Telehealth at MUSC and in South Carolina:

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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
Changing What’s Possible | MUSCHealth.org
Clinical Technology
Legal & Credentialing
Outcomes
Strategy
• Define the scope of the service
• What problem is being solved via telehealth?
Telehealth Service Implementation Model (TSIM™)

Pipeline

Design
Clinical
Technology
Legal & Credentialing
Outcomes

Transition
Training Roundtable
Mock Calls
Pre Go Live Brief
Go Live
Post Go Live Debrief

Continual Quality Improvement

Operations
Customer Success
Operational Technology Management
Operational Effectiveness

Continental Quality Improvement
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.
School-Based Telehealth

Demonstrated a 22% reduction in ED visits for children with asthma
Tiered Call Pool Workflow

School nurse requests visit

Priority 1 providers alerted

Priority 2 providers alerted

Priority 3 providers alerted

“Rescue” provider connects to student
## Efficiency Metrics: Monthly Snap Shot

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Provider Response Time</td>
<td>8 minutes 52 seconds</td>
</tr>
<tr>
<td>Average Duration of Visit</td>
<td>16 minutes 8 seconds</td>
</tr>
<tr>
<td>% of Priority 1 Providers Taking Case</td>
<td>93%</td>
</tr>
<tr>
<td>% of Priority 2 Providers Taking Case</td>
<td>7%</td>
</tr>
<tr>
<td>% of Priority 3 Providers Taking Case</td>
<td>0%</td>
</tr>
</tbody>
</table>
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
Focus on Outcomes

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

- Received tPA
- Received EVT
- In-Hospital Mortality
- Discharge to IRF
- Discharge to SNF
- Discharge to Home

Adjusted Risk Ratio
Telehealth in the Medical Home

- In-Clinic Video consult
- Medical Home
- Case-based Mentoring Consultation
- Regional Specialty Clinics
- eConsult
Telehealth in the Medical Home

Annual Number of Outpatient Consultations

1,700+ consultations
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

Percent Patient Attendance at Initial Visit

- Telenutrition: 72%
- In-person Nutrition: 56%

Percent Return Visits Attendance

- Telenutrition: 60%
- In-person Nutrition: 10%
E-consults

ENHANCED REFERRAL

My patient needs to see a specialist about a specific clinical issue.
I appreciate having a clear clinical question and relevant data in the EMR to help make the most out of this in-person visit.

ECONSULT

I have a clear clinical question for a specialist to help me manage my patient's care plan.
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.

Figure 2. Higher eConsults, Fewer Low-Complexity Specialty Visits
Patient Engagement Cycle

At-risk Population

- Prevention need identified
- Prescribed virtual management
- Platform integration with EHR and care system
- Text-based "light touch" outreach
- Triage to care with virtual option
- Outreach and Screening

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

Soft Touch Entry

Outreach and Screening
Remote Patient Monitoring
Remote Patient Monitoring

Centralized Nurse Monitoring

Primary Care

Primary Care

Primary Care
Remote Patient Monitoring

MUSC Health Diabetic Remote Patient Monitoring

Partner Clinics
- Medical Clinic
- FQHC
- Hospital Clinic

29 different clinics are participating in this program.

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

Diabetic Remote patient Monitoring Program HbA1C outcomes

- Baseline (n=702)
- 6-Month (n=271)*
- 12-Month (n=101)*
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……..

If I had asked the people what they wanted, they would have said faster horses.

-Henry Ford