



NATIONAL CONSORTIUM OF
TELEHEALTH
RESOURCE CENTERS

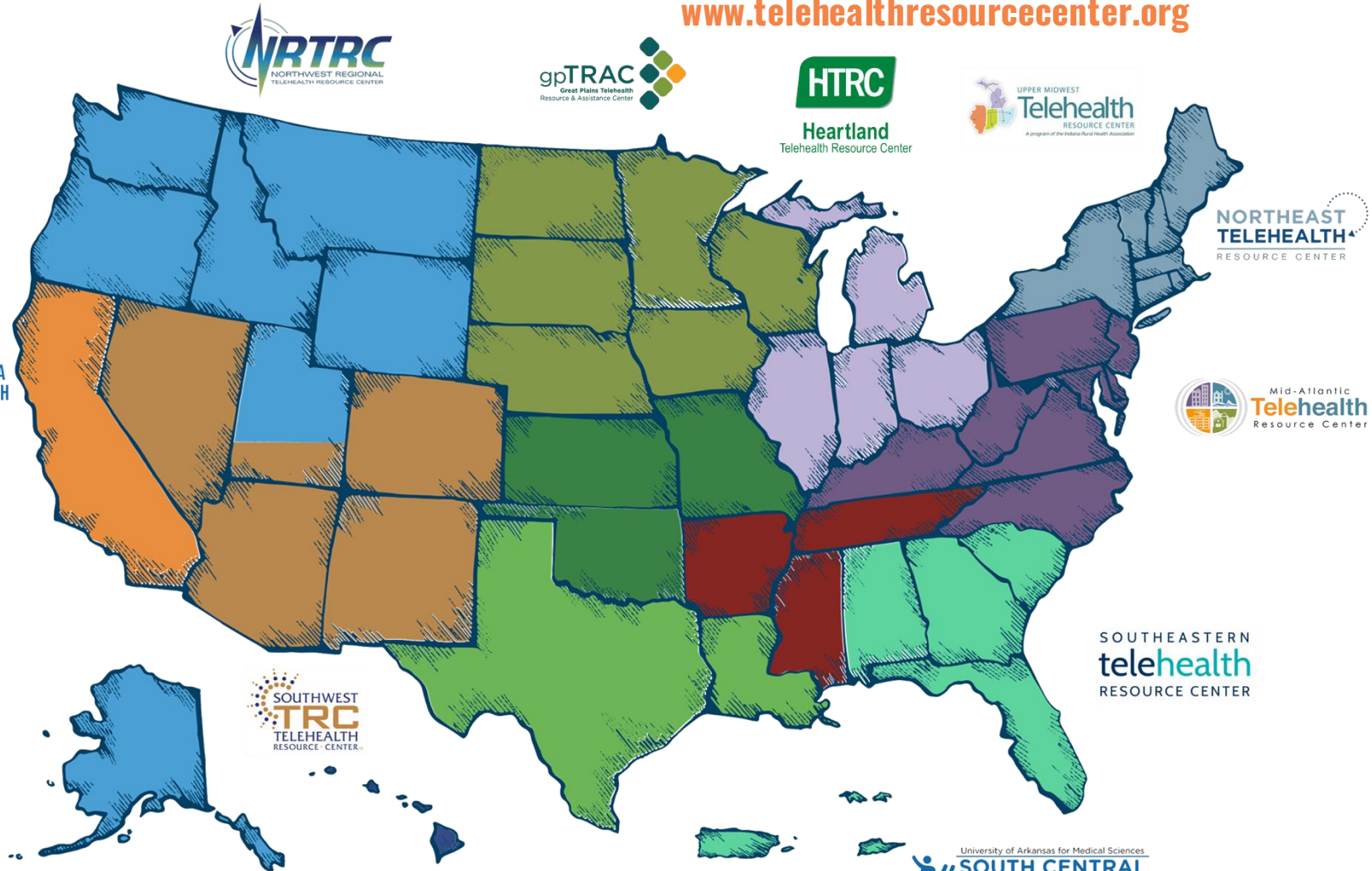
**Closer to Home: Improving
Specialty Access and
Decreasing Hospital Transfers
with Inpatient Telehealth
Services**

October 17, 2024



HRSA Funded Telehealth Resource Centers

www.telehealthresourcecenter.org



NTRTC	gpTRAC	NETRC
CTRC	HTRC	UMTRC
SWTRC	SCTRC	MATRC
PBTRC	TexLa	SETRC

12 REGIONAL RESOURCE CENTERS




2 NATIONAL RESOURCE CENTERS



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Webinar Tips and Notes

- Your phone &/or computer microphone has been muted.
- If we do not reach your question, please contact your regional TRC. There may be delays in response time:
<https://telehealthresourcecenter.org/contact-us/>
- Please fill out the post-webinar survey.
- Closed Captioning is available.
- Please submit your questions using the Q&A function.
- The webinar is being **recorded**.
- Recordings will be posted to our YouTube Channel:
<https://www.youtube.com/c/nctrc>



Closer to Home: Improving Specialty Access and Decreasing Hospital Transfers with Inpatient Telehealth Services

Peter Gardella
Director of Telehealth Operations & Nursing
MUSC Center for Telehealth



Session Objectives

By the end of this session, the listener will be able to

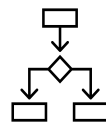
Identify telehealth services that can be applied to the inpatient setting

Apply knowledge of why and how to deploy inpatient telehealth services in your areas to improve local patient access to specialty care and support services

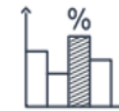
Understand that telehealth isn't meant to replace in person care, but to strengthen it, through strategic support of local hospital needs.



How we do it
(technology)



How we maintain it
(operations)

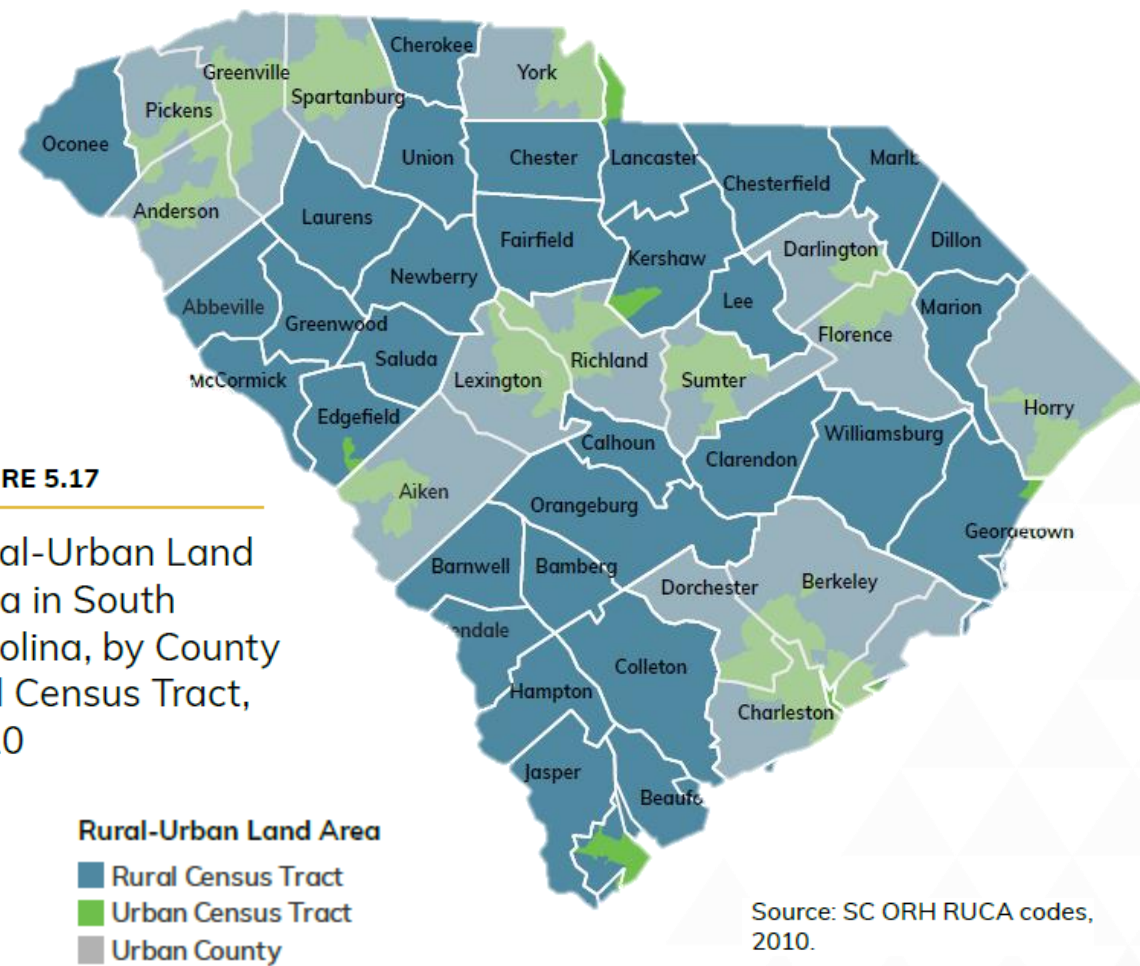


How we sustain it
(quality and ROI)

2023 SC State Health Needs Assessment

RELATED FINDINGS

1. 27% of SC residents live in rural areas
2. Access to health care is the #1 health issue
 - **Healthcare system mergers** and the effect on physical localities, specifically in rural areas where there may be only one hospital or specialty provider
 - Lack of infrastructure surrounding care coordination between systems
3. 10% of SC Households have no internet access
4. Health care access, including health insurance, **healthcare workforce shortages, and lack of healthcare facilities**, specifically in rural areas, were listed among the top reasons preventing SC from creating a “healthier state.”
5. Rural areas had a higher overall death rate than urban areas.
6. SC is the 10th fastest growing state in the nation



About Us

MUSC BY THE NUMBERS 2024

2.4 MILLION

Annual patient encounters



SC's only Comprehensive Academic Medical Center

22,312

Physicians, faculty, and staff



16

Hospitals



2,700

Licensed beds



750

Care Locations



46

Serving every county in SC



MUSC CENTER FOR TELEHEALTH 2024

1 of 2

National Telehealth Centers of Excellence



100+

Publications



765+

SCTA-supported sites



1.2 MILLION

Interactions in CY2023



45+

Funded Providers



85+

Operations and clinical support CTMs



Our History



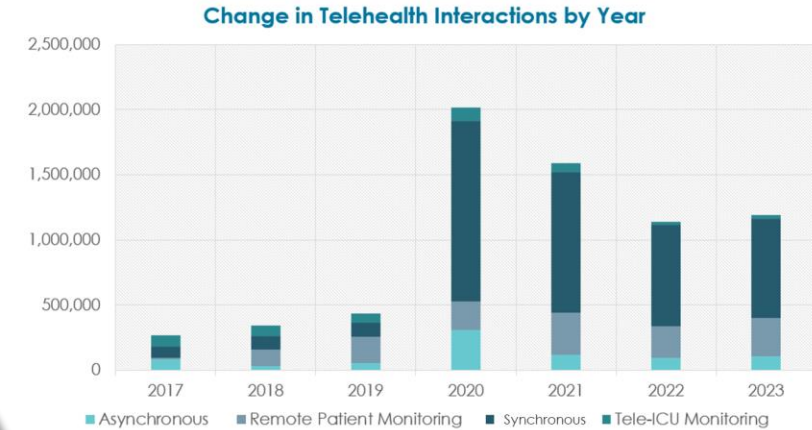
Telehealth for *efficient, effective care*

MUSC Center for Telehealth

State of South Carolina telehealth investment. MUSC Center for Telehealth founded

Center of Excellence

Designated by Health Resources & Services Administration (HRSA) as a national Telehealth Center of Excellence



2002-2009

Early Years

Telestroke, TeleICU, TelePsych, Maternal Fetal Telemedicine

2013

SCTA Founded

South Carolina Telehealth Alliance founded. Headquartered at MUSC

2014

2017

2020

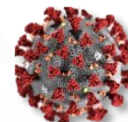
Telehealth Expansion

Explosive growth of telehealth in ambulatory space due to COVID-19

2023

Healthcare Redesign

Integration of telehealth into existing healthcare delivery models and culture



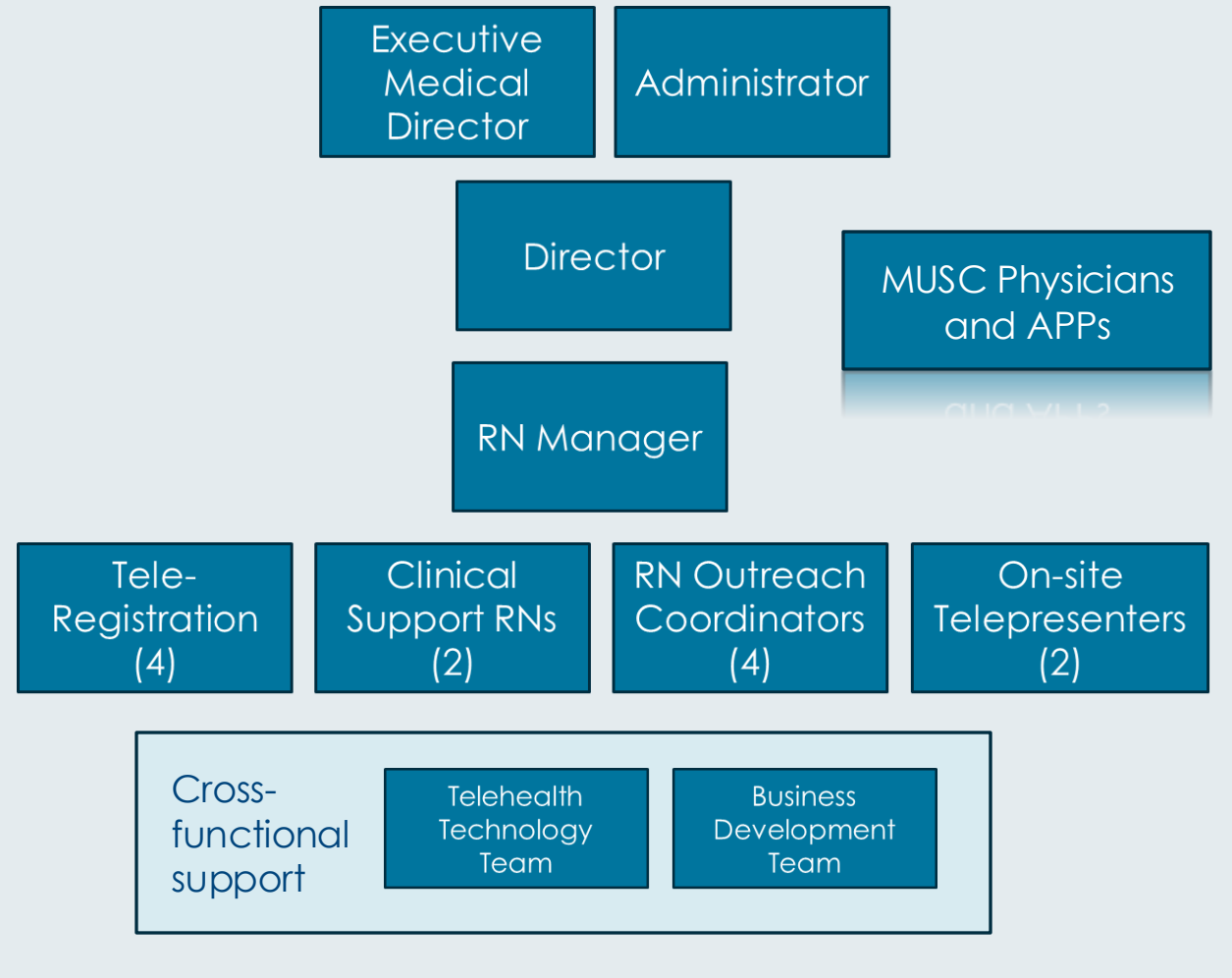
Inpatient Telehealth Service Overview



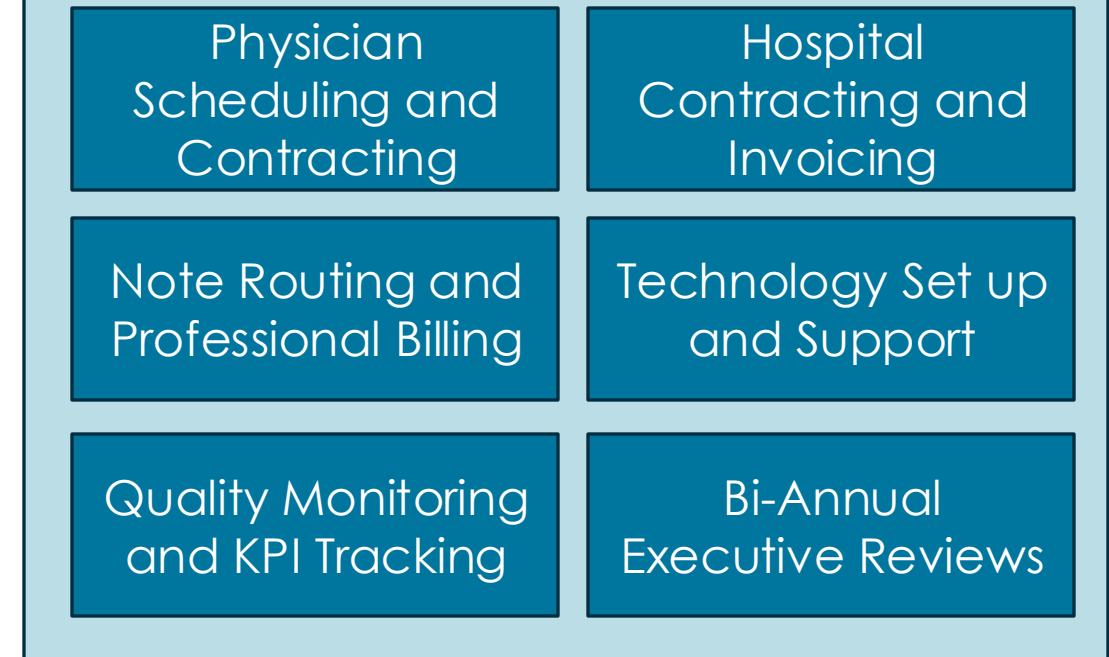
- Organizational Structure
- Consultative Services
- Rounding/Monitoring Services

Service Operations and Structure

Operational Structure



Operational Tasks

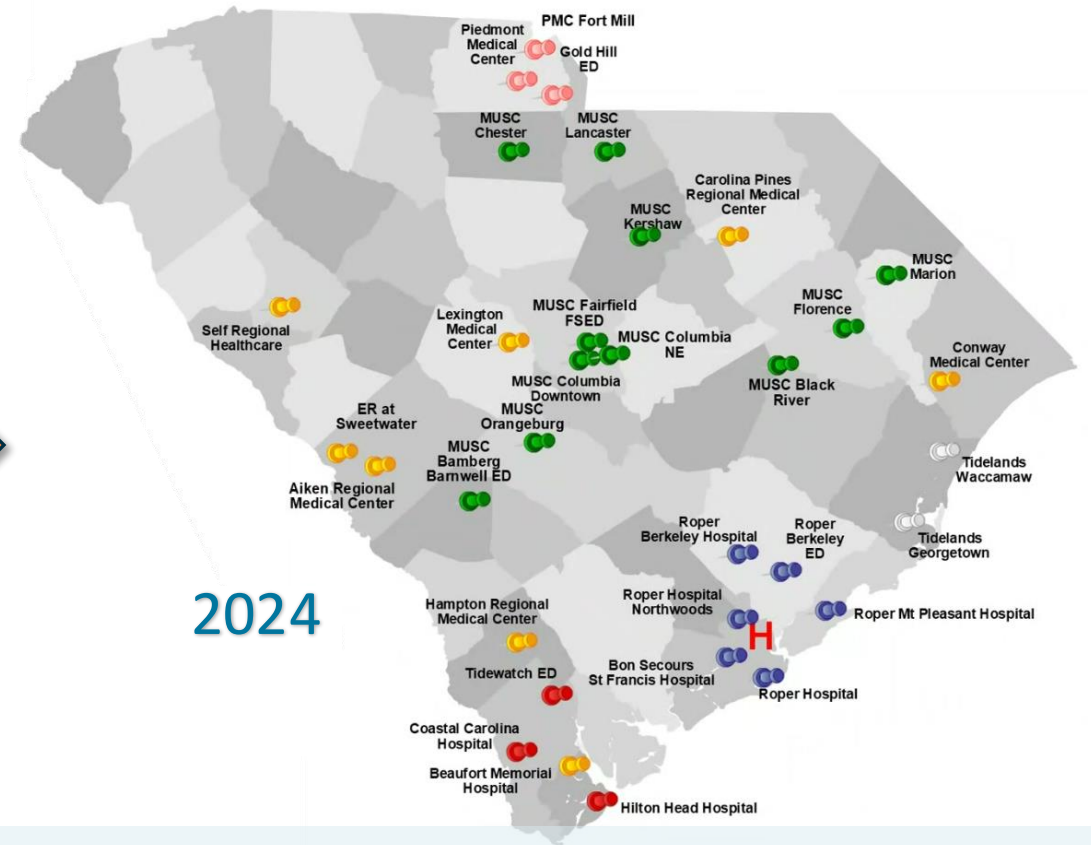
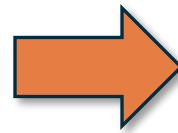


“Umm...where are you, exactly?”

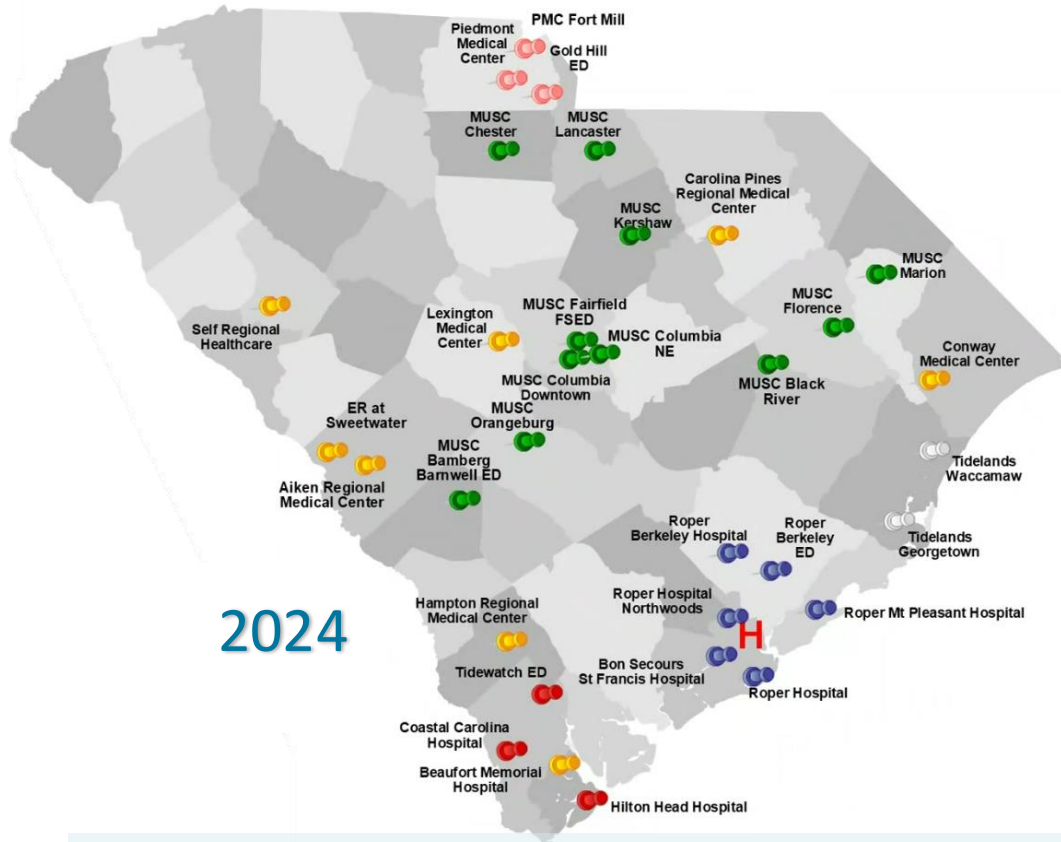


Improved Quality of Life

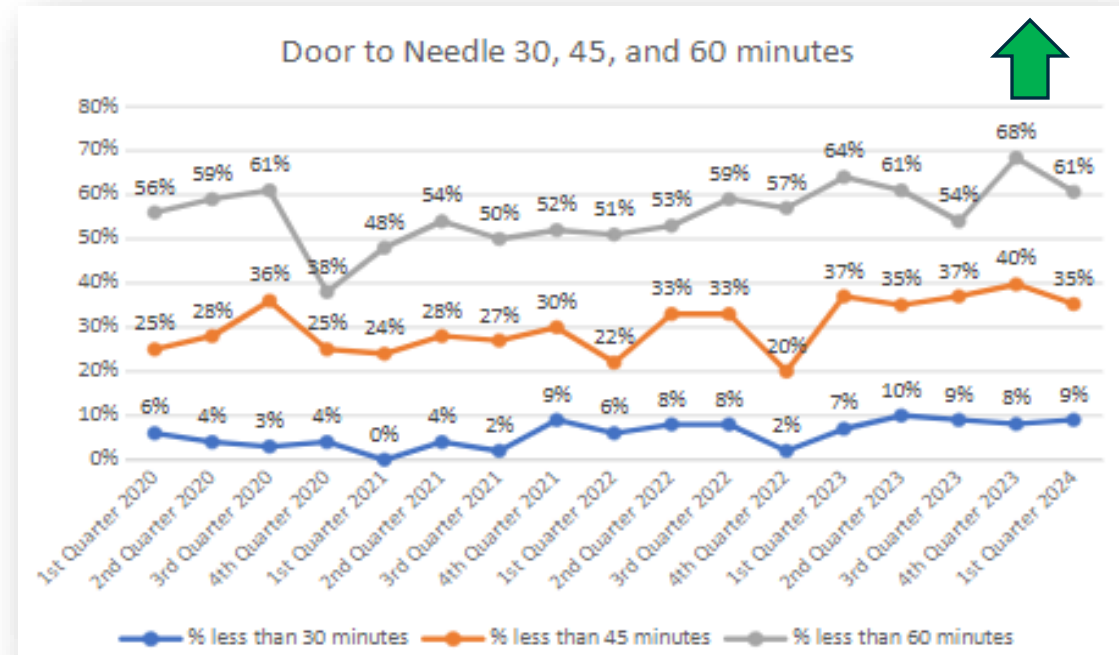
MUSC Tele-Stroke Network



MUSC Tele-Stroke Network



2024



75%

Partners are stroke accredited

100%

of SC citizens within 1 hour of expert stroke care

56

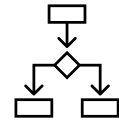
Median Door-to-needle time (FY24Q4)

NEW FOR FY2025 – Statewide Quality Collaboration to reduce DTN by sharing best practices

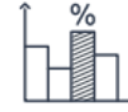
Inpatient Telehealth Services



Synchronous Video
Teladoc / ThinkAndor

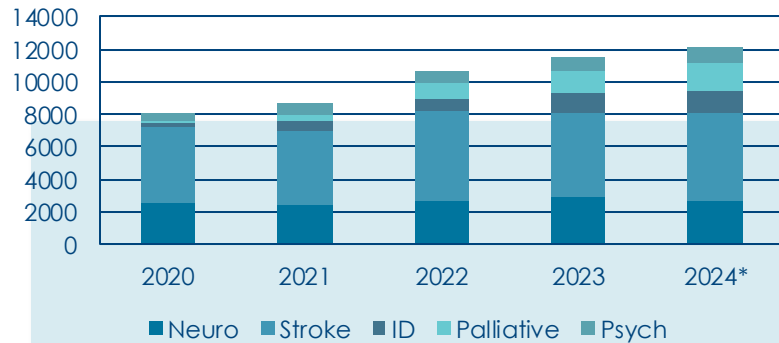


MUSC Expert Providers
Acute Services 24/7
CFT Operational Support



Specialty access, Cost of care, coverage to keep care local, core measures, length of stay, bundle adherence, nursing quality metrics, risk adjusted mortality, hospital payments, contract and billing revenue

Annual Utilization by Marquee Consultative Service (CY)



42

MUSC Supported
Hospitals & FSEDs
across SC

13,000+

Inpatient teleconsultations
performed by MUSC
Specialists in FY24

STROKE
NEUROLOGY
PSYCHIATRY
TELE EEG

PALLIATIVE CARE
INFECTIOUS DISEASE
CARDIOLOGY
VIRTUAL SITTER*

HOSPITALIST*
NEONATAL ROUNDING*
TELE ICU*
VIRTUAL NURSING*

TELE EMS
ED TRIAGE
PEDS CC
GERI PSYCH*



Telehealth Consultative Services



- Urgent/Emergent services offered **24/7/365**
 - Stroke and Acute Neurology
 - Site requests urgent consult through our Admit Transfer Center (ATC)
 - Provider joins via Video Platform for AV & Documentation
 - Average Provider Response is **6 minutes**

“Scheduled” consults

- Neurology – 7 days/week, 8-4
- ID, Psych & Palliative – Mon-Fri, 8-4
- Hospital requests consult through the Tele-registration team or platform
- Providers view schedule in Epic, audit chart prior to consult and document in Teladoc Solo software or directly in Epic.

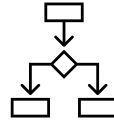
Efficiency Wins

1. Schedules in EMR or “**patient list**” in virtual platform
2. **Clinical RN** to support patient readiness at site
3. **Telepresenters** to support logistics and reduce late cancellations
4. FY25 Focus: **Leverage HIE's** to have immediate access to consult notes

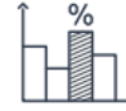
Telehealth Rounding/Monitoring Services



Synchronous Video;
Phone calls; Chart
Review



Virtual Specialists; On-Site
APPs, CFT operational
support



Access to specialty-attending coverage,
Length of stay; Nursing-sensitive indicators,
Hospital financial performance; **Supplement
bedside provider and clinical teams**

 Work with APP for all admission & Round daily for plan of care and patient disposition (24/7 availability for urgent needs)

\$800k

Annual savings
over Locum Tenens

| Psychiatry |

75%

Reduction in LOS
over Locums

77

Moms delivered
close to home in 1st
Hospital, 1st year

5,319

Total FY24 Census
Covered by Tele
Hospitalists

GERIATRIC PSYCHIATRY
TELE NEONATOLOGY
TELE HOSPITALIST

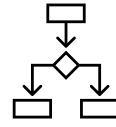
TELE ICU
VIRTUAL NURSING
VIRTUAL SITTING



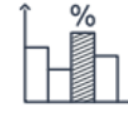
Tele-ICU



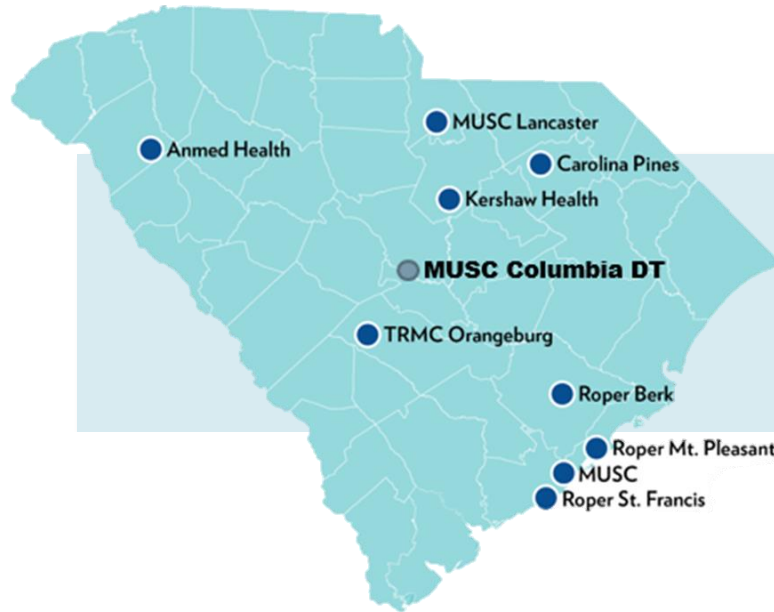
24/7 Continuous Monitoring; Hicuity; Synchronous Video



Intensivists, APPs, Critical Care RNs, Respiratory Therapists



Risk Adjusted mortality; Length of stay; Best Practice Adherence; Hospital Financial Performance



121

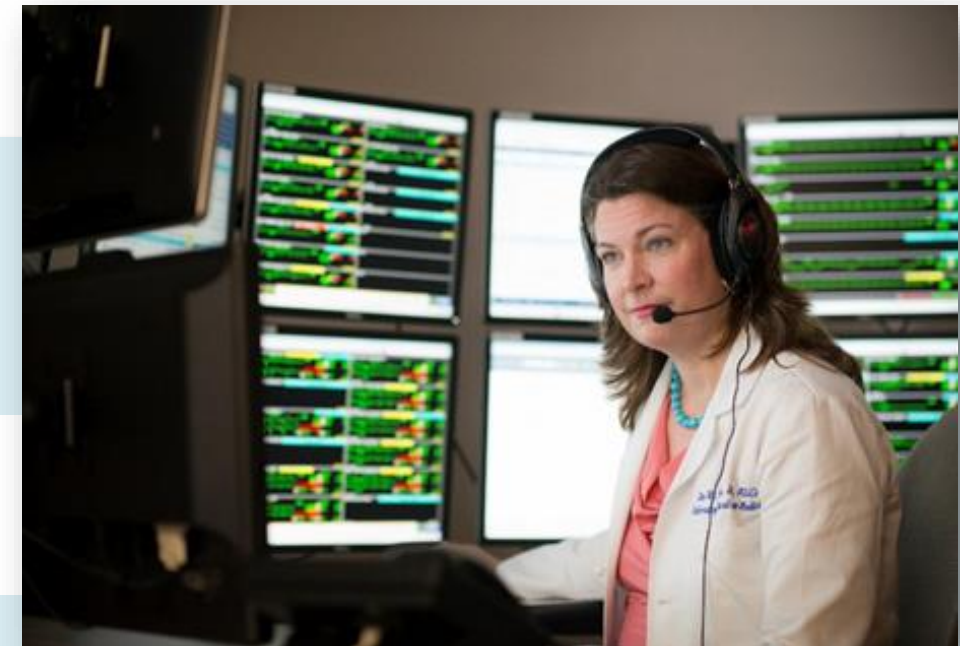
ICU Lives Saved in FY24

14,025

Total Patient Stays in FY24

IMPROVED OUTCOMES:

ICU LOS
BEST PRACTICES
READMISSIONS
SEPSIS AND MORTALITY



- Since 2015, **over 77,980** patients monitored in Tele-ICU at SC partner sites
- MUSC CFT operates one of 11 **Hicuity operation hub** that staffs 2 ICU RNs and 4 MD's, including time bought down for Medical Directorship for program support
- MUSC offers **"ICU Innovations"** which includes an IDT that travels to partner sites to provider education and training (ex. ARDS, Sepsis). Mix of in-person and online modules

Tele-ICU ROI and Data Collection

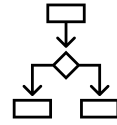
- Sophisticated ROI and proprietary quality KPI reporting
- Information shared in annual executive review with sites
 - Ex.'s include ICU Mortality (APACHE), Ventilator Patient Management, Patient Transfers, LOS, ICU & Hospital Days Saved (\$)



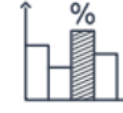
Inpatient Virtual Nursing



Synchronous Video
Chart Review
Phone Support



Virtual RN (VRN) available
24/7 for supportive
bedside care



Improve Nursing Workforce Economics,
Core measures, improve best practice
adherence, Decrease length of stay

6,200+

Unique Patients Served

11

Hospitals

113 days

Time given back to
Bedside nurses

8,918

Virtual Nursing
Sessions Conducted

SERVICES:

ADMISSION
DISCHARGE
CARE PLAN

QUALITY SURVEILLANCE
DOCUMENTATION COMPLIANCE
PATIENT EDUCATION



Inpatient Virtual Nursing



One Hospital's Experience...

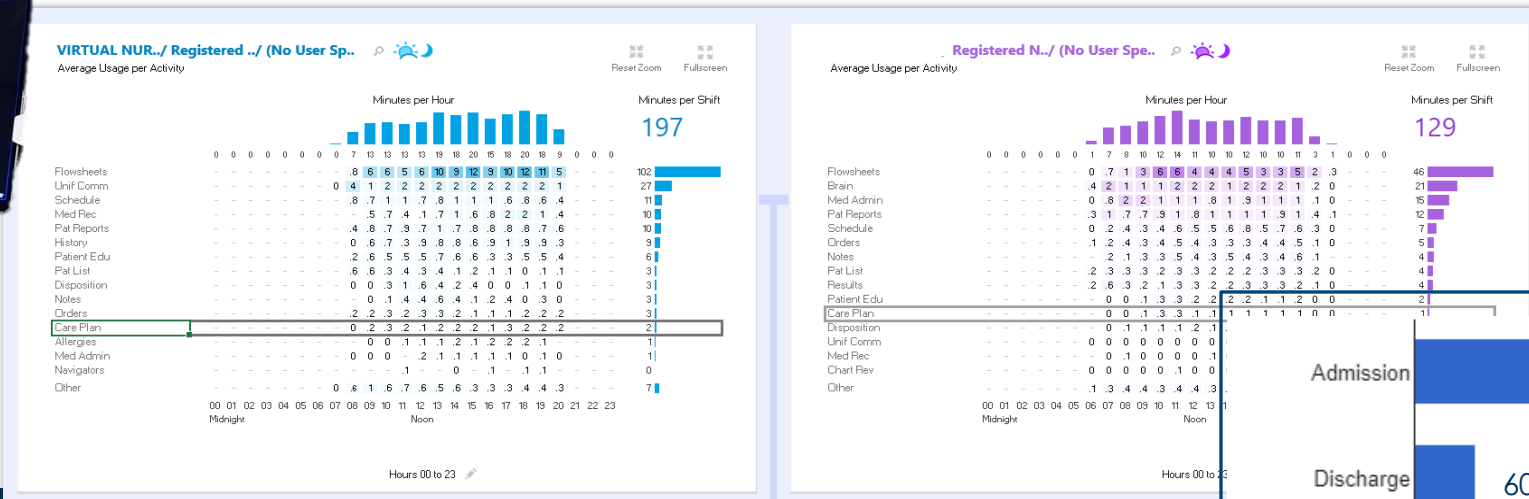
Section: Admission†						Admission
Time Period	2020	2021	2022	2023	2024	
n		76	259	236	226	
Top Box Score	N/A	57.89%	59.85%	52.97%	61.95%	
Percentile Rank	N/A	N/A	N/A	N/A	N/A	

Courtesy of person admitting†						Admission
Time Period	2020	2021	2022	2023	2024	
n		76	259	236	226	
Top Box Score	N/A	57.89%	59.85%	52.97%	61.95%	
Percentile Rank	N/A	6th	12th	3rd	22nd	

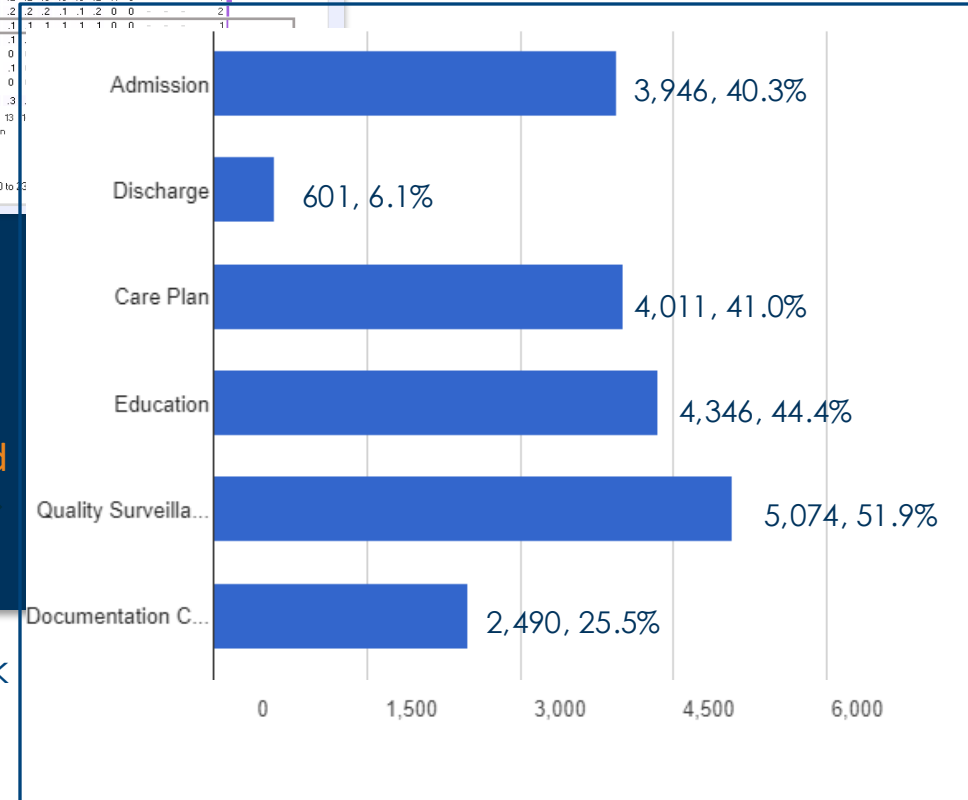
**Highest scores in 4 years, 8.98-point increase over last year



Inpatient Virtual Nursing



Epic Nursing Efficiency Assessment Tool (NEAT)



11.2%

Reduction in Bedside RN time in EMR

37.5%

Improvement in Discharge timeliness over baseline

Intentional focus on **reducing hospital acquired conditions**



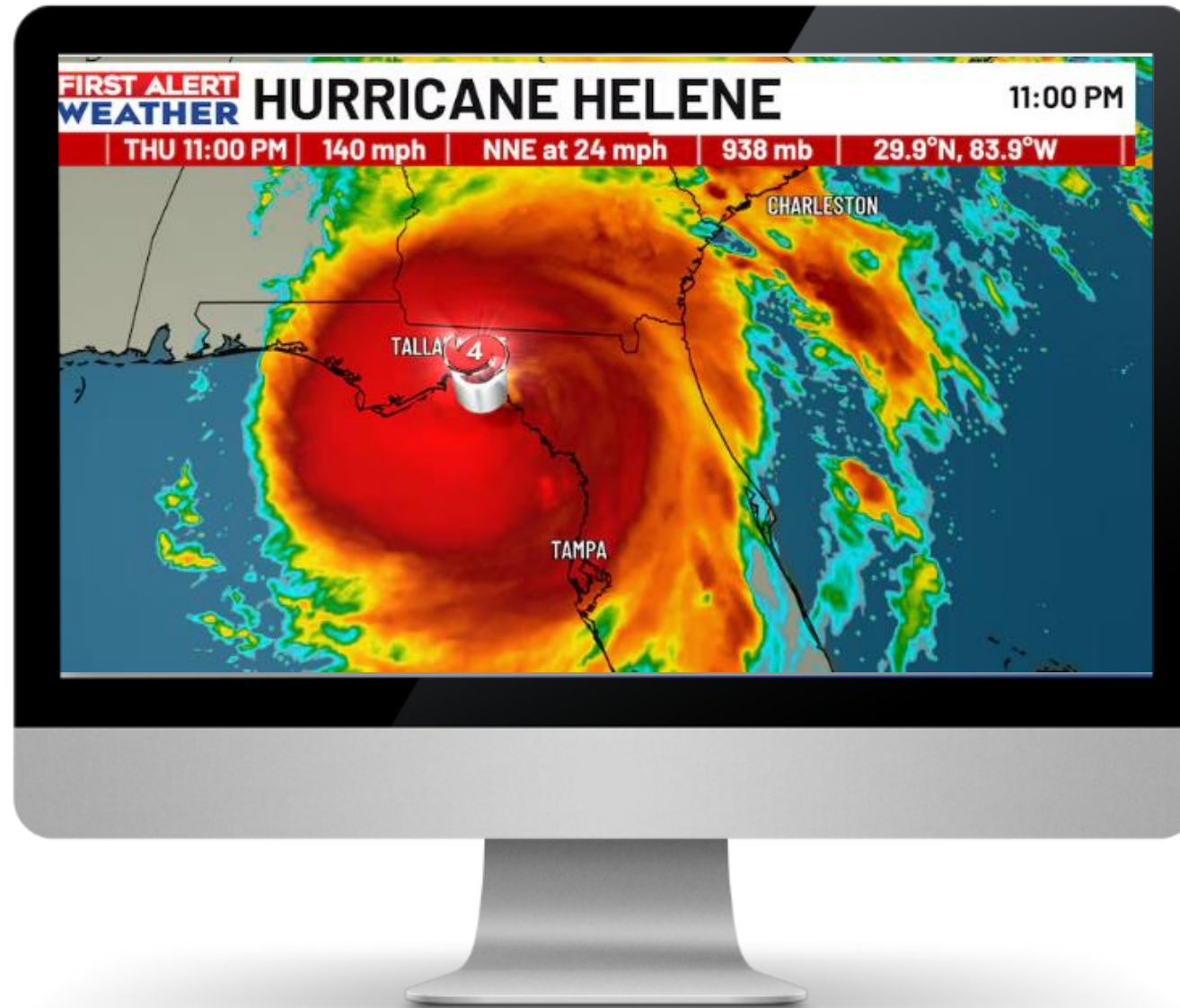
* ~22% of VRN service units **required video** to complete their task

Closer to Home




- Access during disaster
- Reduction in patient costs
- Improved local hospital revenue

“Stay Home – We got it”



Reduced Patient Expenses

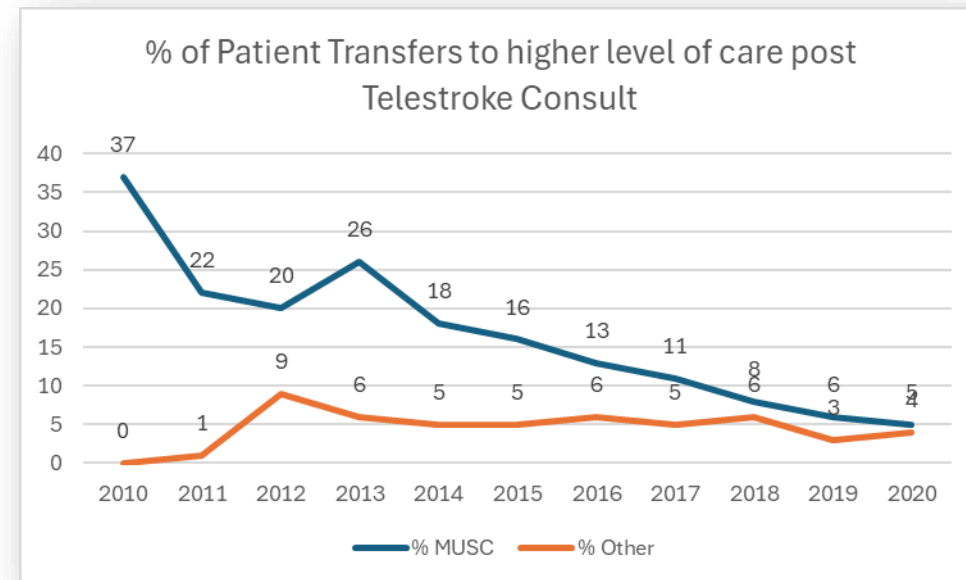
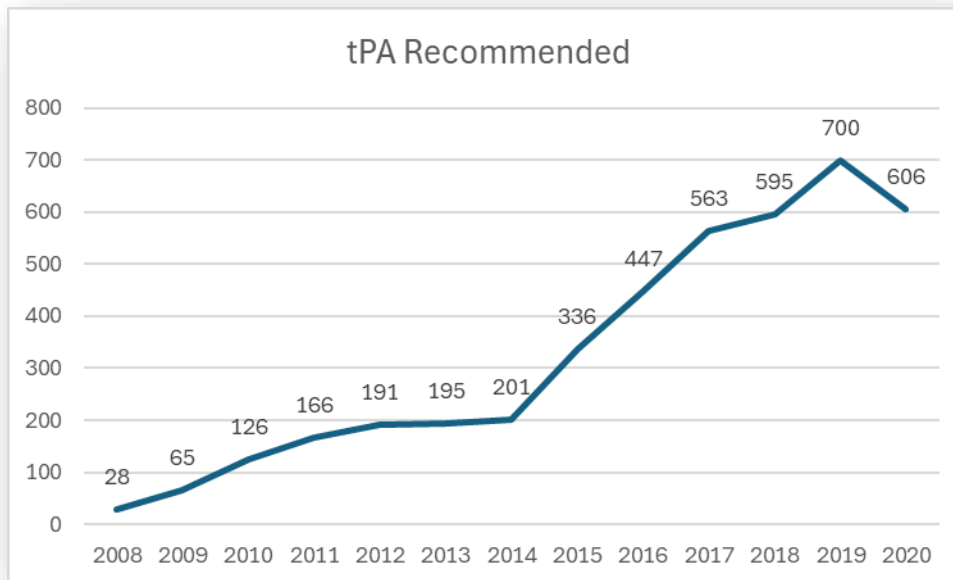
Beyond acute stroke: Rate of stroke transfers to a tertiary centre following the implementation of a dedicated inpatient teleneurology network

Sami Al Kasab^{1,2,*} , Eyad Almallouhi^{2,*}, Ellen Debenham², Nancy Turner², Kit N Simpson³ and Christine A Holmstedt²

Journal of Telemedicine and Telecare
2021, Vol. 27(4) 239–243
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DOI: 10.1177/1357633X19868097
journals.sagepub.com/home/jtt



- After the establishment of the Tele Neurology network patients were less likely to be transferred to the hub, resulting in a cost savings of \$4,997 per patient



Improved Hospital ROI

- One MUSC hospital division consisting of 3 acute care hospitals
 - Services received include TeleStroke, TeleNeurology, TeleID, TelePalliative, TelePsych
- ROI based on combination of current DRG payments, physician salary benchmarks, and recent literature.

RETURN ON INVESTMENT FY24 Q1 & Q2

Palliative Care Estimated Hospital Savings**

\$653,874

Hospital 1
202 CONSULTS

\$178,035

Hospital 2
93 CONSULTS

\$16,185

Hospital 3
5 CONSULTS

Patients Retained Locally

97% 552 OUT OF 570 CONSULTS

Hospital 1

96% 179 OUT OF 186 CONSULTS

Hospital 2

96% 130 OUT OF 135 CONSULTS

Hospital 3

RETURN ON INVESTMENT FY24 Q1 & Q2

Avg. Medicare DRG Reimbursement - Stroke**

\$882,063

Hospital 2

16.71X Estimated ROI

\$194,840

Hospital 2

7.10X Estimated ROI

\$156,600

Hospital 3

7.18X Estimated ROI

Quality Outcome Collaboration

**MUSC CENTER FOR TELEHEALTH:
BI-ANNUAL REPORT
APRIL 2024**

MUSC CENTER FOR TELEHEALTH: CATAWBA DIVISION BI-ANNUAL REPORT APRIL 2024

VOLUME

Visit Count Jul-Mar FY24

884 Visits Total

Legend: T-@Q25 NEUROLOGY, T-@INFECTIONIOUS DISEASE, T-@PALLIATIVE, T-@TELESTRIDE, T-@PSYCH

Total Hospital Based Telehealth by Fiscal Year and Month

Hospital	Appointment Type	FY 23	FY 24
WBC	T-@INFECTIONIOUS DISEASE	10	10
Lancaster	T-@INFECTIONIOUS DISEASE	10	10
	T-@PALLIATIVE	10	10
	T-@PSYCH	10	10
	T-@TELESTRIDE	10	10

10/2023-9/30/24
Inpatient Telehealth Standing Consults #3

Visit Count Trend

Legend: FY 2023, FY 2024

01

MUSC CENTER FOR TELEHEALTH: CATAWBA DIVISION BI-ANNUAL REPORT APRIL 2024

QUALITY FY24 Q1 & Q2

TIMELINESS DATA AVERAGE

Consults seen within 24 hours

82% Infectious Disease
91% Neurology
78% Palliative Care*
83% Psychiatry

*Dependent on family availability

OPPORTUNITY

- Continue to Improve ED Door to Registration and Registration to ATC time. Avg time of 25 minutes.
- Improve Alteplase Decision to Admin time. Avg time of 29 minutes. Goal is 10 mins.
- Continuous sharing of stroke best practices with clinical teams.

81.5 MIN
Avg. Door to Needle Time

4 MIN
Avg ATC Call to MD Logon

OPPORTUNITY

- Improve ED Door to Registration and Registration to ATC avg time of 40.5 minutes.
- Improve Alteplase Decision to Admin time of 22 mins. Goal is 10 mins.
- Continuous sharing of stroke best practices with clinical teams.

82 MIN
Avg. Door to Needle Time
Q1 only. No thrombolytics in Q2

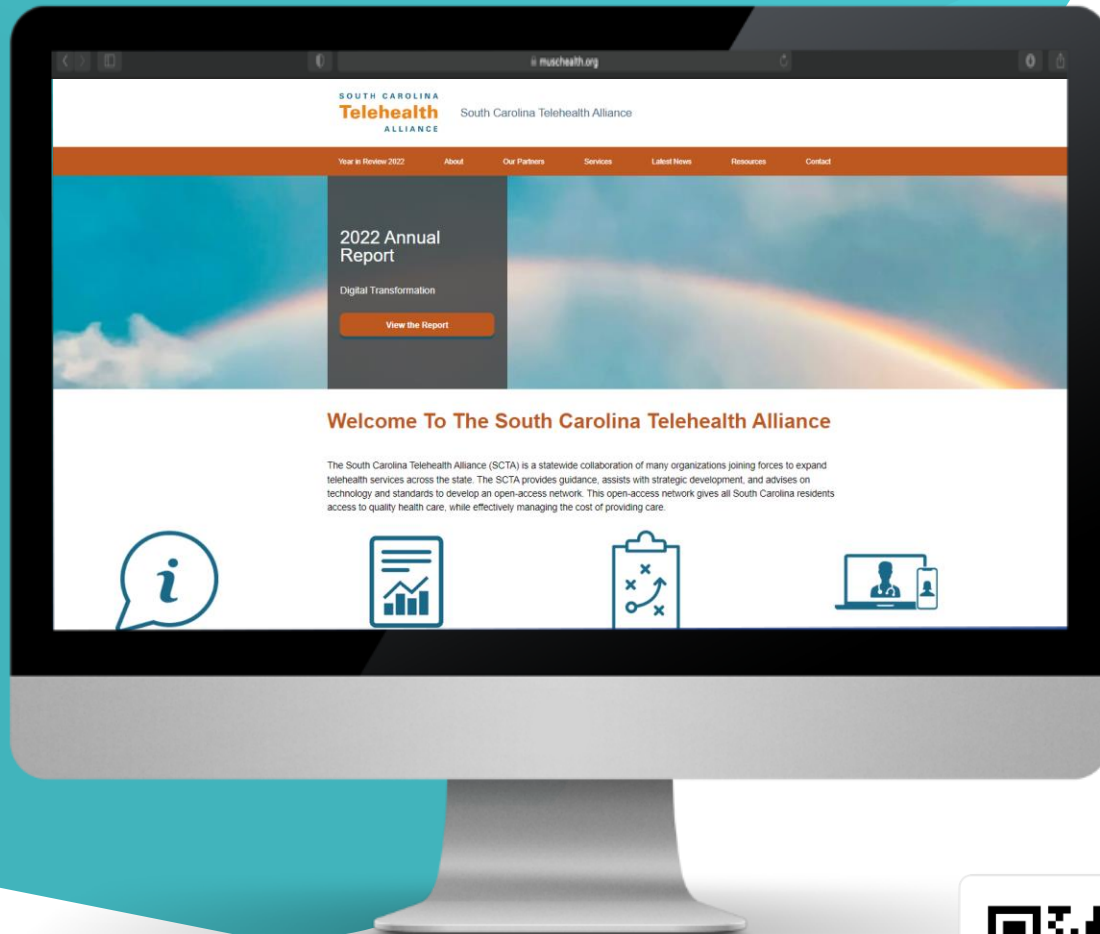
6.5 MIN
Avg ATC Call to MD Logon

03

Key Takeaways

- Telehealth isn't meant to replace in person care rather to strengthen it.
- Strategic virtual support for local hospitals helps patients can get the care they need **closer to home.**





Telehealth Resources

South Carolina Telehealth Association

sctelehealth.org

- View resource guides, service overviews, and hear patient stories
- View current and prior annual reports
- Get support for telehealth services by contacting SCTA



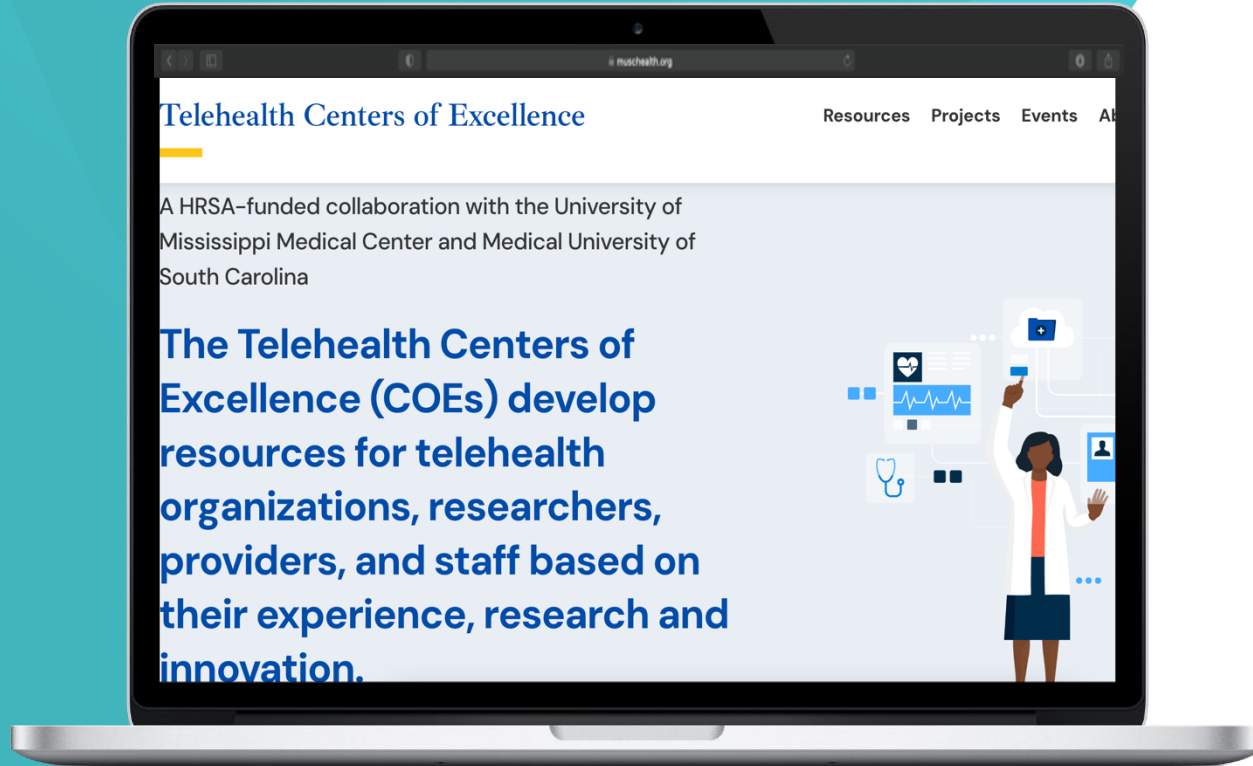
SCAN ME

Telehealth Resources

Telehealth Centers of Excellence

<https://telehealthcoe.org/>

- See what work is being done by MUSC and UMMC in Telehealth



Our Next Webinar

The NCTRC Webinar Series

Occurs 3rd Thursday of every month.

Hosting TRC: Northwest Regional Telehealth Resource Center (NRTRC)

Telehealth Topic: CISA Services: Federal Cybersecurity Resources for Telehealth

Date: November 14, 2024*

Times: 11 AM – 12 PM (PT)

***This webinar has been rescheduled from our usual 3rd Thursday schedule.**



Please Complete Our Survey

Your opinion of this webinar is valuable to us.

***Please participate in this brief perception survey
(will also open after webinar):***

<https://www.surveymonkey.com/r/XK7R72F>

