# Leading the State, Leading the Nation

SOUTH CAROLINA
**Telehealth**
ALLIANCE

2018 Annual Report

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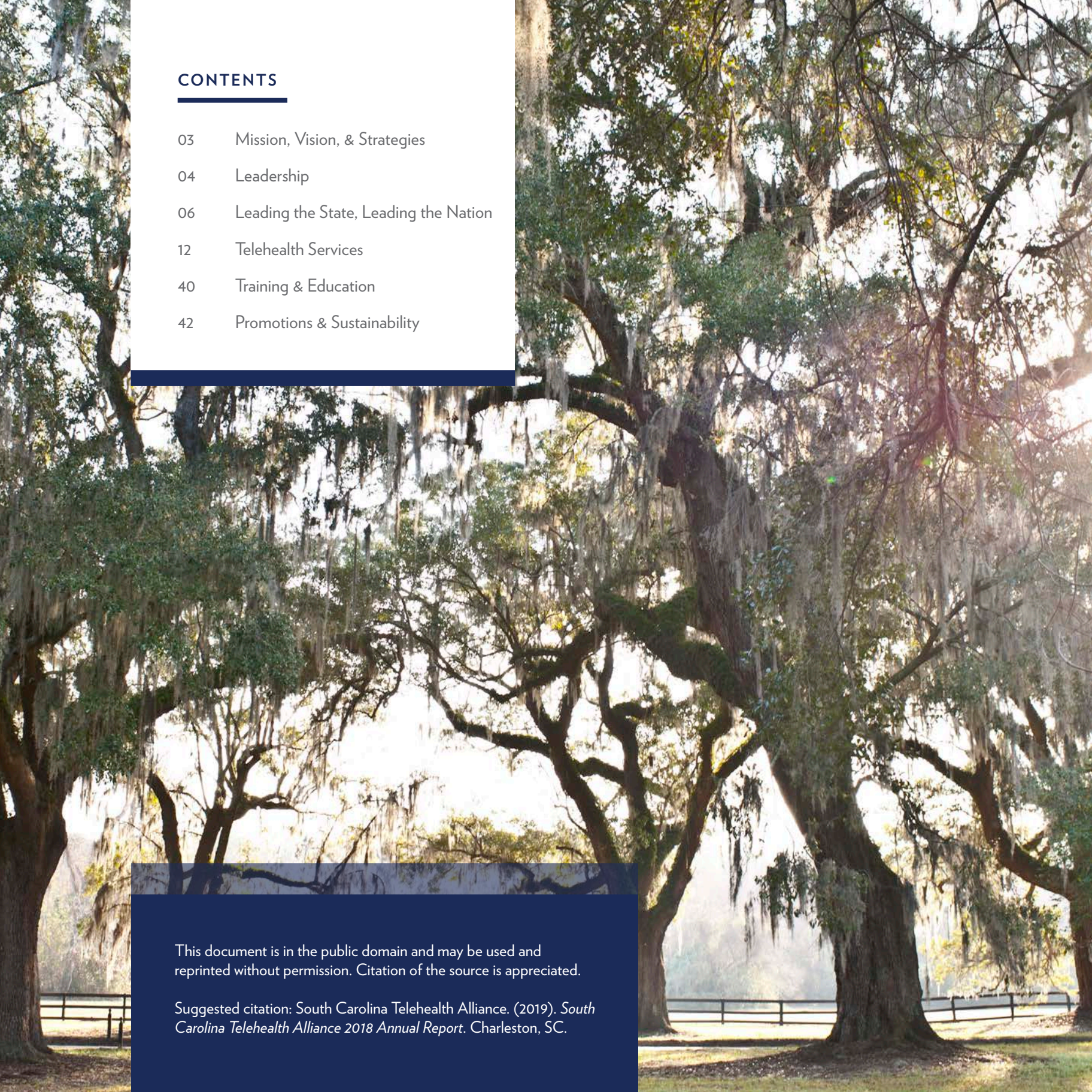


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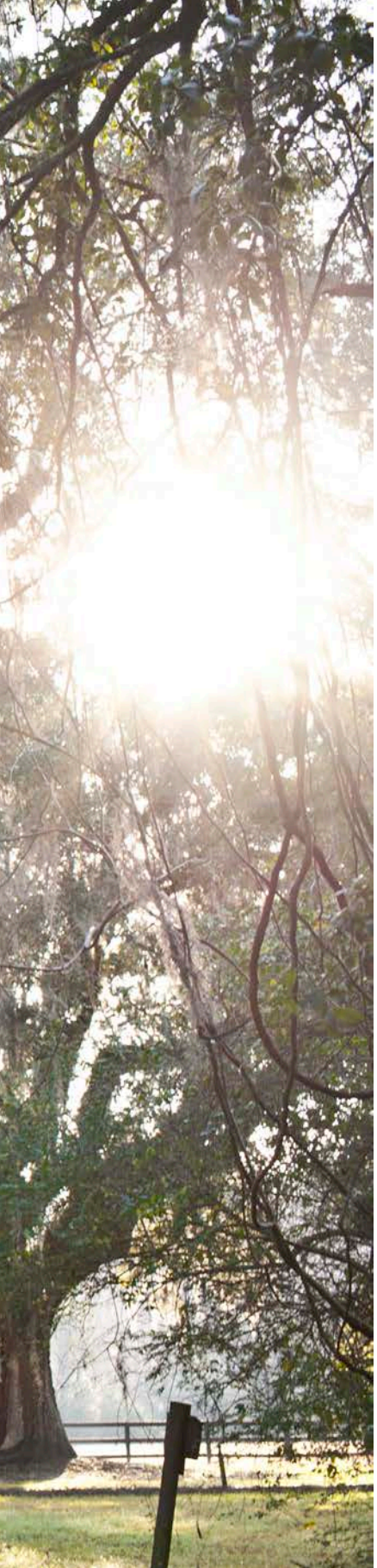


## MISSION

Improve the health of all South Carolinians through telehealth.

## VALUES

- Patient centered
- Quality
- Collaboration
- Sustainability
- Accountability

## VISION

Telehealth will grow to support delivery of health care to all South Carolinians with an emphasis on underserved and rural communities. It will facilitate, coordinate and make more accessible quality care, education and research that are patient centered, reliable and timely. Our state will become recognized nationally for telehealth that is uniquely collaborative, valuable and cost effective.

## VALUE PROPOSITION

Telehealth in South Carolina will deliver high value through productive collaboration.

## STRATEGIES

### Open Access

Deploy a coordinated, open-access telehealth network in South Carolina

### Rural Focus

Understand and effectively respond to the health needs of South Carolina citizens with an emphasis on those living in underserved and rural areas

### Service Development

Build and scale telehealth clinical services and programs that expand access to care

### Mental Health

Broaden mental health and related telehealth clinical services and programs to increase access to care

### Education and Training

Conduct statewide education, training, and promotion to providers and the public to accelerate and spread adoption of telehealth

### Collaboration

Develop a telehealth organization structure that encourages and facilitates statewide collaboration among providers in the delivery of health care, education, and research

### Outcomes

Establish the value case for telehealth through robust assessment and rigorous analysis of telehealth outcomes

### Promotions and Sustainability

Demonstrate to legislators, payers, providers, and the public the impact of telehealth on improving access, quality, and affordability

## FROM THE SCTA LEADERSHIP

The strength of the South Carolina Telehealth Alliance (SCTA) lies within our collaborative partnerships. Our hospital system hubs, specialty hubs, and providers from all over the state are using telehealth to connect to patients in primary care settings, schools, clinics, nursing facilities, correctional facilities, and even homes to deliver high quality care.

We could not do this without the continued collaborative efforts of all of our partners, who represent several organizations but believe in the same mission of ensuring all South Carolinians have access to quality care, regardless of where they live.

We invite you to look back with us in our 2018 Annual Report,  to learn about the programs and services being offered.

**James T. McElligott, M.D., MSCR**

*Telehealth Executive Medical Director*
*Medical University of South Carolina*
*SCTA Advisory Council Co-Chair*

**Kathy Schwarting, MHA**

*Chief Executive Officer*
*Palmetto Care Connections*
*SCTA Advisory Council Co-Chair*

Dear Fellow South Carolinians,

In 2018 we saw more telehealth services being delivered into more locations. This continued growth is the purpose behind our full support as a state. School-based telehealth is now available in eighteen counties and lives continue to be saved by our nationally-recognized telestroke network. Other telehealth services such as tele-ICU continue to improve and save lives by allowing critically ill patients to remain in their community hospitals while still receiving the best care from board-certified intensivists and critical care clinicians.

We have seen an increase in direct-to-patient virtual care being delivered from more South Carolina Telehealth Alliance (SCTA) partner hospitals, including McLeod Health, MUSC Health, Greenville Health System, Palmetto Health, Beaufort Memorial Hospital, and Spartanburg Regional Healthcare System. For urgent care needs and chronic disease management, patients are able to remain at home and still be monitored with remote patient monitoring (RPM) telehealth applications, such as diabetic RPM.

The shortage of mental health providers continues, but our partnership with the South Carolina Department of Mental Health is enabling mental health providers to treat more people in more places, using telehealth. As our state and the nation focus on additional treatment for patients dealing with the effects of opioid abuse, we are employing telehealth to extend access to medically-assisted treatment as a tool to curb the epidemic. These important connections would not have been made without the continued, unprecedented collaboration between multiple government agencies, health systems and community leaders who work tirelessly for all South Carolinians. We want every citizen to have access to high-quality care, regardless of where they live. The work of the SCTA is getting us closer and closer to this goal.

The South Carolina Telehealth Alliance is led by the Medical University of South Carolina, which is home to a National Telehealth Center of Excellence. This is a federal designation given by the Health Resources and Services Administration. With this designation, the SCTA is not only leading the state, but is also leading the nation in researching, piloting, perfecting, and sharing best practices in telehealth.

We invite you to find out about the exciting innovations in health care highlighted throughout this annual report.

Sincerely,

Thomas C. Alexander, Senator
Chairman, Health and Human Services Subcommittee
Senate Finance Committee

G. Murrell Smith, Jr., Representative
Chairman, SC House Ways and Means Committee
South Carolina General Assembly

SOUTH CAROLINA TELEHEALTH ALLIANCE

# LEADING THE STATE, LEADING THE NATION

Kathryn Cristaldi, M.D., MHS, Assistant COE Program Director and Dee Ford, M.D., MSCR, COE Program Director

## MUSC TELEHEALTH CENTER OF EXCELLENCE

The MUSC Center for Telehealth is one of two National Telehealth Centers of Excellence as designated by the Health Resources & Services Administration (HRSA). The role of the Center of Excellence (COE) is to fill important gaps in the national telehealth landscape through a combination of ongoing regional and national collaborations, as well as proactive dissemination of telehealth resources. The COE serves as a national clearinghouse for telehealth research, resources, and technical assistance. The COE has a portfolio comprised of 10 sub-projects and 4 cross-cutting teams of evaluation, dissemination materials, technical assistance, and consultation. Applying team science to characterize telehealth best practices, the COE is developing materials and programs to facilitate 'next level' telehealth.

Key areas of research focus during the project period include:

- Impact of telehealth on federal and local health care spending
- Provider and patient engagement
- Development of open-access telehealth networks
- Telehealth as a model for implementation of best clinical practices
- Behavioral health-focused telehealth programs
- Telehealth modalities for primary care (i.e. developing a "Primary Care Telehealth Menu")

LEADING THE
# STATE LEADING THE NATION

## TELEHEALTH CHAMPION OF THE YEAR AWARD

S. David McSwain, M.D., MPH, of MUSC Health and the South Carolina Children's Telehealth Collaborative was awarded the Telehealth Champion of the Year Award by the American Telemedicine Association (ATA) in recognition of his role in leading the development of the ATA AAP *Operating Procedures for Pediatric Telehealth,* for his leadership in chairing the AAP's Section on Telehealth Care, and for co-founding SPROUT (Supporting Pediatric Research and Outcomes Utilization in Telehealth) and the South Carolina Children's Telehealth Collaborative.

## SC HIMSS

MUSC Health's James T. McElligott, M.D., MSCR, and Kathryn Cristaldi, M.D., MHS, served as keynote presenters at the South Carolina Chapter of HIMSS Annual Fall Conference. Their title was: *National Telehealth Center of Excellence: Implications for South Carolina and Beyond*. Ragan DuBose Morris, PhD, and Michele Rains of MUSC Health's telehealth education and training team presented on *Building New Systems of Care: Training the Next Generation on Telehealth Best Practices*.

## SCDMH REACHES 100,000 TELEPSYCHIATRY SERVICES

The South Carolina Department of Mental Health (SCDMH) hit a big milestone last year by reaching 100,000 telepsychiatry services. A leader in telepsychiatry for South Carolina, SCDMH delivers mental health services into hospital emergency departments, community mental health clinics, and remotely via mobile crisis units throughout the state.

The SCDMH reaches

**100,000**

telepsychiatry services

## DIRECT-TO-CONSUMER TELEHEALTH DURING HURRICANE FLORENCE

SCTA hospital partner providers continued to see exponential growth in direct-to-consumer telehealth services in 2018. Their online urgent care services became a vital link to care during Hurricane Florence as they offered this service at no cost during and after the storm. In total, there were 981 visits offered at no cost through Greenville Health, Palmetto Health, McLeod Health, MUSC Health, and BCBS. MUSC Health, which began offering pediatric urgent care to their online offerings, was recognized by the City of Charleston's Mayor's Office for selflessly caring for areas residents during this crucial time.

## BECKER'S HEALTHCARE CONFERENCE

MUSC's Center of Telehealth Administrator, Shawn Valenta, MHA, RRT spoke at the annual Becker's Hospital Review Conference in Chicago. He presented on the topic of *Opportunities to Leverage Telehealth Within Your ACO Strategy*. More than three-thousand executive leaders from hospital and health systems attend this industry-leading event. Speakers included former U.S. Presidents and other national leaders.

## CONVERGE2XCELERATE

MUSC Health's James T. McElligott, M.D., MSCR, Dee Ford, M.D., MSCR, and Kathryn Cristaldi M.D., MHS, participated in Converge2Xcelerate, a convening of the foremost innovators and savants in blockchain technology, telehealth, artificial intelligence, and other novel technologies. The title of their presentation was *MUSC National Beacon of Telehealth Excellence: Case Use for Future*.

## SCTA TEAM WINS CHPRMS GOLDEN TUSK AWARD

Led by South Carolina Educational Television, the South Carolina Telehealth Alliance Content Advisory Team won the Golden Tusk Award for the My Telehealth campaign. This award was presented by the Carolinas Healthcare Public Relations and Marketing Society (CHPRMS) during their annual fall conference.

## TELEHEALTH MAVERICK AWARD

MUSC Telehealth leaders accepted the Telehealth Maverick Award at Avizia/AmericanWell Client Forum, and were recognized for their innovation, commitment to excellence, and ongoing partnership and collaboration with Avizia/AmericanWell.

## PUBLICATIONS

The depth and breadth of telehealth activity across South Carolina provides a unique opportunity to evaluate and disseminate evidence related to the utility, effectiveness, and efficiency of telehealth services. South Carolina's clinicians and researchers are making significant contributions to the telehealth evidence base. **In 2018, at least 47 peer-reviewed articles on telehealth were published by South Carolina researchers.**

## HEALTH AFFAIRS PUBLICATION

MUSC Health's virtual care team published an article in the December edition of Health Affairs titled Electronic Visits for Common Acute Conditions: Evaluation of A Recently Established Program. Marty Player, M.D., also presented on this topic at the National Press Club in Washington, D.C.

## ANNUAL SUMMIT

Organized by Palmetto Care Connections, the annual telehealth summit has become the main event for professionals, students and all telehealth stakeholders in South Carolina. This two-and-a-half-day event focuses on every aspect of telehealth from innovation and technology to clinical care and protocols. It begins with pre-conference seminars that are designed for telehealth practitioners and typically address education and training, operational processes, and workflows.

National and international speakers present during the plenary sessions, while the breakout sessions feature topic specific speakers and panelists in a setting where best practices can be shared, questions are answered and telehealth professionals have the opportunity to network. Other topics have included best practices for using telehealth in various settings, population health, innovation, as well as legal, regulatory and legislative updates.

The summit includes an academic poster contest and award presentations for telehealth pioneer, champion and program of excellence and innovator. The 2018 award winners were:

**Telehealth Pioneer:** MUSC Health's Ellen Debenham, BSHA, RN, CRCC, for her work in building one of the most successful telestroke networks in the country that connects MUSC to other hospitals forming the MUSC Telestroke Network.

**Telehealth Champion:** U.S. Representative Tom Rice, Congressional District 7, for spotlighting in Congressional hearings and other national platforms South Carolina's efforts to utilize telehealth to address healthcare disparities, and for supporting legislative and regulatory efforts to expand access to healthcare through telehealth.

**Telehealth Innovator Award:** Melissa Camp, Director of Special Operations & Crisis Management at the Charleston Dorchester Mental Health Center, part of the South Carolina Department of Mental Health, for her work with the Mobile Crisis Program that connects patients to mental health providers via telehealth.

**Telehealth Program of Excellence:** MUSC Health's Teleneuroscience Pr ogram which includes stroke consultations to 28 hospital partners, neurology consultations to 14 hospitals, and EEG interpretations to 7 hospitals. The teleneuroscience team also provides ongoing education and training for partner hospital staff to assists them in their own accreditations.

Top left image: MUSC Health's Teleneuroscience Program with Telehealth Program of Excellence award. Top right: MUSC Health's Ellen Debenham with Telehealth Pioneer award. Middle right: A representative from U.S. Representative Tom Rice's office with National Telehealth Champion award. Bottom right: Melissa Camp accepts the Telehealth Innovator award.

SOUTH CAROLINA TELEHEALTH ALLIANCE

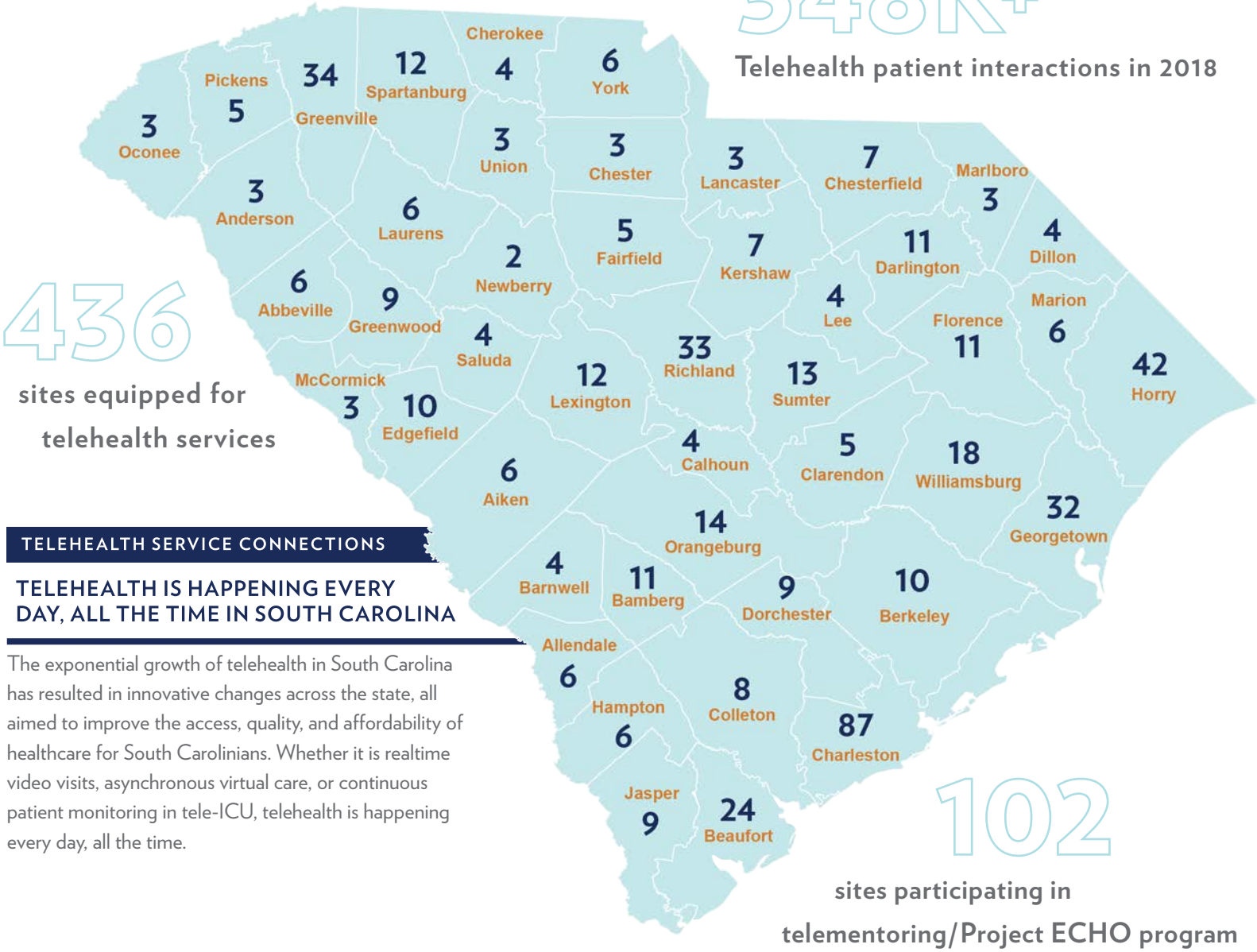
# TELEHEALTH SERVICES

**527**

connected endpoints

**348K+**

Telehealth patient interactions in 2018




**436**

sites equipped for telehealth services

**102**

sites participating in telementoring/Project ECHO program

## TELEHEALTH SERVICE CONNECTIONS

### TELEHEALTH IS HAPPENING EVERY DAY, ALL THE TIME IN SOUTH CAROLINA

The exponential growth of telehealth in South Carolina has resulted in innovative changes across the state, all aimed to improve the access, quality, and affordability of healthcare for South Carolinians. Whether it is realtime video visits, asynchronous virtual care, or continuous patient monitoring in tele-ICU, telehealth is happening every day, all the time.

**112,000+**

**Real-time video interactions**

**13,000+**

**Asynchronous telehealth interactions**

Asynchronous interactions can include physician-patient online interactions (e.g., recorded video messages, virtual care visits, SMS) for rapid care of common conditions.

**127,000+**

**Remote patient monitoring interactions**

Continuous tracking of a patient's clinical conditions, either at another clinical setting or from the patient's home.

**81,000+**

**Tele-ICU monitoring interactions**

Within the tele-ICU, program audio-video evaluations, direct patient interventions, and clinician communication enable a multi-disciplinary team of experts to assist in the care of South Carolina's sickest patients.

**2,000**

**Remote specialty interpretations**

Secure transfer of patient information to specialty clinician for interpretation (e.g., EEG or diabetic retinopathy).

## TELEHEALTH SERVICES OFFERED IN SOUTH CAROLINA

### Hospital-based Telehealth Services

- Acute and follow-up stroke care (telestroke)
- Antimicrobial stewardship
- Cardiology
- Continuous virtual monitoring (telesitter)
- EEG
- Infection control
- Infectious disease consults
- Intensive care unit patient monitoring (tele-ICU)
- Lactation
- Neonatology
- Neurology
- Neurosurgery intensive care consults
- Nutrition
- Palliative care
- Pediatric critical care
- Pediatric gastroenterology
- Psychiatric consultations to the emergency room
- Psychiatric consultations to inpatient facility
- Pulmonology
- Sickle cell consultations

### Services to Other Population-based Settings

- School-based telehealth services
  - Acute sick care
  - Chronic disease management (asthma)
  - Health education
  - Mental health counseling (general & trauma focused)
- Correctional institutions and jails
  - Intake health assessments
  - Acute sick care
  - Chronic disease management
- Skilled Nursing Facilities
  - Acute sick care
  - Mental health

### Outpatient Clinic Telehealth Services

- Ear, nose and throat (adult and pediatric)
- Endocrinology (pediatric)
- Cardiology consults
- Diabetes education
- Epilepsy
- General surgery (adult and pediatric)
- Genetics counseling
- Interventional radiology
- Infectious disease for obstetrics
- Lactation support to clinics
- Maternal fetal genetics
- Maternal fetal medicine
- Psychiatric consults (adult and pediatric)
- Movement disorders
- General neurology
- Neuro psychology
- Nutrition (adult and pediatric)
- Opioid addiction management
- Ophthalmology – diabetic retinopathy
- Pediatric GI
- Pediatric pulmonary
- Pharmacy services
- Pulmonology consultations
- Post-stroke follow-up
- Transplant nephrology post-transplant
- Transcrannial doppler (TCD Ultrasound)
- Sickle cell (pediatric)
- Social work
- Sports medicine
- Urology (pediatric)
- Vascular surgery
- Virtual tumor board
- Weight management group visits

### Direct-to-Patient Services

- Asynchronous virtual visits for acute conditions
- Asthma monitoring
- Congestive heart failure monitoring
- Heart Valve app & monitoring
- Diabetes home monitoring
- Pediatric burn app
- Post-trauma mental health symptom monitoring & video visits
- Pregnancy home monitoring
- Tobacco cessation
- Video visits for acute and chronic conditions
- Video visits for mental health counseling
- Video visits for lactation support
- Video visits for ostomy and wound care
- Video visits for pediatric development
- Video visits for prenatal visits
- Weight management monitoring & video visits

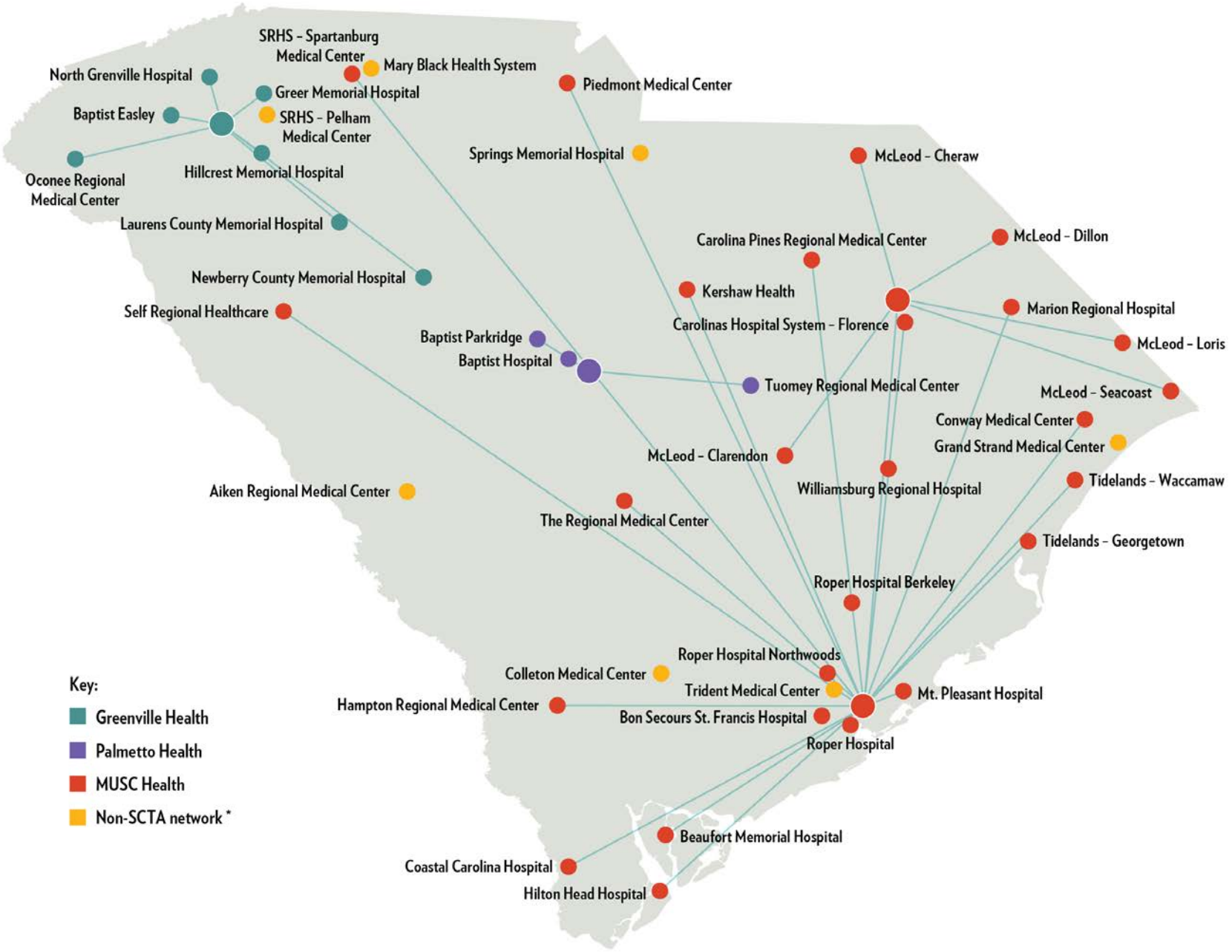
SUPPORTING COMMUNITY HOSPITALS

# STROKE & NEUROLOGY

## TELESTROKE

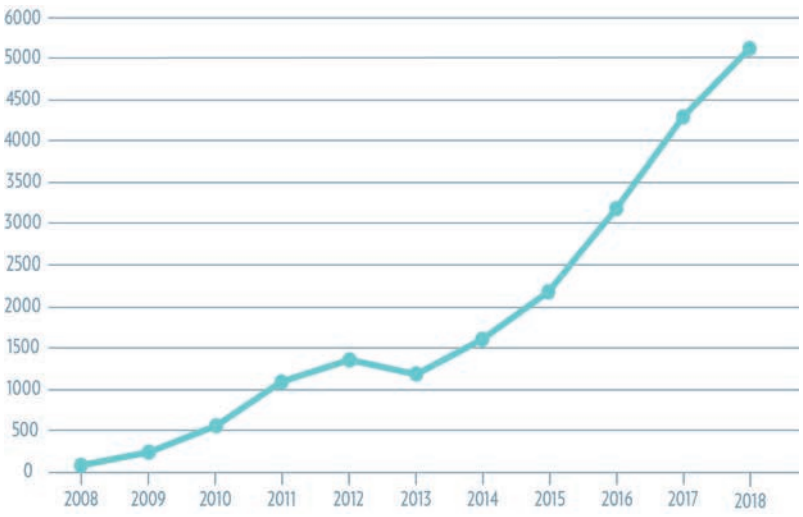
South Carolina's telestroke programs are nationally known for their collaborative network of hospitals. Before the maturation of these programs, it was not unheard of for a patient to present to a small, rural hospital and not be able to receive a comprehensive examination from a stroke specialist in time. This led to increased stroke related disabilities and sometimes, death. Today, there are 47 hospitals receiving telestroke services in the state. This means all South Carolinians now live within a one-hour drive of expert stroke care. Larger hospital systems connect to smaller hospitals to ensure all hospitals have expert stroke care available to patients who enter their facilities with stroke symptoms. Patients are able to remain in their communities and receive the same high level of care, only transferring to more acute facilities when absolutely necessary.

# The South Carolina Telehealth Alliance telestroke networks are providing expert stroke care coverage throughout the state



## Telestroke Consults by Year

Greenville Health System, MUSC Health, Palmetto Health, Roper St. Francis




**5,427**

**Telestroke Consults in 2018**

## TELENEUROLOGY

MUSC Health's neurologists are providing consultations to smaller community hospitals allowing patients to remain in their home communities and receive the same quality of expert neurological care regardless of where they live. Neurologists connect with the attending provider and patients in the emergency department or inpatient for evaluation, diagnostic and treatment recommendations for a wide range of critical and complex conditions. These include Parkinson's disease, multiple sclerosis, seizures, altered mental states, and migraines.

**In 2018, MUSC provided more than**

**2,800**

**neurology consults via telehealth.**

## TELE-EEG

Many community hospitals may have the ability to perform an EEG, but do not have the specially-trained neurophysiologists on staff to interpret the EEG. The tele-EEG program utilizes MUSC Health's neurophysiologists who have a vast amount of experience and specialty training to provide the most accurate diagnoses to treat complex neurological conditions.

MUSC Health provides full-time coverage for the interpretation of both routine and urgent EEGs.

## TELENEUROLOGY EDUCATION

MUSC Health's neuroscience department provides teleneurology educational offerings to partner hospitals. These educational offerings include quarterly newsletters, presentations on a variety of topics ranging from new user setups to the identification, and management of large vessel occlusion in the era of mechanical thrombectomy. File sharing is also a large part of the way partner hospitals share best practices. The educational offerings include:

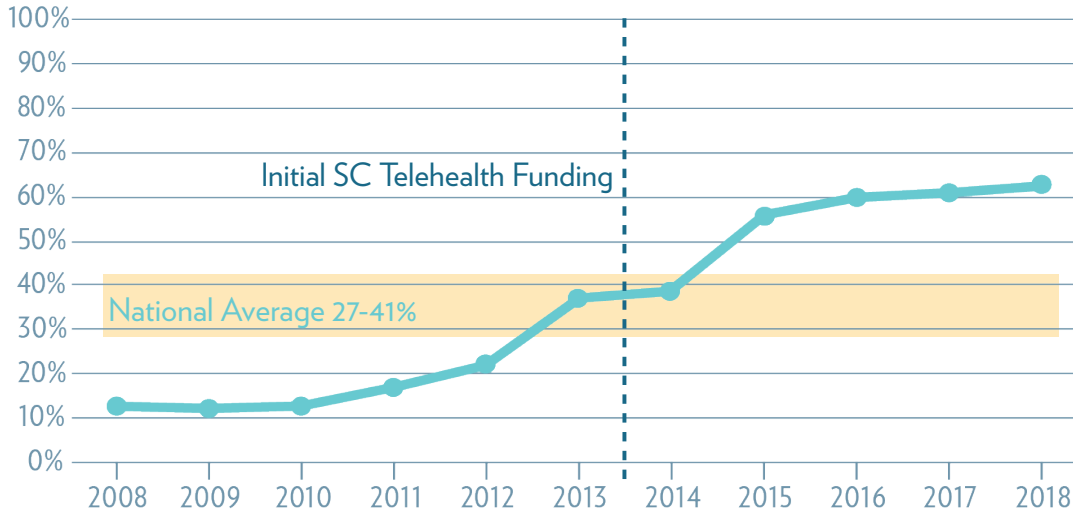
- Acute Stroke Consult Guidelines
- All Stroke Transfer Flowsheets
- MUSC Telestroke Recommendations: Criteria for Cerebral Intraarterial/Intravenous thrombolysis and/or thrombectomy
- MUSC Telestroke Recommendations: IV Alteplase (tPA) Reversal
- MUSC Telestroke Recommendations: IV Alteplase (tPA) Blood Pressure Management
- MUSC Neuroscience Telehealth Recommendations: Down Time Procedures General Neurology Consult
- National Institutes of Health Stroke Scale Information
- REACH Software Assistance Nursing Sensitive Quality Indicators

MUSC Telestroke Network Time to Treatment

# EXCEEDS NATIONAL GUIDELINES

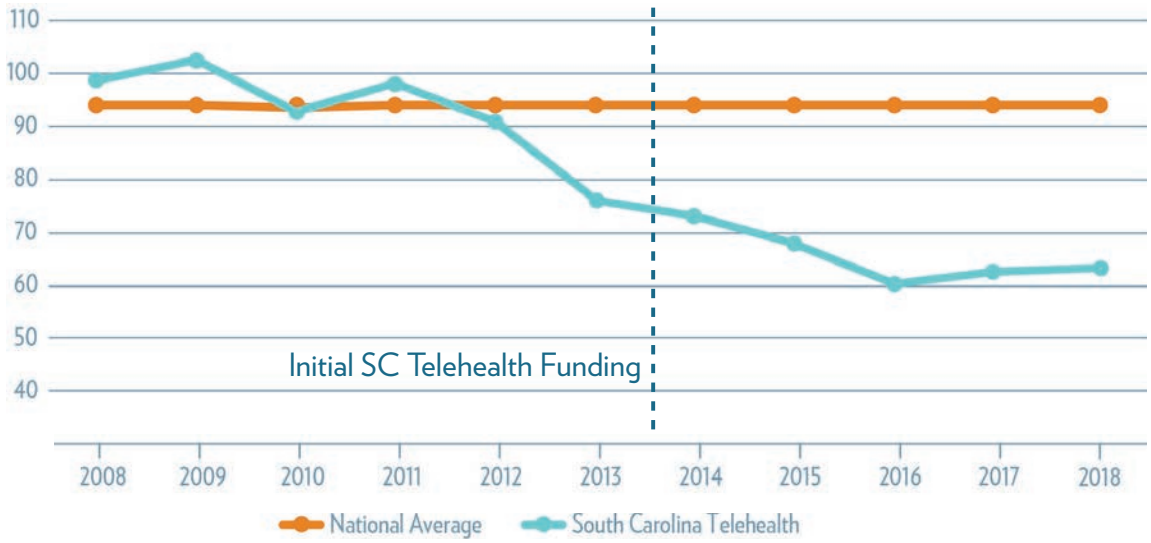
## Percentage of patients receiving care within 60 minutes of arrival (higher is better)

Patients admitted with ischemic stroke, who arrived in the emergency departments across the state within 2 hours of onset of their symptoms and who received tPA within 3 hours after the onset of their symptoms.




## Mean Door-to-Needle Time in Minutes (lower is better)

The current evidence-based guidelines call for door-to-needle time within 60 minutes from ischemic stroke patient arrival and intravenous tPA within 3 hours of onset of ischemic stroke.



SUPPORTING COMMUNITY HOSPITALS

# TELE-ICU

MUSC Health offers 24/7 continuous patient monitoring for those in intensive care at partner hospitals. These critically ill patients are able to remain in their local communities and still be treated by experienced, board certified intensivists and critical care nurses.

Tele-ICU is a transformational program that uses proactive technology and two-way audiovisual communication to enable MUSC Health's critical care team to provide remote ICU care. Some hospitals use tele-ICU to gain access to intensivists while others use the service for an additional layer of critical care support. System alerts produced by sophisticated algorithm software alert the MUSC critical care team of important trends in a patient's condition, enabling proactive clinical decision-making and early identification of potential problems.

**9,483**

**SC patients monitored**

**306**

**lives were potentially saved ***

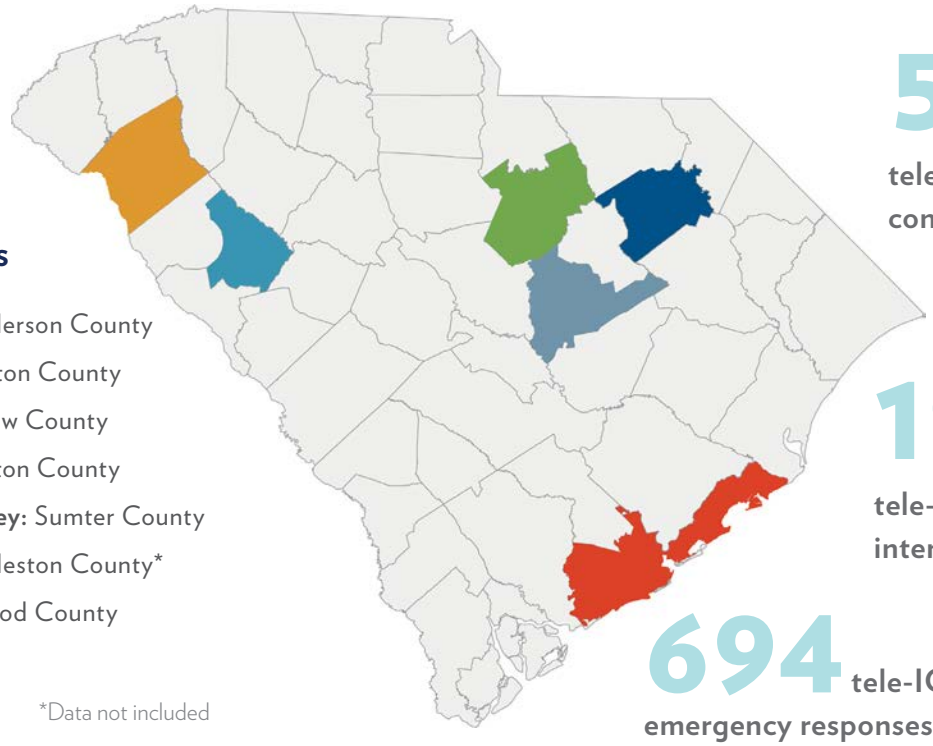
*according to actual vs. predicted mortality statistics

## Tele-ICU Monitoring Continues to Expand Across South Carolina

### Connected Hospitals

- **Anderson Medical:** Anderson County
- **Carolina Pines:** Darlington County
- **Kershaw Health:** Kershaw County
- **MUSC Health:** Charleston County
- **Palmetto Health Tuomey:** Sumter County
- **Roper St. Francis:** Charleston County*
- **Self Regional:** Greenwood County

*Data not included



**54,659**
**tele-ICU video assessments conducted in 2018**

**19,502**
**tele-ICU program clinical interventions in 2018**

**694** **tele-ICU program emergency responses in 2018**

## ICU INNOVATIONS

Caring for our state's most vulnerable patients is at the heart of MUSC Health's ICU Innovations program. It is an interprofessional quality improvement program that is offered to ICU teams at community hospitals of all sizes. Educational clinical partnerships such as this one have proven to be a cost-effective means to improve patient safety, quality, and best practice implementation with substantial return on investment through ICU-related outcomes. MUSC Health's experienced consulting team collaborates with partner hospital multidisciplinary ICU teams to create successful evidence-based quality improvement programs and related implementation that yield quality and financial benefits for their organization.

The menu of quality improvement topics with significant financial impact include:

- Change Management in the ICU
- Care of the Mechanically Ventilated Patient
- Pain, Agitation, and Delirium
- ICU Mobility
- Early Recognition & Treatment of Sepsis
- Hospital Acquired Infections
- Cardiopulmonary Arrest: Beyond ACLS
- Optimizing ICU Nutrition
- Palliative and End-of-Life Care
- Nursing Sensitive Quality Indicators

> **"ICU Innovations has helped us make changes we knew we should make and has taught us about things we didn't realize we needed to improve."**
>
> - Dr. Walker, Pulmonary and Critical Care Physician, AnMed Health

SUPPORTING COMMUNITY HOSPITALS

# PSYCHIATRY

## EMERGENCY DEPARTMENT TELEPSYCHIATRY PROGRAM

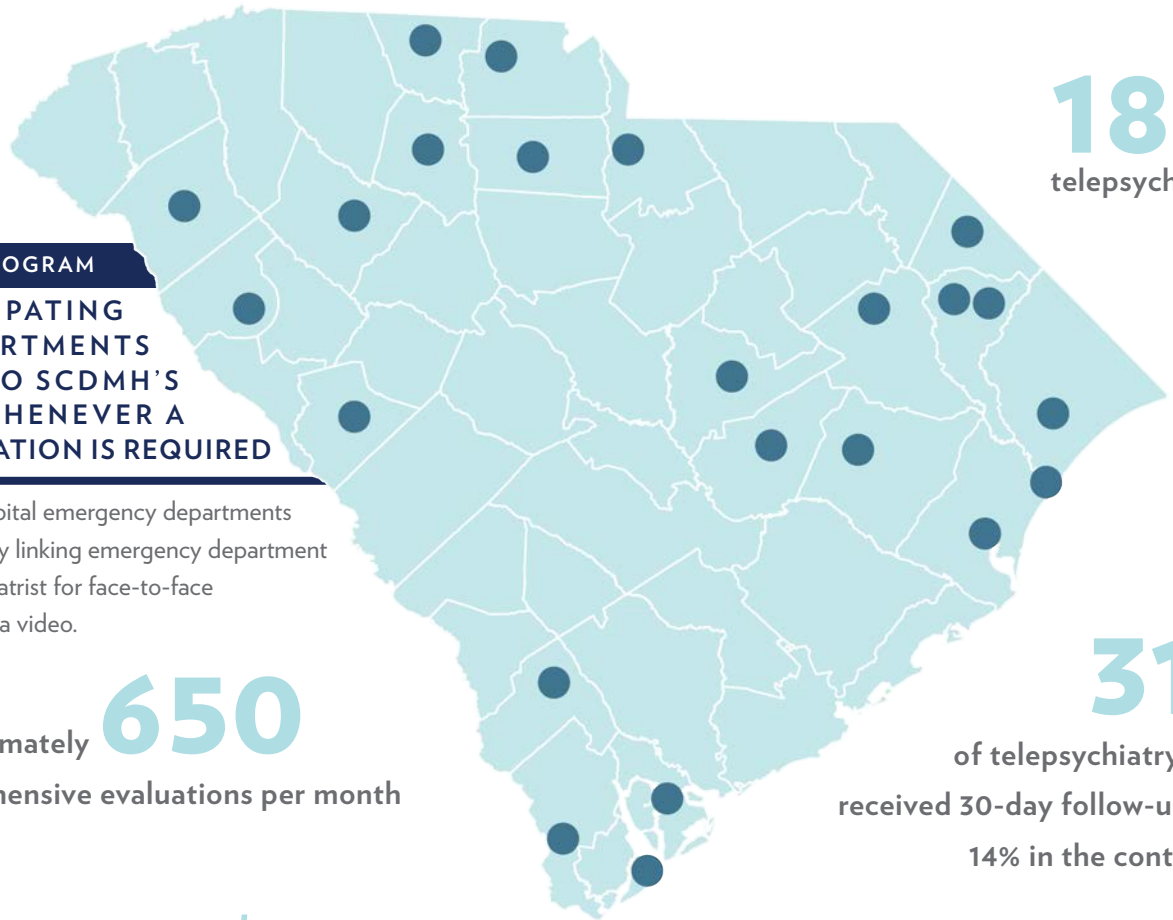
The South Carolina Department of Mental Health (SCDMH) is filling major gaps in the need for more mental health providers in hospital emergency rooms around the state. SCDMH psychiatrists are connecting to conduct comprehensive evaluations via telehealth 7 days a week, 365 days a year. This program is:

- Increasing quality
- Improving the timeliness of triage, assessment, and initial treatment of patients
- Reducing the number of individuals and length of stay in emergency rooms
- Allowing hospitals to direct critical personnel and financial resources to other needs; thus, realizing financial savings for hospitals.

**7,860** **comprehensive evaluations by SCDMH in 2018.**

## GREENVILLE HEALTH ED TELEPSYCHIATRY PROGRAM

In addition to SCDMH, Greenville Health is also connecting psychiatrists to emergency departments within their hospital network. This program launched in the summer of 2018, and by the end of the year had conducted over 150 consultations.



**18**
telepsychiatrists

## ED TELEPSYCHIATRY PROGRAM

### PROVIDES PARTICIPATING EMERGENCY DEPARTMENTS REMOTE ACCESS TO SCDMH'S PSYCHIATRISTS, WHENEVER A PSYCHIATRIC EVALUATION IS REQUIRED

There are 23 community hospital emergency departments that utilize technology directly linking emergency department patients to a SCDMH psychiatrist for face-to-face comprehensive evaluations via video.

Approximately **650**
comprehensive evaluations per month

**31%**
of telepsychiatry patients received 30-day follow-up care vs. 14% in the control group

**$2,300**
cost savings per emergency department visit

## INPATIENT TELEPSYCHIATRY

MUSC Health and Greenville Health System psychiatrists partner with hospitals to offer scheduled consultations to those in the inpatient setting with acute psychiatric needs. Benefits of the program include:

- Scheduled consults available within 24 hours, Monday through Friday
- Access to psychiatric consults decreases a patient's length of stay and expedites placement
- Patients receive expert consultation while remaining in their own community
- Patients receive evaluations from board certified physicians
- Physicians are able to recommend complex psychiatric medications

SUPPORTING COMMUNITY HOSPITALS

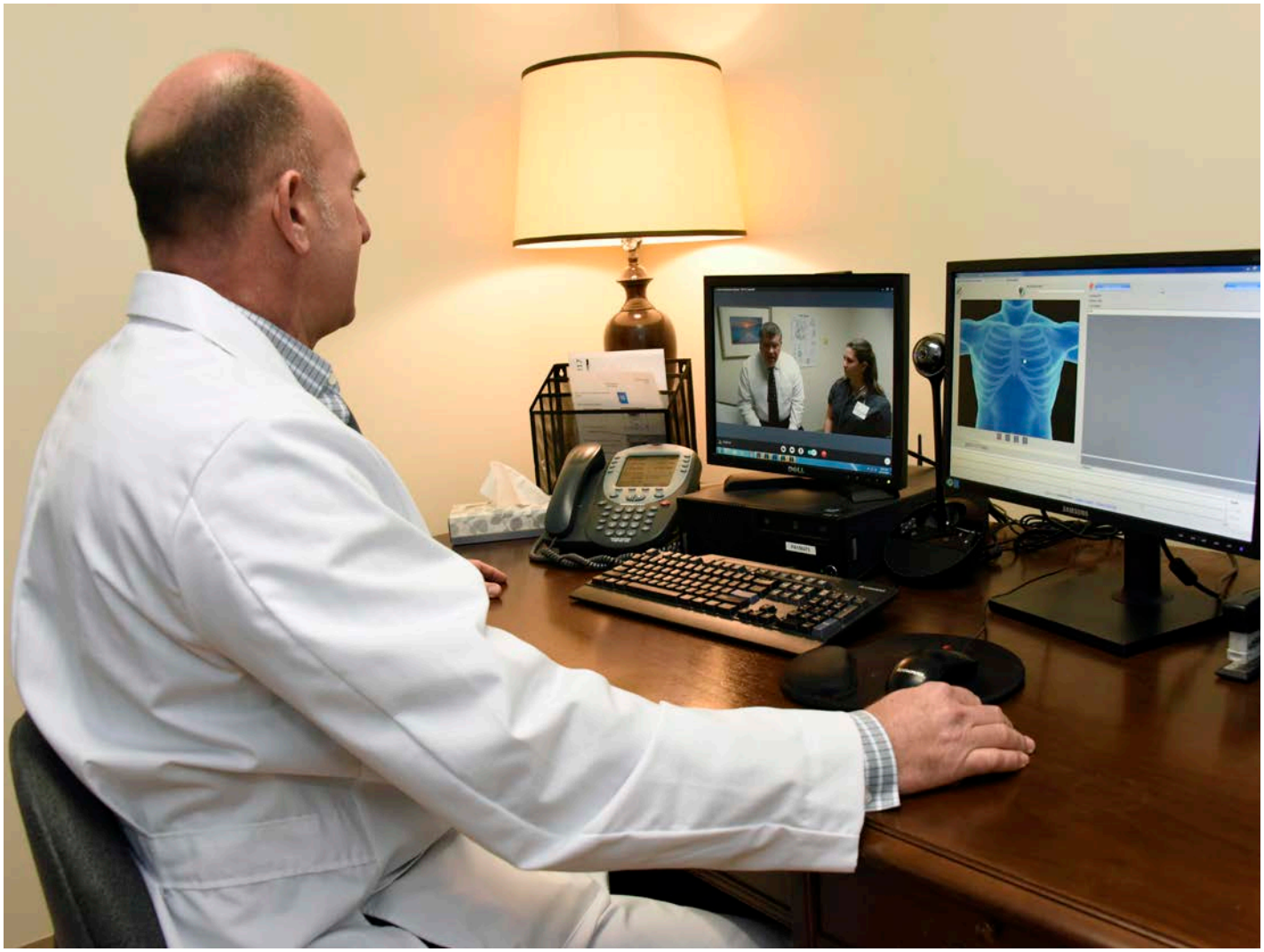
# OTHER SERVICE HIGHLIGHTS

## PEDIATRIC CRITICAL CARE

Supported by the Children's Telehealth Collaborative, which operates through the South Carolina Children's Hospital Collaborative, South Carolina's children's hospitals partner with local community hospitals to add an extra layer of care when pediatric patients go to the emergency room with critical illnesses or injuries. Through pediatric emergency, critical care, and neonatal intensive care consultation, community hospitals can connect with a diverse group of pediatric specialists from Greenville Health System, McLeod, MUSC, and Palmetto Health and feel confident about treating these young patients in their own communities. One example of this program in action comes from Greenville Health: A 27-week pregnant mother with a ruptured peritoneal vessel came to Oconee Memorial Hospital and connected to Greenville Health's Delivery Buddy telehealth service. The neonatologists from Greenville Health's NICU consulted with the on-site provider at Oconee for 82 minutes. The baby was born at 2 lbs. and then later was transferred. Today he is healthy, nearing his first birthday.

## CONTINUOUS VIRTUAL MONITORING

MUSC Health developed a program to remotely monitor at-risk patients to improve safety and reduce staffing costs. Virtual monitoring technicians (VMTs) remotely collaborate with the connecting interdisciplinary medical team to deliver continuous patient monitoring.



## OTHER HOSPITAL SPECIALTIES

Other specialty services are being extended through SCTA partner health system through the use of telehealth. Greenville Health system is conducting teleconsultations for treatment of infectious diseases within their own network of hospitals in the upstate, and in 2018 conducted 56 infectious disease consults. McLeod Health is also delivering specialty teleconsultations in cardiology, pulmonology, and nutrition to its network of community hospitals in the PeeDee area, and across these three specialties conducted 96 specialty consults in 2018.

**56** infectious disease consults conducted by Greenville Health System

**96** specialty consults conducted by McLeod Health in 2018

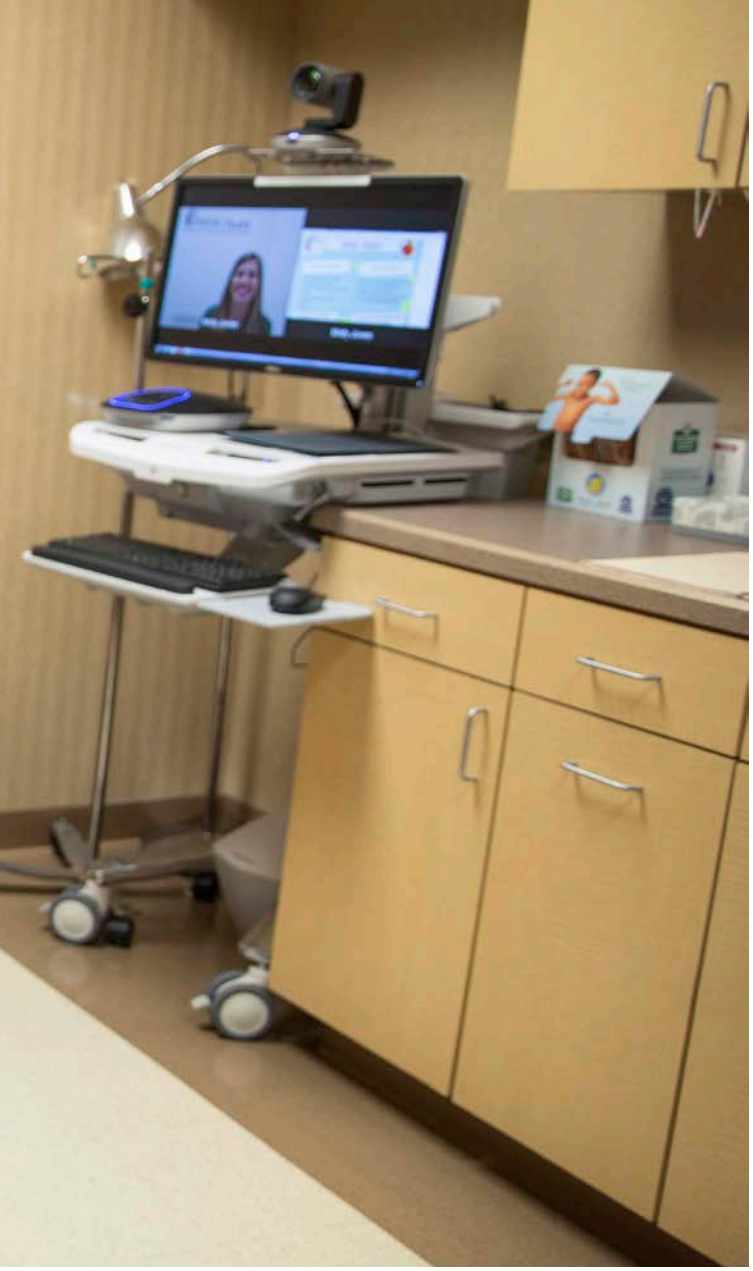
SUPPORTING COMMUNITY OUTPATIENT PRACTICES

# OUTPATIENT SPECIALTY

## OUTPATIENT TELEHEALTH

South Carolina has many communities where access to specialty care is limited. MUSC Health is delivering specialty care into several primary care and other ambulatory settings. MUSC Health providers are treating patients for conditions in a number of specialties including maternal fetal medicine, nutrition, psychiatry, general surgery, stroke follow-up, and sickle cell.

This program is not only connecting patients to high quality specialty care, it is also saving them from having to travel long distances for follow-up care which reduces time off from work and school for families.

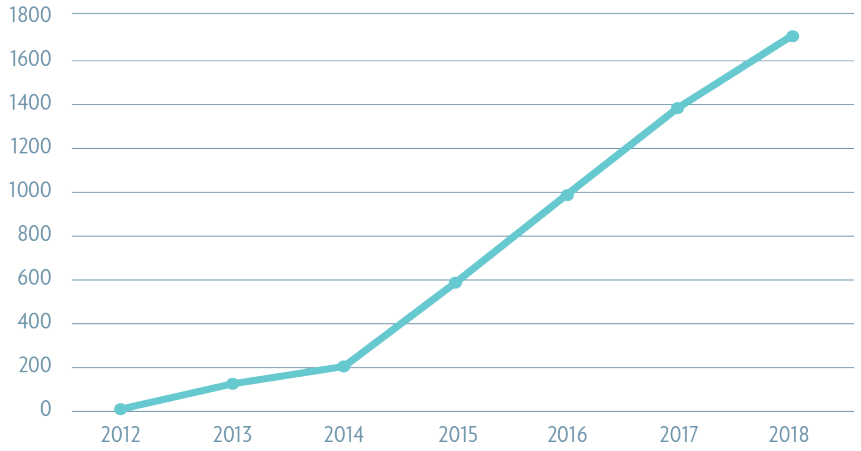


**In 2018, the program conducted**

# 1,700+

**consultations**

Annual Number of Outpatient Consultations



SUPPORTING COMMUNITY OUTPATIENT PRACTICES

# COMMUNITY TELEPSYCHIATRY PROGRAM

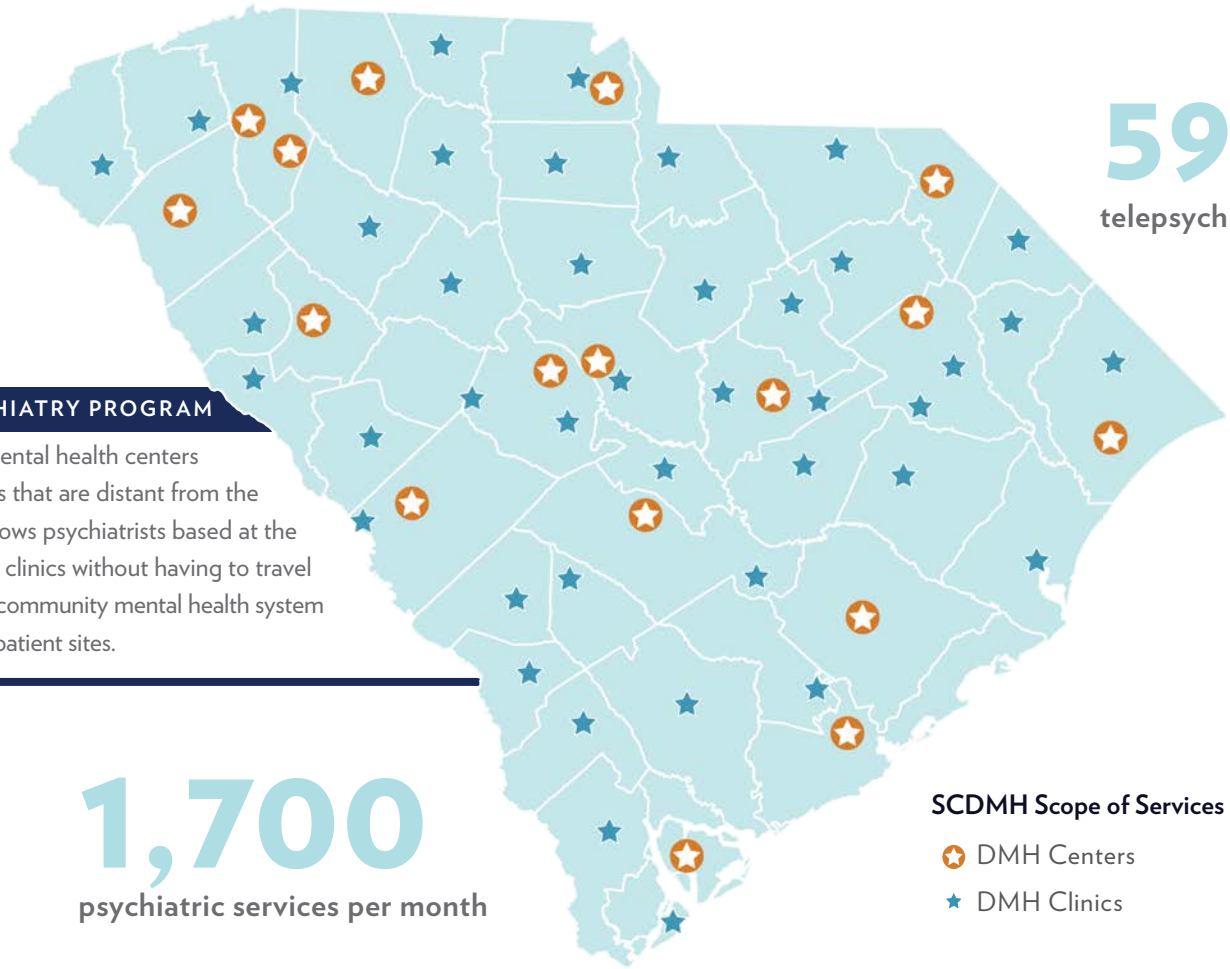
## SCDMH COMMUNITY TELEPSYCHIATRY PROGRAM

The South Carolina Department of Mental Health (SCDMH) has significantly increased mental health access by using telehealth technology to connect psychiatrists to patients in community mental health centers. In this setting, the patient is located in a private room, where he or she can communicate in real-time with the psychiatrist who is located in a different location.

This service not only helps patients avoid unnecessary hospitalizations, but also provides the specialized treatment patients need sooner and in their local communities. In addition, it reduces expenses for healthcare providers and taxpayers, diverting patients with behavioral health needs from local emergency departments and hospitals.

> **“Telepsychiatry is changing the game in South Carolina. This is a cutting-edge statewide service delivery model that provides psychiatric care in a matter of hours to people in many areas who once had to wait days for help.”**

- Robert Bank, MD, DMH Deputy Director, Medical Affairs



**59**
**telepsychiatrists**

## COMMUNITY TELEPSYCHIATRY PROGRAM

Many SCDMH community mental health centers operate clinics in rural counties that are distant from the main center. Telepsychiatry allows psychiatrists based at the main centers to serve outlying clinics without having to travel to those locations. SCDMH's community mental health system includes approximately 60 outpatient sites.

**1,700**
**psychiatric services per month**

**SCDMH Scope of Services**

- DMH Centers
- DMH Clinics

## SUPPORTING COMMUNITY OUTPATIENT PRACTICES

# MEDICATION-ASSISTED TREATMENT (MAT)

With the rise of the opioid epidemic and increased rates of overdose deaths, it is essential to expand access to medication-assisted treatment—a lifesaving treatment proven to curb opioid addiction. Through telehealth, South Carolina is able to more efficiently tap into the limited number of providers trained and waived to offer this treatment. A partnership among MUSC Health, Palmetto Care Connections, SC Department of Alcohol and Other Drug Abuse Services (DAODAS), the Behavioral Health Services Association (BHSA/301) clinics, and some out-of-state providers has allowed South Carolina to expand access to this lifesaving treatment.

**300+** **patients in 2018 were able to receive lifesaving MAT services via telehealth.**

SUPPORTING COMMUNITY OUTPATIENT PRACTICES

# TELEMENTORING AND PROJECT ECHO

With the use of technology, telementoring links provider specialist teams with primary care clinicians in local communities. Together, they participate in regular online clinics, which are like virtual grand rounds, combined with mentoring and patient case presentations. This essentially extends specialty care into communities that lack specialized care. Project ECHO is an evidence-based model of this telementoring.

**105** telementoring clinics provided in 2018

**642** unique individuals participating in telementoring clinics in 2018

## TELEMENTORING AND PROJECT ECHO PROGRAMS

In South Carolina, there are multiple telementoring and Project ECHO programs working to support local primary care providers:

**EMBRACE ECHO for Sickle Cell Disease (MUSC)**
Educates local providers to enhance knowledge and self-efficacy in treating and managing SCD and improve cost of care through increased quality of care.

**Pregnancy Wellness in South Carolina (MUSC, Palmetto Health)**
Provides telementoring using the ECHO model to support current and future providers in area of maternal fetal medicine.

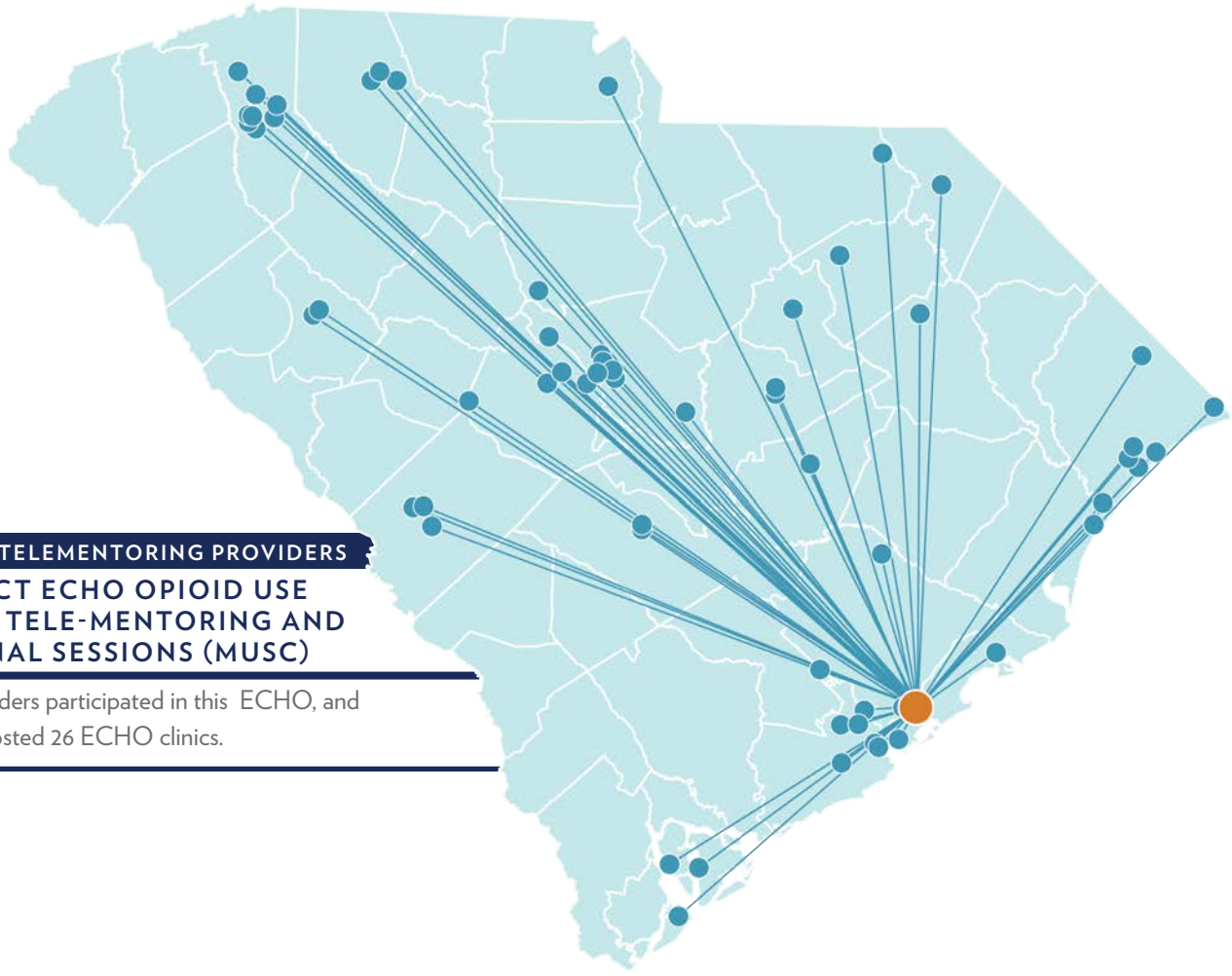
**Psychiatry & Primary Care Residency ECHO (Greenville Health System)**
Offers education and training to medical residents within Greenville Health System in the fields of Internal Medicine, Family Medicine, and Psychiatry on behavioral health integration in primary care settings.

**235**

**patient cases reviewed and received expert consultation in 2018**

**300+**

**continuing education credits provided across telementoring programs in 2018**



CONNECTING TELEMENTORING PROVIDERS

## SC'S PROJECT ECHO OPIOID USE DISORDERS TELE-MENTORING AND EDUCATIONAL SESSIONS (MUSC)

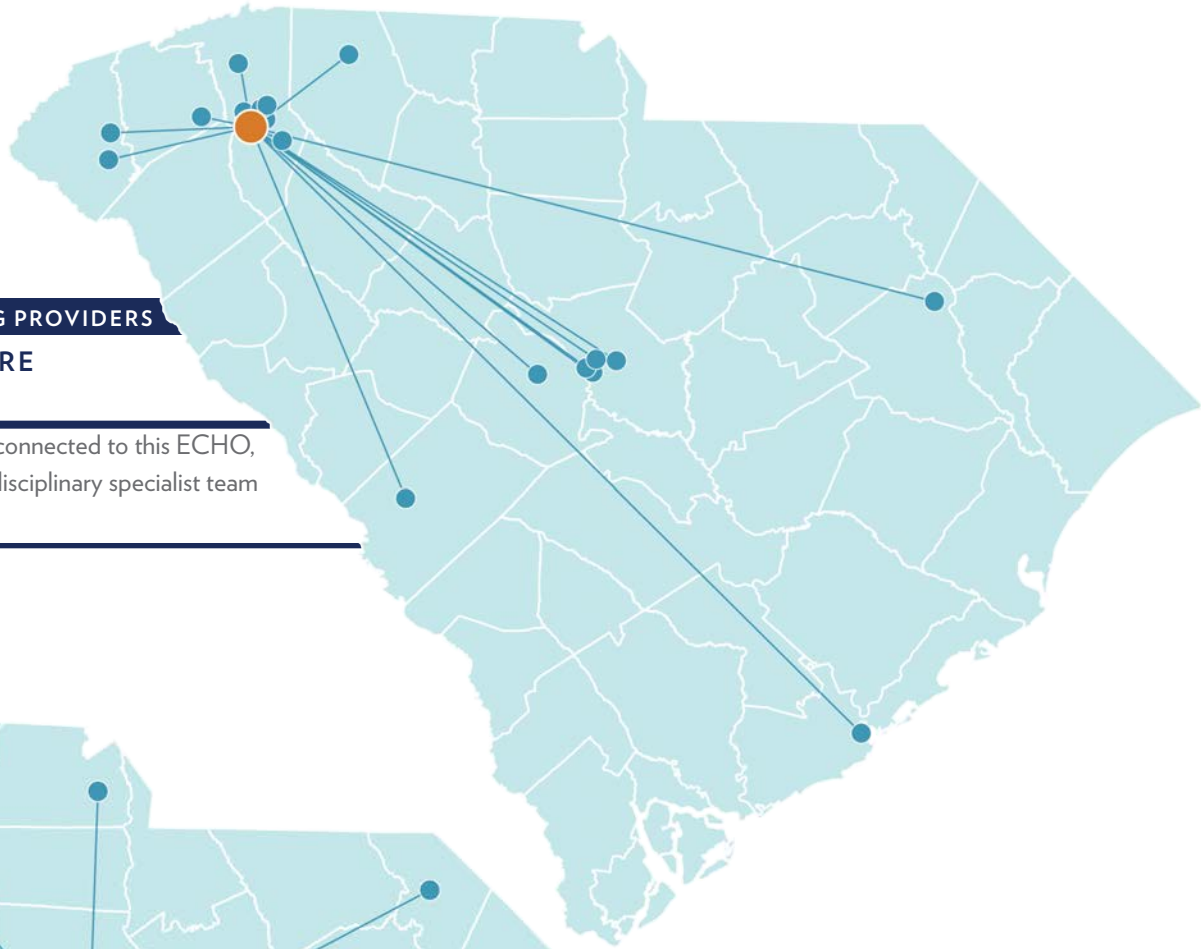
In 2018, 219 providers participated in this ECHO, and MUSC Health hosted 26 ECHO clinics.

## TELEMENTORING AND PROJECT ECHO PROGRAMS (CONT)

**Behavioral Health Care Manager ECHO (Greenville Health System)**
Using the ECHO model, provides ongoing support and training in brief evidence-based psychotherapies and skills required to work in the collaborative care model and provide care to patients receiving both mental and psychiatric services.

**SC Hepatitis C Telehealth Initiative (USC – Palmetto Health)**
Offers education, training, consultative support, and patient co-management for healthcare providers interested in or providing screening, testing, staging, and treatment of HCV mono-infected and HIV/HCV co-infected patients. The initiative covers the spectrum of topics related to HCV medicine, and assists providers in navigating the complex aspects of HCV patient care management.

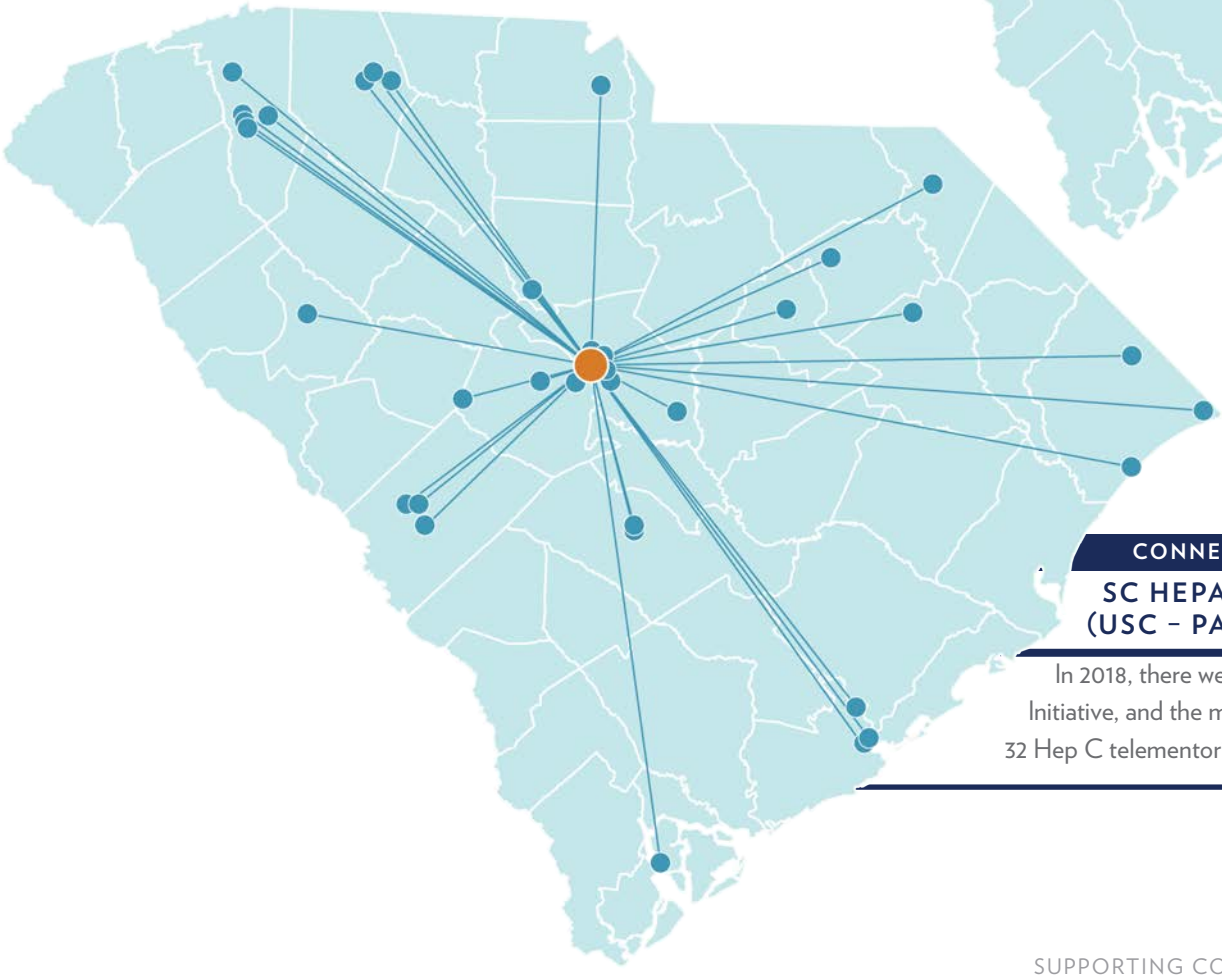
**SC's Project ECHO Opioid Use Disorders Tele-Mentoring and Educational Sessions (MUSC)** Leverages the ECHO model to provide continued mentoring and consultation using evidence based best practices in the treatment of opioid use disorder.



CONNECTING TELEMENTORING PROVIDERS

## BEHAVIORAL HEALTH CARE MANAGER ECHO (GHS)

In 2018, there were 33 providers that connected to this ECHO, and Greenville Health System's interdisciplinary specialist team provided 26 telementoring clinics.



CONNECTING TELEMENTORING PROVIDERS

## SC HEPATITIS C TELEHEALTH INITIATIVE (USC – PALMETTO HEALTH)

In 2018, there were 173 providers that participated in the Hep C Initiative, and the multidisciplinary team led by USC hosted 32 Hep C telementoring clinics.

SUPPORTING OTHER POPULATION-BASED SETTINGS

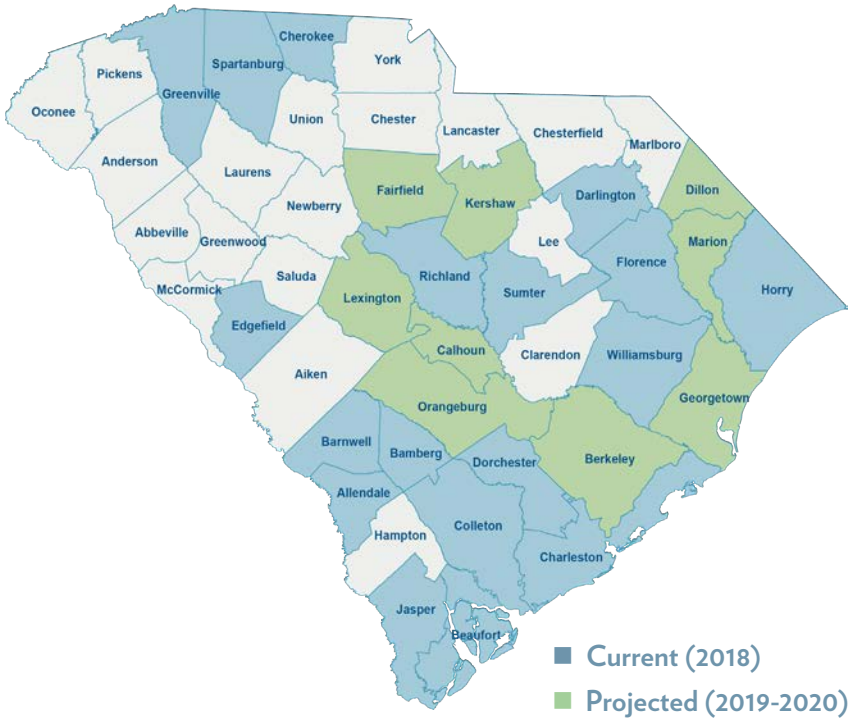
# SCHOOL-BASED TELEHEALTH

## SCHOOL-BASED TELEHEALTH

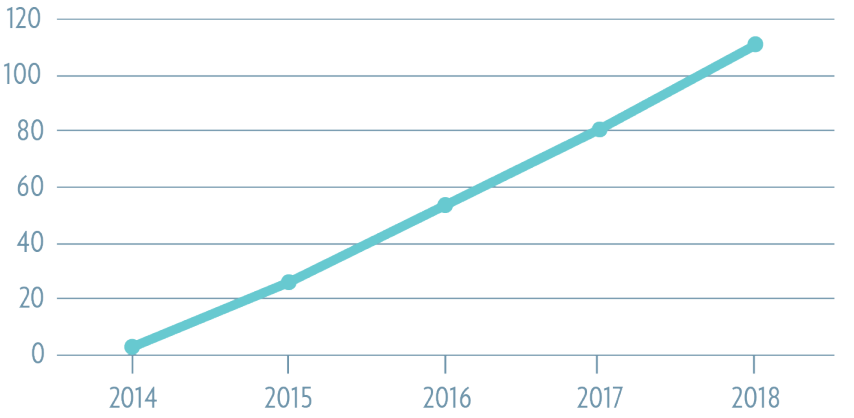
School-based telehealth provides high-quality healthcare to children in the school setting by connecting them to a physician or advance practice provider via face-to-face video, with the assistance of a school nurse or telepresenter. The use of telehealth allows children to receive much needed medical services including acute care, chronic disease management, mental health care, group health education, medical supervision, and individual education plan consultation.

The South Carolina school-based telehealth program is one of the fastest growing school-based telehealth networks in the nation and is currently operating in 18 counties across the state, in over 100 schools. Many children benefit from having this convenient, expedited access to preventative care and treatment integrated within their schools. This program decreases the time students miss from class due to illness, enabling them to be more able learners. School-based telehealth demonstrates additional value for parents who may not be able to leave work to travel to a provider's office.

## Counties with School-Based Telehealth




## Number of South Carolina schools with telehealth capability*




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

### MCLEOD HEALTH'S SCHOOL-BASED HEALTH CONCUSSION PROGRAM

McLeod Health is using telehealth to treat athletic concussions in the school setting. Once an athlete suffers a concussion, the initial consultation is done in person in a clinical setting. The follow-up visits are done via telehealth with a certified athletic trainer present with the patient at school.

Before connecting with the provider, the trainer runs a series of assessments on the student athlete, then uses an iPad to connect with the provider. With the aid of a high-definition camera with otoscope and a pen light, the provider goes through a series of tests with the student (balance, pupil dilation, mental clarity, motor function, etc.), and determines if the student is ready to return to physical activities. This program allows the students to stay in school and continue learning while still complying with post-concussion treatment guidance. This reduces the need for parents to take time off from work to drive their children to the doctor for these follow-up visits.

SUPPORTING OTHER POPULATION-BASED SETTINGS

# SKILLED NURSING FACILITIES

Because skilled nursing facilities (SNFs) care for some of the most vulnerable and complex patients, it is important to have options for keeping residents out of the hospital as much as possible. Telehealth is a solution to extend care to these patients in the comfort of their settings via live video assessments with a physician. A registered nurse is present during these consults and serves as the telepresenter. This service provides urgent and acute care, as well as scheduled psychiatry visits into these facilities using telehealth technologies, which reduces unnecessary transportation to emergency departments for cases that are non-emergent. MUSC Health currently provides telehealth services to 4 SNFs and this program is growing, with other health systems looking to provide these telehealth services in the near future.

SUPPORTING OTHER POPULATION-BASED SETTINGS

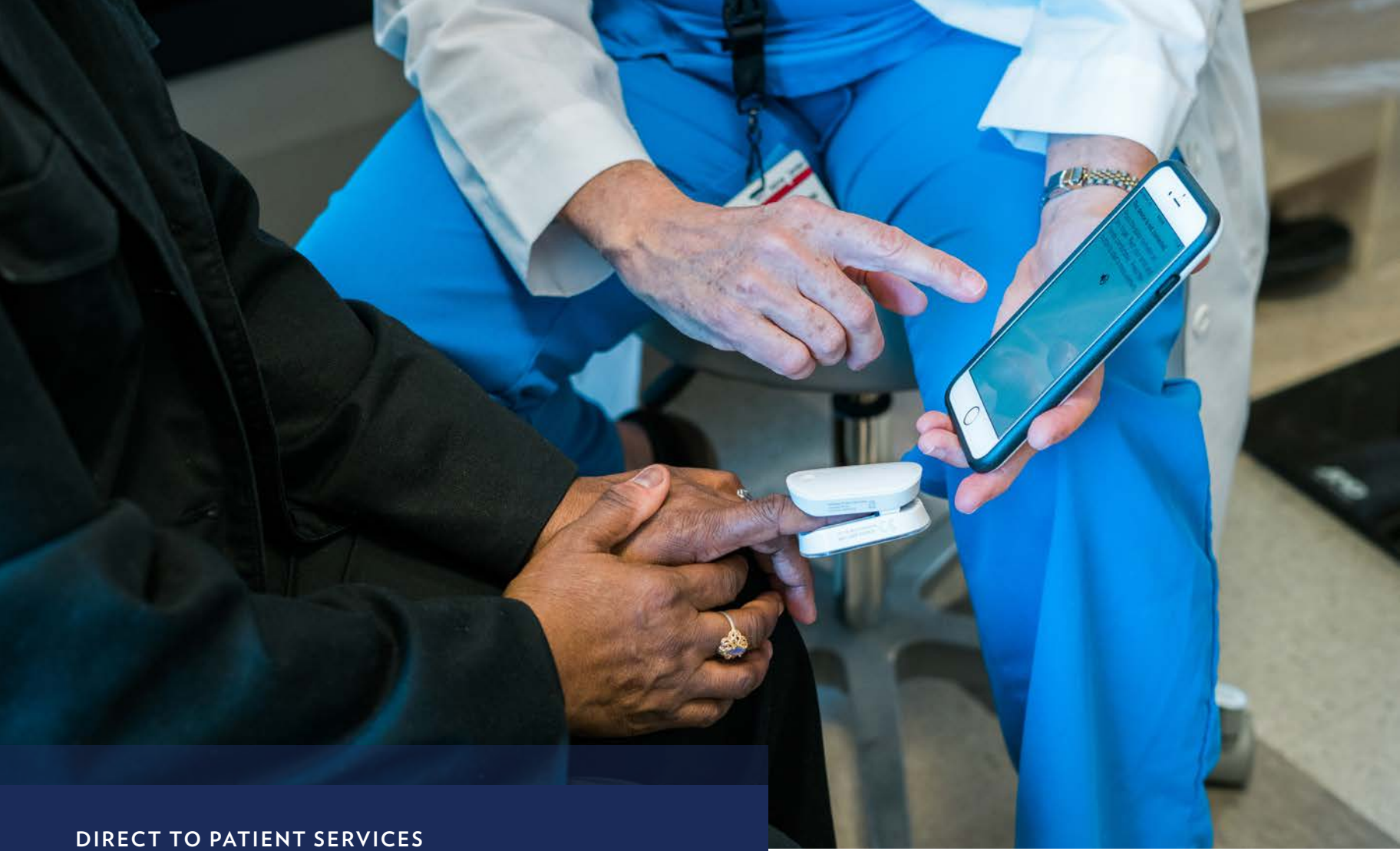
# CORRECTIONAL FACILITIES

Telehealth enables the South Carolina Department of Corrections (SCDC) and local county jails to connect inmates to MUSC providers using video, for urgent care needs and some specialty medicine services including follow-up HIV care. An inmate who suffers from an urgent care condition, especially during evening hours, is able to visit the infirmary nurse who decides whether patient care needs to be escalated. At this point, the nurse can request a telehealth consult with a specialty provider.

Traditionally, inmates would be transported with security personnel to an emergency department, whether or not the need was emergent. The use of telehealth within correctional facilities allows inmates to receive remote care for non-emergent needs, during odd hours, in an effort to reduce inmate transports. This program prevents costly, unnecessary transfers to emergency departments and provides efficient treatment to inmates.

**57** telehealth visits with incarcerated individuals in 2018

**$1,500-$2,000** estimated cost saving for every avoided transfer from a correctional facility



DIRECT TO PATIENT SERVICES

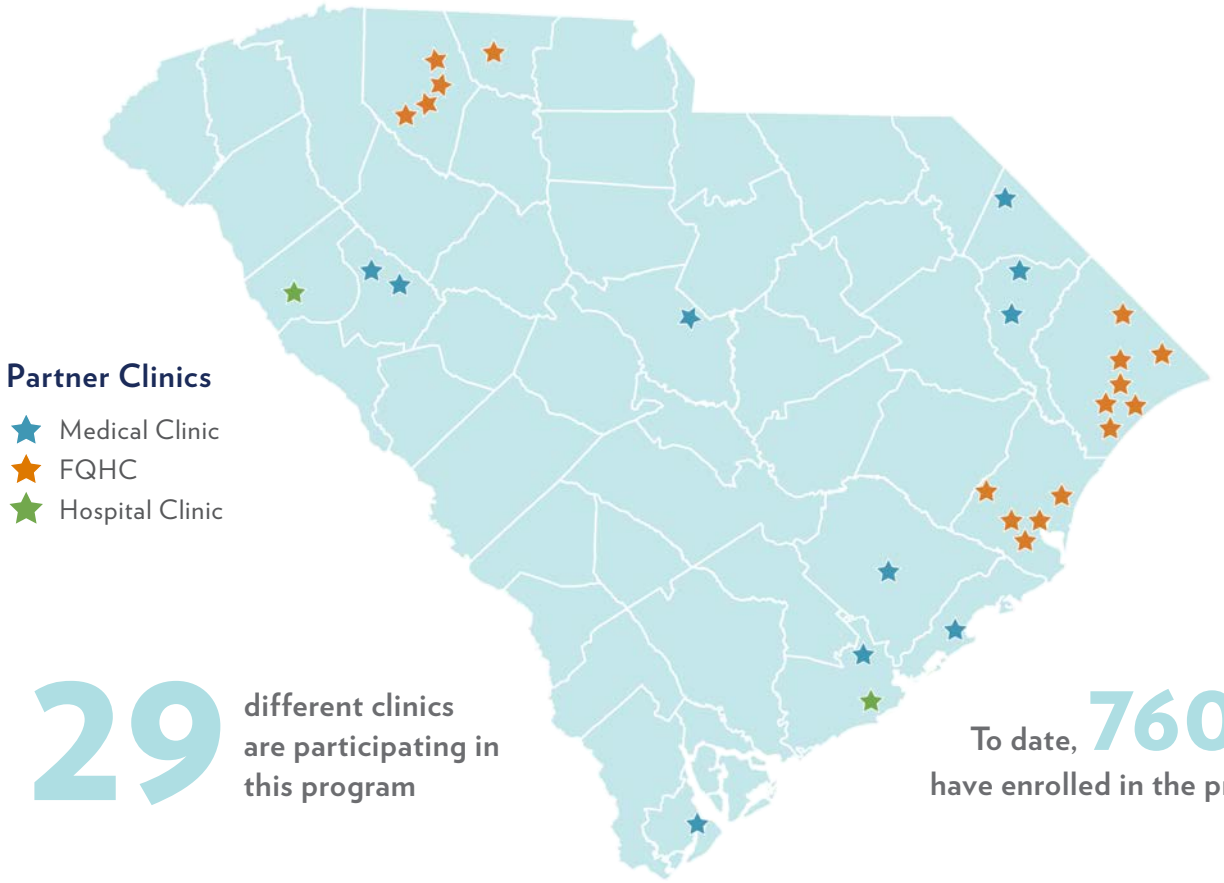
# REMOTE PATIENT MONITORING

Remote patient monitoring (RPM) devices and apps are providing a way for patients and providers to manage chronic conditions using mobile devices. Some of what used to require an inpatient hospital stay, can now be monitored from home or wherever the patient is. Some conditions in which a patient could benefit from remote patient monitoring include asthma, burns, diabetes, COPD, and heart valve replacement surgery. For example, at Greenville and Palmetto Health providers monitor patients with congestive heart failure (CHF), and these programs are improving compliance with follow-up appointments, improving medication management, and assisting patients with basic daily disease management. They are also reducing hospital re-admissions.

## DIABETIC REMOTE PATIENT MONITORING

Using a combination of nurse case management and remote patient monitoring, MUSC Health partners with community clinics to help patients with uncontrolled type 2 diabetes improve their blood glucose and blood pressure levels. Using a telehealth monitoring device, participants are provided materials to test their blood sugar and blood pressure levels on a daily basis. These daily readings are automatically uploaded and stored to a secure server, which primary care providers and case managers can access in real time. This monitoring from afar allows case managers to provide direct feedback to support adherence and gives providers the opportunity to adjust medication if necessary.

## MUSC Health Diabetic Remote Patient Monitoring

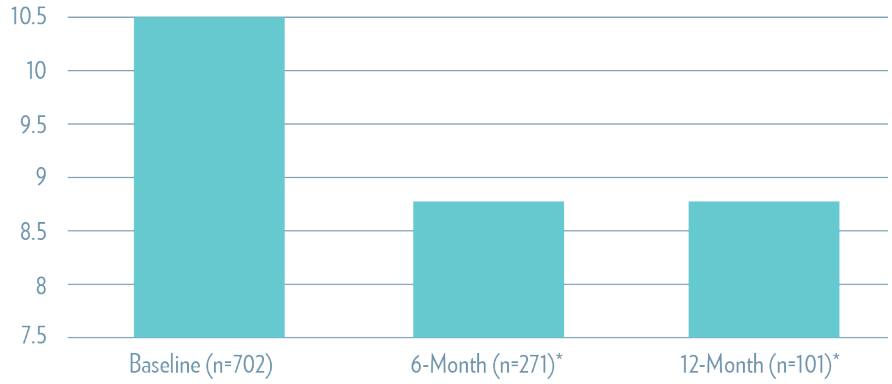



**29** different clinics are participating in this program

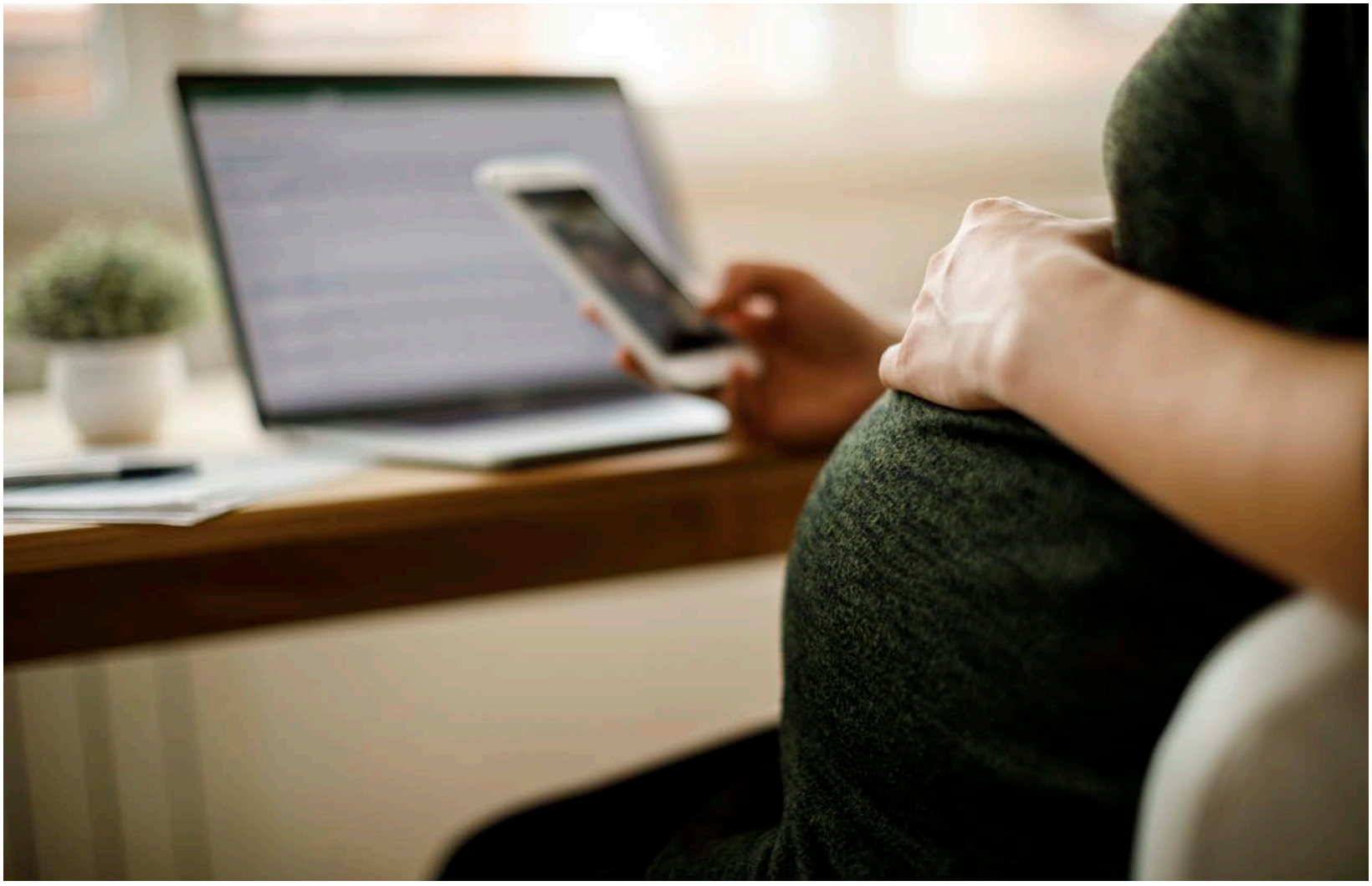
To date, **760+** patients have enrolled in the program.

## Diabetic Remote patient Monitoring Program HbA1C outcomes

After 12 months in the program, the average participant's hemoglobin A1c decreases by 1.7%, which is equivalent to a drop in the average blood glucose of about 50mg/dL.




*This program is relatively new and only a subset of enrolled patients have been involved beyond 6 months.

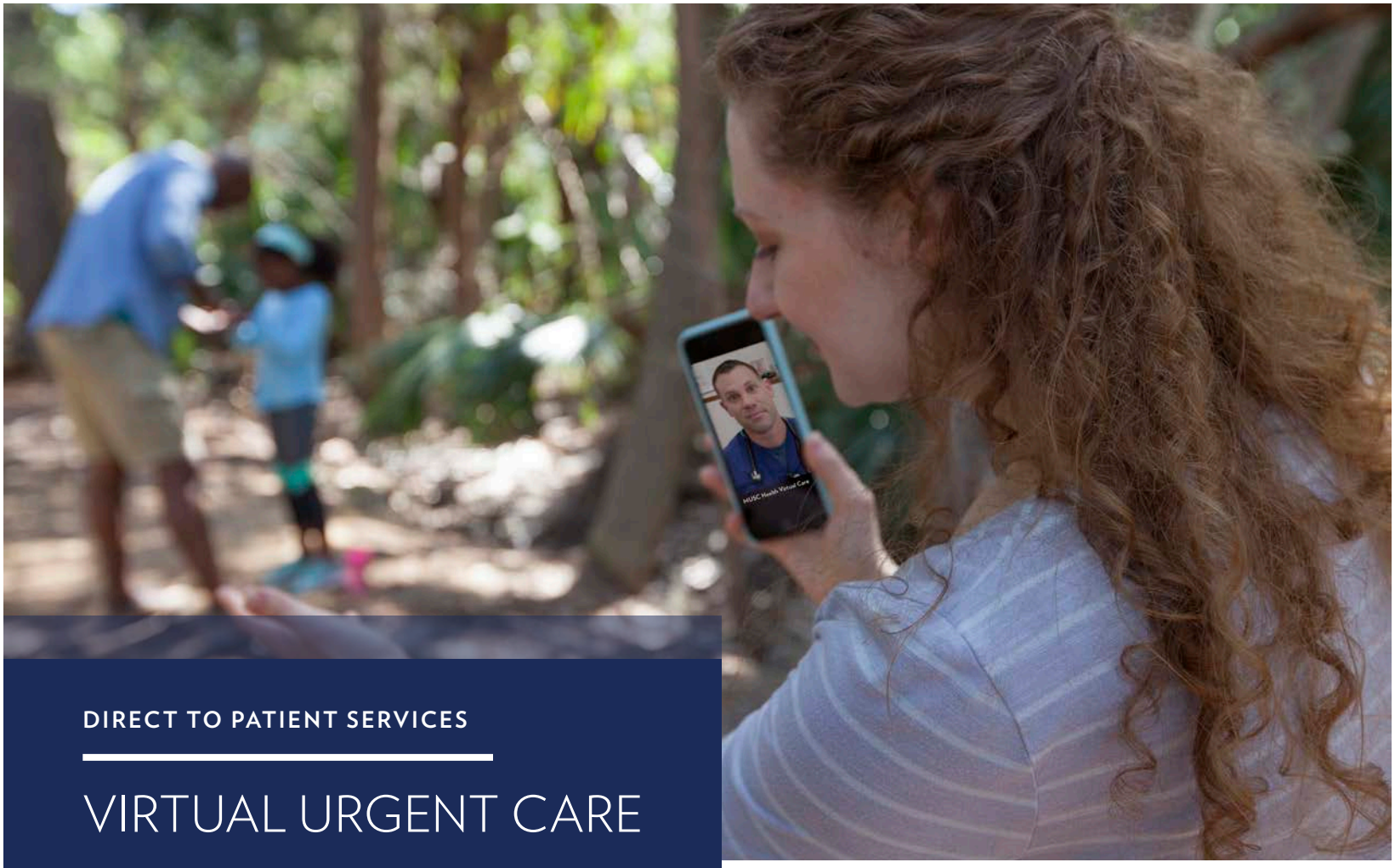


## REMOTE PATIENT MONITORING FOR PREGNANT MOTHERS

In 2018, Greenville Health System implemented the BabyScripts app systemwide to improve the prenatal experience and well-baby outcomes for mothers. BabyScripts is a mobile app that has home monitoring features allowing mothers to track their blood pressure and weight and share these values with their obstetrician. It also provides mothers with instructional education related to nutrition, exercise, and other behaviors to help guide mothers through each trimester of their pregnancy. By using the app, women can skip up to 5 of the 14 traditional doctor visits scheduled during pregnancy, while at the same time allowing their doctors to monitor their patient's health on a weekly basis.

**850** expecting mothers used the BabyScripts app in 2018

> *"In medicine, we're always looking at the ways we've traditionally provided care and say, is there a better way to do it that would give us the same outcome and quality, but be more current?"*
>
> – Dr. Lauren Demosthenes, Medical Director of High Value Care & Innovation, Department of OB/GYN (GHS)



DIRECT TO PATIENT SERVICES

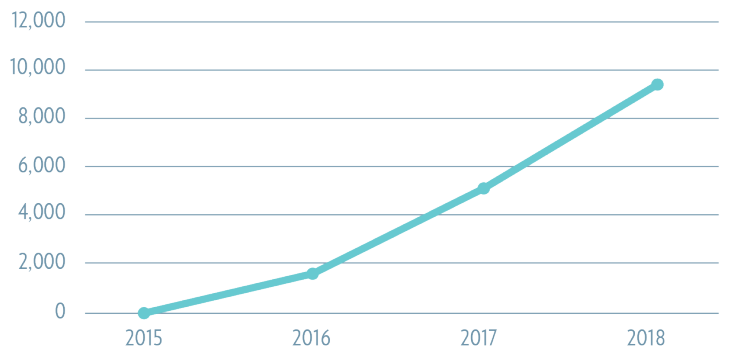
# VIRTUAL URGENT CARE

Virtual urgent care is an online service that provides rapid diagnosis and treatment without the need for patients to visit an urgent care center or emergency room for low acuity conditions. Through options like online surveys and real-time video, these platforms allow patients to connect with local providers using their own devices.

Due to their ease and convenience, virtual urgent care is one of the fastest growing types of services, and many of the health systems within the SCTA provide this service to patients. Virtual urgent care platforms vary, but all allow patients to log into a secure portal, share symptoms they are experiencing (by survey, real-time video, or both), and receive a diagnosis with a prescription or a referral to in-person care. This platform is a great, affordable addition to the healthcare portfolio, especially for busy patients who may not have the time to make it to a physician's office or urgent care facility.

## South Carolina Virtual Care Visits

Greenville Health System, McLeod Health, MUSC Health, Palmetto Health



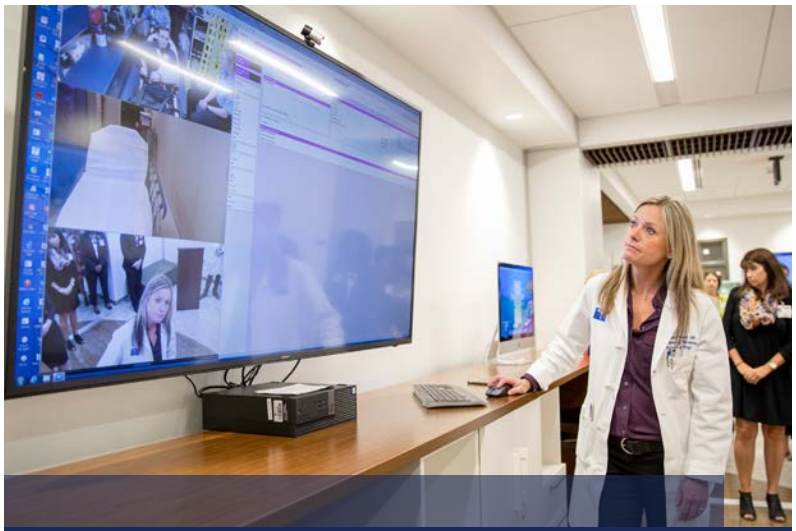
## TRAINING & EDUCATION

### SOUTH CAROLINA AREA HEALTH EDUCATION CONSORTIUM (AHEC)

Through its Office of Telehealth Education, South Carolina AHEC provides a number of educational programs focused on advancing telehealth competency among healthcare professionals. These include a three-hour online Telehealth 101 module for their AHEC Scholars Cohort, telemedicine modules integrated into their neuroscience webinars, and Interprofessional Team Case Conferences where health care students from across the state use telehealth technology to participate in team-based approaches to care. Additionally, South Carolina AHEC plays a supportive role in helping other organizations within the SCTA (e.g., PCC, USC, and MUSC) promote telehealth education through partnership and co-sponsorship of events.

**5,000+**

**individuals took advantage of telehealth-related education opportunities offered by SCTA partners in 2018**



## THE MEDICAL UNIVERSITY OF SOUTH CAROLINA (MUSC)

MUSC is also a leader in telehealth education and training, infusing telehealth throughout its training for current students, residents, and faculty. MUSC offers one interprofessional course focused solely on telehealth, and many other courses offered at MUSC include large telehealth components, in classrooms and online. MUSC's Center for Telehealth also welcomes other visitors into its learning commons, with audiences including health care technology collaborators, other academic institutions, connecting providers, payers, and funders including members of the SC General Assembly and private foundations.

**650+** MUSC students, residents, and other trainees exposed to telehealth through their curriculum in 2018

**900+** individuals participated in an educational tour of the Center for Telehealth

## PALMETTO CARE CONNECTIONS (PCC)

In addition to hosting the Annual Telehealth Summit, PCC also offers a monthly webinar series focused on telehealth topics like telehealth credentialing or changes in the regulation of APRN practice in South Carolina. They also host regional educational meetings throughout the state during Telehealth Awareness Week.

**250** participants at Annual Telehealth Summit in 2018

**275+** participants in monthly webinar series in 2018

## UNIVERSITY OF SOUTH CAROLINA (USC)

Faculty from USC's Colleges of Nursing, Pharmacy, and Social Work created a novel, online interdisciplinary course that trains nurse practitioner, pharmacy, and social work students to provide telemental health services to patients in rural South Carolina. The School of Social Work at USC also integrates telehealth into its MSW course on mental health interventions.

**50** students participated in USC's telemental health course

PROMOTIONS & SUSTAINABILITY

# CONTENT ADVISORY TEAM

The Content Advisory Team (CAT) promotes telehealth and the work of the SCTA through a number of media outlets, the main one being the sctelehealth.org website. 2018 was a year of evolution for the website, as it transitioned from a simple billboard site to a more interactive site where partners share resources among themselves and with other stakeholders. A monthly newsletter with live links, and social media including YouTube, Facebook, and Twitter, are used to increase website traffic and grow its audience. The goal of sctelehealth.org is to be a one-stop shop for telehealth information in South Carolina. Another way CAT members share information about the SCTA is by representing it and speaking at various telehealth conferences and events.

Hospital and clinic open-houses to show patients, payers, elected officials, and the community how telehealth works.

Regional educational opportunities to share best telehealth practices.

The regional telehealth meeting in Greenville was a success.

## TELEHEALTH AWARENESS WEEK

Held in October, the 2nd Annual Telehealth Awareness Week (#TAW2018) was a success and garnered a second proclamation from Governor Henry McMaster. This annual observance highlights how telehealth is enabling providers to deliver care to more patients in community hospitals, rural clinics, schools, nursing facilities, correctional facilities, in homes and anywhere the patient is. The SCTA encourages providers using telehealth, as well as those on the receiving end of telehealth, to open their doors to the public during that week.

**SCTA partners engaged with almost stakeholders at 6 events in 5 cities and towns across the state.** **200**

**10** **major South Carolina insurers participated in the payer open house.**

**14** **organizations joined the SCTA in recognizing this week by using the hashtag #TAW2018 in their social media posts**

**5** **print and broadcast media outlets covered the TAW events.**

## MY TELEHEALTH CAMPAIGN

SC Educational Television (SCETV) helps lead the SCTA's promotional efforts, including spearheading the My Telehealth campaign, which includes awareness videos, podcasts, interviews, and social media content. The My Telehealth videos—which are housed on a YouTube channel and promoted on social media—are used for educational purposes, in-service meetings, conference events, community events, and meetings with payers. Through their powerful portrayal of patient stories, these videos help raise public awareness of the benefits of telehealth.

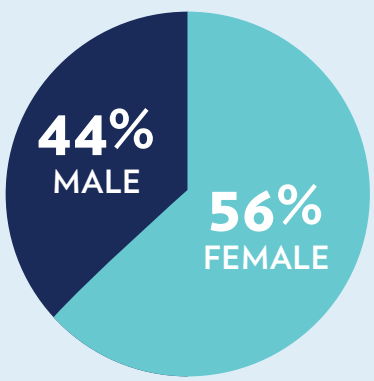
The My Telehealth campaign was recognized with the Golden Tusk Award for Overall Marketing/Communications Program at the Carolinas Healthcare Public Relations and Marketing Society (CHPRMS) during their annual fall conference.

## TWITTER

**513** Lifetime followers

**6,360** Tweet Impressions

Total tweets **756**

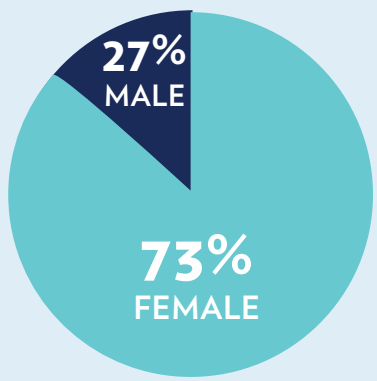



## FACEBOOK

Lifetime likes **446**

**53%** lifetime likes increase in 2018

**453** Lifetime followers



## YOUTUBE

**77** videos

**68,957**
watch time (minutes)

**66%** watchtime increase in 2018

**31,530**
total video views

**2:11**
average view duration

**133** likes

**584** shares

## TOP VIEWS ON YOUTUBE

**3,141** S.C. Hospital Uses Innovation to Keep Patients Safe

**1,012** Resident Uses Virtual Sleep Clinic for Good Sleep

**1,189** Nursing Home Technology Keeps Patients Out of the Doctor's Office

**871** Elementary School Uses Telehealth for Student Care

PROMOTIONS & SUSTAINABILITY

# SUSTAINABILITY

The Sustainability Workgroup—comprised of individuals from South Carolina health systems and payer organizations—advanced the discussion this year on telehealth billing, reimbursement, and value-based payment. Early in the year the workgroup discussed techniques and templates health systems could use in contract discussions with payers, and in the fall they hosted a payer open house at MUSC's Center for Telehealth to demonstrate to payers how telehealth technology works and discuss ways it can build efficiency for providers and payers alike.

In 2018, the Sustainability Workgroup published its first set of payer coverage priorities and a scorecard of current payer progress in meeting these priorities. The priorities and scorecard will evolve into a progress report, which will be continually updated and published online.

## 2018 PAYER COVERAGE PRIORITIES

### Patient Location

- Medicare Rurality Restrictions: Understanding there are many barriers to care in addition to a patient's location, the SCTA urges Medicare to remove geographic restrictions based on rurality.
- Originating Site Facility Fee: To prevent a financial disincentive for using telehealth within primary care settings, the SCTA urges government and private payers to provide a facility fee payment amount that is equivalent to the Medicare reimbursement of $25.76 in order to cover the cost of the visit for the primary care provider.
- Homes as Originating Sites: The SCTA urges all payers to include the patient's homes as a covered originating site for live video with providers. Connecting with patients via video, in the home has proven to be useful and beneficial for follow-up care for chronic conditions, such as COPD. In home video visits are also beneficial for urgent care needs

### Provider Type

Government and private payers are urged to expand their lists of covered providers who regularly provide care for patients, to include:

- Physician assistants
- Nurse practitioners
- Nurse mid-wives
- Clinical psychologists
- Master's degree level mental health providers (example: LISW-CP)
- Registered dieticians
- Physical therapists, occupational therapists, and speech language pathologists

### Service

- **Mobile Health:** Government and private payers are urged to begin covering store and forward telehealth modality, specifically online visits (asynchronous), for urgent and on-demand care. There are several commercial companies that connect patients to national providers, but the SCTA supports the use of online visits with South Carolina providers to ensure coordinated care.
- **Remote Patient Monitoring:** Private payers and Medicaid are urged to follow Medicare's coverage of remote patient monitoring to better manage patients with chronic conditions.
- **e-Consults:** The SCTA urges government and private payers to cover services rendered between primary care providers and specialists using e-consult platforms. e-Consults have the potential to provide relief for specialty shortages and can improve the current PCP specialist referral process.

SOUTH CAROLINA

# Telehealth

ALLIANCE

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@mytelehealth

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