

An Unprecedented Collaboration that is a Model for the Nation



2016 Annual Report

SOUTH CAROLINA
Telehealth
ALLIANCE



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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 healthcare 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.

SCTA Strategies and Expected Deliverables

In 2017, IT personnel from different organizations will work together to make it easy to connect multiple telehealth programs to over 270 sites.

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

A breadth of services are now available across the state, championed by the rapid growth of stroke, mental health and school-based care.

The SCTA continues to focus on increasing broadband connectivity to rural parts of the state.

2. Understand and effectively respond to the needs of users of telehealth with an emphasis on the underserved and rural.

3. Invest in expanding needed specialty and subspecialty capabilities through telehealth.

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

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

The SCTA matures as an organization, adding a membership model and formalized advocacy efforts such as the Telehealth Awareness Week.

In 2017 telehealth education will be brought to health care provider training institutions across the state.

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

The SCTA will continue to work with insurers to improve reimbursement policies that increase access and leverage the cost savings associated with telehealth.

**South Carolina Telehealth Alliance
(SCTA) Advisory Council**

Senator Thomas Alexander
SC General Assembly

Rick Foster, M.D.
SC Hospital Association

Don Godish
SC ETV

Paul Hletko, M.D.
Georgetown Pediatrics
(Rural Health Provider)

John H. Magill
Director, South Carolina Department
of Mental Health

Danette McAlhaney, M.D.
Bamberg Family Practice
(Rural Health Provider)

James T. McElligott, M.D., MSCR
Co-Chair, SC Telehealth Alliance
MUSC Health

Meera Narasimhan, M.D.
Palmetto Health USC Medical Group
USC School of Medicine

Blix Rice, MBA
Greenville Health System

Kathy Schwarting, MHA
Co-Chair, SC Telehealth Alliance
Palmetto Care Connections (PCC)

Representative Murrell Smith
SC General Assembly

Amanda Williams, MHA
SC Department of Health and Human
Services

Fellow South Carolinians:

This past year, South Carolina continued to break new ground in providing high quality care and increased access to underserved communities via telehealth. As a member of the SC Telehealth Alliance Advisory Council, we worked diligently in 2016 to ensure that programs grew to meet the rural and urban needs of patients, regardless of where they live. From direct care delivery to discovering new, efficient ways to reach patients, we are at the forefront of technological innovation in healthcare and a model for the nation.

As a mental health professional, serving South Carolinians for many years, I have witnessed this unprecedented collaboration of hospitals, state agencies, local healthcare providers, academic medical centers and others positively impact the delivery of statewide mental healthcare.

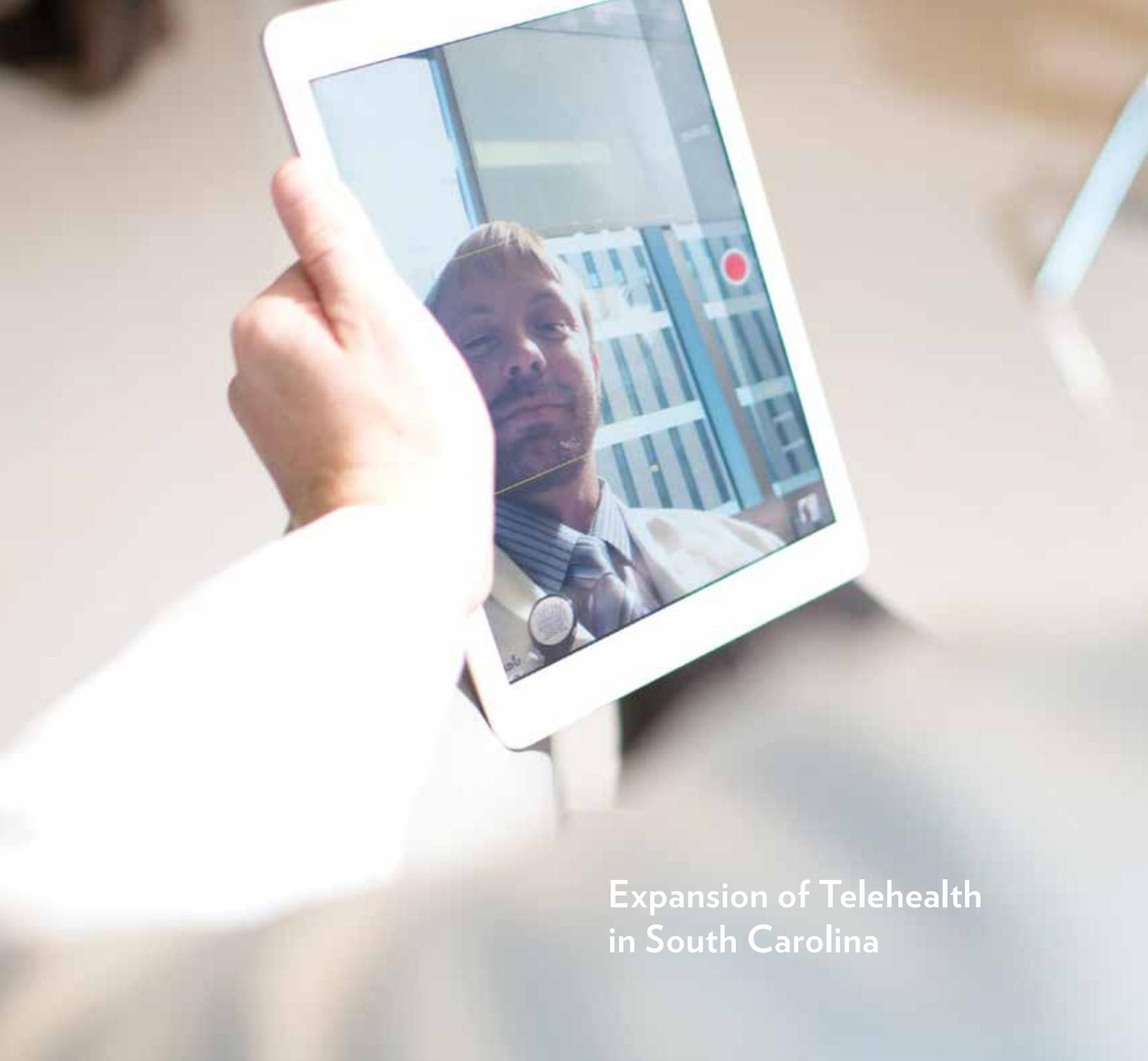
First established in 2009, our Telepsychiatry Consultation Program here at the SC Department of Mental Health has served more than 32,000 patients, a third of whom are recommended for discharge, thanks in large part to the power of telehealth.

We are excited about 2017 and the enormous potential for continued growth in access to services. In this annual report, you will find highlights from the past year, and the future direction of public and private partnerships in telehealth efforts.

We recognize that innovation is really about collaboration and have ensured that the voices of all strategic partners, supporting agencies, and most importantly, patients are heard. We look forward to continuing this great work in 2017.



John H. Magill
Director, South Carolina Department of Mental Health
Advisory Council Member, South Carolina Telehealth Alliance

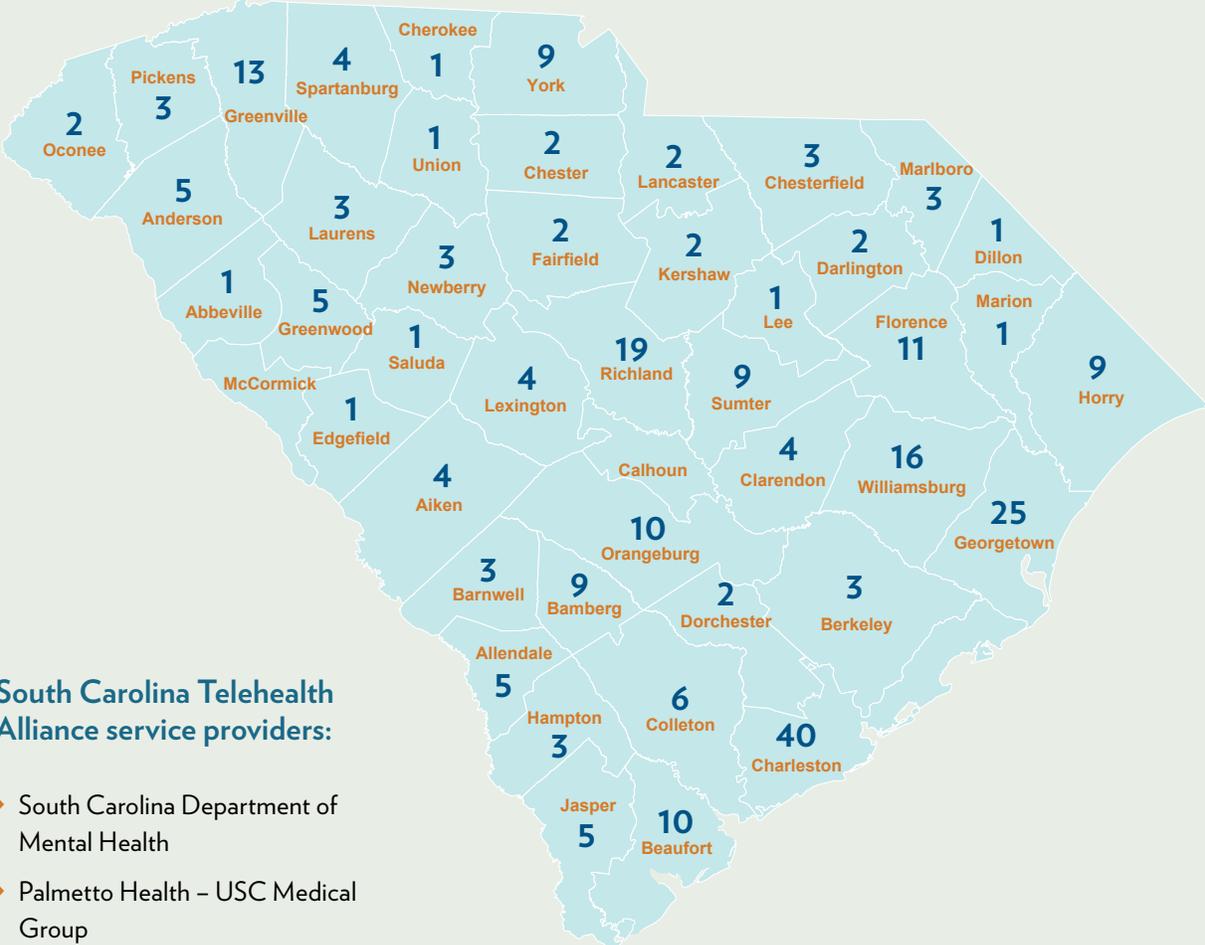


Expansion of Telehealth in South Carolina

“Telehealth is now being utilized statewide,
enhancing collaboration and reducing costs.”

-James T. McElligott, M.D., MSCR
Co-chair, SC Telehealth Alliance

Telehealth Service Connections by County



South Carolina Telehealth Alliance service providers:

- › South Carolina Department of Mental Health
- › Palmetto Health – USC Medical Group
- › South Carolina Area Health Education Consortium
- › MUSC Health
- › Greenville Health System
- › Palmetto Care Connections
- › McLeod Health
- › Roper St. Francis

268 distinct telehealth sites
– and growing

Telehealth Services Offered in South Carolina

Correctional Institutions and Jails*

- › Intake health assessments
- › Acute condition management

Home Monitoring and Management

- › Diabetic blood sugar
- › Diabetic blood pressure
- › Weight monitoring

Hospital-based Consultations

- › Hospitalist consultation for admissions
- › Mental health
- › Neonatology*
- › Neurology
- › Pediatric burn
- › Pediatric critical care
- › Pediatric orthopedics*
- › Pediatric gastroenterology
- › Intensive care unit patient monitoring
- › ICU Innovations (quality improvement and educational outreach)
- › Tele-EEG
- › Telestroke

Outpatient Specialty Consultations in a Clinical Setting

- › Dermatology (pediatric)
- › Diabetes education
- › General surgery (adult and pediatric)
- › Genetics counseling*
- › Endocrinology (pediatric)
- › Ear, nose and throat (adult and pediatric)
- › Healthy lifestyle counseling (pediatric)
- › Infectious disease for obstetrics*
- › Lactation support to clinics
- › Maternal fetal genetics
- › Maternal fetal medicine

- › Mental health medication management
- › Neurology*
- › Nutrition (adult and pediatric)
- › Opioid addiction management for obstetrics*
- › Orthopedics
- › Patient-child interactive therapy
- › Pediatric development rapid triage service*
- › Pediatric ENT*
- › Post-stroke follow up*
- › Sickle cell (pediatric)
- › Social work
- › Urology (pediatric)
- › Weight management group visits
- › Wound care*

Outpatient Connections Directly to the Patient

- › Asthma monitoring
- › Asynchronous virtual visits for acute conditions*
- › Diabetes home monitoring
- › Home neonatal visits
- › Post-trauma mental health symptom monitoring
- › Video visits for acute and chronic conditions*
- › Video visits for mental health counseling
- › Video visits for lactation support*
- › Video visits for prenatal visits*
- › Video visits for weight management

School-based

- › Acute sick care and chronic disease management
- › Mental health counseling, general
- › Mental health counseling, trauma focused
- › School-based telehealth education and adult programs*

Skilled Nursing Homes

- › Mental health*

* New telehealth service in 2016

75,000+

Real-time video interactions

2,700+

Asynchronous telehealth interactions

Asynchronous interactions can include recorded video messages and physician/patient online interactions for rapid care of common conditions.

57,000+

Other telehealth interactions

Driven by tele-ICU, hospitals are collaborating continuously by exchanging information that enables an expert from across the state to assist in the care of their sickest patients.

135,000

Telehealth patient interactions in 2016



School-based Telehealth

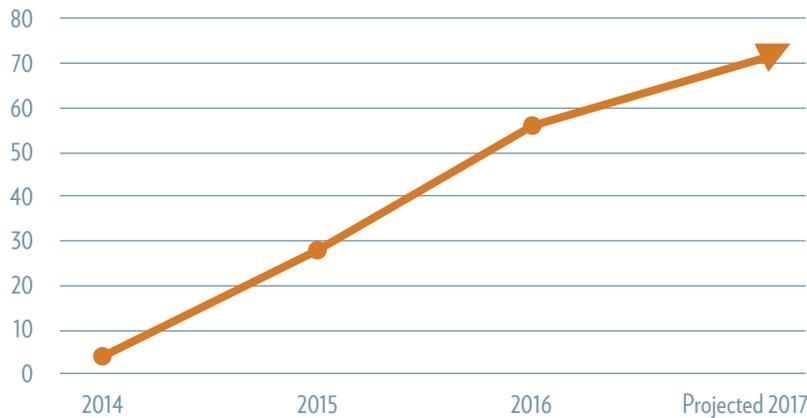
“It is better for my mom, so she doesn't have to come all the way to my school and take time off her job.”

- Tristen Stuckey, Hemingway Elementary fourth-grader

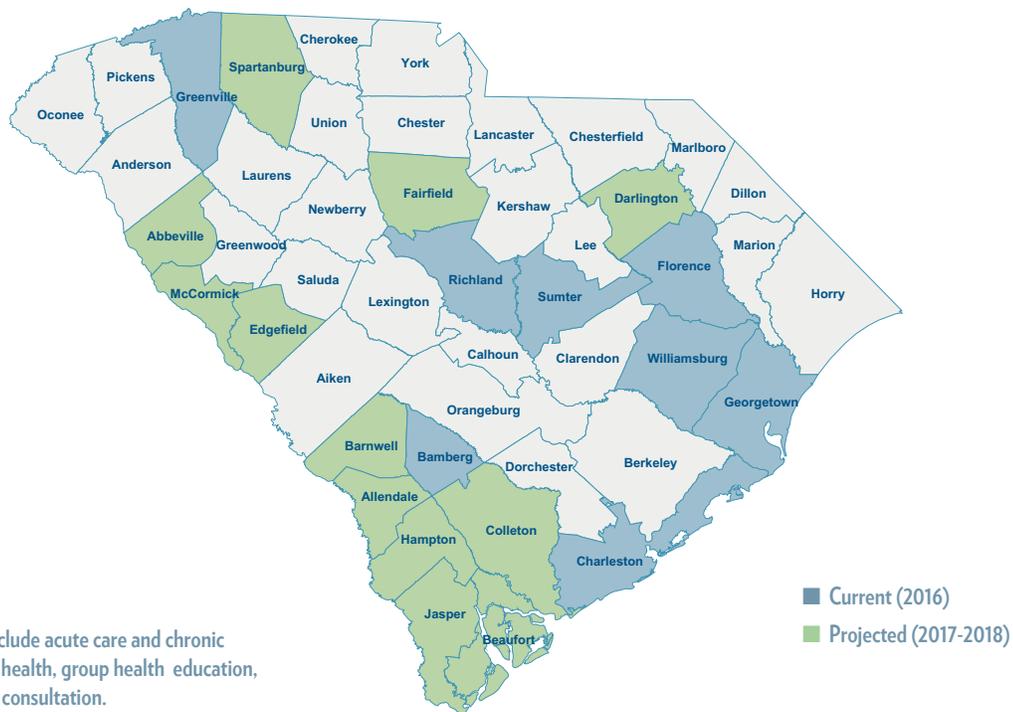
School-based telehealth program

One of the fastest growing school-based telehealth networks in the nation

Number of South Carolina schools with telehealth capability*



The continued rapid expansion of school-based telehealth throughout the state is directed at those areas with the highest clinical need and aimed at reducing excess healthcare expenditures.



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

HIGHLIGHT: School-based telehealth at Hemingway Elementary



Just as in many other rural areas of South Carolina, families in Hemingway seeking pediatric treatment for their child are faced with a challenge — there is no pediatrician in town. In order to increase local access to quality care, Hemingway Elementary tapped into telehealth. Through a secure video link, students are able to have a consultation with a provider in real-time from their school nurse’s office. Elneicia Burgess, mother of the fourth-grader, Tristen, believes the telehealth consult is very beneficial, and Tristen is also happy about it. Tristen came to the school nurse one day sick and unable to learn. He was quickly connected to Kelli Garber, Lead Nurse Practitioner, who examined and treated Tristen. He was able to return to class healthy, happy and ready to learn all while his mother finished her day at work. Tristen has made several return visits to see Ms. Garber, who has helped to keep his asthma under control. “Whenever I get hurt or sick the teacher sends me to the nurse.” he says, “If we need the telehealth machine she’ll set it up. I think it’s cool! It is better for my mom, so she doesn’t have to come all the way to my school and take time off her job.”

Palmetto Health received a USDA RUS-DLT Telemedicine grant to provide educational - as well as primary care services - to residents of Lower Richland.



School-based student education benefits

- › Access to education programming administered by school and health officials
- › Program designed to empower students to live healthy, productive lives

Adult education benefits

- › Chronic disease self-management programs
- › Diabetes prevention courses
- › Free screenings in Palmetto Health Mobile Care unit
- › Interactive discussions on important topics like nutrition, physical activity, self-motivation and goal setting



Telestroke Program

“This system was able to increase or expand the team [of clinical providers] quicker.”

-Kevin Schnall, father of stroke patient treated via Telehealth

“Time is Brain” critical for stroke patients

by Taylor Crouch

SCETV MyTelehealth program



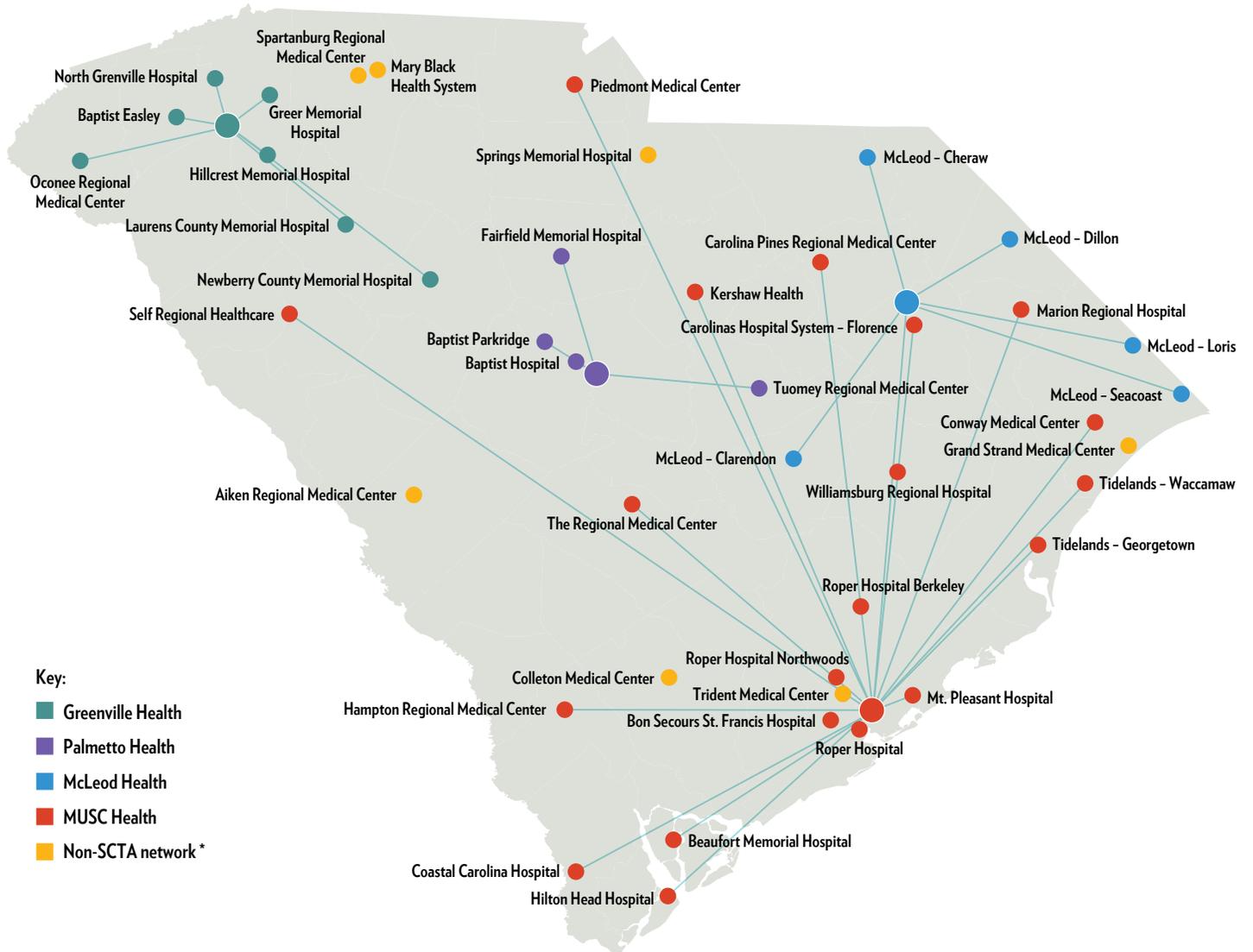
Tracy Plush suffered a stroke two days before her fiftieth birthday, leaving her to celebrate in the hospital.

On her lunch break, as a 9-1-1 dispatcher, her arm went numb and her speech became slurred. She knew she was having a stroke because she remembered reading about stroke symptoms in a pamphlet she found in a doctor’s office.

Since 2015, the Regional Medical Center in Orangeburg and the Medical University of South Carolina have partnered to improve stroke care with their Telestroke Program. Plush was able to be consulted in Orangeburg by a Charleston neurologist using video conferencing. Quick action enabled doctors to confidently administer TPA, a clot-busting drug, to reverse the symptoms of her stroke...and allow for full recovery and another reason to celebrate.

Tracy Plush says, “I had the stroke two days before my birthday. It was a celebration. Being able to talk to my kids, that was all the celebrating that I needed.”

The SC Telehealth Alliance telestroke networks are providing expert stroke care coverage throughout the state.



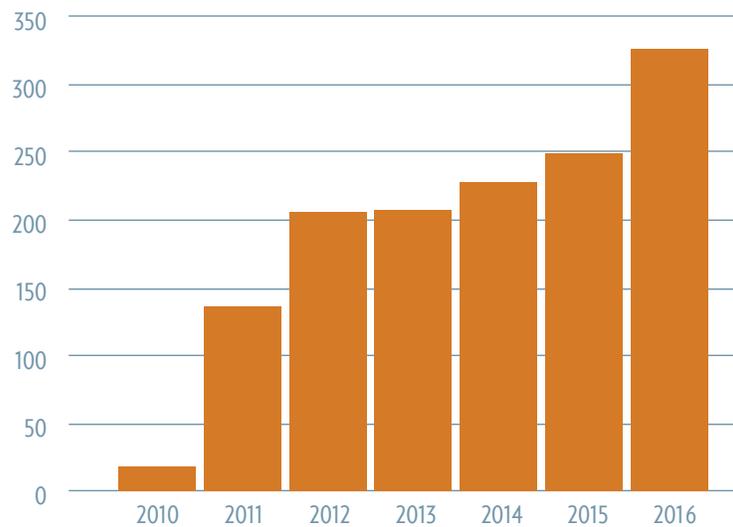
- Key:
- Greenville Health
 - Palmetto Health
 - McLeod Health
 - MUSC Health
 - Non-SCTA network*

* Some hospitals have chosen to use telestroke services from providers outside the Alliance.

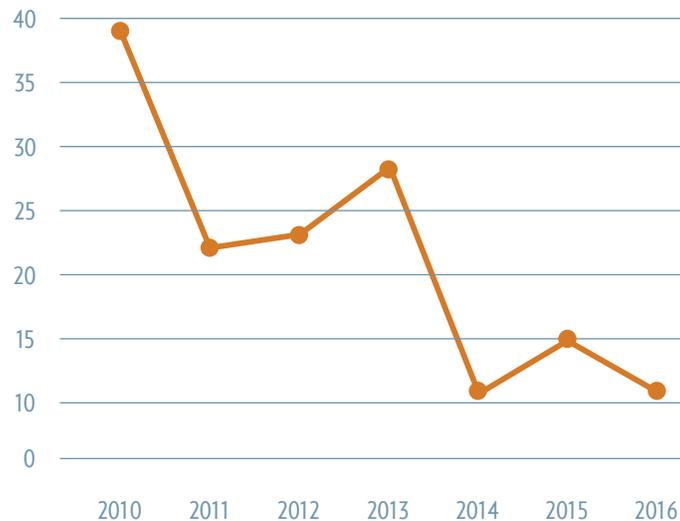
85% Telestroke patients remain in their community for treatment

More patients are accessing local healthcare resources via telestroke consultations. Those are now less frequently being transferred to centers outside of their community.

Number of Consultations McLeod Health hospitals:
Cheraw, Dillon, Loris and Seacoast (higher is better)



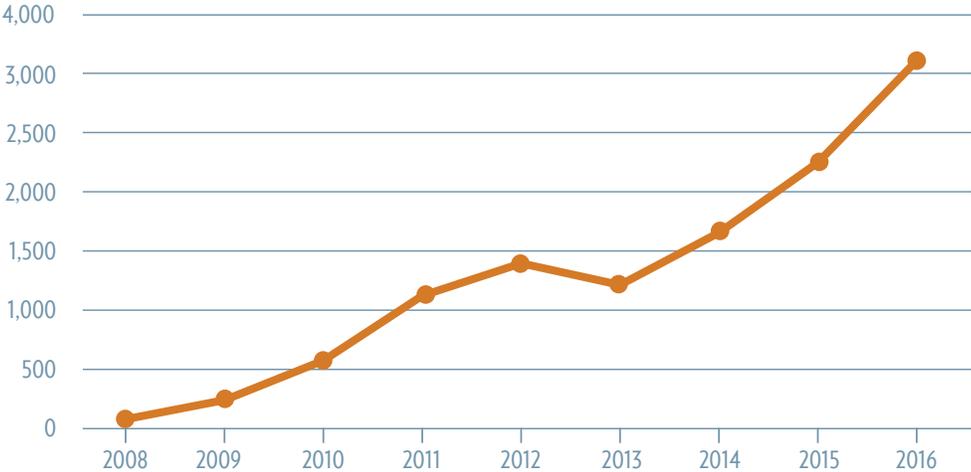
Percentage of Patients Transferred to MUSC Health
from McLeod Health hospitals:
McLeod Cheraw, Dillon, Loris and Seacoast (lower is better)





Collaboration of South Carolina providers has become one of the largest telestroke networks in the country.

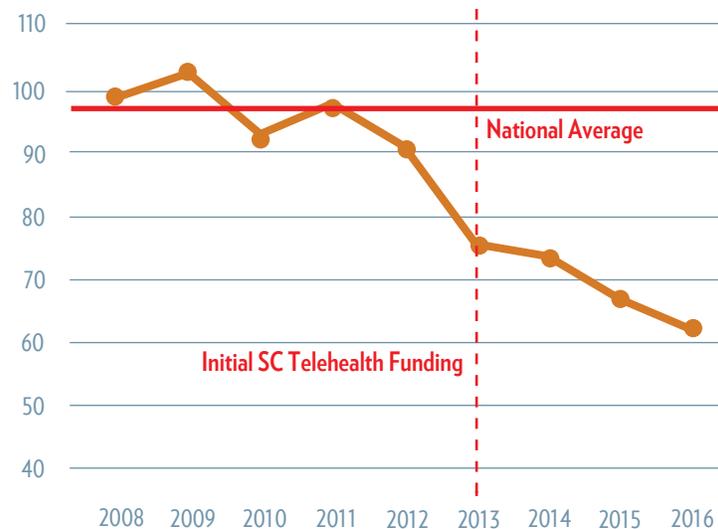
Telestroke Consults by Year
Greenville Health System , MUSC Health, Palmetto Health, Roper St. Francis



MUSC Telestroke Network Time to Treatment Exceeds National Guidelines

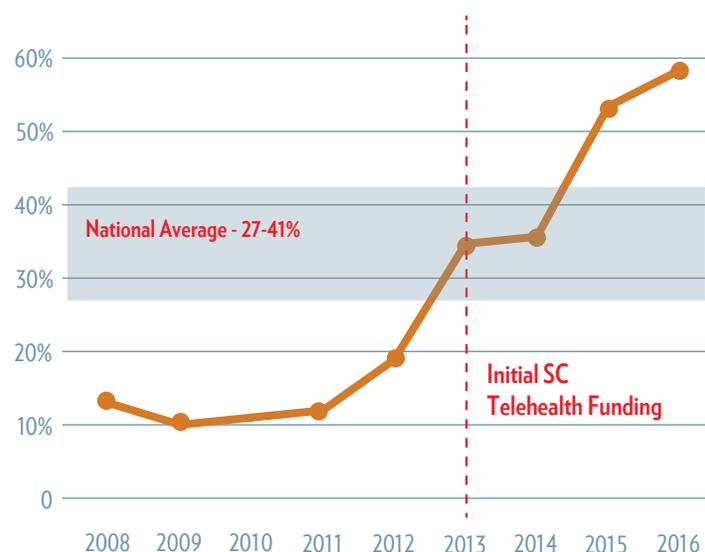
Mean Door-to-Needle Time in Minutes (lower is better)

Ischemic stroke patients who receive intravenous rt-PA have better clinical outcomes. The current evidenced-based guidelines call for door-to-needle time within 60 minutes from ischemic stroke patient arrival and intravenous rt-PA within 3 hours of onset of ischemic stroke. The DTN time decreased dramatically after initial funding of the SCTA.



% of patients receiving rt-Pa as recommended (higher is better)

Patients admitted with ischemic stroke, who arrived in the emergency departments across the state within 2 hours of the onset of their symptoms and who got rt-PA within 3 hours after the onset of their symptoms. The percent increased dramatically after initial funding the SCTA.





Telepsychiatry Program

“Even a large metropolitan area like Myrtle Beach has surprisingly few psychiatrists. Research shows that telehealth is just as effective as an office visit.”

-Frampton Gwynette, M.D., MUSC Health Psychiatrist

South Carolina Telehealth Innovator

Care Coordination Essential for Mental Health Patients

by Taylor Crouch

SCETV MyTelehealth program



After serving in the Army with multiple tours abroad, Jon Darling now spends his days on his farm in the Lowcountry of South Carolina. He works with multiple organizations that connect veterans with small farms. He does it for the work, the cause, and the community.

Since his service, connecting with fellow veterans has been vital. Losing some that were close to him has been devastating.

“We kind of walk around like we don’t have problems. The one thing no one really wants to admit is ‘I need to talk to somebody before this gets out of hand,’” says Darling.

Darling says his decision to move to the farm, paired with reaching out to Dr. Anna Birks, a psychologist at the Ralph H. Johnson VA Medical Center, for Posttraumatic Stress Disorder (PTSD) treatment, have been two of his best decisions.

Initially meeting in person, Birks and Darling shifted to a home-based telehealth program, allowing Darling to video conference from the comfort of his own home, instead of driving over an hour

to spend even more time finding a parking spot at the VA. Birks says this type of technology removes barriers for people who have jobs, lives far away, or simply prefer their own home over a clinical setting.

“It becomes impersonal when you have to get in the car and drive an hour-and-a-half and deal with things. A lot of things can happen in an hour-and-a-half. You can be thinking about something and then zone out, and that is all you’re thinking about. Sometimes you’re thinking about something bad and you’re trying to shake it off the whole way,” says Darling.

The Ralph H. Johnson VA Medical Center ranks among the top 10% of VAs and is a leader in its telehealth initiatives.

Darling says, “There are a lot of people who could use the help, and I think this is a great way to reach out and help solve that problem. There is nothing more comfortable than being in your own home.”

The VA is not an SCTA Provider.

SCDMH Telepsychiatry Consultation Program



Efficient use of hospital resources:

70% of Hospital Administrators state the program is an efficient use of hospital funds

80% would recommend the program to other hospitals

60% would be interested in additional uses of the platform for other medical specialties

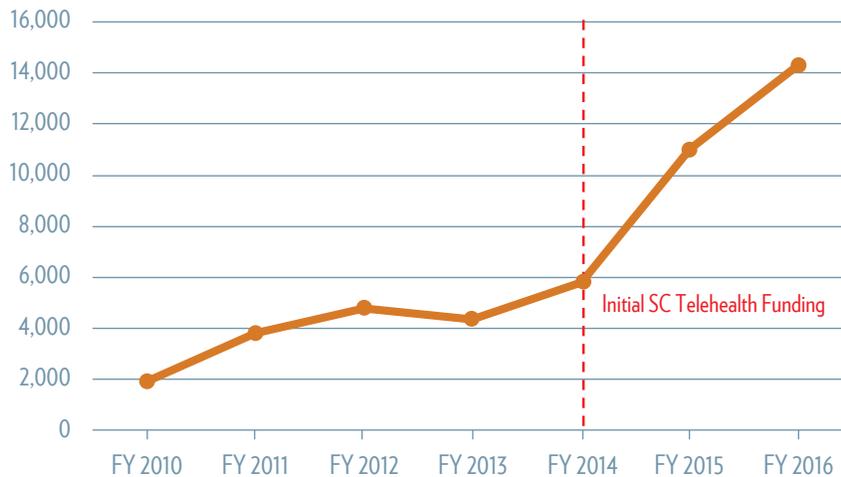
53% Reduction in Emergency Department Lengths of Stay (LOS)

33% of patients recommended for release

(discharge) the same day of consultation

SCDMH Telepsychiatry Consultations

Includes Hospital Emergency Departments, and Mental Health Centers and Clinics in SC



1,350

Total consultations provided per month between hospital emergency departments, and DMH mental health centers and clinics across SC

Telepsychiatry Patient Results

Lower rates of inpatient admission after 30 days (8% vs. 19%)

Shorter lengths of stay (4.1 days vs. 6.2 days inpatient)

Less likely to be admitted to the hospital (8% vs. 19%)

More likely to remain in treatment at 90-day follow-up care (46% vs. 17%)

\$3,320

Overall medical savings per episode of care



Tele-ICU

“The remote Tele-ICU team serves as an extra layer of care that reassures doctors that our sickest patients are vigilantly monitored when we are not present.”

-Jeffery Robinson, M. D., Internal Medicine, Camden County

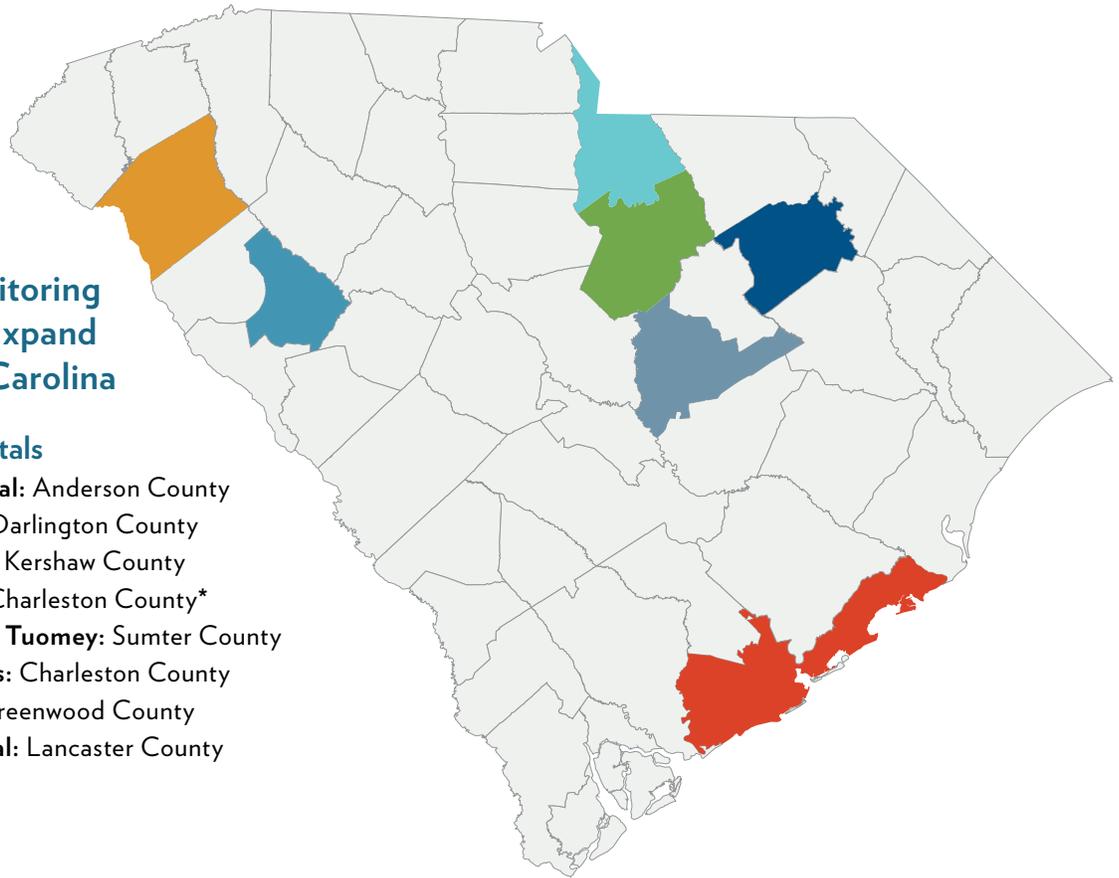
Tele-ICU monitoring has potentially saved more than 140 lives in 2016.*

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
- Springs Memorial: Lancaster County

* Operations Center



Trended data helps drive performance improvement

Notable decreases occurred in:

- › ICU mortality
- › ICU length of stay
- › Ventilator day ratio
- › Mean ventilator days

*Based on actual vs. predicted ICU mortality statistics

ICU Innovations

MUSC Health's ICU Innovations is a critical care outreach program associated with tele-ICU that includes rigorous focus on patient safety and quality improvement, as well as multi-disciplinary, peer-to-peer education. In the first two years of ICU Innovations, the program has provided 11 ICU Innovation seminars, awarding continuing education credits to more than 180 South Carolina providers. These include physicians, nurses, respiratory therapists, pharmacists and physical therapists.



New Collaborations

“Innovation is really about collaboration. We must insure that the voices of all strategic partners, supporting agencies and — most importantly — patients are heard.”

-John H. Magill, SCDMH

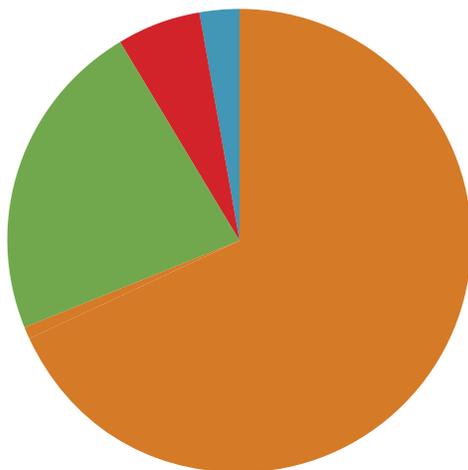
South Carolina Children’s Hospital Collaborative

Through the South Carolina Children’s Hospital Collaborative, leaders from Greenville Health System, Palmetto Health, MUSC Health and McLeod Health are working together to provide all children in South Carolina with access to critical care expertise in their own community hospitals, just when they need it most.

MUSC Health’s pediatric emergency and critical care telemedicine program demonstrated an increased ability to thoroughly assess their pediatric patients and triage them to more appropriate and cost-effective settings.*

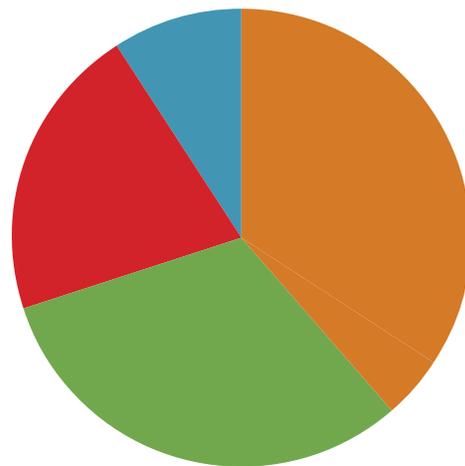
- › Resulted in 30% reduction in Pediatric ICU admissions
- › 2.7 times more likely to avoid a Pediatric ICU admission

Pediatric Critical Care Telephone Triage



- Critical Care
- Intermediate
- General pediatric floor
- No transfer

Pediatric Critical Care Telemedicine Triage



- Critical Care
- Intermediate
- General pediatric floor
- No transfer

HIGHLIGHTS

New Collaboration – Greenville Health System lets patients connect online with a provider, wherever they are – at work, at home or on the go.

Both asynchronous and synchronous connections provide a direct-to-consumer approach to accessing healthcare for common ailments in an efficient manner for both patients and providers. These visits not only save time, but patients enjoy the opportunity to be treated from a distance for minor illnesses.

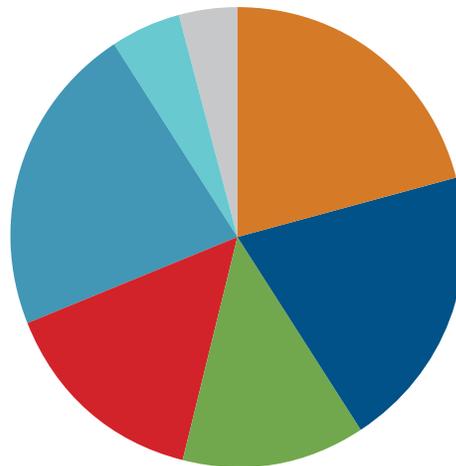
“This was such a time and money saver. I was on my 10th day of a cold that suddenly took a turn for the worse and gave me sinusitis symptoms. I received the needed antibiotic quickly and efficiently without losing precious time and money!” – GHS customer

Some of the conditions treated:

- › Acne
- › Burn or sunburn
- › Cough, cold, allergy or chest infection
- › Ear pain
- › Eye pain, eye bump or irritation
- › Flu
- › Rashes and other skin conditions
- › Sinus pain or pressure
- › Sore throat

What Patients Valued Most

- Received care quickly
- Affordable
- Thorough interview
- Avoided travel time
- Avoided going to the clinic
- Care was delivered by my healthcare provider
- Other



All South Carolina regional hubs are now offering direct to consumer telehealth services.

Novel setting – Sheriff Al Cannon Charleston County Detention Center conducted nearly 100 consultations in 2016

Inmates are frequently able to avoid costly and time-consuming transfers to Emergency Departments for issues that can be treated in place. This decreases elopement risk, decreases prisoner transport costs – and still allows for excellent care delivery.

The goal of the program is to reduce unnecessary inmate transfers in South Carolina that could have safely been avoided, thus saving:

- › prisoner risk
- › community risk
- › emergency staffing, and
- › tax-payer resources

“The opportunity to increase rapid access to Emergency Medicine providers from correctional facilities across the state while saving much needed correctional and emergency staffing resources has been a huge benefit.”

-Edward C. O’Bryan, M.D.

Telehealth at home Comforting Care: Telehealth Moves from ICU to Home for Baby in Hospice

by Taylor Crouch
SCETV MyTelehealth program

Abby and Richard Feistel describe their family through their Christian faith and roots in the south.

“Blessed for sure,” says Richard Feistel, describing his children. They have three daughters and a son. Both youngest children have special needs. And the youngest, Jedidiah “Jed”, was not expected to survive birth having a bladder obstruction, small lungs, and a high chance of failed kidneys.

It wouldn’t be until a preliminary ultra sound for a kidney transplant, that doctors would find masses on Jed’s liver – liver cancer. With both renal failure and liver cancer, Jed would no longer qualify for an organ transplant. Jed has spent most of his life in the hospital, but was able to recently come home for hospice care.

As his condition progresses, his parents expect him to become weaker. Medications, 12 hour daily dialysis, and checking in with his doctor have become vital to his care and comfort. So has staying home.

“He knows that home is not the hospital,” says his mother Abby Feistel. With an iPad, the family is able to let Jed stay home and connect with their long-time doctor Katherine Twombly, a nephrologist at the Medical University of South Carolina, using an application to video conference. This saves the family a two-and-a-half hour trip to see the specialist, and most of all prevents Jed from having any complications during the long commute, which has happened before.

Abby Feistel can hardly describe the opportunity to use telehealth during his hospice care, “It’s massively helpful.”

The ability to receive the same care without the risk, has kept Jed out of the hospital to date ultimately allowing Jed’s parents and sisters to enjoy the days they have left with him.



Palmetto Care Connections receives 2016 Rural Health Program of the Year Award

Palmetto Care Connections Partners on Veterans Grant

The SC Office of Rural Health was awarded a Veterans Grant that trains primary care providers through use of telehealth to recognize Post Traumatic Stress Disorder and Brain Trauma symptoms for veterans in SC and appropriately refer them to their respective Veteran Hospitals. Palmetto Care Connections is a partner in this project and will train primary care providers to use the telehealth technology.

Development of Statewide Centralized Credentialing Program

A core workgroup comprised of South Carolina Telehealth Hubs (Palmetto Health, Medical University of South Carolina, McLeod Health, Greenville Health System, and SC Department of Mental Health) met and discussed a tentative model for a statewide centralized credentialing program for all telehealth providers in South Carolina. PCC and MUSC presented the model at the SC Association of Medical Managers Annual Meeting and distributed the model to all hospitals in South Carolina to gauge their interest. A survey has been distributed to hospitals in South Carolina and the results will help the workgroup to define a recommended model.



2016 Distance Learning and Telemedicine Grant Program administered by the Rural Utilities Services

Grant Awardees

Palmetto Care Connections

PCC partnered with MUSC to develop the grant project to implement school-based telehealth services in 19 rural schools in the Low Country of South Carolina. The total grant award is \$316,004.00 which includes a cash match of \$157,790.00 provided by the South Carolina Telehealth Alliance. The funds will be used to purchase telehealth equipment and establish a network that connects the 19 rural school districts in Allendale, Bamberg and Barnwell counties with health care providers at Bamberg Family practice, Low Country Health Care System and the Medical University of South Carolina (MUSC). This project will utilize an already proven process that has been developed by MUSC. All schools in this project are located in high poverty StrikeForce counties as well as the SC Low Country PromiseZone.

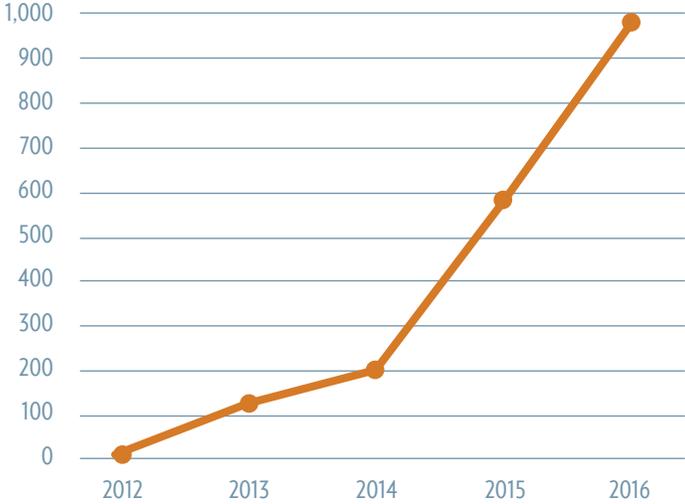
Florence County Commission on Alcohol & Drug Abuse – Circle Park Behavioral Health Services

Palmetto Care Connections (PCC) partnered with Circle Park to develop the grant application and has assisted them in the development of a statewide telehealth network that will address improving access to care for residents in South Carolina. The total grant award is \$318,218.00 which includes a cash match of \$162,292.00 provided by the South Carolina Telehealth Alliance. The funds will be used to purchase telehealth equipment for the 32 Behavioral Health Care Centers in South Carolina.

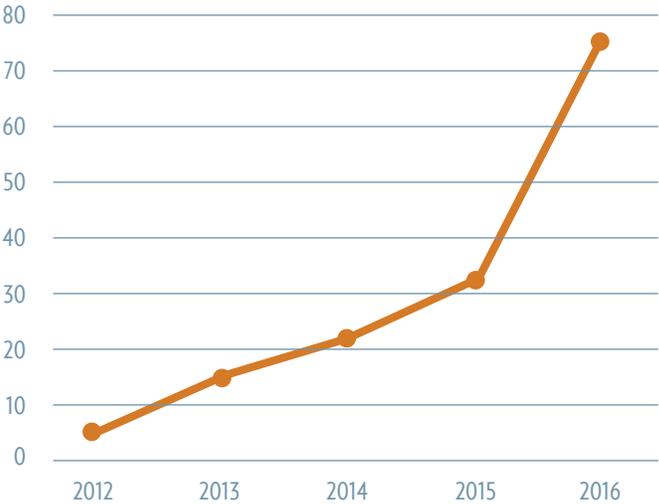
Using a telemedicine and video conferencing technology, this project will connect distant health clinics to one or more of the Behavioral Health Care Centers in South Carolina such that provider training and access to medical specialists can be provided more efficiently and effectively. The purpose of the project is to improve access to care for rural residents and provide a continuum of enhanced care across clinic locations and health care providers which is currently not possible without access to telehealth equipment and digital technology.

MUSC outpatient teleconsultation volume is up 68% from 2015 to 2016

MUSC Annual Number of Outpatient Consultations



MUSC Number Outpatient Participating Practices



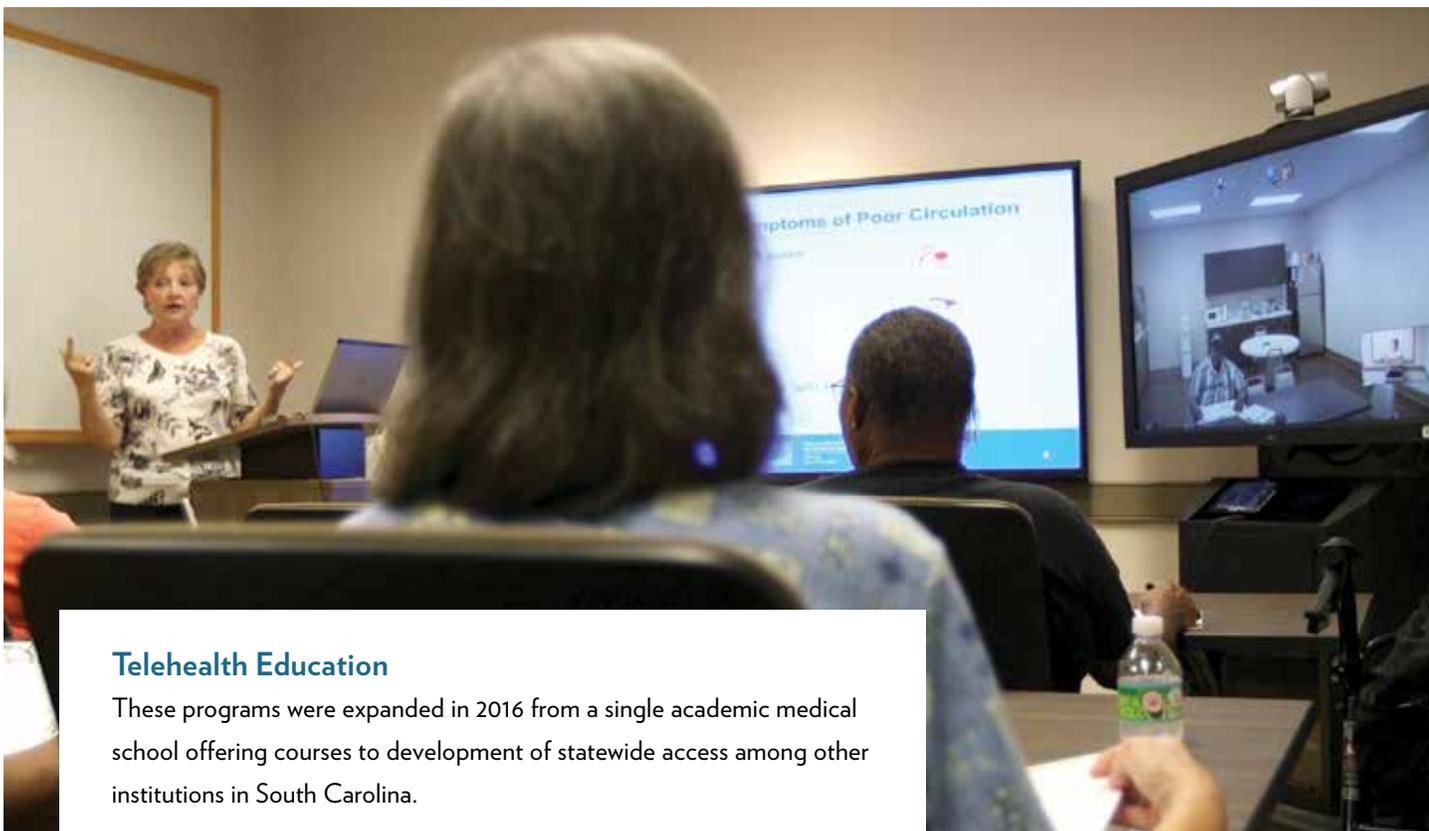


Telehealth Education

“With this simulation, we are able to close the gap between providers by communicating, learning and improving healthcare and by promoting a seamless delivery of care.”

-Liz Rowell, Charleston County EMS, EMS Telehealth Simulation Mobile Facilitator

SCTA's Office of Telehealth Education has provided statewide partners with new ways to collaborate in health professions training and continuing education opportunities.



Telehealth Education

These programs were expanded in 2016 from a single academic medical school offering courses to development of statewide access among other institutions in South Carolina.

Education and Communications Committee representation

- › Beaufort Memorial Hospital
- › Greenville Health System
- › McLeod Health
- › MUSC
- › Palmetto Care Connections
- › Palmetto Health - USC Medical Group
- › SC AHEC
- › SC Department of Health and Human Services
- › SC Department of Mental Health
- › Tidelands Health

2016 Telehealth Education Topics

- › Emergency Medical Services Case Presentations
- › Chronic Disease Management
- › Disparities in Domestic Violence among Special Populations
- › Building Primary Care Teams to Support Great Diabetes Outcomes



Telehealth Simulation Center



Using telehealth technologies, the Telehealth Simulation Center is designed for high-impact decision making education scenarios.

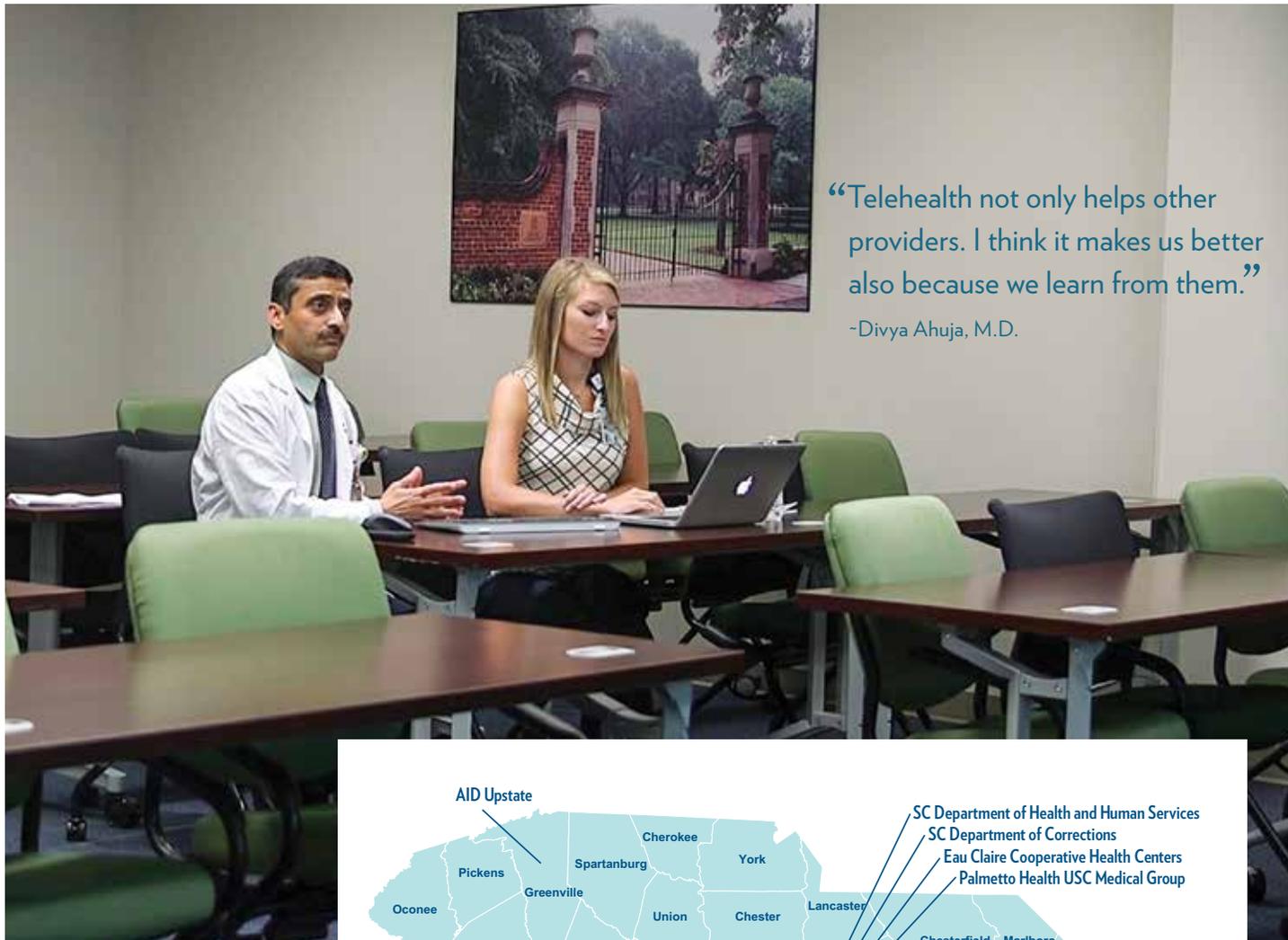
Partners

- › Health Simulation South Carolina
- › South Carolina Department of Health & Environmental Control – Bureau of Emergency Medical Services
- › Charleston County EMS
- › MUSC Emergency Medicine
- › Lowcountry, Mid-lands, Pee Dee and Upstate EMS
- › SC AHEC

Outcomes and Results

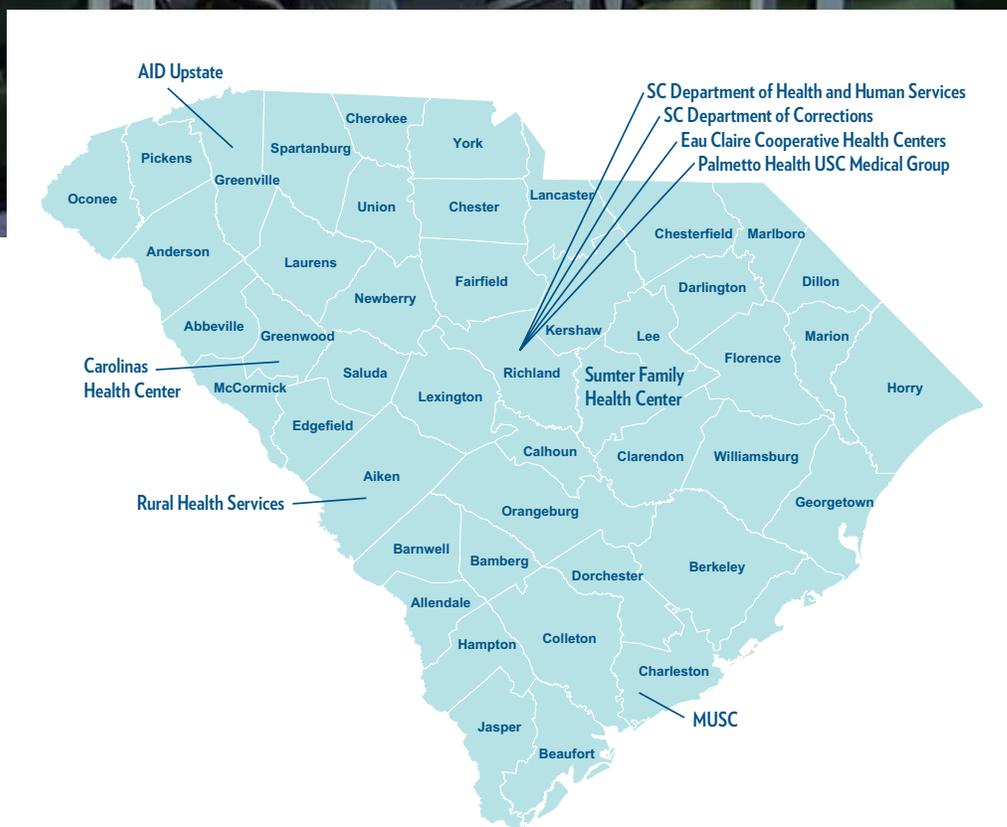
- › Significant improvements in pre/post-test data
- › Data shows decrease in the time from first intervention
- › Participants self-report improved:
 - Understanding of treatment options
 - Understanding of management limitations
 - Development of decision-making skills
- › Neonatal Outreach and Transport Training in developmental phase – launch early 2017

Current SC Hepatitis C Telehealth Initiative Sites



“Telehealth not only helps other providers. I think it makes us better also because we learn from them.”

-Divya Ahuja, M.D.



Health Education

Diabetes Self-Management

by Taylor Crouch



South Carolina ranks 7th highest in the nation in the percent of adult population with diabetes, according to the Department of Health and Environment Control.

Since 2015, the Carolinas Center for Medical Excellence, the Lowcountry Area Health Education Center and Palmetto Care Connections teamed up to offer a Diabetes Self-Management course using telehealth. This is a five-week course allowing participants in rural areas throughout South Carolina, to join by video.

Previously, this course was taught individually at each site. With telehealth, participants throughout the state can engage with one another in a single course. This type of education saves money, expands the classroom, and works to combat diabetes, a condition that affects so many South Carolinians.

SC Hepatitis C Telehealth Education

by Marina Ziehe

SCETV

Telehealth is not all about seeing a patient on a computer screen to treat his or her condition; the clinical side is just one component of telehealth. An integral component of telehealth is distance education, which refers to situations in which the instructor and learner are geographically separated and rely on electronic devices for instructional delivery. Distance education courses are educating patients, community members and/or healthcare providers on a range of health topics.

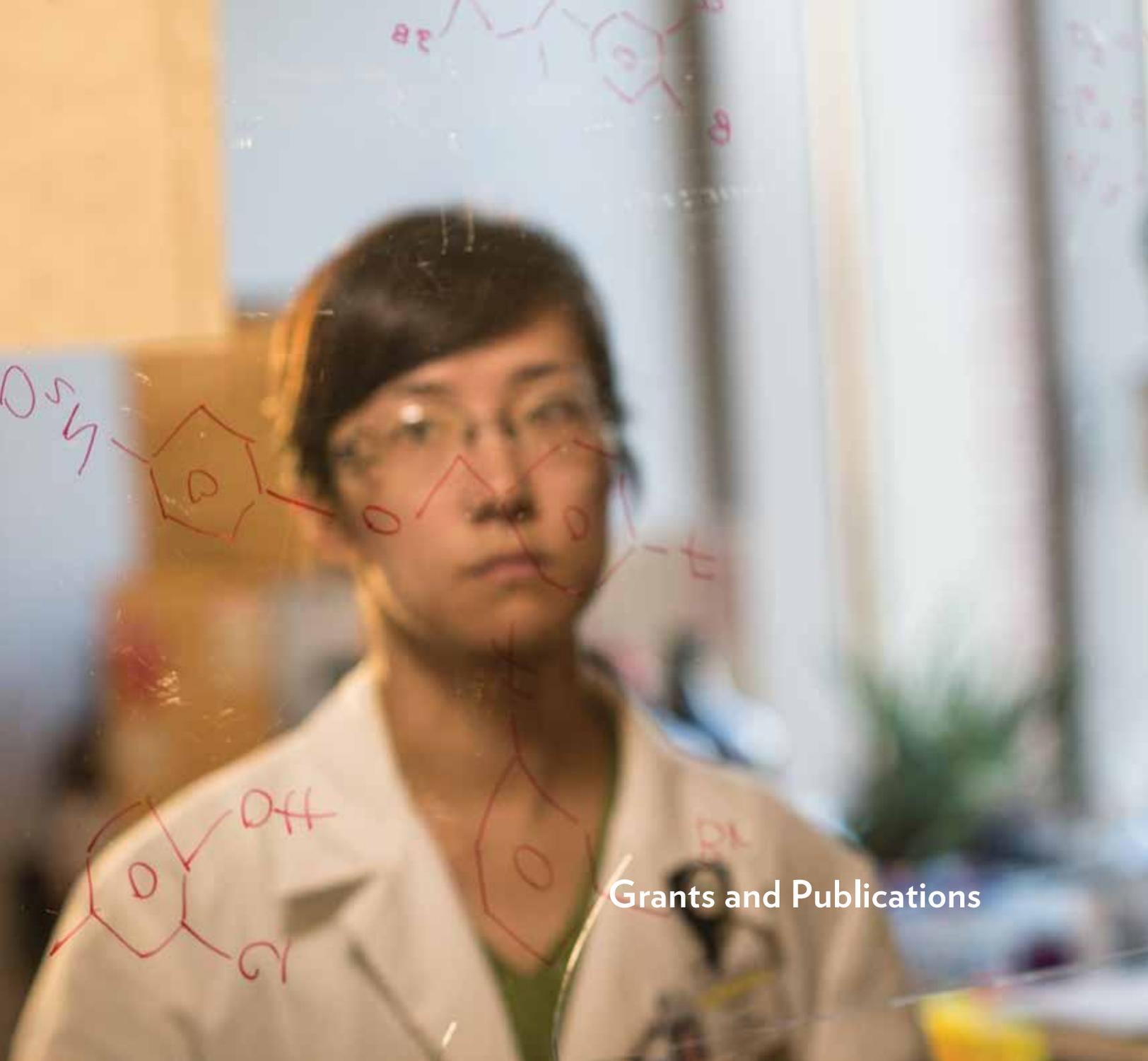
“Providers are hungry for knowledge,” says Dr. Divya Ahuja.

Dr. Ahuja is an infectious disease specialist, part of the Palmetto Health USC Medical Group. Since 2010, Dr. Ahuja has been providing distance education on infectious diseases to healthcare providers across South Carolina and across the country. It all started with HIV and now the focus is on Hepatitis C. During these weekly conferences, providers present cases of patients with Hepatitis C. The cases are discussed and evidence-based guidelines are given to help them manage their patients.

In South Carolina, Hepatitis C is a big issue. According to Dr. Ahuja, it is estimated that there are 70 to 80 thousand people in the state with chronic Hepatitis C. This viral infection is spread by blood products or sexually. In the U.S., intravenous drug use has been the biggest player in giving Hepatitis C to people, Dr. Ahuja states.

“We didn’t know about this virus until about 1989. Before that, blood was not screened for it,” Dr. Ahuja says. “Hepatitis C not only affects the liver, it also affects other parts of the body. Hepatitis C is related to increase diabetes; it is related to lymphomas and kidney diseases.”

But there is a cure for it, Dr. Ahuja says, and telehealth is there to help providers treat their patients in their local communities.



Grants and Publications

“Helped by the SCTA grant, the Greenwood Genetic Center is developing a telehealth initiative in order to ensure that all individuals and families in South Carolina have access to genetic services. The overall experience was felt to be an improvement, as I was able to effectively share my screen with the family to review lab results.”

Michael Lyons, M.D., Co-Director of Clinical Services Greenwood Genetic Center

HIGHLIGHT: New Awardee Greenwood Genetic Center SC Telehealth Implementation and Evaluation Grant Awardee

In 2016, Greenwood Genetic Center began offering genetics counseling services via telemedicine.

The Greenwood Genetic Center (GGC) is a nonprofit organization founded in 1974 to serve as a resource for all individuals who need genetic services or information and to reduce the prevalence and impact of genetic disorders. A team of physicians and scientists provides clinical genetic services, diagnostic laboratory testing, educational programs and resources, and research in medical genetics from our home campus in Greenwood, South Carolina. GGC extends its reach as a resource to residents of South Carolina with satellite offices in Charleston, Columbia, Florence and Greenville. The availability of telehealth grants allows all of our offices to have necessary telehealth equipment and resources in order to expand access to genetic services throughout South Carolina.

GGC is developing a telehealth initiative in order to ensure that all individuals and families in South Carolina have access to genetic services. Initial efforts will focus on utilizing telehealth in the Florence office, as the Pee Dee region of South Carolina has decreased access to genetics care due to the lack of a full-time clinical geneticist in Florence.

As new programs develop, GGC will expand the use of telehealth across all of South Carolina in a cost-effective and efficient manner to improve access to care in rural areas, shorten waiting lists for genetics evaluations, see inpatient consults more effectively and efficiently, decrease travel time for families and GGC staff, and expand counseling services for metabolic, prenatal and cancer patients.

In addition, telehealth will be utilized to expand education and research opportunities in genetics.

HIGHLIGHT: Previous Awardee Telehealth Resilience and Recovery Program

- › Provides follow-up assessment and treatment of patients who have suffered a traumatic injury
- › Goals
 - Address unmet mental health needs in our trauma center
 - Establish a national, scalable model of care
- › Launched in September 2015 as a SCTA pilot grant

TRRP: A 5-Step Program

STEP 1 › EDUCATE AND ENROLL PATIENTS IN TRRP

Meet patients admitted to our Level 1 Trauma Center who have experienced a Level A or B traumatic injury; provide education about mental health recovery after traumatic injury and enroll in 30-day follow-up screen

STEP 2 › TRACK EMOTIONAL RECOVERY

Enroll patients in our automated text-message symptom-monitoring service so that they may track their emotional recovery in the 30-day period between discharge and phone screen

STEP 3 › 30-DAY MENTAL HEALTH PHONE SCREEN

Mental health telephone screen with patients (or caregivers of young children); refer positive screens for comprehensive mental health assessment

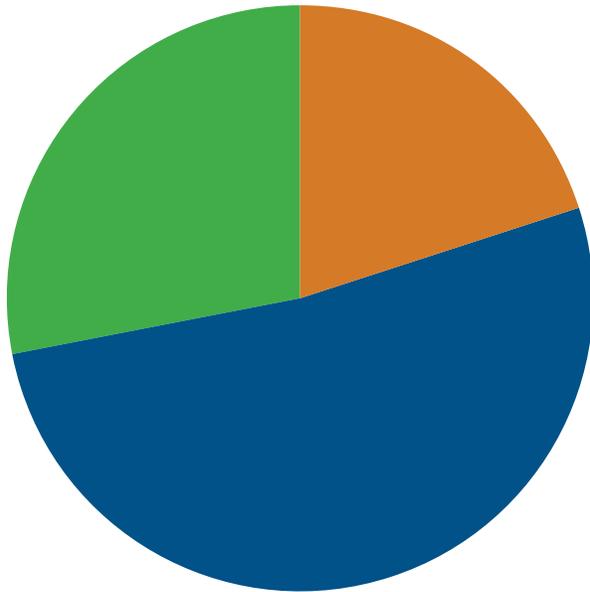
STEP 4 › COMPREHENSIVE MENTAL HEALTH ASSESSMENT

Full diagnostic assessment provided in-person or via home-based telehealth (based on patient's preference)

STEP 5 › DELIVERY OF BEST PRACTICE TREATMENT

Best-practice mental health treatment for post traumatic stress disorder, depression, or related conditions provided in person or via home-based telemental health (based on patient's preference)

Patient-Preferred Methods of Treatment



- Face-to-face treatment
- Home-based telehealth via patient-owned technology
- Home-based telehealth via clinic iPad

80% of patients preferred a telehealth visit

>160 tele-mental health visits completed in the first year

“Emotionally it put me back to where I needed to be. It made me feel more comfortable being in my home and using the [telehealth] option. I felt that I was able to express myself more, being in the comfort of my own home.”

– TRRP patient.

2016 SCTA Implementation and Evaluation Grant Awardees

Greenwood Genetic Center Telehealth Initiative

Investigators:

Michael Lyons, M.D.

Charles Schwartz, Ph.D.

Reducing the Impact of Behavioral Health Crises: Innovative EMS-Mental Health Center Telehealth Model

Investigators:

Melissa Camp, MA, LPC

R. Gregg Dwyer, M.D., EdD, FAPA, FASAP

Increasing Access to Developmental and Behavioral Healthcare Through Technology

Investigators: Regan Stewart, Ph.D.

Michael de Arellano, Ph.D.

Jennifer Poon

Feasibility of Eosinophilic Esophagitis follow-up care through telemedicine: A pilot study on patient's perspective

Investigators:

Jonathan Markowitz, M.D.

MUSC Heart Health Telehealth Pilot

Investigators:

Melissa Henshaw, MD, DHA

Christine SanGiovanni, M.D.

Pediatric Telehealth Acute Asthma Program

Investigators: Daniel Williams, M.D.

Annie Simpson, Ph.D.

The Role of Telemedicine in Enhancing the Care of Patients with Kidney Disease and Kidney Transplant

Investigators: Maria Aurora Posadas Salas, M.D.

Using Telemedicine and Activity Trackers to Promote Physical Activity in Low-Income Older Adults

Investigators: Sandra Brotherton, Ph.D.

Kathryn VanRavenstein, Ph.D.

2016 Telehealth Member Publications

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- Narasimha, S., Agnisarman, S., Madathil, K. C., Gramopadhye, A. K., Welch, B., & Mcelligott, J. (2016). An Investigation of the Usability Issues of Home-based Video Telemedicine Systems with Geriatric Patients. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting (Vol. 60, No. 1, pp. 1804-1808)*. SAGE Publications.
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ALLIANCE

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