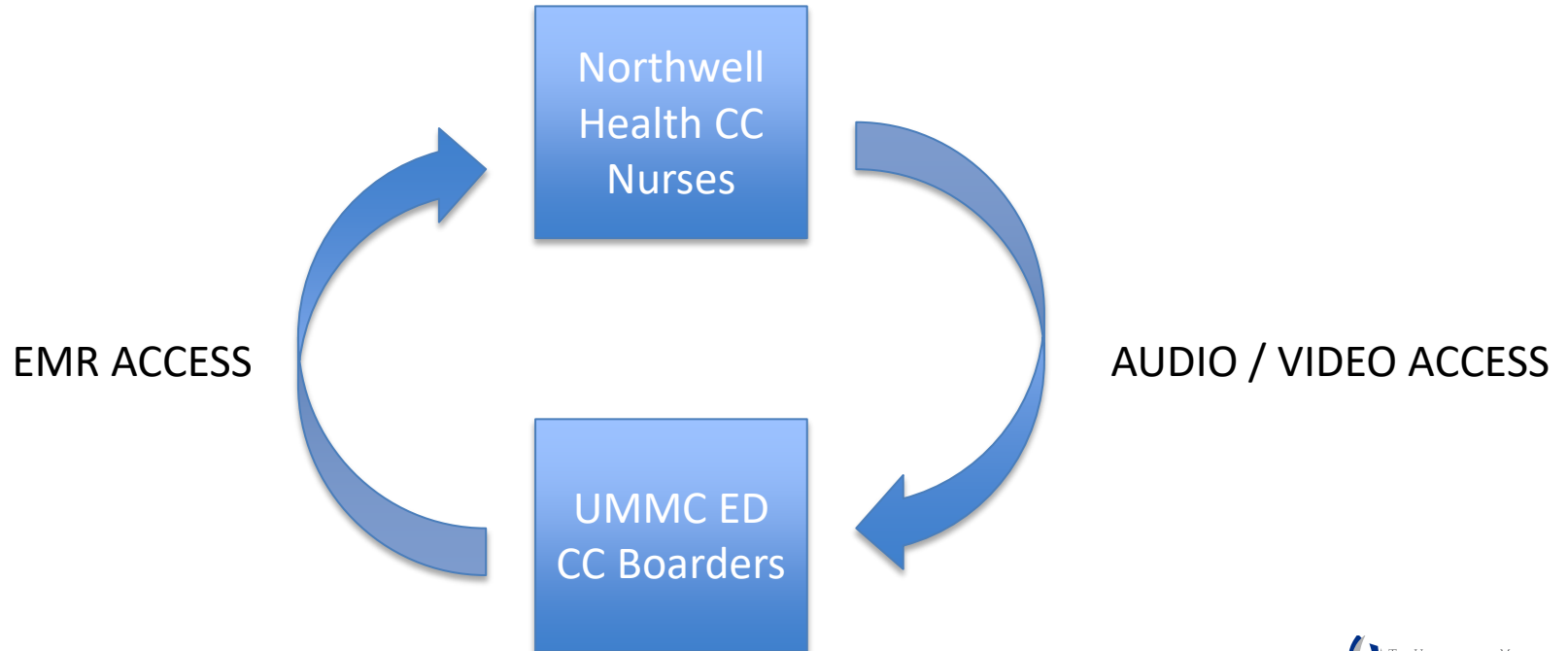
- Utilizing in-house provider team.
Pros: better oversight, part of the eco-system.
Cons: shortage of providers
- Utilizing External Providers
Pros: Multiple options.
Cons: lack of oversight, licensing issues.

Collaboration Between Tele-ICU Programs Has the Potential to Rapidly Increase the Availability of Critical Care Physicians



Mobile Cart Based Virtual consultative model

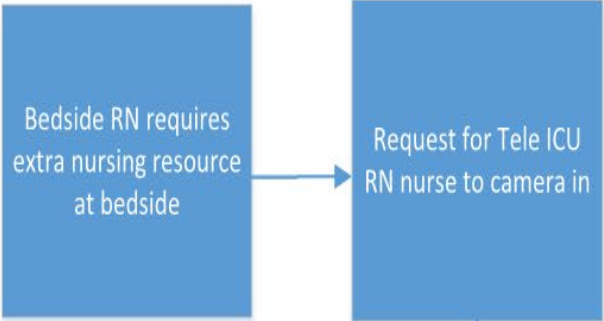
UMMC / Northwell Health Collaboration



UMMC ED RN/ NORTHWELL TELE ICU RN ON DEMAND WORKFLOW

Emergency Department

Bedside RN



Tele ICU RN



NORTHWELL CHARGE NURSE
IF UNABLE TO CONNECT
CAMERA: 516-719-5291
Option #2

Checklist TeleCCNurse OnDemand (UMMC ED RN/Northwell TeleRN Team)	
TeleRN Responsibilities	
Patient position, assessment, IV assessment, ETT placement & connectors	
Monitor lines, tubes, drains, urine output via foley catheter	
Pharmacy coordination	
Radiology coordination	
Respiratory therapist coordination	
EPIC Documentation	
On demand questions for higher acuity patients with less experienced RN	
EPIC documentation during code	

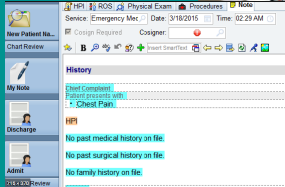
Putting it all together

Selection of Telehealth Platform and Integration with EMRs

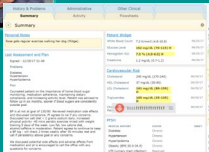


VIRTUAL COMMAND CENTER SCHEMA FOR
MULTIPLE EHR'S

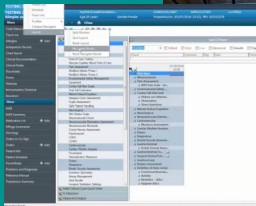
EEG at EPIC Facility



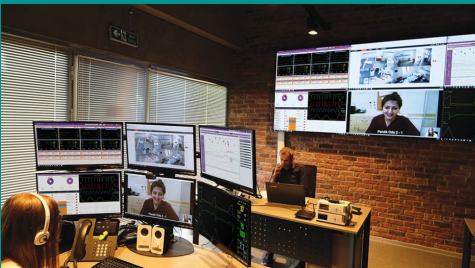
Intensivist Consult at
Meditech Facility



Ventilator at Cerner Facility



VIRTUAL CENTER OF EXCELLENCE



EEG Data
Doctor's Note

Vent Data
RT's Note

Putting it all together



Data Infrastructure and Strategy

- Critical for measuring quality of care and cost.
- Needed to demonstrate value and influence growth and policies supporting Telehealth.
- Large amounts of data needs to be stored from various sources.

UMMC- National Telehealth Data Warehouse



- Telehealth Data Dictionary first created by the Center for Telehealth and eHealth Law (CTeL) in 2019.
- Objective was to create a standardized nomenclature and format for data collected and maintained by telehealth programs throughout the United States.
- A standard format provided a method to compile a pilot set of telehealth encounter data from 6 health systems which was used to conduct national-level analysis in the areas of utilization and cost-benefit.

A National Cost-Benefit Study of Telehealth During COVID-19



- In 2021, Laurel Heath Advisors, conducted a cost-benefit study on the use of telehealth during COVID-19
- The study focus on the time period between March through September of 2020
- Over 1.43 million telehealth encounters from six telehealth programs and one Medicaid program were collected, including data from the University of Mississippi Medical Center
- The cost savings ranged from \$454K to over \$191 million during that time period

UMMC- National Telehealth Data Warehouse



- UMMC together in collaboration with Lauren Health Advisors plan to expand the original data dictionary.
- Objective is to develop a cloud-based data warehouse solution that will house Telehealth data collected using standardized definitions and format.
- We will seek health systems across the country to participate in the data warehouse that will provide invaluable benefit to health service researchers, telehealth program administrators, and federal/state policymakers in analyzing issues of access, cost, and quality through the array of telehealth modalities.

BENEFITS

GET DETAILED INFORMATION

The Warehouse will include information from around the United States and include data on patient diagnoses, procedures, medications, medical history, and others

ACCESS PROVIDER AND PAYER DATA

The Warehouse will include data on primary and specialty provider and payers of all types

HIPAA COMPLIANT

The data collected for and stored in the Warehouse is fully compliant with HIPAA privacy and security laws



www.laurelhealthadvisors.net



The National Telehealth Data Warehouse from the University of Mississippi Medical Center (UMMC) is a groundbreaking resource that provides researchers with unparalleled data on telehealth usage and trends. With its detailed information on reimbursement, policy, and quality metrics, the Warehouse is essential for anyone interested in telehealth research and innovation



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A NATIONAL TELEHEALTH DATA WAREHOUSE

The most comprehensive
resource for telehealth data
anywhere



Thank you



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This presentation was made possible by the Health Resources and Services Administration (HRSA) of the US Department of Health and Human Services (HHS) as part of the National Telehealth Centers of Excellence Award (U66RH31459). The contents are those of the author(s) and do not necessarily represent the official views of nor an endorsement by the HRSA, HHS or the US Government.