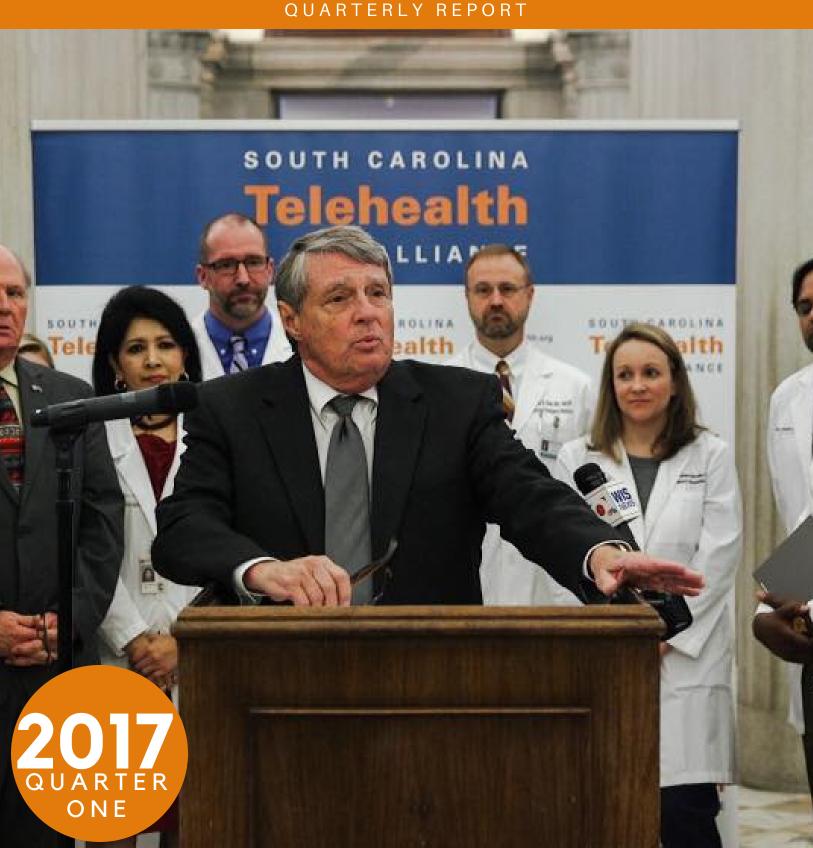
SC TELEHEALTH ALLIANCE



Executive Summary

In quarter one of 2017, the initial tactics of the 2017 South Carolina Telehealth Alliance ("SCTA") strategic plan were earnestly rolled out. While not without its challenges, overall the quarter successfully heralded an enhanced engagement between the member institutions of the SCTA. Significantly, the Regional Hubs have met regularly and are actively discussing the barriers of enhancing telehealth development statewide. These discussions have laid the groundwork for robust contract discussions which will allow the Hubs to receive the resources they need to overcome the identified barriers. This report also details the collaborative successes in the strategies of IT support and education, which will serve to establish the presence of equitable telehealth support across the state. Additional highlights of the report include a continued emphasis on the rural needs of the state carried forward by Palmetto Care Connections as they assess ways to increase access to telehealth services and allow sites to navigate logistical challenges. Lastly, the advocacy and sustainability arm of the 2017 strategy was highly successful with the first ever Telehealth Awareness Week pronounced and a well-attended 2-day Telehealth Summit for the state.

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.

PAGE 2 SCTA QUARTERLY REPORT

Driving Strategy 1

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

The SCTA IT Workgroup has collaborated to establish guidelines for the SCTA telehealth technical standards (Appendix A). In addition, the SCTA IT Workgroup has been working on the following initiatives to support the statewide telehealth network:

- 1) The creation of a statewide help desk for capturing, organizing, reporting and managing technical assistance calls that is currently being pilot tested. The help desk is a cloud-based resource that has the capability to triage and forward calls to a team of SCTA IT resources which can be across many organizations. The current link to the help desk is SCtelehealth.service-now.com.
- 2) The creation and deployment of a statewide telehealth endpoint directory (the workgroup has decided to focus on telehealth endpoints as opposed to individual existing programs and providers). MUSC and PSPN sites are participating in the pilot phase of an online directory service that can be configured on endpoints (codecs) or PC's running software codecs and is accessed via the web using a simple web browser on PC's and or mobile devices. The directory is intended to provide a service that allows any provider or referring site the ability to lookup participating SC telehealth endpoints SIP URL's (addresses). This is in direct support of the open access network. One that allows any SCTA site to call any SCTA provider or providers of services. (https://www.seevia.me/)
- 3) The creation of the SCTA self help portal for access to frequently asked questions, a telehealth knowledge base, equipment literature, training materials and software downloads. The current site can be browsed at ttt.musc.edu. An SCTA friendly URL will be created when testing is complete.

Palmetto Care Connections has been in communication with representatives of the SCTA regional hubs on continued exploration of a statewide credentialing model. In addition, PCC has contacted potential vendors to inquire about specifications for a system that could potentially support a state-wide system. PCC has distributed surveys South Carolina hospitals to assess their perspective on the proposed model.

SCTA Strategy 1 - Milestones

Milestone	Strategy	Tactic	Timeline	Champion	Status	Notes					
Tactic 1: Establish collaborative language to define standar federal mandates and emphasize interoperability and secur		ls for equipme	nt and techn	ology that conform to	existing industry st	andards, meet or exceed					
Complete draft of guidelines for compliance language regarding standards and protocols as it relates to the Hub Agreement with approach to exceptions (exceptions will be included as an Appendix)	Strategy 1	1	March	MUSC Health	Completed	None					
Tactic 2: Create a directory of existing telehealth programs and providers, to include small pilot and grant funded projects.											
Complete template draft and populate with data from SCTA IT Workgroup member programs	Strategy 1	2	March	MUSC Health, Roper St. Francis	Transitioned	IT Workgroup focusing on endpoints (and not specific programs)					
Tactic 3: Establish a process for regular ongoing use case sin	mulation "testi	ng" of new sys	stems, proces	ses and protocols acro	ss partner sites						
Draft of use case simulations and recommended timeline for testing developed	Strategy 1	3	March	McLeod Health	In Progress	Use case simulations are being developed					
Tactic 4: Continue to develop a streamlined credentialing p	rocess for hosp	ital-based ser	vices								
Survey SC hospitals on credentialing process	Strategy 1	4	March	PCC, MUSC Health	In Progress	Survey results pending					
Tactic 5: Explore the feasibility of a SCTA tool, to include sy problems and capturing issues	stem monitorir	ng/dashboard,	for an autom	nated online help desk	for steering suppo	rt calls, identifying					
Make recommendation regarding timeline, budget and implementation process for online help desk platform	Strategy 1	5	March	MUSC Health	Completed	None					

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

Palmetto Care Connections has identified "number of connected sites" and "number of encounters" as the key indicators that will be monitored in the four county areas of Bamberg, Barnwell, Allendale and Hampton to assess the impact of telehealth on improving access to care.

The **Diabetes Self-Management**

Education/Training program is a collaboration between the Carolinas Center for Medical Excellence, Low Country AHEC, Low Country Health Care Systems, and Palmetto Care Connections. The program has been providing a class each week to patients in Walterboro, Fairfax, and Barnwell. The program has graduated 24 diabetic patients in Q1 of CY2017. In addition, 19 patients have started the program by attending at least one class. In Q1 of CY2017, patients at Hampton Regional Medical Center received 45 telepsychiatry consultations from the Department of Mental Health and conducted their first ever virtual endocrinology visit with a Roper St. Francis provider.

MUSC Health has continued to provide multi-specialty consultations to the four county area through its Virtual Tele Consultation service. In addition, MUSC has been collaborating with community partners to expand access to care through school-based telehealth.



Barriers/Issues

- 1) Resistance of providers & administration
- 2) Limited insurance coverage & reimbursement
- 3) Low referral rate
- 4) Low bandwidth

Proposed Solutions

- 1) Continue with quarterly visits to promote available telehealth services
- 2) Continue participation in annual reimbursement forum
- 3) Continue with quarterly visits to encourage the use of telehealth
- 4) Work with Spirit 8/or local internet provider to increase bandwidth for services

SCTA Strategy 2 - Milestones

Milestone	Strategy	Tactic	Timeline	Champion	Status	Notes						
Factic 1: Monitor key indicators of improved access to care delivered via telehealth for the four county areas of Bamberg, Barnwell, Allendale and												
Hampton identified in 2016 as service development priorities												
Identify key indicators that will be monitored	Strategy 2	1	March	PCC	Completed	None						
Factic 2: Review the Connect2HealthFcc Task Force's Mapping Broadband Health in America tool and identify underserved areas of South Carolina												
Conduct thorough review of the Connect2Health ^{FCC} Task Force's Mapping Broadband Health in America tool for entire state. Report out on underserved areas by						Review expected to be						
county and region.	Strategy 2	2	March	PCC	Deferred to Q2	Mary Mary Mary 1981						
Tactic 3: Monitor clinics to make sure they hav	e the support the	y need to deliver s	ervices and monit	or utilization of exi	sting/new servi	e lines						
Quarterly reporting of actual utilization and utilization trends.	Strategy 2	3	March	PCC	Completed	None						
Quarterly reporting of barriers/issues identified and proposed solutions offered.	Strategy 2	3	March	PCC	Completed	None						

Invest in expanding needed specialty and subspecialty capabilities through telehealth

On February 13, 2017, the SCTA regional hubs, representing Greenville Health System, McLeod Health, MUSC Health, and Palmetto Health, met in Columbia, SC to discuss opportunities and challenges to accelerating telehealth service development among the regional hubs. The group discussed foundational best-practices that can be shared and applied from MUSC's telehealth experience (e.g. contracts, SC reimbursement information). However, there are other barriers that will require unique solutions and support within each regional hub due to variability of EHRs and organizational structure. Potential barriers to accelerated service development include:

- Medical director (i.e. physician champion) support for new services
- Communications (internal and external marketing)
- Need for operational personnel/support for facilitating organizational solutions to:
 - Scheduling challenges (hospital-based vs outpatient, EHR variability)
 - Clinical workflows
 - Documentation
 - Billing and coding

The operational leaders decided to create the following SCTA collaborative workgroups:

- · School-based health
- Hospital-based operations
- Ambulatory operations
- Direct-to-consumer

Palmetto Health and McLeod Health are leading the exploration of a statewide direct-to-consumer model that ensures high quality and keeps care local and will be working on an initial assessment of current South Carolina utilization and local and national trends of direct-to-consumer care.

SCTA Strategy 3 - Milestones

Milestone	Strategy	Tactic	Timeline	Champion	Status	Notes						
The SCTA regional hub's operational leaders will provide an assessment of telehealth service development barriers in South Carolina.	Strategy 3	1д	March	MUSC Health	Completed	None						
Subtactic 1B: Establish service specific collaborative work groups charged with formulating short term objectives and a long term vision for the service in South Carolina												
Identify at least two service specific workgroups (e.g. telestroke and school- based health) with recommendations on participants	Strategy 3	1 _B	March	MUSC Health	Completed	None						
Subtactic 1C: Establish executive level comm	nunications be	etween Region	al Hubs to e	nsure synergies in service developme	nt							
Review and discuss collaborative service development opportunities on an asneeded basis	Strategy 3	1c	Ongoing	MUSC Health, Palmetto Health, McLeod Health, GHS	Ongoing	None						
Tactic 4: Enhance access to care through dir Subtactic 4B: Explore feasibility of a statew												
Identify stakeholders to participate in exploration of a SCTA direct-to-consumer model	Strategy 3	4B	March	Palmetto Health, McLeod Health	In Progress	DTC workgroup being established						

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

Under the guidance of Office for Telehealth Education, the South Carolina Telehealth Alliance (SCTA) telehealth education workgroup is meeting monthly to work on the development and dissemination of telehealth curriculum and professional development modules.

Membership includes the following partners:

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



The working group is in the process of inventorying current health professions student and provider curriculum related to telehealth education. Academic and community partners are identifying areas where existing activities can be shared and expanded upon through collaboration. In addition, a rural providers sub-group has been formed to initiate the planning process for dissemination of education outside of the academic health systems.

SCTA Strategy 4 - Milestones

Milestone	Strategy	Tactic	Timeline	Champion	Status	Notes					
Tactic 1: Develop an overall telehealth knowledge dissemination plan to SCTA institutions with a mechanism to provide introductory knowledge of telehealth to their learners and providers											
Engage health care provider training institutions, beginning the with the four medical schools, to determine their readiness and preferred format for the incorporation of introductory knowledge into their existing curriculums. Tactic 3: Establish mechanism to ensure telehealth knowledge.	Strategy 4	1	March	SC AHEC	Completed	None					
Inventory of existing training materials for rural providers	Strategy 4	3	March	PCC	In Progress	Rural provider outreach is ongoing					

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

Membership Model

A membership model is being developed and will be subjected to review by the SCTA Advisory Council to effectively reach telehealth stakeholders at all levels: providers, patients, employers, payers, educators, legislators, etc. Benefits will be delineated for stakeholders providing a telehealth service of program in South Carolina.

Operating Procedures Manual

The SCTA Advisory Council has reviewed the SCTA Advisory Council Operating Procedures manual. The manual outlines the charter of the Advisory Council, roles and responsibilities of its members, and establishes procedures for reviewing budget and contractual progress that support the SCTA strategic plan.



SCTA Strategy 5 - Milestones

Milestone	Strategy	Tactic	Timeline	Champion	Status	Notes					
Tactic 1: Introduce formal membership model with defined benefits and responsibilities for participating in the SCTA											
Draft membership document(s) with defined benefits and responsibilities delineated	Strategy 5	1	March	SCTA - Growth and Sustainability Specialist	In Progress	SCTA Adv. Counc to provide feedback on membership model					
Tactic 2: Develop a strategy for streamlining	communications	within the SCTA	with a focus or	Advisory Council procedures							
Operational Procedures document for SCTA Advisory Council available for review	Strategy 5	2	March	SCTA - Growth and Sustainability Specialist	Completed	None					

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

The Content Advisory Team, led by SC ETV, has been working to developed a draft strategic marketing plan that leverages existing media assets created by SC ETV--these assets have already been disseminated among members of the committee to promote in respective regional markets. An expansion of the committee extends beyond the telehealth personnel to regional hub marketing departments as outlined in the forthcoming marketing plan.

Promotional, educational and public relations efforts will continue to be channeled through SC ETV's established outlets and will be advised by the Content Advisory Team. Infographics and short-read documents will serve as new mechanisms for disseminating new information, data, resources and success stories in South Carolina with a strategy to go beyond the state.



A picture from behind the scenes of a telehealth shoot with SC ETV

Notable Q1 Accomplishments

- The first Annual Telehealth Awareness Week was authorized to take place every March 20-24 by SC Governor Henry McMaster. A copy of the resolution can be found in the appendices.
- The 5th Annual Telehealth Summit of SC was held on March 28-30, 2017.

SCTA Strategy 6A - Milestones

Milestone	Strategy	Tactic	Timeline	Champion	Status	Notes
Tactic 1: Promote awareness of SCTA and SCTA reso	ources					
Develop draft strategic marketing plan	Strategy 6A	1	March	SCETV	Completed	None
Review composition of existing content advisory group and identify and invite representation from additional key strategic partners in order to increase coordination around marketing efforts	Strategy 6A	1	March	SCETV	Completed	None
Tactic 2: Disseminate new telehealth information,	data, resources a	nd success stori	es within the	state of South Carolina and be	eyond	
Leverage existing SCTA reports (Annual Report, Mid-Year Report and Quarterly Report) as a mechanism for disseminating new information, data, resources and success stories	Strategy 6A	2	March	SCTA - Telehealth Growth and Sustainability Specialist	Ongoing	None
Establish a standing agenda item for monthly content advisory team meetings	Strategy 6A	2	March	SCTA - Telehealth Growth and Sustainability Specialist	Completed	None

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

Reimbursement Task Force

A Provider/Payer Reimbursement Forum was held on February 28, 2017 at the SC Hospital Association in Columbia, SC to identify priority areas and discuss reimbursement policies for telehealth that can feasibly be developed in South Carolina. Feedback has been compiled and will be gleaned from meetings with statewide payers to inform new recommendations for alternative telehealth policies.

Payer CPT search Potral

The SCTA has developed a new tool that allows users to search for reimbursable services provided via telemedicine. The data that feeds this tool is continually being compiled as new policies are created.

Draft approved list of data requirements for

telehealth programs



SCTA - Telehealth Growth

March and Sustainability Specialist In Progress

Payer

outreach

ongoing

SCTA Strategy 6B - Milestones

Milestone	Strategy	Tactic	Timeline	Champion	Status	Notes					
Tactic 1: Work with payers to enhance telehealth reimbursement policies by coordinating recommendations across organizations and advocating for consistent policies across CPT codes											
Plan developed for bringing providers and payers together on a regular basis to identify priority areas and collaboratively discuss reimbursement policies for telehealth in SC	Strategy 6B	1	March	SCTA - Telehealth Growth and Sustainability Specialist	Completed	None					
Template developed for putting the recommended reimbursement policies in writing that identifies core questions and/or data points needed to facilitate the discussion with payers	Strategy 6B	1	March	SCTA - Telehealth Growth and Sustainability Specialist	Completed	None					
Tactic 2: Educate providers on best practices, lessons le	earned and suc	cess stories per	taining to bil	lling and reimbursement for t	elehealth						
Fact sheet with standardized terminology and definitions pertaining to telehealth reimbursement developed and made available to SCTA members and the general public	Strategy 6B	2	March	PCC, SCTA - Telehealth Growth and Sustainability Specialist	In Progress	Pending feedback by Advisory Council					
Tactic 3: Implement a plan to collect data for payers ba are most important for them in making policy decisions						gs/ROI) that					

Strategy 6B

PAGE 9 SCTA QUARTERLY REPORT

Regional Hub Program Updates



66

It's better for the patients and their families to get their care locally.

99

~ Rick Foster, MD

South Carolina has a unique collaborative telehealth network that serves as a model for the nation. Statewide provider, connectivity and advocacy organizations are deeply involved in providing access to healthcare via telehealth to enhance this network. These strategic partners provide invaluable experience in moving the SCTA strategic plan forward in accordance with regional and statewide needs. Since the end of calendar year 2016, the SCTA regional hubs have collaborated to advance the discussion on telehealth service development and address evolving needs of communities across the state. Providers are cognizant of healthcare needs in the state but realize the importance of keeping care local.

PAGE 10 SCTA QUARTERLY REPORT

Greenville Health System

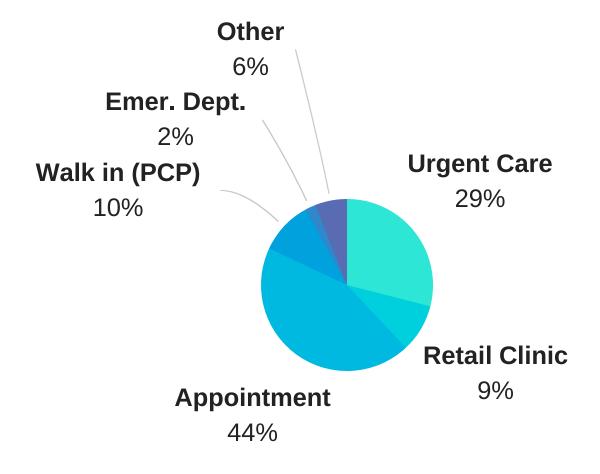


Greenville Health System has saved approximately 106 hours on 424 exams through their SmartExam direct-to-consumer evisit platform. The average wait time was 11.7 minutes, with care time only lasting an average of 4.4 minutes. Patients believe that they were able to save nearly 3 hours by using the SmartExam application

As part of a SCTA Telehealth Implementation and Evaluation grant, a Pediatric GI specialist provided 11 follow-up consults for eosinophilic esophagitis. One hundred percent of patients treated were satisfied with the mode of treatment. Additionally, GHS's system served patients and expanded programs and other services that include: telestroke (86 consults); neo-natal resuscitation (1 new location) and tele-psych (6 new locations in GHS EDs)



Where would you have gone instead of SmartExam?



PAGE 11 SCTA QUARTERLY REPORT

Palmetto Health - USC Medical Group



Palmetto Health - USC Medical Group provides a unique health education program during afterschool programs at Gadsden, Hopkins and Webber Elementary Schools using telehealth. Each program is designed to empower students in the lower Richland community about the ways to live healthier lives.

Between January and March 2017, 171 clinicians and support staff attended teleconferences as part of the South Carolina Hepatitis C Telehealth Initiative run by Dr. Divya Ahuja, an infectious disease physician at Palmetto Health - USC Medical Group. A total of twentyfive (25) patient cases were discussed. Representatives from twenty-one provider organizations in South Carolina were present at the teleconferences. While these efforts are focused on SC. clinicians from Georgia, North Carolina, Tennessee, Florida, Washington, D.C., Arizona, Washington and Texas attended these teleconferences.

Telestroke at Palmetto Health (Baptist, Baptist-Parkridge, Tuomey)

1

94 Telebats



10 tPAs



64 minutes (avg. DTN time)

SmartExam - Direct-to-Consumer telehealth



Patients that received care: 200



Patient queue time: 10m 48 s



Provider care time: 6m 19s



Total care time: 16m 38s

SmartExam - Top Care Models used

- 1. Cough/cold/allergy
- 2. Bladder infection (UTI)
- 3. Sinus pain or pressure





Total number of touchpoints

PAGE 12 SCTA QUARTERLY REPORT

McLeod Health

McLeod Health



McLeod Launches New Telehealth Program

McLeod Health launched its Telehealth program on February 1. With McLeod Telehealth you can visit a doctor online at any time, from anywhere – on your laptop, phone or tablet. No appointment is necessary and visits are private and secure.



McLeod Sports Medicine is working with physicians specializing in concussion treatment to incorporate the use of telehealth video conferencing for follow-up consultations with a focus on rural areas such as Johnsonville, Mullins, Lamar, Cheraw, Chesterfield, Marlboro and Dillon. Fifty-one percent of the students are from these rural areas. The remaining 49 percent are from Florence and surrounding communities. McLeod Health has built a solid reputation and relationship with rural high schools and maintains contracts with 23 schools in the region.

How the program works

The initial visit will be conducted in a physician's office with follow-up visits conducted at rural high schools using mobile telemedicine equipment. Certified Athletic Trainers will work closely with physicians to receive training on how best to assist with the follow-up to ensure assessments are as effective and comprehensive as they would be if they were in the office setting. Additionally, Athletic Trainers will conduct preliminary testing with each of the student athletes and provide that data to the physician for review and preparation prior to the telehealth visit to make the visit both efficient and highly productive.

MUSC Health



New Partners

Coastal Carolina went live with teleneurology services.

Hilton Head went live with telestroke and teleneurology services.

Sandpiper Rehabilitation and Nursing Center will begin receiving tele-urgent care services this summer to reduce avoidable readmissions to the emergency department.

McLeod Clarendon will be joining MUSC Health's telestroke network with expected go-live in late May.

Vibra Hospital of Charleston went live with tele-EEG services and has plans to expand to teleneurology and other specialty services.

Carolina Health Centers has signed an agreement to bring multi-specialty telehealth services to its 12 practice locations in Saluda, Greenwood, McCormick, Abbeville, and Laurens counties.

School-Based Telehealth

- Met with Molly Spearman, Superintendent of Education, to discuss and further identify high priority South Carolina schools
- Collaborating with Beaufort Jasper Hampton
 Comprehensive Health Services to layer telehealth on 5 existing school-based health centers in the
 Beaufort County School District
- Kelli Garber, Center for Telehealth Lead Nurse
 Practitioner, was selected to participate in the National
 Association of Pediatric Nurse Practitioners (NAPNAP)
 Advocacy Scholars Program and had the opportunity
 to advocate on Capitol Hill in support of children's
 health coverage and telehealth
- Dr. Kathryn Cristaldi, Medical Director, School-Based Health, was named the American Academy of Pediatrics (AAP) Section on Telehealth Care representative to the Pediatric Academic Society Program Committee

Telestroke: Best Door-To-Needle Times



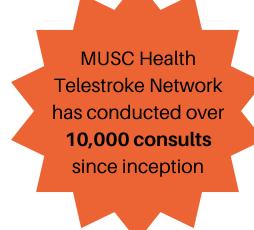
January - McLeod Regional Medical Center



• February - Piedmont Medical Center



March - Tidelands Waccamaw



PAGE 14 SCTA QUARTERLY REPORT

Statewide Telehealth Publications



- Acierno, R., Knapp, R., Tuerk, P., Gilmore, A.K., Lejuez, C., Ruggiero, K., Muzzy, W., Egede, L., Hernandez-Tejada, M.A., and Foa, E.B. (2017). A non-inferiority trial of prolonged exposure for posttraumatic stress disorder: In person versus home-based telehealth. Behav Res Ther, 89, 57-65.
- Byers, J. (2017). Palmetto Health's telehealth efforts show change in healthcare is hard but not impossible. HealthcareDIVE. Available at: http://www.healthcaredive.com/news/palmetto-health-telehealth-telemedicine/439728/
- Comstock, J. (2017). To break down telehealth silos, connect senior execs with the doctors on the ground. Healthcare IT News. Available at: http://www.healthcareitnews.com/news/break-down-telehealth-silos-connect-senior-execs-doctors-ground
- Egede, L.E.,, Gebregziabher, M., Walker, R.J., Payne, E.H., Acierno, R., and Frueh, B.C. (2017). Trajectory of cost overtime after psychotherapy for depression in older Veterans via telemedicine. J Affect Disor, 1(207), 157-162.
- Flemming, J.N., Taber, D.J., McElligott, J., McGillicuddy, J.W., and Treiber, F. (2017). Mobile health in solid organ transplant: The time is now. Am J Transplant, epub ahead of print.
- Gimbel, R., Shi, L., Williams, J.E., Dye, C.J., Chen, L., Crawford, P., Shry, E.A., Griffin, S.F., Jones, K.O., Sherrill, W.W., Trunong, K., Little, J.R., Edwards, K.W., Hing, M., and Moss, J.B. (2017). Enhancing mHealth technology in the Patient-Centered Medical Home environment to activate patients with Type 2 Diabetes: A multisite feasibility study protocol. JMIR Res Protoc, 6(3), e38.
- Jaconis, M., Santa Ana, E.J., Killeen, T.K., Badour, C.L., and Back, S.E. (2017). Concurrent treatment
 of PTSD and alcohol use disorder via telehealth in a female Iraq veteran. Am J Addict, 26(2), 112114.
- Mitchell, R., Locatis, C., Burges, G., Maisiak, R., Liu, W.L., and Ackerman, M. (2017). Comparing high
 definition live interactive and store-and-forward consultations to in-person examinations. Telemed J
 E Health, 23(3), 213-218.
- Rogers, H., Madathil, C., Agnisarman, S., Narasimha, S., Ashok, A., Nair, A., Welch, B., and McElligott,
 J.T. (2017). A systematic review of the implementation challenges of telemedicine systems in
 ambulances. Telemedicine and e-Health, epub ahead of print.
- Van de Pas, S. (2017). Implementing telemedicine not as easy as it may seem. ICT & Health. Available at: https://www.ictandhealth.com/news/newsitem/article/implementing-telemedicine-not-as-easy-as-it-may-seem.html



	<u>Actual</u>						
	FY14	FY15	FY16	FY17	FY17	FY18	FY19
Center for Telehealth Operations & Personnel							
Center Personnel	\$206,120.33	\$714,285.71	\$2,477,788.52	\$1,229,420.94			
Supplies-Printing-Misc	\$9,363.84	\$20,648.11	\$48,196.91	\$57,948.51			
Telephone-Cellular-Fax	\$2,459.20	\$10,926.55	\$22,743.45	\$25,261.17			
Education and travel	\$21,624.30	\$90,241.96	\$107,597.21	\$83,482.72			
Facility	\$1,600.00	\$63,764.80	\$198,999.52	\$180,445.86			
State Strategic Plan Consultant	\$91,393.32	\$46,747.76					
SCTA Facilitator			\$1,225.96	\$1,500.00			
Training and Delivery Center ¹			\$1,105,453.51	\$1,548,042.71			
Total	\$332,560.99	\$946,614.89	\$3,962,005.08	\$3,126,101.91	\$5,100,000	\$4,300,000	\$4,300,000
Network Infrastructure-Hardware & Software	,	70.10,000	, , , , , , , , , , , , , , , , , , ,	70,220,202.02	7-77	<i>ϕ</i> .,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	+ 1,200,000
Hardware ²	\$66,881.85	\$264,070.36	\$1,056,781.69	\$819,462.81			
Software	\$152,182.51	\$148,723.69	\$301,436.67	\$219,316.70			
Tele-ICU Operations Center	\$325,000.00	\$19,302.00	7301,430.07	7213,310.70			
Telestroke and Teleneurology Equipment and Software Fees	\$400,788.16	\$19,302.00	\$525,578.15	\$522,798.30			
	\$400,766.10	3421,392.11	\$525,576.15				
Beaufort Memorial Hospital				\$18,000.00			
Carolina Hospital System - Florence				\$18,430.34			
Carolina Pines Regional Medical Center				\$18,000.00			
Coastal Carolina Medical Center				\$20,000.00			
Conway Medical Center				\$18,000.00			
Georgetown Memorial				\$18,000.00			
Hampton Regional Medical Center				\$18,000.00			
Hilton Head Hospital				\$13,154.84			
Kershaw Health Medical Center				\$18,000.00			
McLeod Health Cheraw				\$18,000.00			
McLeod Loris Hospital				\$18,000.00			
McLeod Seacoast Hospital				\$18,000.00			
McLeod Medical Center - Dillon				\$18,000.00			
McLeod Regional Medical Center				\$18,000.00			
McLeod Health Clarendon				\$12,354.84			
MUSC Health Hub				\$27,000.00			
Piedmont Medical Center				\$20,000.00			
Regional Medical Center - Orangeburg				\$18,000.00			
Roper Berkeley ED				\$21,933.00			
Roper Hospital				\$21,933.00			
Roper Mt Pleasant Hospital				\$21,933.00			
Roper Northwoods ED				\$15,933.00			
Roper St. Francis Hospital				\$21,933.00			
Self Regional Healthcare				\$18,000.00			
Tuomey Healthcare System				\$6,000.00			
Waccamaw Community Hospital				\$18,000.00			
Williamsburg Regional Hospital				\$18,000.00			
REACH Health (contracted travel)				\$9,693.28			
Teleneurology Software Licenses				\$22,500.00			
, crement or each control of the con				Ψ==,σσσ.σσ			
Total	\$944,852.52	\$853,488.16	\$1,883,796.51	\$1,561,577.81	\$2,100,000	\$2,100,000	\$2,100,000
Regionally-Based Service Development Support	, , , , , , ,	, ,	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, , ,-	, , ,	, , , , , , , , , , , , , , , , , , , ,	, ,,
Rural Site Telepresenters		\$4,153.00					
Regionally-Based Hub Support/Operational Support							
McLeod Health ³				\$400,000.00			
Greenville Health System ⁴			¢400.000.00	Ç-100,000.00			
			\$400,000.00				
Greenville Health System - cart reimbursement			\$11,578.74				
Palmetto Health ⁵			\$400,000.00				
Department Mental Health ⁶				\$350,000.00			
Regional Medical Center - Orangeburg							
Additional Community Partners							
Tidelands Health ⁷				\$150,000.00			
Hampton Regional Medical Center ⁸				\$34,100.00			
SCORH - Lowcountry Healthy Start ⁹				\$30,000.00			
University of South Carolina - School of Medicine 10				\$222,500.00			
PSPN 11				\$20,195.34			
Bamberg Family Practice - PSPN				\$4,505.96			
Medical Center of Santee - PSPN				\$4,060.66			
R. Dale Padgett MD, PA - PSPN				\$4,505.96			
R. Dale Padgett MD, PA HCP - PSPN				\$3,561.38			
Singleton Medical Center - PSPN				\$3,561.38			
Catalytic Service Development							
Total		\$4,153.00	\$811,578.74	\$1,206,795.34	\$2,000,000	\$4,325,000	\$4,325,000

Marketing							
SCTA Campaign		\$541,237.27		\$600.00			
Marketing materials		, = .=,=5 , 12 !	\$22,626.40	\$4,396.84			
SCTA Campaign (SC ETV) 12			\$154,875.00				
Total		\$541,237.27	\$177,501.40	\$4,996.84	\$350,000	\$350,000	\$350,000
Research and Outcomes Reporting							
Research Development			\$44,876.00	\$32,520.00			
Outcomes Reporting		\$15,369.00	\$139,255.44	\$38,377.48			
Total		\$15,369.00	\$184,131.44	\$70,897.48	\$150,000	\$200,000	\$200,000
mHealth Initiatives							
Rural Diabetes (Leonard Egede, MD, MS - MUSC Health) ¹³ Bluffton/Jasper Volunteers in Medicine Clinica Gratis of Community Initiatives Greater Greenwood United Ministry Hope Clinic, North Charleston Hope Clinic, Moncks Corner The Free Medical Clinic	\$284,304.00	\$282,304.00	\$282,304.00				
MUSC Stroke Reduction (Frank Treiber, PhD - MUSC Health) ¹⁴	\$100,000.00	\$100,000.00					
MUSC Smoking Cessation (Benjamin Toll, PhD - MUSC Health) 15			\$100,000.00				
Total	\$384,304.00	\$382,304.00	\$382,304.00		\$500,000	\$500,000	\$500,000
Statewide Service Development							
Service Development	\$88,120.71	\$364,309.86	\$2,694,091.97	\$1,032,483.85			
MUSC Telehealth Medical Directorships 16			\$656,840.00	\$817,612.19			
MUSC - Direct-to-Consumer Quality and Development ¹⁷			\$185,942.04	\$165,167.00			
MUSC - TACHL (mHealth development support) ¹⁸			\$112,000.00				
MUSC - Telehealth Resilience and Recovery Program				\$44,712.76			
MUSC Program Expenditures:							
Telepsych ^{19A}			\$61,992.64	\$187,454.60			
Telestroke 198			\$1,036,250.00	\$538,500.00			
School-Based Health ^{19A}			\$341,294.23	\$95,234.00			
Teleneuro ^{19A}			\$204,750.00	\$136,500.00			
TeleEEG 198			\$28,950.00	\$42,665.90			
TeleICU ^{19B}			\$20,952.76	\$135,417.00			
Nutrition Counseling			\$33,251.42	\$36,097.50			
Opiod Counseling			\$11,868.88				
Weight Management Initiative ²⁰	\$74,295.00	\$84,630.00	\$107,000.00				
Padgett Family Medicine Lovelace Family Medicine Durrence Family Medicine Hope Health Lowrys Family Medicine Harrison Peeples Health Care Center AnMed Health Williamston Family Medicine Hope Health							
Innovation and Development		\$15,000.00	\$313,429.00	\$40,000.00			
Melissa Henshaw, MD DHA - MUSC Heart Health Michael Lyons, MD - Greenwood Genetics, Greenwood, SC Regan Stewart, PhD - MUSC Behavioral Healthcare Ransome Eke, MD - Eosino. Esophagitis, Clemson/GHS Kathryn VanRavenstein, PhD - MUSC Physical Activity Kenneth Ruggerio, PhD - MUSC Adolescents PTSD Ragan Dubose-Morris, PhD - MUSC SC EMS Education Robert J. Adams, MD - MUSC PTSD Treatment		,,	\$25,000.00 \$10,000.00 \$10,000.00 \$10,000.00 \$10,000.00 \$67,367.00 \$55,000.00 \$25,000.00	,,			
Donna Johnson, MD - MUSC Prenatal Home Visits Ronald J. Teufel, MD - MUSC Asthma Smartphone Kapil Madathil, PhD - Telehealth Usability, Clemson			\$25,000.00 \$25,000.00 \$26,062.00	\$25,000.00			
Daniel C. Williams - MUSC Acute Asthma Program				\$15,000.00			
Posadas Salas, MD - Kidney Disease/Kidney Transplant				4			
Tele-ICU Support for Hospitals			\$1,188,928.82	\$1,964,804.65			
AnMed Carolina Pines Regional Medical Center			\$344,451.43 \$274,091.80	\$47,528.00 \$399,002.94			
Carolina Pines Regional Medical Center Kershaw Hospital			\$274,091.80 \$201,230.59	\$427,842.90			
Palmetto Health Tuomey			\$201,230.39	\$182,327.80			
Self Regional			, -, -,,	\$300,000.00			
Springs Memorial			\$98,750.00	\$608,103.01			
Total	\$162,415.71	\$463,939.86	\$4,303,449.79	\$3,037,288.50	\$4,100,000	\$4,100,000	\$4,100,000
Rural Site Support							
Palmetto Care Connections ²¹	\$53,000.00	\$215,500.00	\$325,000.00	\$162,500.00			

Total	\$53,000.00	\$215,500.00	\$325,000.00	\$162,500.00	\$350,000	\$400,000	\$400,000
Office of Telehealth Education							
SC AHEC ²²		\$10,193.00	\$581,497.01				
Total		\$10,193.00	\$581,497.01		\$400,000	\$400,000	\$400,000
Accounting Transactions							
To Record Prepaid Expense			-\$814,228.09	-\$45,181.73			
To Record Accounts Payable			\$965,662.90	-\$778,662.90			
TOTAL	\$1,877,133.22	\$3,432,799.18	\$12,762,698.78	\$8,914,213.25	\$15,050,000	\$16,675,000	\$16,675,000

- 1 The Training and Delivery Center is a location being created at the MUSC University Hospital to house MUSC telehealth team members and operations. In addition to offices and conference room space, it will include the admit transfer center team that receives and coordinates telehealth calls from partnering SC hospitals, 4 telehealth delivery pods used for scheduled consultations, a tele-ICU operations center, and a space to train providers on telehealth carts, peripherals, and processes. Completion of the space is expected in March 2017. The Duke Endowment Foundation contributed over \$600K towards the construction of this new space.
- 2 See Inventory Tracking Database List for a site breakdown of hardware deployment for FY17
- 3 SCTA Regional Support Hub Agreement provides McLeod Health with funding support to assist in the development of an open-access telehealth network for SC and to provide telehealth support for community hospitals in their region. Funding provides support for dedicated telehealth personnel and telehealth infrastructure with a specific emphasis on service development.
- 4 SCTA Regional Support Hub Agreement provides Greenville Health System with funding support to assist in the development of an open-access telehealth network for SC and to provide telehealth support for community hospitals in their region. Funding provides support for dedicated telehealth personnel and telehealth infrastructure with a specific emphasis on service development.
- 5 SCTA Regional Support Hub Agreement provides Palmetto Health with funding support to assist in the development of an open-access telehealth network for SC and to provide telehealth support for community hospitals in their region. Funding provides support for dedicated telehealth personnel and telehealth infrastructure with a specific emphasis on service development.
- 6 SCTA Operational Support Agreement provides the Department of Mental health with funding support to assist in the development of an open-access telehealth network for SC and to expand the service growth of telepsychiatry across the state. In addition, DMH is collaborating to successfully demonstrate a coordinated, open-access platform with a community hospital receiving multiple consultative services from different institutions.
- 7 SCTA Operational Support Agreement provides Tidelands Health with funding support to assist in the development of an open-access telehealth network for SC and to provide dedicated telehealth personnel to assist in the development of specialty inpatient and outpatient telehealth services.
- 8 SCTA Infrastructure and Operational Support Agreement provides Hampton Regional Medical Center with funding support to assist in the development of an open-access network for SC and to successfully demonstrate a coordinated, open-access platform with a community hospital receiving multiple consultative services from different institutions.
- 9 SCTA Operational Support Agreement provides South Carolina Office of Rural Health Low Country Healthy Start with funding assistance to explore feasibility of introducing telehealth in Hampton County for patients who are at high risk for or have demonstrated a lack of utilization of recommended prenatal care.
- 10 SCTA Operational Support Agreement provides the University of South Carolina School of Medicine with funding support to assist in the development of an open-access telehealth network for SC and to implement provider education via telehealth technologies which enables primary care settings to co-manage complex diseases with the assistance of specialists and a multidisciplinary team. Dr. Divya Ahuja is leading the initiative with the initial focus on the Hepatitis C patient population.
- 11 PSPN agreements to support rural clinics with broadband access in SCTA targeted region.
- 12 SCTA Marketing Agreement for South Carolina Educational Television (SC ETV) to collaborate with organizations throughout the state to create educational and informational content to increase awareness and knowledge of the SCTA and telehealth activities in South Carolina.
- 13 This funding is for a rural diabetic home monitoring initiative to optimize diabetes and blood pressure control led by Dr. Leonard Egede at MUSC. Currently, the project is in a community engagement phase with 6 participating clinics. Nurse case managers are actively recruiting new sites in new communities.
- 14 This funding was for a smartphone medication adherence pilot in order to reduce uncontrolled hypertension in stroke patients. The initiative was led by Dr. Frank Treiber, Professor in the College of Nursing and Medicine and Director of MUSC's Technology Applications Center for Healthful Lifestyles (TACHL). Lessons learned from the project have contributed to further advancement of mobile health applications.
- 15 This funding is for a population health initiative to improve smoking cessation access via a mobile application. This pilot project was funded in May 2016 and is led by Dr. Ben Toll and Dr. Bryan Heckman at MUSC.
- 16 MUSC Medical Directorships protect physician time to dedicate to the development and oversight of new and existing telehealth services.
- 17 This funding is for an agreement with the Department of Family Medicine to lead the development of a telehealth communication model to reach patients in the home and that includes the establishment of a quality review system. This is led by Dr. Vanessa Diaz and Dr. Marty Player.
- 18 This funding is for a partnership with the MUSC College of Nursing's Technology Applications Center for Healthful Lifestyles (TACHL) to provide consultation to providers on the use of remote patient monitoring solutions in telehealth treatment and to assist with the development of telehealth data standards and software applications.
- 19A MUSC Program Expenditures are partially offset by revenues from professional billing.
- 19B MUSC Program Expenditures are fully offset by revenues from professional billing and/or contractual agreements.
- 20 This funding is for a weight management initiative, Wellness Connect, to provide group weight management classes in the primary care setting via telehealth technologies. The pilot project currently has eight participating clinics across South Carolina and is under the leadership of Dr. Ragan Dubose-Morris, SC AHEC, and Dr. Josh Brown, MUSC Weight Management Center. Findings from the project have been presented both at the state and nationally levels.
- 21 This funding is for an agreement with Palmetto Care Connections to assist in the development of an open-access telehealth network for SC and the execution of the deliverables outlined in the 2016 SCTA strategic plan with a specific focus on developing a process for coordinating and streamlining credentialing, assisting with telehealth service implementation in the 4 county rural areas of Bamberg, Hampton, Barnwell, and Allendale, and collaborating with SC AHEC to assist with rural provider training.

 22 This funding is for an agreement with SC AHEC to lead the effort on preparing the workforce of the future by integrating telehealth training into health provider education programs across the state and in establishing a health provider training process in telehealth for both practicing providers and the future health workforce. The FY16 total amount includes two agreements that span over FY16 and FY17.

5-Year SCTA Projected Budget

		FY18		FY19		FY20		FY21		FY22		FY23	
SCTA Advisory Council Budget Report	-	(7/1/17-6/30/18 *	(7	/1/18-6/30/19 ~	1	7/1/19-6/30/20	(7	/1/20-6/30/21 -	(7)	/1/21-6/30/22 ▼	(7/1	/22-6/30/23 ~	
SCIA Advisory Council Budget Report		(//1/17-0/30/18	(7,	/1/18-0/30/19	1.	7/1/15-0/30/20	(7,	11/20-0/30/21	(//	71/21-0/30/22	(//1	/22-0/30/23	
Previous FY Balance (projected for FY18)		\$ 32,000,000	\$	23,582,500	Ś	15,165,000	\$	9,797,500	Ś	4,780,000	Ś	62,500	
Recurring SCTA Funds		\$ 8,000,000		8,000,000		8,000,000		8,000,000		8,000,000		8,000,000	
Beginning of FY SCTA Funds		\$ 40,000,000	-	31,582,500	_	23,165,000	-	17,797,500	-	12,780,000	\$	8,062,500	
beginning of 11 SerA runus		7 40,000,000	Y	31,302,300	٧	23,103,000	Ţ	17,737,300	Ţ	12,700,000	Ÿ	0,002,300	
MUSC Center for Telehealth		\$ 4,300,000	\$	4,300,000	\$	4,300,000	\$	4,300,000	\$	4,300,000	\$	4,000,000	
Center Personnel		\$ 1,920,000	\$	1,920,000	\$	1,920,000	\$	1,920,000	\$	1,920,000			
SCTA Personnel		\$ 1,280,000	\$	1,280,000	\$	1,280,000	\$	1,280,000	\$	1,280,000			
Operations		\$ 300,000	\$	300,000	\$	300,000	\$	300,000	\$	300,000			
Service Development		\$ 800,000	\$	800,000	\$	800,000	\$	800,000	\$	800,000			
(e.g. telepath, tumor board, e-consult, Duke matching funds)		,	Ċ	,	Ė	,	Ċ	,		,			
Network Infrastructure - Hardware and Software		\$ 2,100,000	\$	2,100,000	\$	2,100,000	\$	2,000,000	\$	2,000,000	\$	2,000,000	
Regionally-Based Service Development Support		\$ 1,325,000	Ś	1,325,000	Ś	1,325,000	Ś	1,325,000	Ś	1,325,000	\$	750,000	
Palmetto Health		\$ 275,000		275,000		275,000		275,000		275,000	*	100,000	
Greenville Health System		\$ 275,000		275,000	_	275,000		275,000		275,000			
McLeod Health		\$ 275,000	-	275,000		275,000		275,000		275,000			
Additional Community Partners		\$ 500,000		500,000		500,000		500,000		500,000			
Additional Community Partners		3 300,000	ڔ	300,000	ڔ	300,000	ڔ	300,000	۲	300,000			
Catalytic Service Development		\$ 3,000,000	\$	3,000,000									
Maukatina		\$ 350,000	ė	350,000	ė	300,000	ė	250,000	Ļ	250,000	Ļ	100.000	
Marketing				350,000			•		-	•	\$	100,000	
SC ETV		\$ 155,000		155,000	_	150,000		125,000		125,000			
SCTA Marketing		\$ 195,000	\$	195,000	\$	150,000	\$	125,000	\$	125,000			
Research and Outcomes Reporting		\$ 200,000	Ś	200,000	Ś	200,000	Ś	200,000	Ś	200,000			
			•		Ť		•		Ť	===,===			
Statewide Service Development		\$ 4,342,500	\$	4,342,500	\$	4,342,500	\$	4,142,500	\$	4,142,500	\$	750,000	
Department of Mental Health		\$ 350,000	\$	350,000	\$	350,000	\$	350,000		350,000			
SCTA Development Grants		\$ 100,000	\$	100,000	\$	100,000	\$	100,000	\$	100,000			
Tele-ICU Support for Hospitals		\$ 2,370,000	\$	2,370,000	\$	2,370,000	\$	2,370,000		2,370,000			
USC-Palmetto Health Medical Group (Hep C Initiative)		\$ 222,500		222,500	_	222,500		222,500		222,500			
mHealth Initiatives		\$ 500,000		500,000		500,000		300,000		300,000			
Neuroscience Services (Telestroke, Teleneuro, Tele-EEG)		\$ 150,000	\$	150,000	_	150,000		150,000		150,000			
School-Based Health		\$ 450,000		450,000		450,000		450,000		450,000			
Specialty Services - Medical Home Collaboration		\$ 200,000	-	200,000	1	200,000		200,000		200,000			
Rural Site Support													
Palmetto Care Connections		\$ 400,000	\$	400,000	\$	400,000	\$	400,000	\$	250,000	\$	200,000	
Rural Clinic Support (PSPN)													
Office of Telehealth Education													
SC AHEC		\$ 400,000	\$	400,000	\$	400,000	\$	400,000	\$	250,000	\$	200,000	
Total FY Budget		\$ 16,417,500	\$	16,417,500	\$	13,367,500	\$	13,017,500	\$	12,717,500	\$	8,000,000	
<u> </u>			İ		Ĺ	, , , , , ,	İ	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, ,			
Projected End of FY SCTA Funds		\$ 23,582,500	\$	15,165,000	\$	9,797,500	\$	4,780,000	\$	62,500	\$	62,500	