Telehealth at MUSC and in South Carolina:

James McElligott MD MSCR
Associate Professor
Medical Director for Telehealth
Medical University of South Carolina

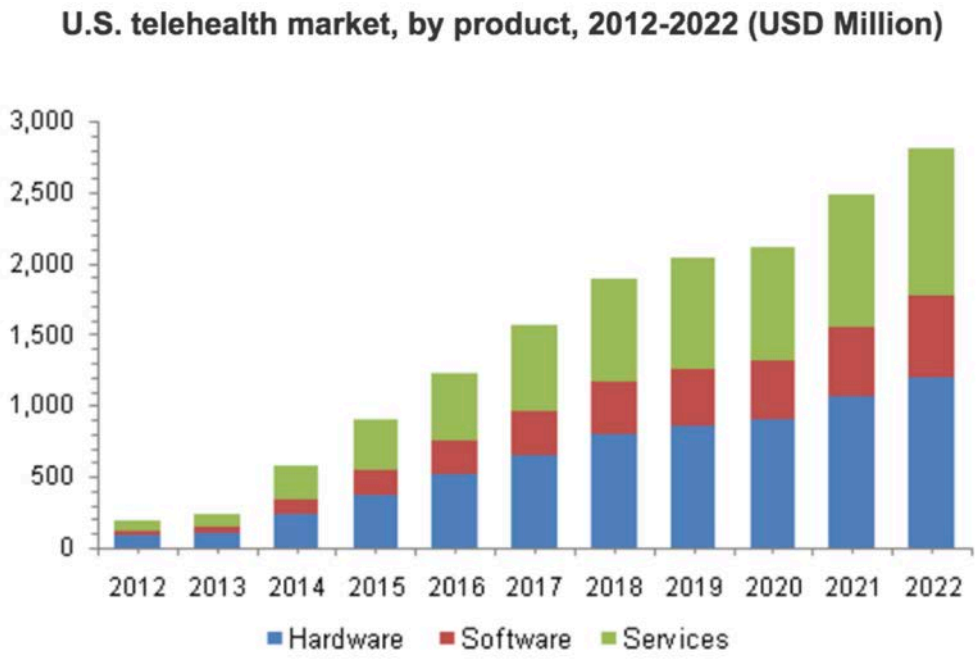
MUSC Health
Medical University of South Carolina
Changing What's Possible | MUSChealth.org

I have no financial conflicts of interest to disclose.

….the practice of medicine using electronic communications, information technology, or other means between a licensee in one location and a patient in another location…..

-S. 1035: South Carolina Telemedicine Act (2016)

National Trends in Telehealth

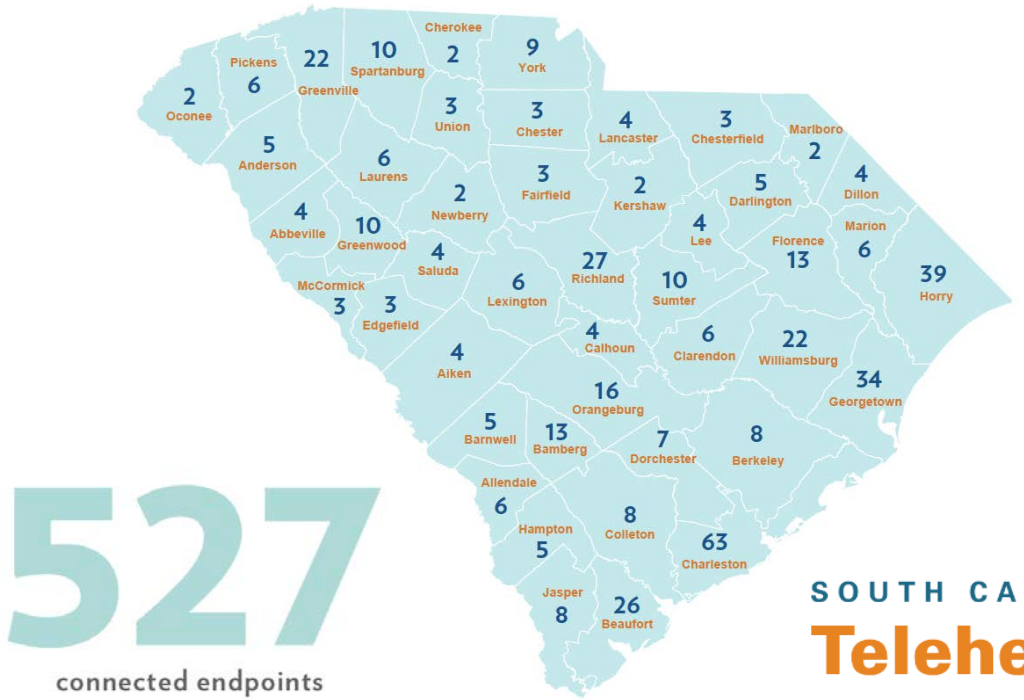


The global market is projected to reach over $19.5 billion

Telehealth for efficient, effective care

To Improve the health of all South Carolinians

NATIONAL TELEHEALTH CENTER of EXCELLENCE



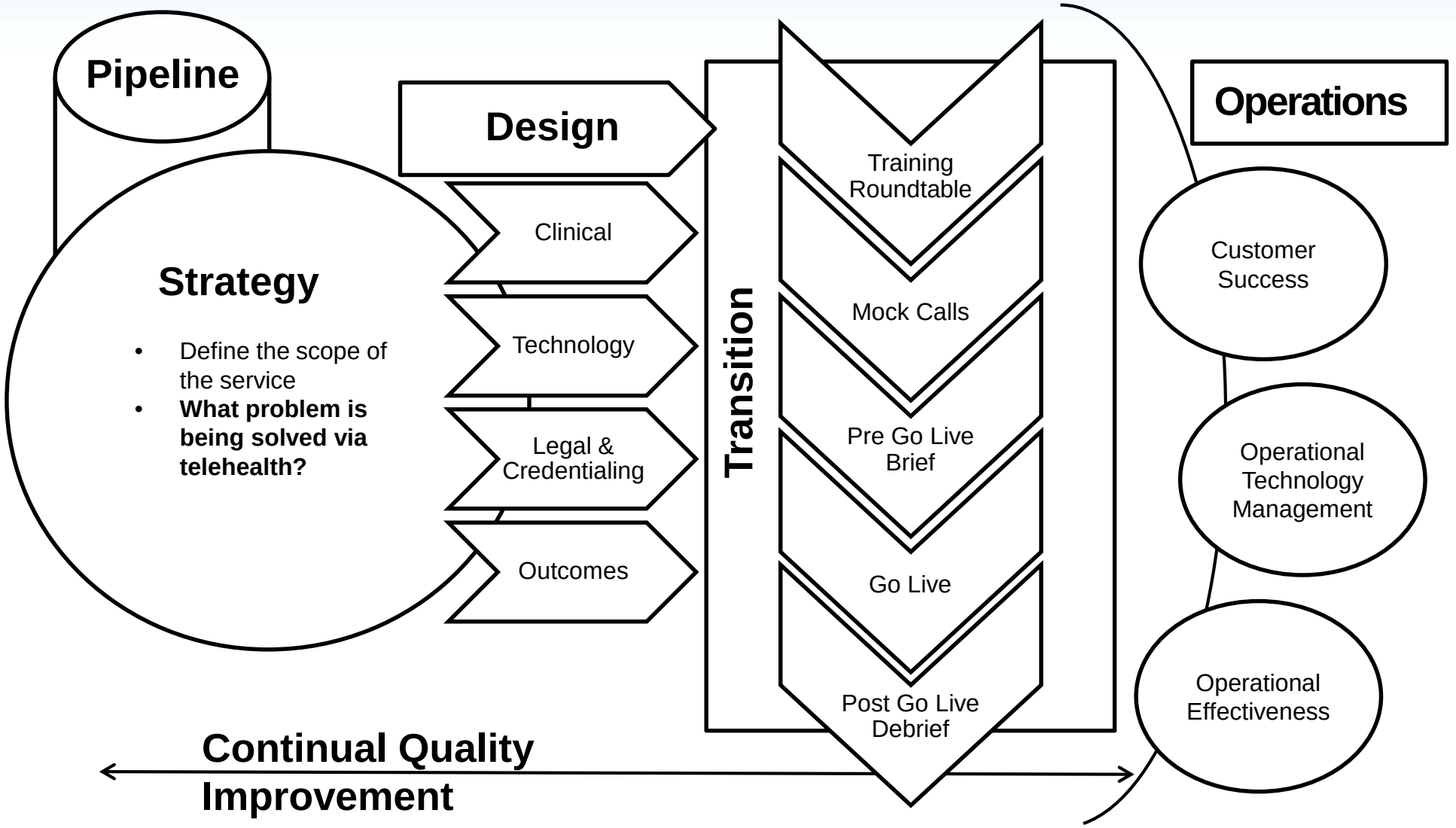
527

connected endpoints

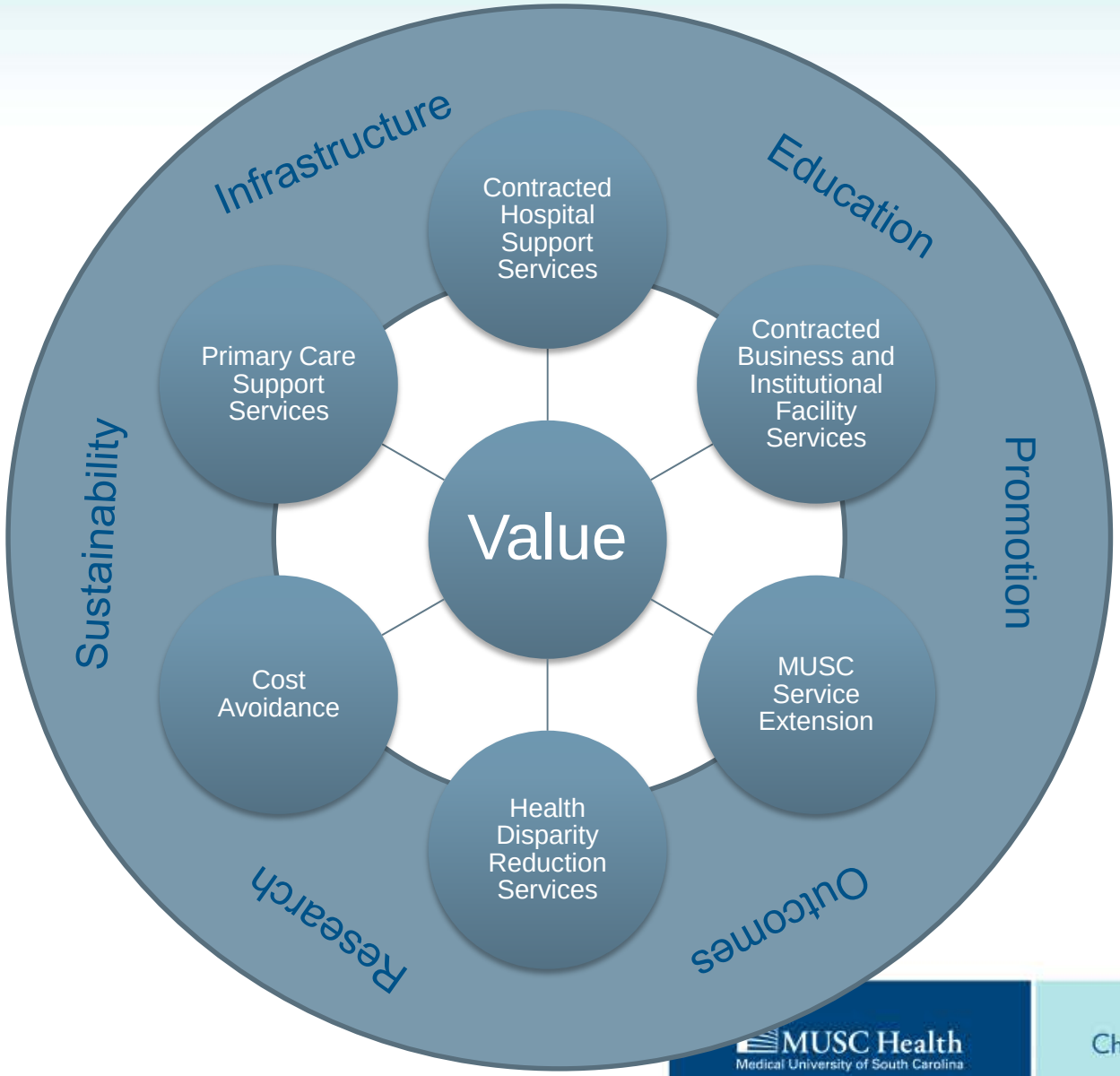
SOUTH CAROLINA
Telehealth
ALLIANCE

MUSC Health
Medical University of South Carolina
Changing What's Possible | MUSChealth.org

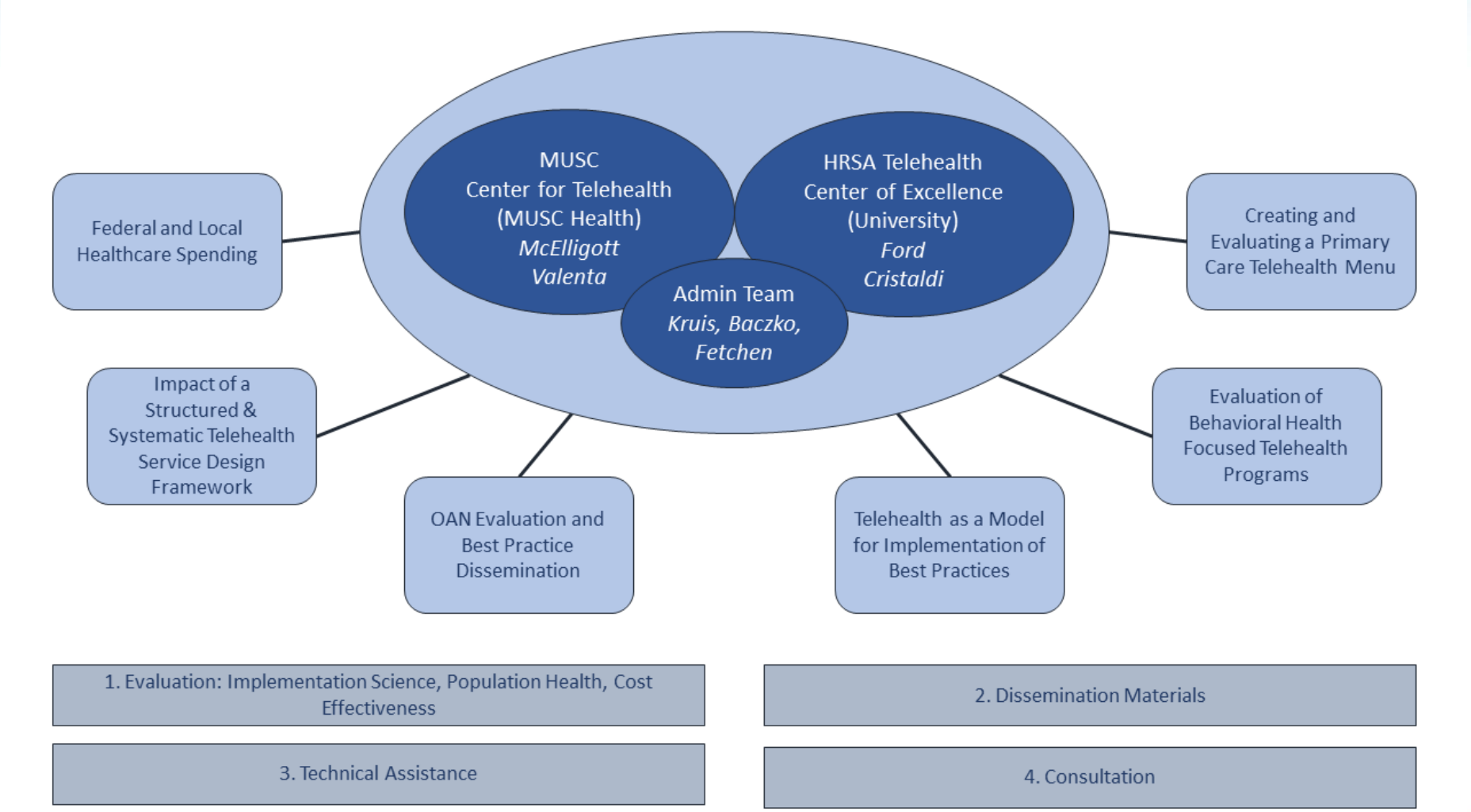
Telehealth Service Implementation Model (TSIM™)



Center for Telehealth Strategies



MUSC National Telehealth Center of Excellence



Telehealth is happening every day, all the time in South Carolina.

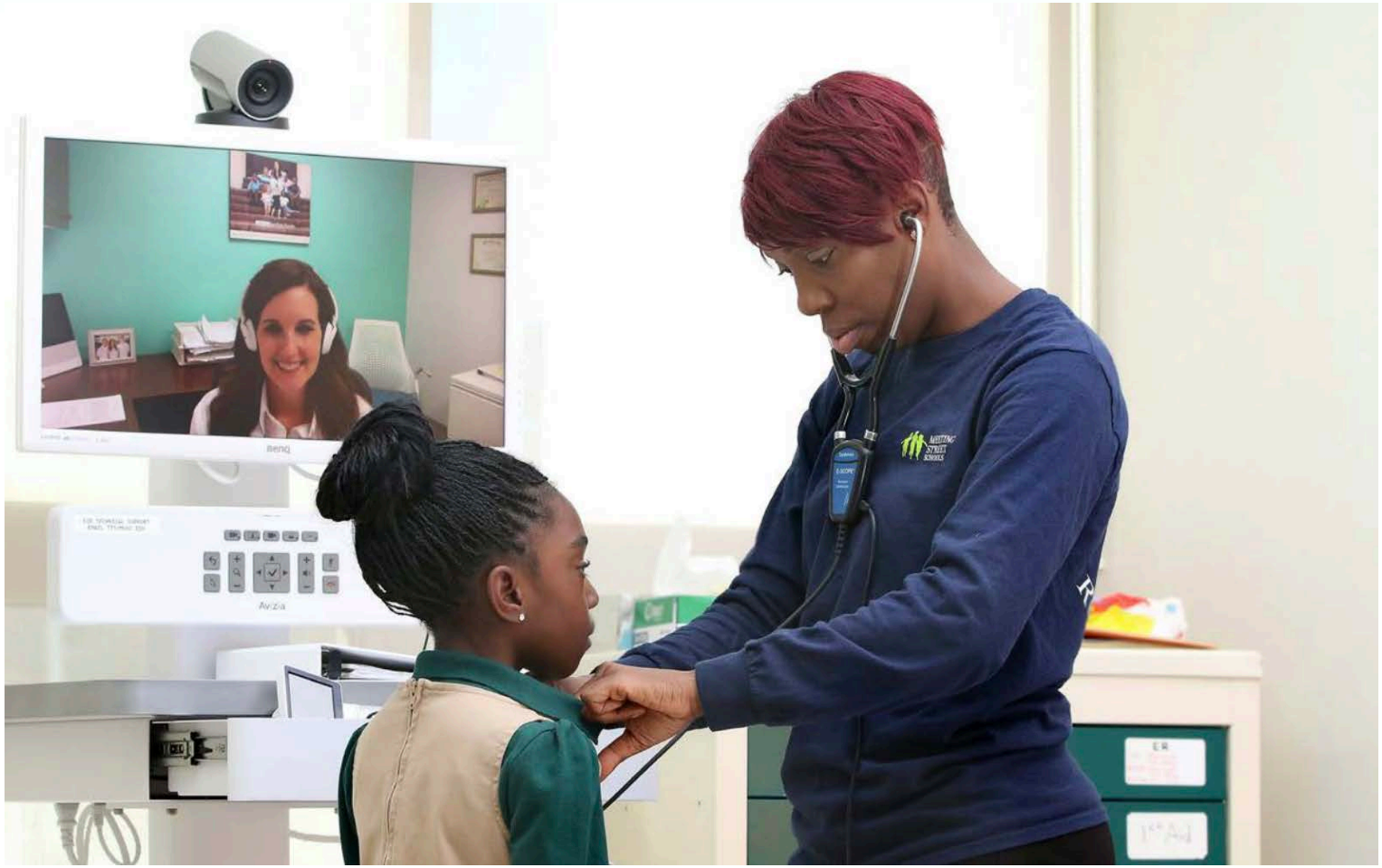
112,000+

Real-time video interactions

348K+

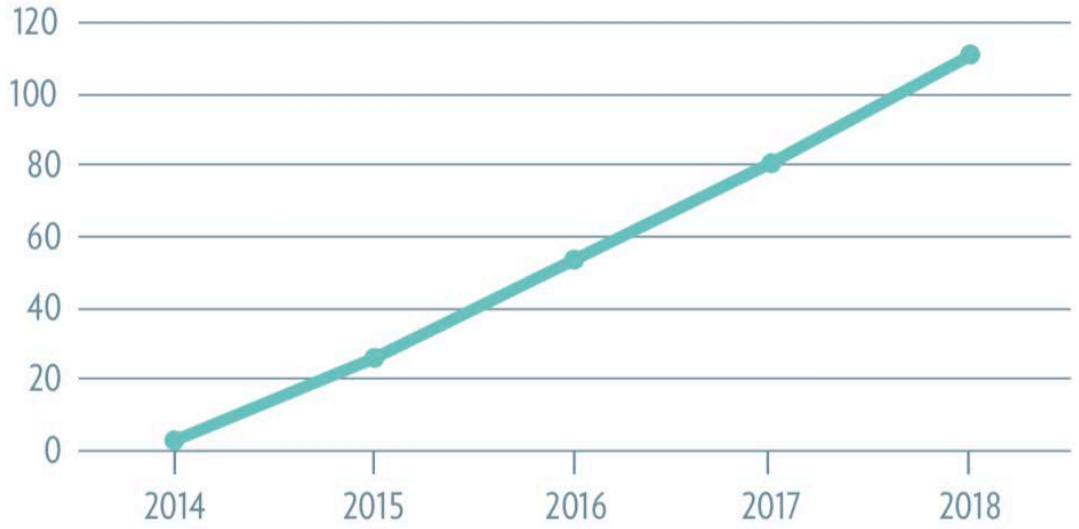
Telehealth patient interactions in 2018

School-Based Telehealth



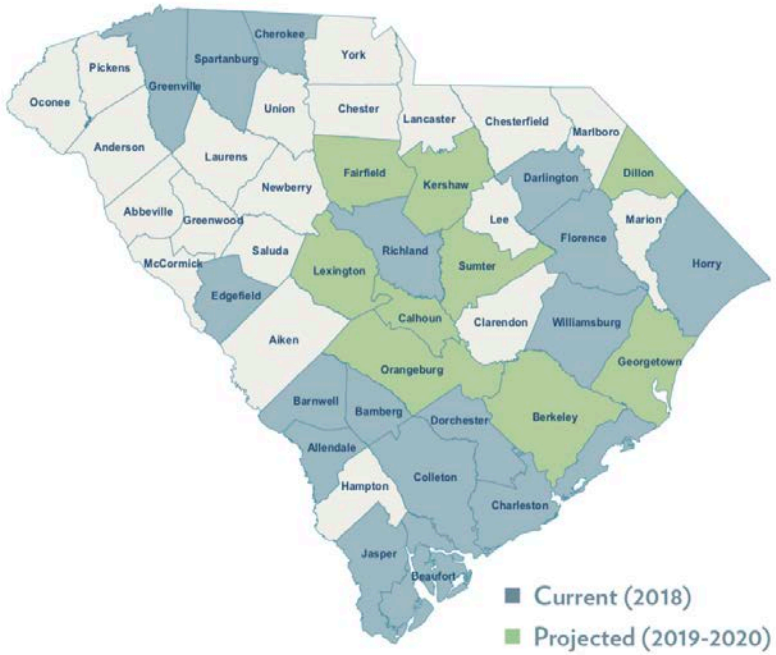
School-Based Telehealth

Number of South Carolina schools with telehealth capability*



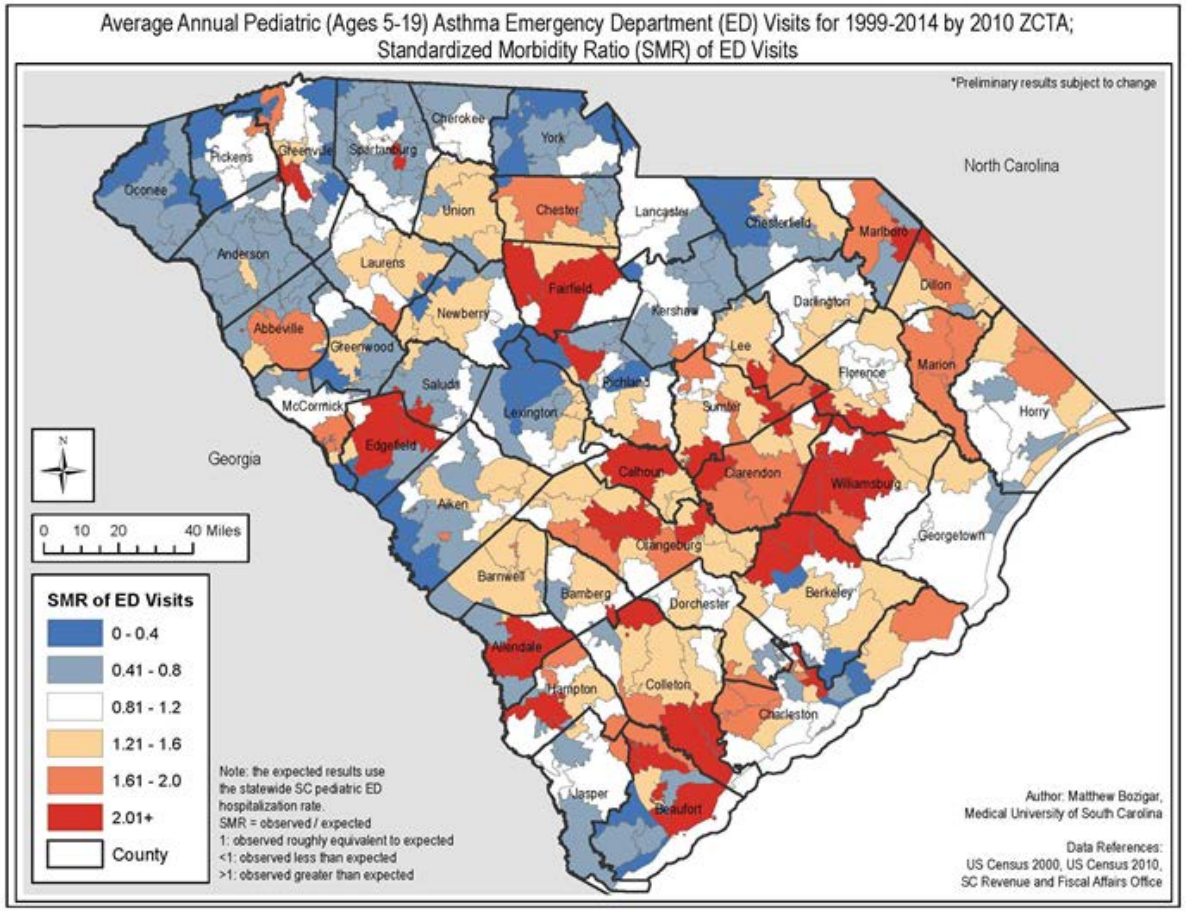
*Services vary by county to include acute care and chronic disease management, mental health, group health education, and individual education plan consultation.

Counties with School-Based Telehealth

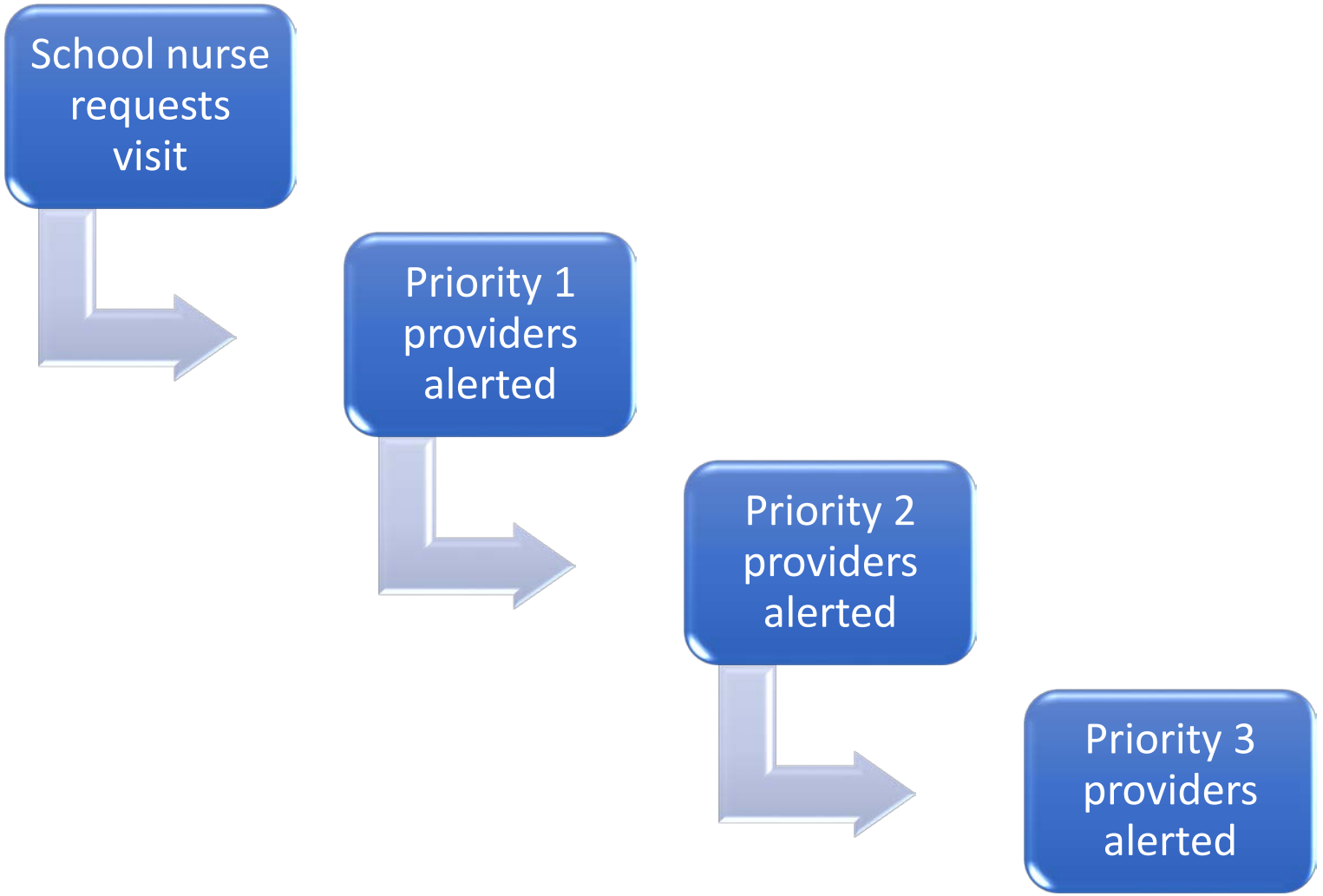


School-Based Telehealth

Demonstrated a **22% reduction** in ED visits for children with asthma



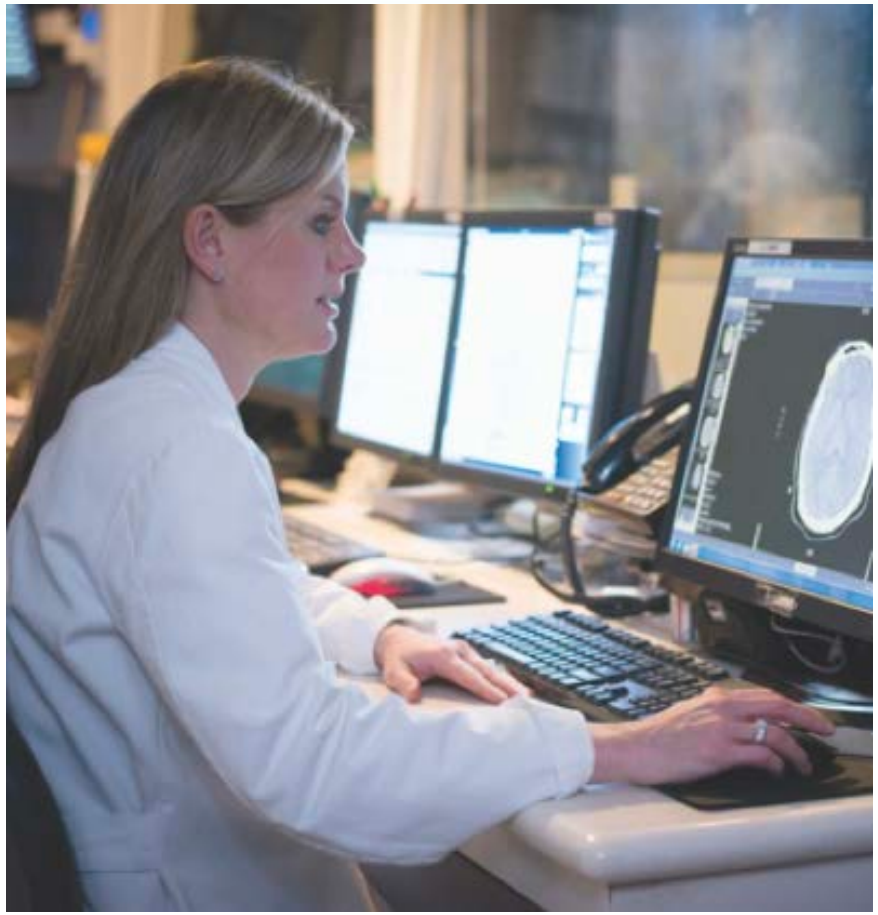
Tiered Call Pool Workflow



Efficiency Metrics: Monthly Snap Shot

Average Provider Response Time	8 minutes 52 seconds
Average Duration of Visit	16 minutes 8 seconds
% of Priority 1 Providers Taking Case	93%
% of Priority 2 Providers Taking Case	7%
% of Priority 3 Providers Taking Case	0%

Hospital-based Care



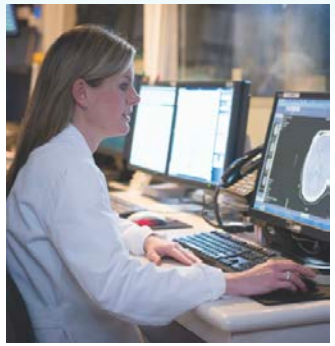
Partnering for Regional Coverage

85% telestroke patients remain in their community for treatment

Enables

- Regional ”Sub-Hub” partnerships for expedited triage
- Shared staffing across health systems

Managing Across the Continuum of Care

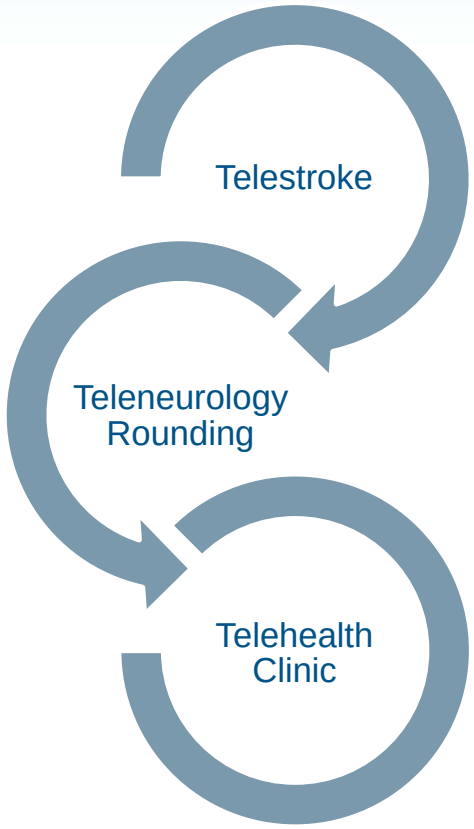


Inpatient teleneurology and EEG services

- Reduced transfer rate (20.2% Vs. 29.4%, P<0.001)
- Cost savings of nearly $5000 per patient

Telehealth Follow-Up Clinic

- Dedicated virtual clinic with regional affiliate health systems



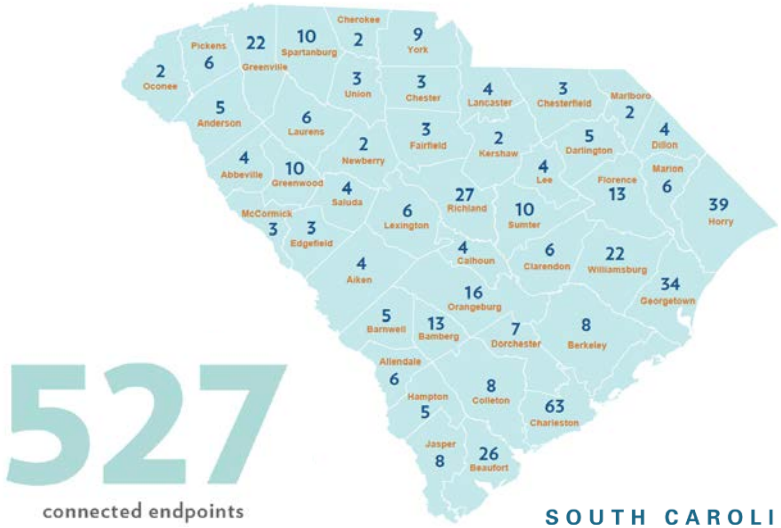
The Impact Of Inpatient Teleneurology Follow Up Consults For Acute Stroke Patients on Transfer Rate and Cost-Reduction

Sami Al Kasab1*Eyad Almallouhi2* Jillian B. Harvey3 Kit Simpson3 Ellen Debenham2 Nancy Turner2 Christine A. Holmstedt2

Best practices and Quality Data Sharing

Sharing of anonymous process metrics

- Ongoing data monitoring
  - tPA delivery times
  - Post tPA process checks
  - Administrative compliance
- Monthly reporting
  - Door-In-Door Out Report
  - Bleed rates
  - Length of stay
  - Disposition and discharge NIHSS
- Quarterly
  - Blinded data sharing across sites
  - Stroke rates and tPA delivery %
  - Transfer rates
  - Thrombectomy rates
  - 90 Call Backs



527

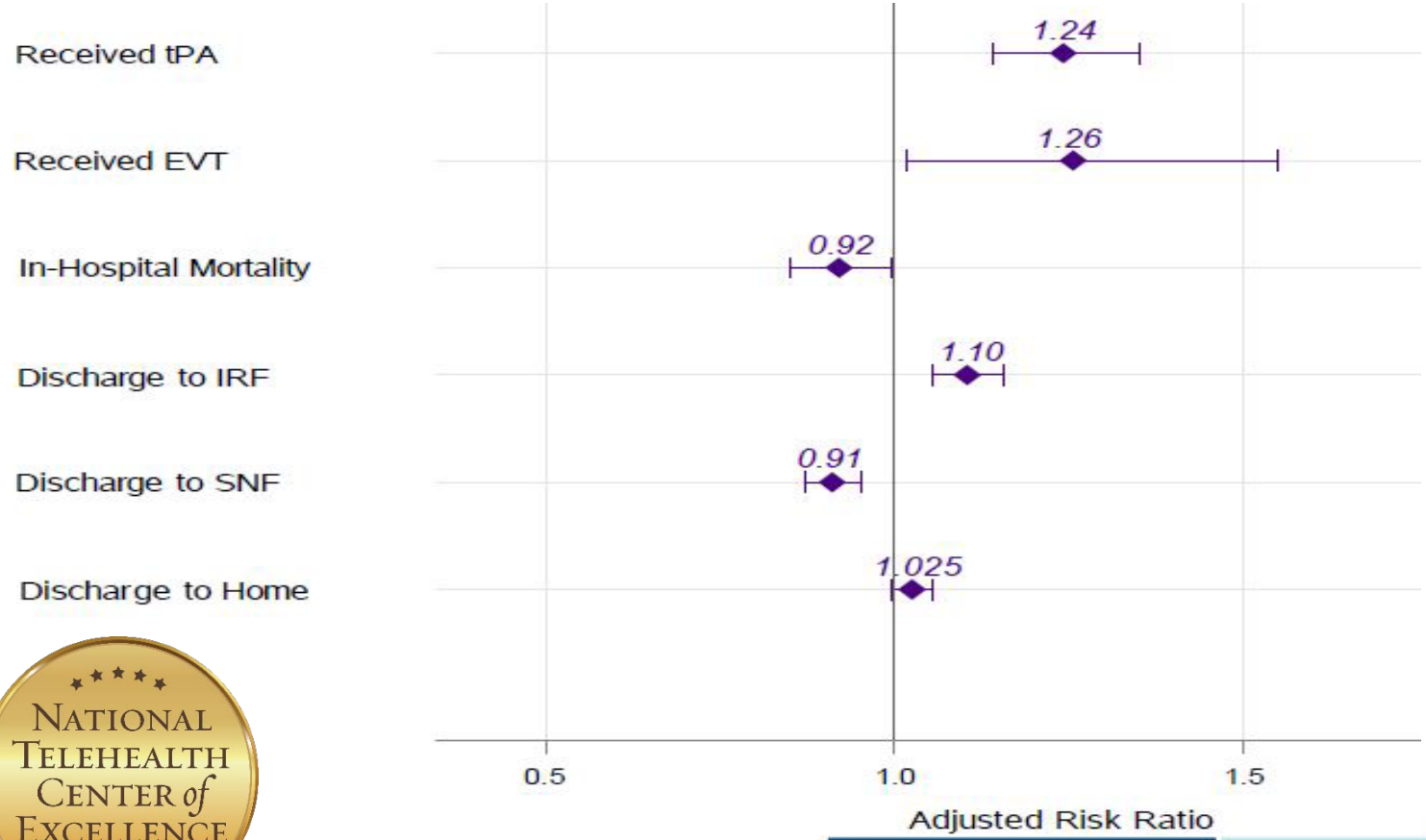
connected endpoints

SOUTH CAROLINA
Telehealth
ALLIANCE

MUSC Health
Medical University of South Carolina
Changing What's Possible | MUSChealth.org

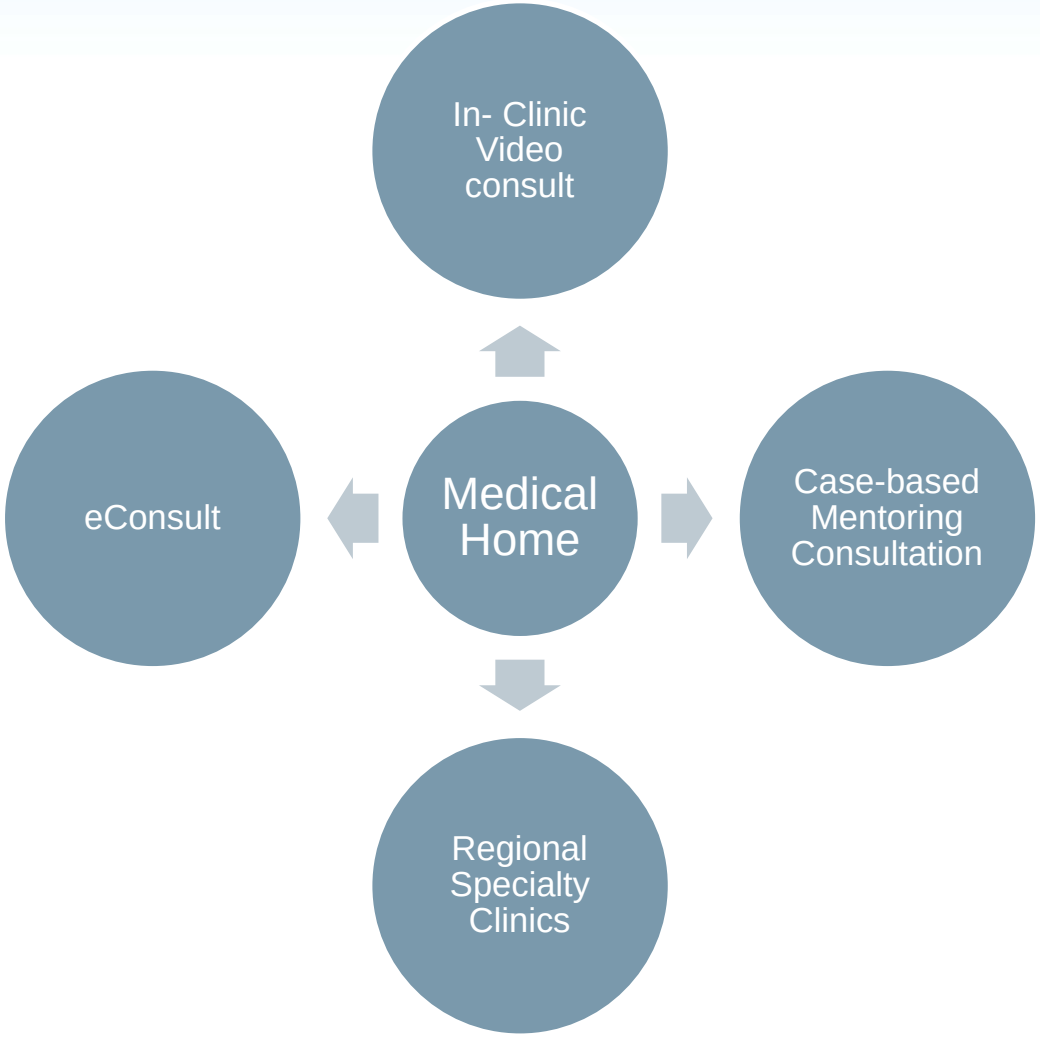
Focus on Outcomes

Impact of Telestroke Exposure on Outcomes
Adjusted Relative Risk Ratio and 95% CI



National Telehealth Center of Excellence

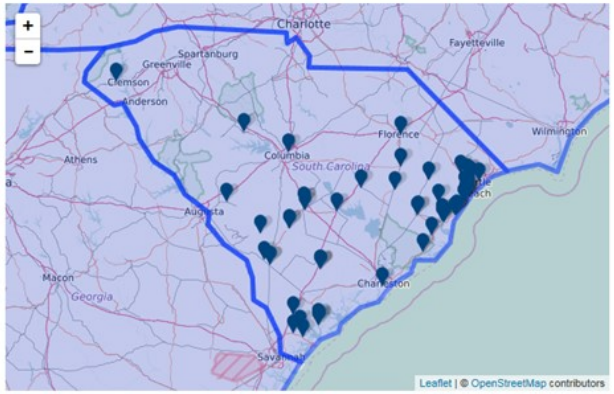
Telehealth in the Medical Home

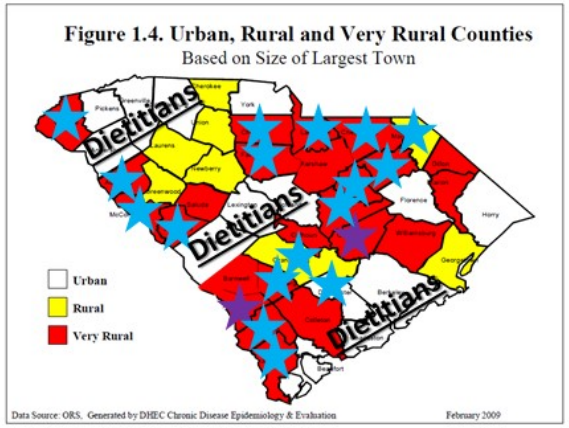


Telehealth in the Medical Home

OT Nutrition Services

- Allows providers to collaborate and bring specialty care to patients in need.
- Reduces barriers by allowing space easily accessible to both patient and provider.
- Services are available to both pediatric and adult populations.
- Most Registered Dietitians live and work within the 3 major metros

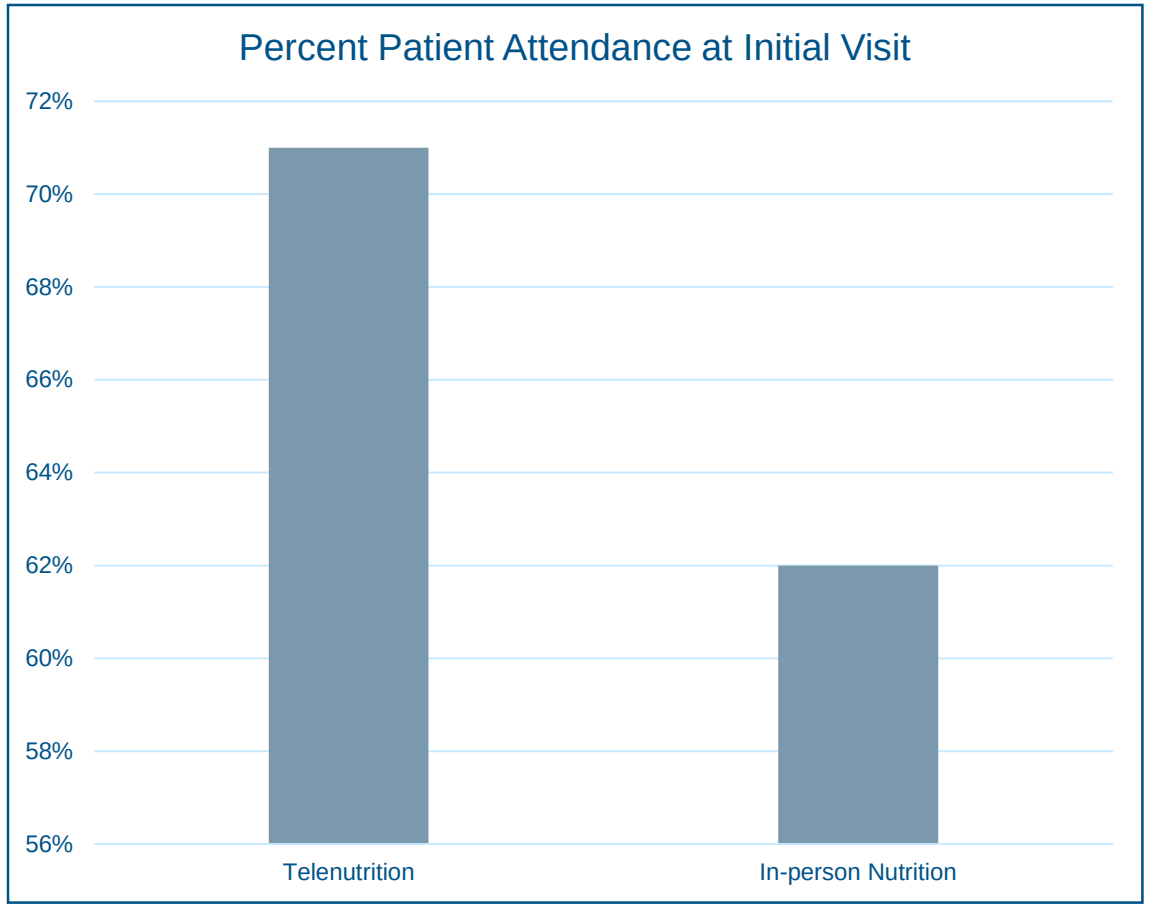


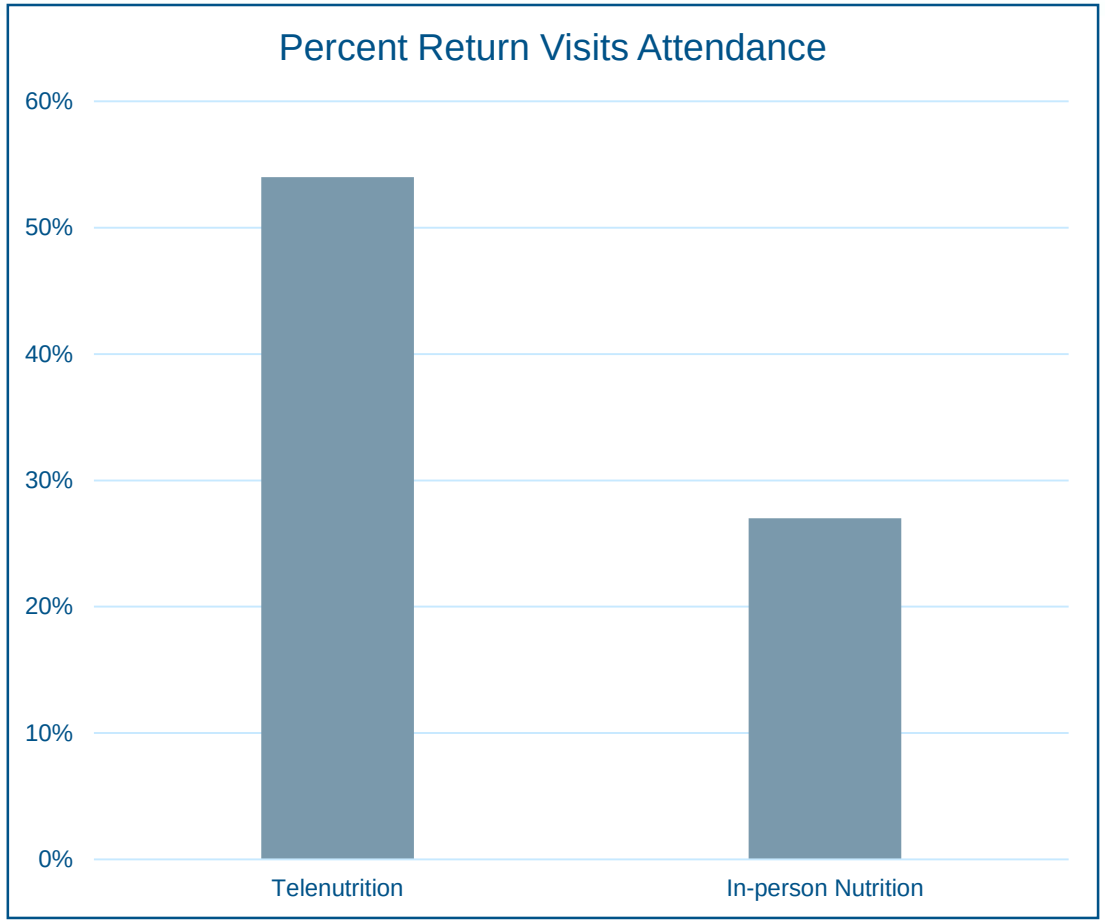


= 80% or more of this county's adults are overweight or obese

= 70% or more of this county's adults are overweight or obese

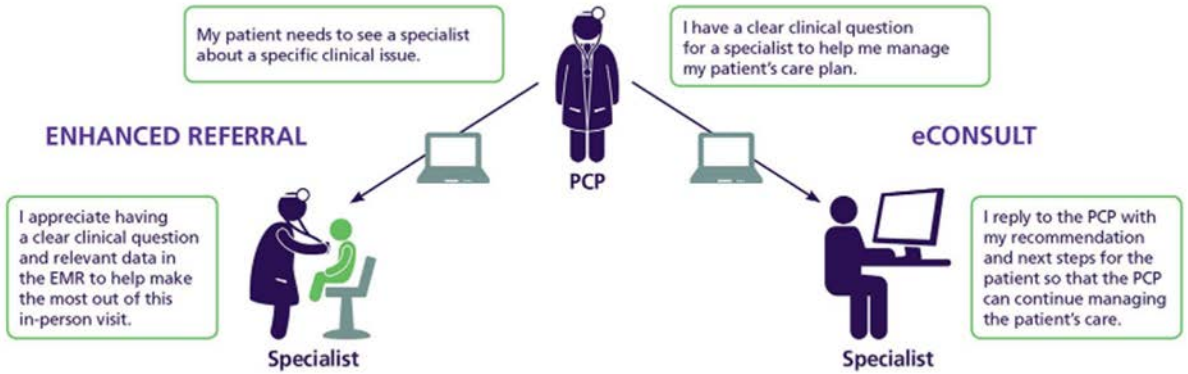
Nutrition Counseling Visit Compliance





MUSC Health
Medical University of South Carolina
Changing What's Possible | MUSChealth.org

E-consults


My patient needs to see a specialist about a specific clinical issue.
I have a clear clinical question for a specialist to help me manage my patient's care plan.
ENHANCED REFERRAL
eCONSULT
PCP
I appreciate having a clear clinical question and relevant data in the EMR to help make the most out of this in-person visit.
I reply to the PCP with my recommendation and next steps for the patient so that the PCP can continue managing the patient's care.
Specialist
Specialist

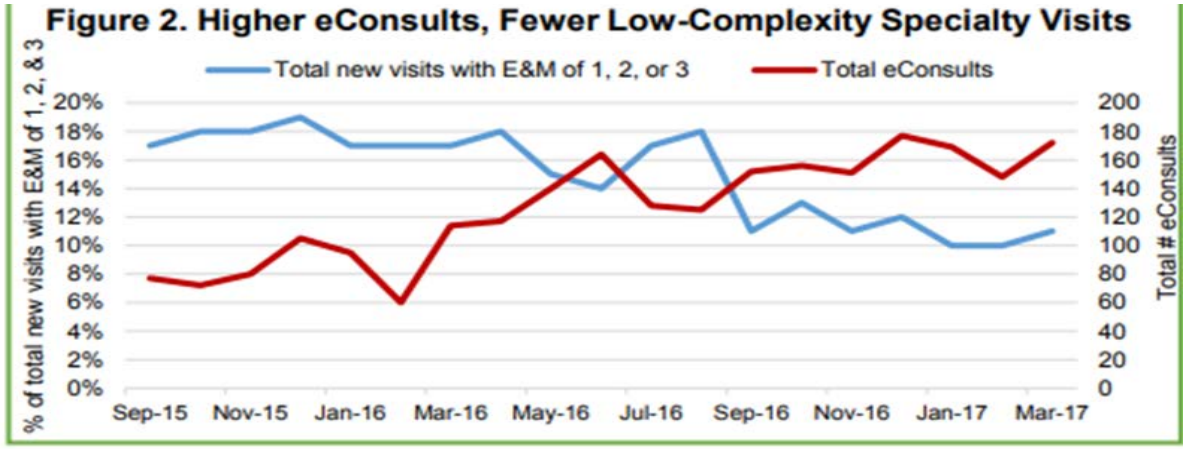


Figure 2. Higher eConsults, Fewer Low-Complexity Specialty Visits
Total new visits with E&M of 1, 2, or 3
Total eConsults
% of total new visits with E&M of 1, 2, & 3
Total # eConsults
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
200
180
160
140
120
100
80
60
40
20
0
Sep-15
Nov-15
Jan-16
Mar-16
May-16
Jul-16
Sep-16
Nov-16
Jan-17
Mar-17

Patient Engagement Cycle

At-risk Population

Outreach and Screening

Prevention need identified

Text-based "light touch" outreach

Triage to care with virtual option

Platform integration with EHR and care system

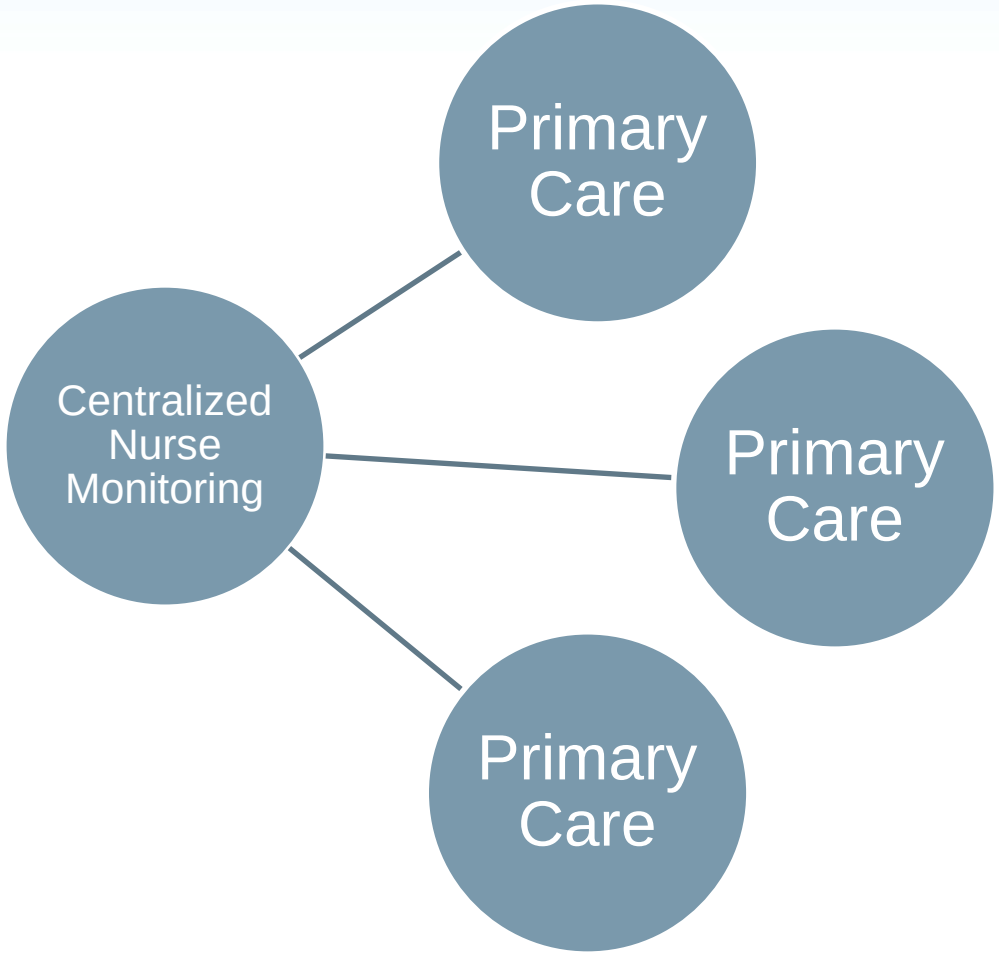
Prescribed virtual management

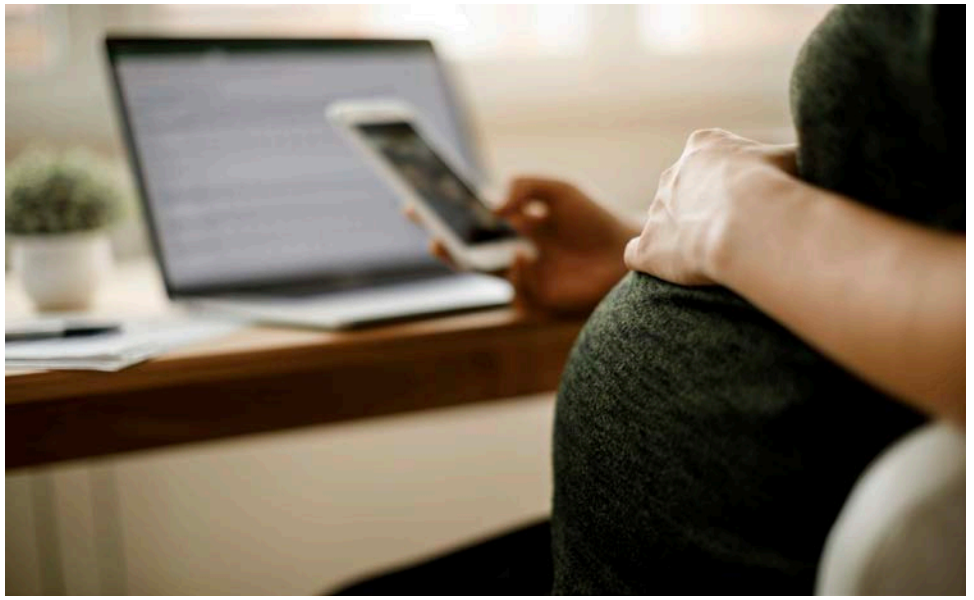
High engagement, *prescribed* virtual care (Virtual check in, RPM, Prescribed App)

Soft Touch Entry

Remote Patient Monitoring

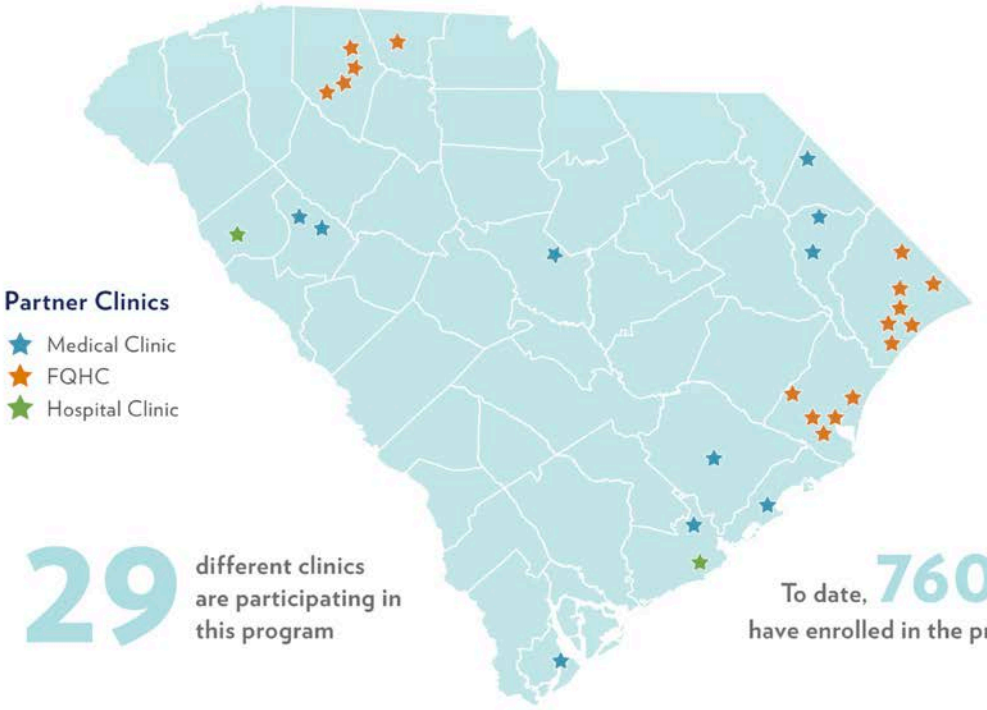
Remote Patient Monitoring





Remote Patient Monitoring

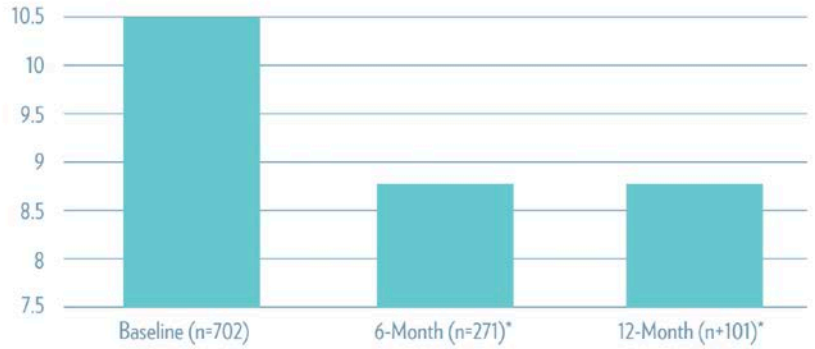
MUSC Health Diabetic Remote Patient Monitoring



29 different clinics are participating in this program

To date, **760+** patients have enrolled in the program.

Diabetic Remote patient Monitoring Program HbA1C outcomes

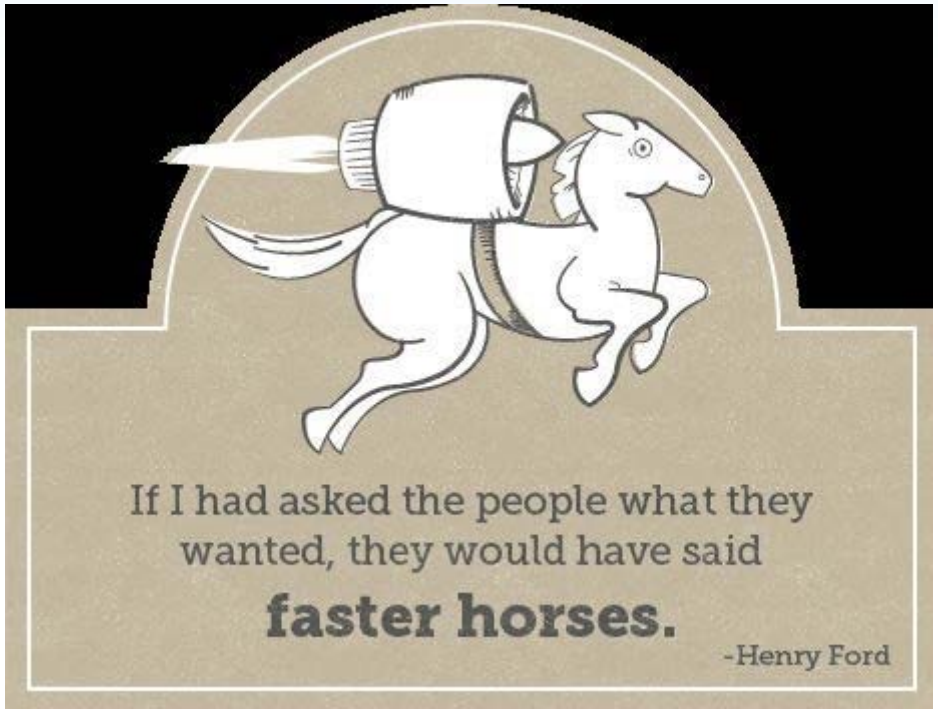


CMS Telehealth – CY2019 Physician Fee Schedule

Brief Communication Technology-based Service, e.g. Virtual Check-in

Asynchronous Remote Evaluation of Pre-Recorded Patient Information

Interprofessional Internet Consultation

Additional Proposals

In Conclusion……..