Summary Report on SFY 2024 North Carolina Statewide Telepsychiatry Program (NC-STeP) Funds

General Statute 143B-139.4B

Report to the Joint Legislative Oversight Committee on Health and Human Services
and

Fiscal Research Division
by

North Carolina Department of Health and Human Services

November 27, 2024

Executive Summary

In North Carolina, 93 of 100 counties are classified as Mental Health Professional Shortage Areas. Though seven are not designated, these counties that have insufficient mental health professionals in proportion to the population needs. Access to mental health services continues to be a statewide challenge. The use of telehealth services allows for rural and underserved communities to access these necessary healthcare providers. "People started showing up in emergency departments for their basic care or in crisis. In 2012, that had gotten to the point where the number of people showing up in North Carolina emergency departments was twice the national average. Nationally, about 5 percent of patients using EDs use it for mental health reasons. In North Carolina, that number reached 10 percent. There were roughly about 160,000 people per year who were showing up in North Carolina EDs for that reason."[1]

Session Law 2013-360, Senate Bill 616, and subsequently General Statute 143B-139.4B, directed the Department of Health and Human Services'(DHHS) Office of Rural Health (ORH) to partner with East Carolina University (ECU) on a statewide telepsychiatry program. Since 2013, the North Carolina Statewide Telepsychiatry Program (NC-STeP) has engaged North Carolina's health care organizations to participate as referring sites in providing psychiatric assessments to patients presenting in hospital emergency departments (EDs), and since 2018, additionally at outpatient community-based clinics. ORH is responsible for monitoring NC-STeP funds and performance measures. ORH ensures that the program's performance measures align with legislation, in addition to collecting, analyzing, and maintaining all documentation needed for payments, contract creation, and amendments. ORH receives reports regarding NC-STeP from ECU's Center for Telepsychiatry and e-Behavioral Health (CTeBH) and shares relevant information with rural healthcare partners and safety net providers.

As outlined in the legislative plan, the NC-STeP program focused on the implementation of referring and consulting sites in NC hospitals. The initial funding in 2013 of $2,000,000 was awarded for building and maintaining the program. In addition to state appropriations, in 2015, The Duke Endowment awarded a one-time sum of $1,500,000 for two years to pass through ORH to increase program sites and disseminate information regarding best practices. The Duke Endowment award was not fully expended between 2015-2017, and ORH received several carryforward approvals, including approval to expand the scope to allow for expending remaining funding to establish new community-based sites. The Duke Endowment award formally concluded on June 30, 2019, with a final report of funds submitted. ORH also partnered with the North Carolina Department of Information Technology to secure additional one-time funding of $200,000 that was granted to NC-STeP to assist solely with purchasing equipment necessary for expanding community-based telepsychiatry, with this funding concluding in December 2020.

In 2017, the NC-STeP budget was impacted by Session Law 2017-57, Section 11A10. This law required DHHS to take a recurring reduction in the amount of $3.2 million. The provision further required DHHS not to reduce funds if doing so would impact services.

[1] Raths, David. (2019) Population Health Management: NC-STeP Telepsychiatry Network a Model for Statewide Coverage. 2019 September 9. Retrieved 8.18.2022. from https://www.hcinnovationgroup.com/population-health-management/telehealth/article/21096312/ncstep-telepsychiatry-network-a-model-for-statewide-coverage

NC DHHS reduced the NC-STeP appropriations by $180,000 due to historical reversions over the previous five years. NC-STeP objected to this cut and presented their concerns to the North Carolina General Assembly. The contract for NC-STeP totaled $1,820,000 per fiscal year since the reduction.

During SFY 2021, the Federal American Rescue Plan Act (ARPA), enacted on March 11, 2021, provided relief to address the continued impact of COVID-19 on the economy, public health, state and local governments, individuals, and businesses. A component of ARPA was the State Fiscal Recovery Funds (SFRF), which provided $5.4 billion to North Carolina to help turn the tide on the pandemic, address its economic fallout, and lay the foundation for a strong and equitable recovery. The NC General Assembly appropriated SFRF in the 2021 Appropriations Act and broadly identified projects for DHHS SFRF funds. NC-STeP was given an additional $1,500,000 to assist with the program and COVID-19 related burdens to the healthcare system. Currently, as of this report date, NC-STeP has spent $698,684 of the SFRF funding with all remaining funds to be obligated by December 2024.

The NC-STeP program has generated significant cost savings to the state, its partners, and external stakeholders. Although total cost savings are difficult to quantify due to the number of stakeholders and variables, NC-STeP estimates that as of June 30, 2024, $59,178,600 in cumulative cost savings to the state from preventing unnecessary psychiatric hospitalizations. NC-STeP has also published the methodology and results from a study on this subject in academic peer-reviewed journals (Appendix E). The primary method of cost savings ECU reports from this program is the avoidance of unnecessary hospitalization through overturning unnecessary involuntary commitments (IVC). Of the 30,542 patients held under involuntary commitment and served by the program, 10,959 have been discharged for further treatment using community resources. This approach has reduced the burden for patients and families and reduced costs to state psychiatric facilities, other hospitals, law enforcement agencies, government, and private payers. There are additional cost savings, as well as revenue enhancements, from impacting the throughput in the hospital emergency departments (EDs) as a result of NC-STeP's work that significantly reduced the patients' length of stay in those EDs. It should be noted that the calculations for savings, at this point, are limited to IVC's, with savings happening at every continuum of the healthcare system benefiting and unable to monetarily calculate those savings.

Session Law 2018-44 allowed expansion of the program into community settings. NC-STeP projects additional cost savings that are difficult to calculate for patients in the community versus in the most expensive setting, the ED. Community-based services provide cost savings by reducing recidivism, reducing the number of patients using EDs for seeking mental health services, improving patients adherence to chronic disease treatment, enhancing efficiency of care provision, shortening time to treatment, improving coordination of care across mental health systems, enhancing ED throughput, reducing law enforcement transportation costs due to fewer patients under IVC, and enhancing community capacity to treat patients in the community.

As of June 30, 2024, 28 referring hospital sites across the state were connected to NC-STeP. As noted, it is expected that the continual growth of the program will be from community-based settings, 22 sites currently. As required by contract with ORH, ECU's CTeBH submits quarterly reports regarding specific performance measures, available on the ECU website. *

* https://ncstep.ecu.edu/wp-content/pv-uploads/sites/381/NC-STeP-Adv-Group-June-2024.pdf

The ORH Rural Hospital program completed virtual site visits in the form of phone or video calls and in the hospital to Model 1 hospitals. Most ED managers and staff interviewed were satisfied with the service and the support they have received from the NC-STeP program and the most recent NC-STeP Satisfaction Survey (March 2024) resulted in an overall satisfaction rating of 83%. The results of these site visits also identified some areas that require further attention, such as streamlining patient intake processes, improving wait times, and opportunities to improve communication for providers and patients.

The COVID-19 pandemic has shown the importance of telehealth and how the NC-STeP program is primed to assist with the surge of mental health needs that occur during the pandemic as well as the long-term effects. As Dr. Saeed stated in an interview, "Tele-mental health services are perfectly suited to this pandemic situation, giving people in remote locations access to important services without increasing risk of infection." [2] Although stated in SFY2021, this continues to hold true for SFY 2024 as the effects of the pandemic continues to put a burden on our healthcare system and disrupt lives throughout the state.

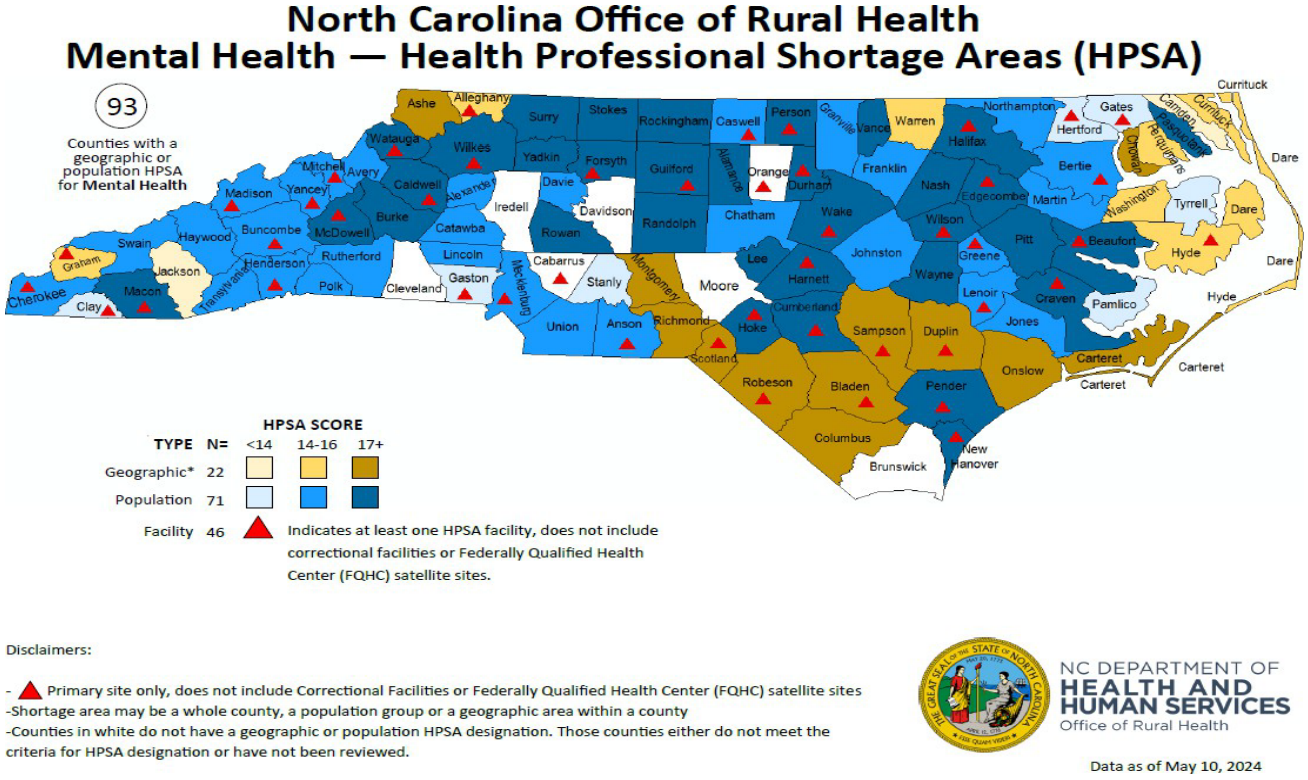
[2] Saeed SA. (2020) Post Pandemic Care: ECU to Address Post-Pandemic Mental Health. 2020 July 1. https://news.ecu.edu/2020/07/01/post-pandemic-care/.

Table of Contents

Background

Overwhelmingly, rural North Carolina communities have a shortage of mental health providers. Areas can become designated as Health Professional Shortage Areas (HPSAs) due to very low ratios between the number of providers and an area's population. Figure 1 is a map displaying the areas that are currently designated HPSAs specifically for mental health professionals in North Carolina. As the map reflects, 46 of 100 counties have at least one facility-based Mental Health HPSA. In addition, 93 counties have a Mental Health HPSA based on population or geographic data.

Figure 1: Map of Mental Health Professional Shortage Areas



These mental health professional shortages are acutely felt by the community and contribute to increased visits to emergency department (ED) settings. When a person in the community is petitioned for involuntary commitment (IVC), a magistrate may order that the person be taken for evaluation. Many times, individuals are taken to an ED for this evaluation. However, many ED physicians do not have the training or adequate experience with psychiatric evaluations or access to psychiatrists or other qualified mental health professionals. As a result, in 2009, the North Carolina General Assembly (NCGA) passed two key pieces of legislation. One was to make a permanent program that allows other mental health professionals to conduct evaluations in the ED. The other was to allow these evaluations to be done by a physician or eligible psychologist via telemedicine. In addition to being in the ED for the initial evaluation, individuals often remain in the ED awaiting transfer to an inpatient psychiatric hospital. The average length of stay (LOS) in an ED for an involuntary patient awaiting transfer to another hospital ranged from 48 to 72 hours.[3]

[3] The DMH Telepsychiatry Program. (2013, July 31). *South Carolina Department of Mental Health*. Retrieved August 11, 2014, from https://scdmh.net/dmhtelepsychiatry/.

A prolonged length of stay (LOS) can also lead to other negative consequences, including increased wait times for other patients, diversion of ED staff resources, and poor patient outcomes for those needing mental health treatment. While the North Carolina Statewide Telepsychiatry Program (NC-STeP) has consistently reported over the last several years that 40% or more of these patients in the ED have a LOS of 30 hours and less, including many with a LOS of 10 or less hours, the program has also identified that every quarter there are as many as 20-30 patients with a LOS that is longer than 300 hours. It should be noted that NC-STeP did reduce the LOS by over 50% in the first 18 months of its going live and, since then, has maintained this benefit.

Given the significant gaps in community behavioral healthcare system, many patients seek healthcare in hospital EDs, which have become the default providers of behavioral healthcare in North Carolina. Current research data shows that in 2021, there were 139.8 million ED visits in the United States, with 12.3% of these visits being related to mental health.[4] While ED's vary widely in their capacity to deliver psychiatric care, this rise in number of people going to EDs for mental health reasons continues to be a challenge for ED physicians. To help address this issue, many EDs in the United States use telepsychiatry. Psychiatric emergencies can be resolved in a hospital ED with proper evaluation, treatment and follow up care. Some ED physicians may lack experience or training to treat psychiatric emergencies to release patients from their IVC status leading to unnecessary hospitalizations. An ED-based telepsychiatry program has help NC address patients waiting for inpatient psychiatric care. It may decrease hospitalization and reduce costs, as demonstrated by a 2020 study published by NC-STeP.[5]

Telepsychiatry is a modality that enables a behavioral health professional to provide a patient assessment from a remote location using live, interactive, videoconferencing in real-time. In recent years, emerging technologies in video communication and high-speed internet connectivity have created an environment that has enabled telepsychiatry networks to expand.

In the summer of 2013, the NCGA decided to replicate the success of previous telepsychiatry initiatives. Session Law 2013-360, Section 12A.2B, directed the NC Department of Health and Human Services (DHHS) Office of Rural Health (ORH) to implement a statewide telepsychiatry program to be administered by East Carolina University Center for Telepsychiatry and e- Behavioral Health (CTeBH). The plan was developed in collaboration with a workgroup of key stakeholders led by ECU's Dr. Sy Saeed. The workgroup was informed by the best evidence from the literature and modeled after successful telepsychiatry programs, including the Albemarle Hospital Foundation Telepsychiatry Project, which was made possible by a 2010 Duke Endowment grant. This grant was awarded to implement telepsychiatry services into the EDs of Vidant Health, now ECU Health, and other rural hospitals. This led to hospitals to experience a decreased average length of stay, a greater than 80% patient satisfaction rating, and 33.6% rate in overturned involuntary commitments.[6] The initial aim of NC-STeP was to allow North Carolina hospitals to participate as referring sites or consulting sites in providing psychiatric assessments to patients experiencing acute behavioral health or substance abuse crises. NC-STeP accomplishes this through a contractual agreement between East Carolina University Center for Telepsychiatry and e-Behavioral Health (CTeBH) and ORH. ECU CTeBH implements these services in hospital emergency departments and community settings. NC ORH oversees the operations while monitoring the program's expenditures, hospital enrollment, and contract performance measures.

[4] Santo, Peters, DeFrances. (2021) NCHS Data Brief, brief no 426. Hyattsville, MD, National Center for Health Statistics

[5] Kothadia RJ, Jones K, Saeed SA, Torres MJ, (2020). The Impact of NC-Statewide Telepsychiatry Program (NC-STeP) on Patients' Dispositions from Emergency Departments. Psychiatric Services. Vol. 71, Number 12, December 2020.

[6] Davies, S. (2012, August 23). Vidant Health / Duke Endowment Telepsychiatry Project. *North Carolina Institute of Medicine*. Retrieved August 11, 2014, from http://www.nciom.org/wp-content/uploads/2012/06/Bed-Boarding-Davies.pdf.

Telepsychiatry has proven to be a successful resource for states with rural populations lacking mental health resources. Other successful telepsychiatry programs include the South Carolina Department of Mental Health Telepsychiatry Program[7] and the University of Virginia Telepsychiatry Program,[8] which both continue to provide telepsychiatry services throughout their respective states.

Program Implementation

The NC-STeP program began October 1, 2013, with the execution of a contract between ORH and East Carolina University's CTeBH. In accordance with Session Law 2013-360, and subsequently General Statute 143B-139.4B, ECU CTeBH's role was to implement the service into enrolled hospitals and administer the operations of NC-STeP. As of June 30, 2024, there were 28 hospital referring sites live in the network. Session Law 2018-44 authorized funding to support community-based sites (clinics) working with NC-STeP psychiatric consultants.

The community-based sites for SFY 2024 include the following:

- Albemarle Regional Health Services (9 sites) locations in Camden, Chowan, Currituck, Pasquotank, Perquimans, Bertie, Hertford, Hyde and Gates counties
- Erlanger Health – Hayesville, NC
- Erlanger Health – Andrews, NC
- Elizabeth City State University Student Health Center – Elizabeth City, NC
- ECU Health Specialty Clinic – Kinston, NC
- ECU Health Women's Clinic – Kenansville, NC
- ECU Women's Clinic – Edenton, NC
- ECU Health Family Practice – Roanoke Rapids, NC
- Martin County Health Department – Plymouth, NC
- Craven County Health Department – New Bern, NC
- Duplin County Health Department – Kenansville, NC
- Beaufort County Health Department – Washington, NC
- ECU Health Family Medicine – Chocowinity, NC
- Carteret OB-GYN Associates – Morehead City, NC

There was no additional funding provided when the scope of NC-STeP was expanded by the legislature in 2018 [Session Law 2013-360 recodified as G.S. 143B-139.4B(a)(1b) by Session Laws 2018-44, s. 15.1, effective July 1, 2018] to provide services in community-based clinics. Since the original recurring funding in 2013, there has been no increase in recurring legislative funding for NC-STeP, instead, as mentioned in the Executive Summary, the original $2 million in recurring funding was reduced in 2017 to $1.82 million when DHHS chose to reduce the NC-STeP contract by $180,000 due to budget cuts. The SFY contract for NC-STeP remains at $1,820,000 per fiscal year. Also, as mentioned in the Executive Summary, in addition to their recurring appropriation, NC-STeP has received non-recurring appropriations.

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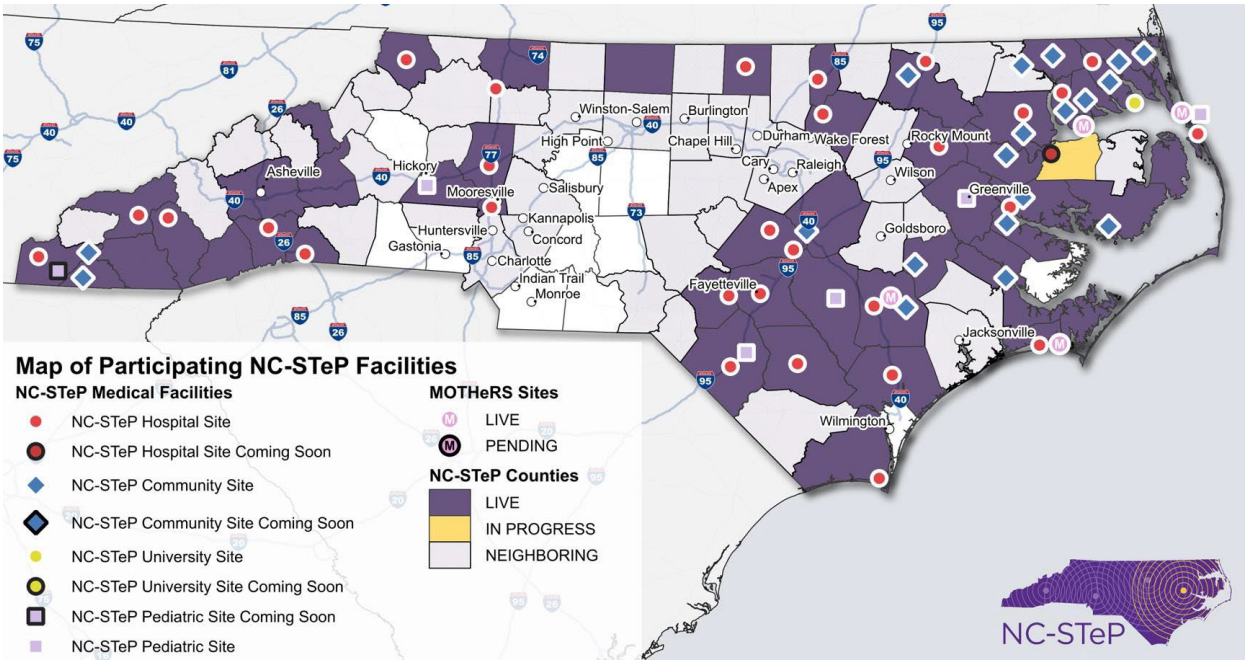
[7] The DMH Telepsychiatry Program. (2013, July 31). *South Carolina Department of Mental Health*. Retrieved August 11, 2014, from https://scdmh.net/dmhtelepsychiatry/.

[8] Telepsychiatry. (n.d.). *School of Medicine at the University of Virginia*. Retrieved August 11, 2014, from http://www.medicine.virginia.edu/clinical/departments/psychiatry/sections/clinical/telepsychiatry/telepsychiatry.

Consulting Sites and Data

The current consulting sites include Carolina Behavioral Care (CBC), Cape Fear Valley Health, and ECU. The list of live and enrolled hospitals can be found in Appendix A of this document. Figure 2 displays the most recent map of site locations for telepsychiatry referring sites (EDs) and consulting sites (provider hubs).

Figure 2: Map of NC-STeP Enrolled Sites as of June 30, 2024



A large part of the NC-STeP program is learning and dissemination. As a result, NC-STeP's success is also defined by graduating more of the Model 2 hospitals in coming years. Model 2 hospitals are the hospitals that utilize their own psychiatrists for providing consultations in their EDs. These hospitals initially joined NC-STeP to develop or enhance expertise in telepsychiatry and to receive technical assistance from the program, in addition to one-time funding for equipment. At a point when these hospitals are comfortable sustaining the telepsychiatry operations on their own, without technical assistance from NC-STeP, they can choose to terminate the contract with NC-STeP. NC-STeP considers such terminations a success story and refers to them as graduating from NC-STeP for these Model 2 hospitals, such as HCA Healthcare (formerly Mission Health).

State funding was essential to the creation of the statewide telepsychiatry program. Leaders of NC-STeP also pursued additional funding from The Duke Endowment to expand the program. The Duke Endowment awarded $1.5 million as a pass through, in which ORH would disburse the funds from SFY 2015 to 2018. Through this award, NC-STeP expanded its services to additional referring sites. The Duke Endowment funding was also used for ORH overhead to meet the unfunded requirements of SL 2013-360. This funding also supported the dissemination of best practices of telepsychiatry through technical assistance, an informational website, provider training modules, publications, and conference presentations. The Duke Endowment contract was under a no-cost extension that ended June 30, 2019.

With funding from The Duke Endowment concluding, ORH proactively sought and received approval to use a share of its Health Resources and Services Administration (HRSA) funds (totaling approximately $82,800 for salary, fringe, and benefits) to support a portion of an ORH staff position's time to oversee NC-STeP, since many Critical Access Hospitals benefit from these services. Currently, ORH does not receive state appropriations to support the legislatively mandated oversight functions.

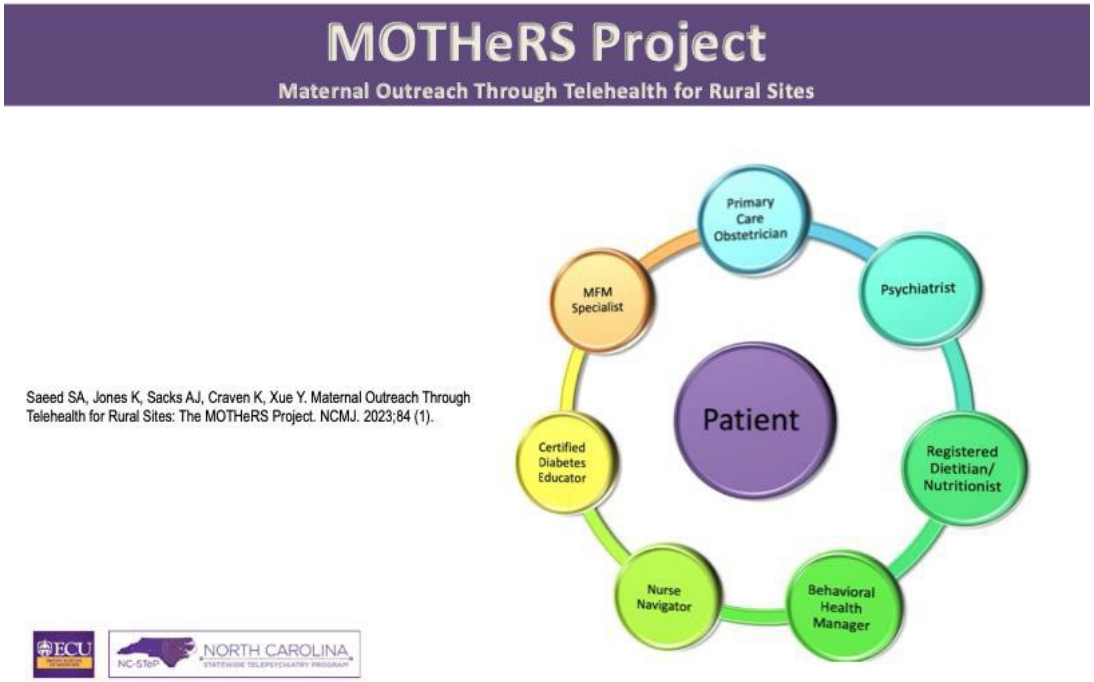
Other Sources of NC-STeP Funding and Expanding Services

In addition to the funding provided by the NC legislature, the NC-STeP Program has successfully applied for and received funding to pilot new programs and initiative.

NC-STeP obtained supplemental funding of $60,000 from the Fullerton Foundation Grant to provide services at a new site in the Macon County Health Department. This was a two-year grant that helped provide evidence-based, out-patient mental health care to patients in Macon County who then lacked access to this care. This was a demonstration project embedded in a primary care clinic utilizing an integrated care model in which a behavioral health provider (BHP) was embedded in a primary care setting and a psychiatrist provided consultation via telepsychiatry.

The COVID-19 pandemic intensified health disparities, especially in maternal health among expectant mothers in rural Eastern North Carolina. These mothers faced increased risks due to limited access to prenatal care for high-risk pregnancies, maternal-fetal medicine specialists, heightened mental health issues, and the impact of social determinants of health including systemic racism. In 2020, NC-STeP received an additional $1,200,000 funding for a new MOTHeRS (Maternal Outreach Using Telehealth at Rural Sites) project from United Healthcare Foundation that allowed for four additional community sites: Carteret OB-Gyn Associates, ECU Health Women's Clinic – Kenansville, ECU Health Women's Clinic – Outer Banks, and ECU Women's Clinic – Edenton. The MOTHeRS Project implemented a multidisciplinary telehealth service integrating maternal fetal medicine specialists, psychiatrists, and other healthcare professionals into rural obstetric clinics, as depicted below:

Figure 3: Maternal Outreach Approach



The approach minimized the need for travel and brought specialized care directly to underserved communities. Implementation of telehealth services reduced travel for high-risk patients by over 396,894 miles and facilitated 2,428 patient visits, including behavioral health interventions. The project addressed food insecurity by distributing medically tailored food bags to high-risk pregnant women. These results were published in the NC Medical Journal in 2023.

The collaborative co-management models such as the MOTHeRS Project can create a patient-centered team approach to care delivery that results in both improved patient experiences and a positive impact on maternal fetal health. The lessons learn from the project demonstrated that effective telehealth programs require robust coordination, which was managed by nurse navigators. The integration of mental health services into OBGYN clinics proved highly beneficial. Technical challenges and resistance to change at local sites highlighted the need for training and buy-in from all staff levels. The approach also underscored the importance of addressing logistical challenges such as food bag transportation and storage.

The project was successfully completed on March 31, 2023. NC- STeP provided ORH with their final report that covered the period from January 15, 2021, to March 31, 2023. At its completion on March 31, 2023, the MOTHeRS Project provided a total of 1,761 patient visits during its 27-months period of successful operations. Of these 1,761 patient visits, the project provided 122 maternal/fetal medicine (MFM) specialist visits (7% of all visits), 116 visits with a diabetes educator/medical nutrition specialist (7% of all visits), and 1,523 visits with behavioral health visits (86% of all visits) at its four clinical sites. Aside from providing access to evidence-based specialty care at these remote sites, the project saved 296,257 driving miles (36,784 for MFM visits and 259,473 for mental health visits) for patients and their families. In addition, the MOTHeRS Project screened 27,723 patients for food insecurity and distributed 695 medically tailored food bags to those who were screened positive for food insecurity. Even after the completion of the project, NC-STeP was able to continue the food insecurity part of the project until December 31, 2023, and funding from the NC Medical Society Foundation funding took it over in January 2024. NC-STeP also sustained it beyond was able to continue when it was been able to continue the mental health part of the MOTHeRS Project.

The MOTHeRS Project shared that the following: Evidence points toward significantly high maternal deaths of black and other minority women, especially in rural areas. There are significant challenges facing rural women in accessing comprehensive, affordable, high-quality maternal health and mental health care. Given the scale and scope of the issue, programs like the MOTHeRS Project are very much needed and timely. The project emphasized the importance of strengthening care coordination and health care delivery, investing in human service programs, and addressing various workforce issues. Although there are numerous programs that have been developed to improve maternal health outcomes, barriers such as persistent poverty, transportation challenges, lack of affordable quality health insurance, chronic health conditions, and workforce shortages have made it difficult to address a complex issue such as rural maternal health care.

Through its work, the MOTHeRS Project not only provided care to those who needed it at its clinical sites, but also generated new knowledge regarding how these barriers can be better addressed to ensure that every woman in rural America has a safe and healthy pregnancy, delivery, and postnatal outcome. The final report also contained an appendix that included selections from the published news, journal articles, patient handouts, and abstracts written about the MOTHeRS project. The United Healthcare Foundation funding covers all costs associated with these sites.

In recent years, the mental health and well-being of college students has received a significant amount of attention from educators, researchers, healthcare professionals, and policy makers. Mental health problems are common among college students. It is estimated that 26.2% of Americans ages 18 and older, or about one in four, have a mental disorder in any one year.[9] During the 2020–2021 school year, more than 60% of college students met the criteria for at least one mental health problem, according to the Healthy Minds Study, which collects data from 373 campuses nationwide.[10] In another national survey, almost three quarters of students reported moderate or severe psychological distress.[11] In the past decade, mental health symptoms have nearly doubled in college student populations.[12]

Academic pressure, together with stressors typical of starting and attending college, may precipitate the first onset of mental health and substance use problems or an exacerbation of symptoms. While mental health problems are common among college students, the problem is particularly severe for minority college students living in rural areas due to less access to mental health care when compared with their peers in urban areas—giving rise to serious mental health disparity. Meanwhile, many cultural and normative barriers, such as stigma, can further reduce their mental health-seeking behavior, which exacerbates the mental health disparity.

In 2021, NC-STeP was awarded $1,543,477 by Blue Cross and Blue Shield of North Carolina for a five- year grant for a new project called "A Partnership to Bridge the Behavioral Health Care Gap at Elizabeth City State University (ECSU)." This work is focused on addressing access to behavioral health care challenge for students at ECSU by using the model developed and tested by the North Carolina Statewide Telepsychiatry Program (NC-STeP).

[9] Kessler RC, Chiu WT, Demler O, Walters EE. Prevalence, severity, and comorbidity of twelve-month DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). Archives of General Psychiatry, 2005 Jun;62(6):617-27

[10] Lipson, S. K., et al. Trends in college student mental health and help-seeking by race/ethnicity: Findings from the national healthy minds study, 2013–2021, Journal of Affective Disorders, Volume 306, 2022, Pages 138-147.

[11] National College Health Assessment, American College Health Association, 2021.

[12] Duffy ME et al Trends in mood and anxiety symptoms and suicide-related outcomes among U.S. undergraduates, 2007–2018: evidence from two national surveys. J. Adolescent Health (2019).

The most recent quarterly report from NC-STeP includes the following table that contains student screening and service data since the program's inception:

Table 1: Student Screening Data

Summary of ECSU Student Screenings	
Number of Patients Seen By Practitioner:	1600
Number of Patients Referred To See LCSW/Counselor:	102
Number of Patients Referred To See Psychiatrist:	62
Patient Health Questionnaire (PHQ-9) Completed:	1594
PHQ-9 score <10	980
PHQ-9 score ≥10	183
Generalized Anxiety Disorder (GAD-7) Completed:	1592
GAD-7 score <8	919
GAD-7 score ≥8	222
Number of NC-STeP Scheduled Sessions Held	302
Number of NC-STeP Follow-up by Email	493
Number of "On-Call"/Evening Sessions	11
Number of NC-STeP Follow-up/Check-Ins by Phone	438
Number of "Walk-Ins"/Not Scheduled	62
Marketing Efforts Completed/Outreach Opportunities	104

In 2023, NC-STeP received grant funding of $3,272,706 over three years (2023- 26) for an expansion of NC-STeP focused on providing services for youth. Referred to as NC-STeP-Peds, this project is called “Caring for the Mental Health and Wellbeing of Children: Using Telepsychiatry to Enhance Access to Care and Promote Well-Being.” The project is designed to provide mental health services for children and adolescents in six selected pediatric/primary care practices in Tier 1 or Tier 2 counties in North Carolina and is funded by the United Health Foundation. The work funded by this new grant is expanding NC-STeP to serve children and adolescents using a collaborative care approach. Using pediatric and primary care clinics as the host sites helps remove the stigma associated with mental health, enhances compliance with appointments, and offers expert consultation support for busy and often overwhelmed pediatric and primary care clinicians. Children and adolescents adapt well to this technology since much of their world is viewed through electronic screens. The new program embeds a licensed behavioral health provider (BPH) into each pediatric or primary care setting. The BPH is linked

via telepsychiatry to a board-certified child psychiatrist for case consultation and care planning. Using virtual reality, the program is creating "NC Rural Kids Get Well," a 3-D community on the Roblox platform to serve three main purposes: education, peer support, and surveillance. The program also features an artificial intelligence (AI) driven knowledge management (KM) online portal to enhance collaborations among different sites' healthcare providers; encourage family members' engagement in children's mental health care; discover innovative and customized mental health service approaches for NC rural area children; and disseminate timely and relevant mental health knowledge to health care professionals, family members, and local community partners.

Additionally, the program will utilize these telehealth sites for inter-professional training and will collaborate with university and community partners to develop a continuum of care that can include school systems, existing family therapy clinics, and child advocacy centers. All six clinical sites are currently live. As of March 31, the program had successfully screened 9,725 children. The program identified that 874 children (10.9% of those screened) had PHQ-9 scores of 15 or higher. Similarly, 780 children (18.8% of those screened) had GAD scores of eight or higher. These significant percentages, alongside the large number of screenings, highlight two critical insights:

1. Prevalence of mental health issues among children at these pediatric clinics is significant, indicating a strong need for mental health care at these sites.
2. The ability to screen many children since the program's inception helps increase awareness of mental health issues in children and emphasizes the importance of addressing these needs in the community setting.

Performance Measures

As required by contract with ORH, ECU's CTeBH submits quarterly reports regarding specific performance measures. Most performance measures were defined in SL 2013-360, Section 12A.2B and are displayed in Table 1 with their respective targets and outcomes. DHHS also incorporated additional measures pertaining to user satisfaction and sustainability.

Some performance measures are designed for measuring the program's impact but are not in the direct control of program administrators. One of these performance measures pertains to length of service (LOS) times.

Average LOS times are often skewed due to outlying patients with complex medical and behavioral needs. To clarify the impact of these outliers, the median LOS time was also calculated and provided. Additionally, the program now reports the average elapsed time for the consultations performed, which is a measure of the time it took for a consultation to be completed. This measure begins with the point of patient referral to the program and concludes at the completion of the consultation. The elapsed time is a measure of the time it takes for NC-STeP to start and finish a consult once a referral is received from an emergency physician. The total elapsed time currently is four hours and 21 minutes. This number is considered a success with all the staff shortages present throughout the hospital and healthcare system.

Table 2: Performance Measures

EVALUATION CRITERIA	BASELINE AS OF 6/30/2023	YEAR TO DATE TARGET TO BE REACHED BY 6/30/2024	REPORTED MEASURES AS OF 06/30/2024
The number of full-time equivalent (FTE) positions supported by these contracts	4.30 FTEs	5.30 FTEs	4.30 FTEs
The number of overturned involuntary commitments (inpatient admission prevented)	1,249	1,133	Year to Date = 903 Program to Date = 10,046
The number of participating consultant providers	23	20	23**
The number of telepsychiatry assessments conducted	4.824	3,400	Year to Date = 4,092 Program to Date = 63,356
The number of telepsychiatry referring sites	30	29	28
The reports of involuntary commitments to enrolled hospitals	3,123	2,229	Year to Date = 2,649 Program to Date = 30,542
The average (mean) Length of Stay for all patients with a primary mental health diagnosis across all dispositions††	61 hours	72.25 hours	Year to Date Average = 61 Year to Date Median = 35.8
Cumulative return on investment to state psychiatric facilities through overturned IVCs (inpatient admissions averted)	$6,744,600	$5,929,200	Year to Date = $6,744,600 Program to Date = $59,178,600

†† Length of stay begins when the patient is admitted to the ED and ends when the patient is discharged from the ED

* Satisfaction surveys are completed twice a year. The most recent survey was completed in March 2024 that reported an overall satisfaction level of 83%.

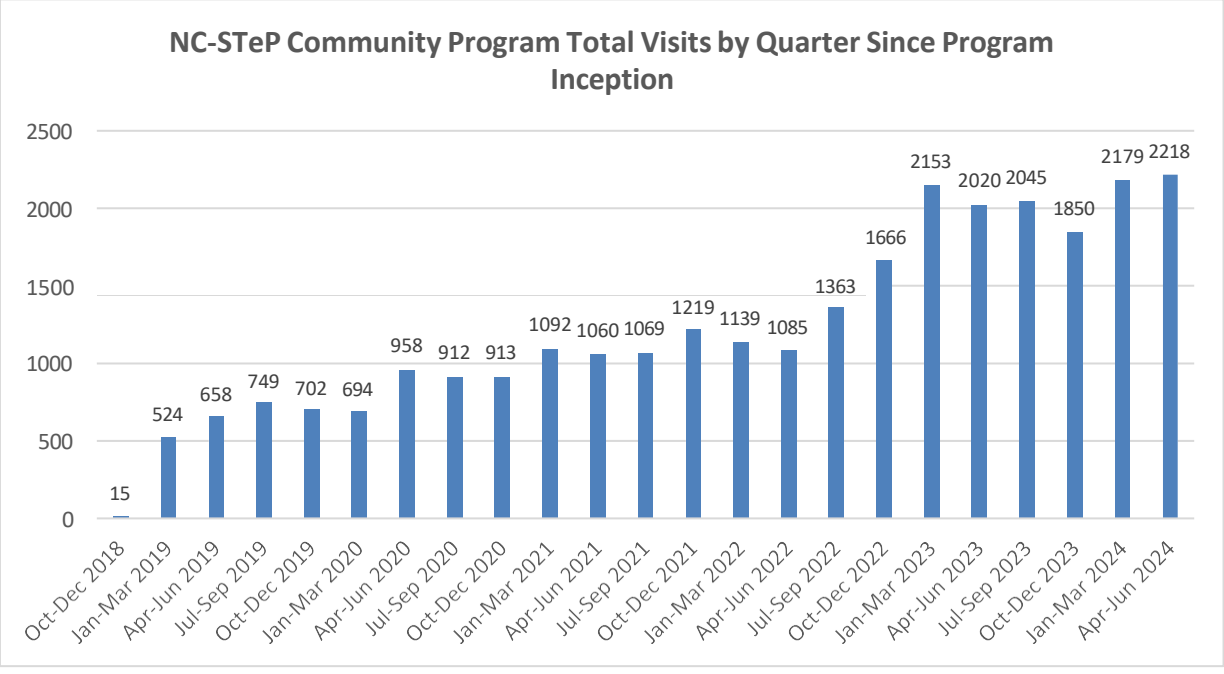
**HCA Health has graduated from the NC-STeP Program. HCA has 32 providers and seven sites. HCA will no longer submit their data to NC-STeP Program

Currently, there are no performance evaluation criteria for community-based sites, as these will have to differ from hospital evaluation points. For the program and the state to make data-driven conclusions, such as savings and impact, the following evaluation criteria have been selected to monitor.

Table 3: Community Sites Performance Measures

EVALUATION CRITERIA	VALUES/MEASURES REACHED AS OF 06/30/2024
Number of full-time equivalent (FTE) positions supported by the contract	.90 FTEs
Number of community-based sites contracted	22
Number of patient visits with medical (psychiatric) doctor	Year to Date = 129 Program to Date = 2,658
Number of return visits	Year to Date= 1,787 Program to Date = 22,216
Number of patient visits with a mid-level provider	Year to Date = 2,089 Program to Date = 25,519
Number of new patient visits	Year to Date = 426 Program to Date = 6,017

Figure 4: Community Sites Total Visits



While separate from the NC-STeP Program, the MOTHeRS Project results are included below as they relate to their impact on patient access, health disparities, and food insecurity.

Figure 5: MOTHERS Project Outcomes

MOTHeRS Project Results April - June 2024			
Impact on Patient Access to Care	Number pf perinatal patients who received care (visits with MFM specialist)		122*
	Impact on patient access (calculated as driving miles saved per MFM specialist visit and Diabetes educator/Medical Nutrition Specialist visit: Carteret		36,784 driving miles saved*
	Number of patient visits with Diabetes Educator or Medical Nutrition Therapist		116
	Number of women served for mental health reasons	LCSW visits	1,675
		Psychiatrist visits	610
		Total Mental Health visits	2,285
	Impact on patient access (calculated as driving miles saved per Psychiatrist and LCSW visit		377,643 driving miles saved
Food Security	Number of Food Boxes sent to Clinics		1,195**
	Number of Patients Screened for Food Insecurity		41,229**
	Number of Food Boxes Distributed		888**

*MFM par of the MOTHeRS Project was completed on March 31, 2023
**Food Insecurity part of the MOTHeRS Project was completed on December 31, 2024

Site Visit Results

ORH continues to follow a hybrid model of virtual and in-person site visits for the annual report.

Most ED managers and staff interviewed were satisfied with the service and the support they have received from the program. Structured questions revealed the majority felt they had received adequate training, were comfortable with using the technology, and believed they could perform their jobs better with telepsychiatry. The results of these site visits have also identified areas that require further attention. NC-STeP is aware and is actively working to improve program. The primary issues discussed during the site visits are summarized below:

Availability of Service Hours - Several sites informed ORH that they wished NC-STeP services were provided for extended hours, especially over the weekend. Currently, consulting sites offer telepsychiatry services from 8 AM to 6 PM, 7 days a week. When the program originally started it was not offered on the weekends, this has been programmatic growth and sites are thankful for the improvement.

Web Portal and Afterhours Assistance – A new web portal was implemented in the spring of 2024 to improve continuity of care, transfer of information and IT service calls. Although there are some difficulties at times, such as login issues when attempting to access the online web portal. Regular password changes through the web portal make it difficult for staff to remember and thus more difficult for them to adequately utilize the service.

Commonly, a password has been forgotten by a staff member who is working 'after hours,' or from 6pm-8am, and cannot reach an NC-STeP staff member, thus denying them access to the portal to que their patient. These patients must wait in the ED until the next day morning when a different staff member can access the web portal.

Other hospitals reported that once the new web portal was fully implemented it improved their efficiencies with patient information flow and overall was better than the previous software. The training was completed with all staff virtually for the new web portal.

Communication between Providers and NC-STeP Psychiatrists – The hospital/community provider can reach out to NC-STeP psychiatrists for questions about the NC-STeP consulting psychiatrist's recommendations. The NC-STeP consulting psychiatrist provides a call-back number for the referring site. The call availability hours are Monday- Sunday from 8-6pm, excluding holidays. When providers need assistance from the consulting psychiatrist after 6pm, they must wait until the following day for a response. NC-STeP reports that their current funding does not support 24-hour on call or coverage.

Community-Based Support Services - Several hospital sites note that having a psychiatric evaluation is helpful to start medications to mitigate or prevent mental health crises. Patients may experience challenges when discharged from the hospital due to lack of access to primary care/outpatient providers or due to lack of insurance coverage.

If the patient is released from the hospital without follow-up care in the community, the patient may return to the ED in crisis. The sites voiced the recommendations for care such as housing for homelessness, medication access and management of medications may not be available or have long waitlists to access. Hospitals seek options for community-based treatment sites to refer to patients. While this is a growing part of the NC- STeP program, finding enough providers in North Carolina to meet the demand is challenging. Other social drivers of healthcare such as employment, education, food insecurity and social inclusion affect one's ability to optimize mental wellness, according to the CDC and the World Health Organization. [13]

Wait Time - A common concern voiced by ED managers and staff is an increasingly long wait time after all intake processes are completed. Most hospitals admit patients in the late morning or early afternoon yet find those patients waiting until the next day to meet with an NC-STeP provider. Sites reported that wait times are taking anywhere from 6-24 hours for the patient to be seen by an NC-STeP provider. However, as mentioned earlier, NC-STeP routinely reports the average elapsed time for the consultations performed, which is a measure of time it took for a consultation to be completed from the point of patient referral to the program to the completion of the consultation. The elapsed time is a measure of the time it takes for NC-STeP to start and finish a consult once a referral is received from an emergency physician. The total elapsed time currently is 4 hours and 22 minutes.

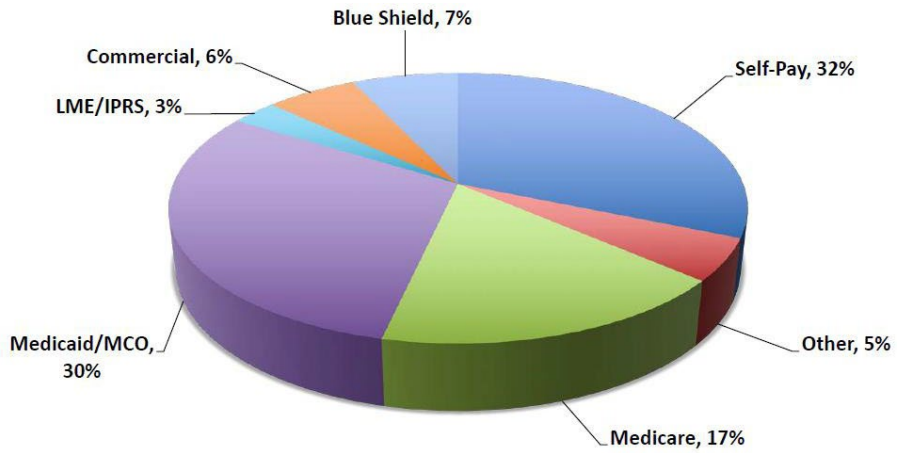
Guidance for Pediatric Patients - Multiple sites have asked for guidance on pediatric patients who need NC-STeP telepsychiatry services. One hospital reported that roughly 50% of NC-STeP referrals have

been for patients under the age of 18 years. Hospital sites have noted it's more difficult to place pediatric patients in psychiatric hospitals, making hold times in hospitals longer.

Many of these issues have been present since the start of the program and have affected the speed of program implementation and user satisfaction. ORH has been in discussion with NC-STeP and its Advisory Council to resolve these issues, but many of them are outside of the scope and control of the NC- STeP program and some challenges will require additional ideas, funding, and stakeholders.

During the Advisory Council meetings, rising uncompensated care costs, meaning the number of uninsured patients seen, has been shared as one of the biggest threats to this program. The program contractor (ECU) is unable to bill over 32% of the patients that use the service due to lack of health insurance coverage. The expansion of Medicaid this past year is expected to have a significant positive financial impact on this program. The data will verify once available. The program has quarterly reported the charge mix since inception.

Figure 6: Payer Mix SFY2024



Despite some noted areas of improvement, most hospitals reported that without NC-STeP they would not be able to provide appropriate medical and psychological care for their community, especially in response to an increasing number of mental health patients. Many ED directors and staff are very satisfied with NC-STeP's responsiveness and collaboration whenever they reported any technical issues or other concerns. One ED director stated that "Everything is working very well. So thankful to be part of the program. We are as far west as you can go and two hours from anywhere. Without this program, we'd be holding patients for months and we've done it before. Without this program our community would not be getting the help they deserve. Some of our ED physicians, who also work in Tennessee, are jealous and often ask how they can get something like the NC-STeP program in their state."

[13] CDC Public Health Professionals Gateway. https://www.cdc.gov/public-healthgateway/php/about/social-determinants-of-health.htm

Financial Report

The North Carolina General Assembly originally appropriated a recurring annual sum of $2,000,000 for this initiative. The initial use of funds included: 1) entering into a contract with ECU's CTeBH, 2) purchasing the necessary equipment for hospitals and consulting sites participating in the program, 3) building administrative and clinical infrastructure for the program, 4) establishing policies and procedures for the clinical operations and training, 5) designing and implementing a functional web portal, 6) providing psychiatric consultations to the hospitals contracted with the program, and 7) supporting under-and uninsured patients. The current primary emphasis is to bring additional sites online with the web portal implemented at each site, in addition to sustaining the current program footprint that includes, but not limited to, keeping the policies and procedures for the clinical operations current; ongoing onboarding and training for new employees at the clinical sites; and keeping the current web portal up-to-date and efficient.

Session Law 2017-57, Section 11A. 10. required DHHS to take a recurring reduction in the amount of $3.2 million. The provision further required DHHS not to reduce funds if it would impact direct services. This was a difficult task for DHHS, as reductions in the past have typically been non-recurring, making them easier to manage by identifying one-time dollars. DHHS chose to reduce the NC-STeP contract by $180,000 due to historical reversions over the previous 5 years. NC-STeP objected to this cut and presented their concerns to the North Carolina General Assembly. Since then, the recurring yearly funding for NC-STeP has remained at a total of $1,820,000 resulting from 2017 budget reduction. In subsequent state budgets, the program's appropriations remained at $1,820,000.

During SFY 2021, the Federal American Rescue Plan Act (ARPA), enacted on March 11, 2021, provided relief to address the continued impact of COVID-19 on the economy, public health, state and local governments, individuals, and businesses. A component of ARPA is the State Fiscal Recover Funds (SFRF), which provides $5.4 billion to North Carolina to help turn the tide on the pandemic, address its economic fallout, and lay the foundation for a strong and equitable recovery. The NC General Assembly appropriated SFRF in the 2021 Appropriations Act and broadly identified projects for DHHS SFRF funds. NC-STeP was given an additional $1,500,000 to assist with the program and COVID-19 related burdens to the healthcare system. This funding allowed $200,000 to be used for NC-STeP programming in SFY 2021, March 3, 2021, through June 20, 2021. Most of this funding will be reflected in subsequent reports thru December 2026.The program currently expended $698,684 of the SFRF funding. The remaining funds totaling $801,316 must be obligated by December 2024.

In addition to State funds, The Duke Endowment also awarded a sum of $1.5 million to ORH to support NC-STeP through funding additional equipment and additional sites. It also enabled the program to identify and disseminate information regarding best practices. This award supported program augmentation for five years, with funds concluding in 2019.

In supporting the augmentation of the NC-STeP program, The Duke Endowment funding supported a portion of a staff position to conduct the legislatively mandated program monitoring and fiscal oversight. When the Duke Endowment funding concluded, ORH secured permission to use a portion of the Health Resources and Services Administration Medicare Rural Hospital Flexibility Program funds to continue to support a portion of an ORH staff position's time to oversee NC-STeP, since many critical access hospitals benefit from these services.

In (enter the year), DHHS also received an additional $200,000, a one-time transfer from the Institute of Museum and Library Services from the NC Department of Information Technology, to expand

telepsychiatry services into community settings. A Memorandum of Agreement ("Agreement" or "MOA") was made and entered by and between the North Carolina Department of Information Technology (NC-DIT) and ORH to distribute these funds to East Carolina University for Telepsychiatry and e-Behavioral Health to expand NC-STeP. These funds were used to equip new community sites with computers, technology, and related items. The funds also went to support the development and implementation of the community site web portal housed in the existing NC-STeP web-based technology. This new community site web portal allows seamless scheduling and exchange of health information records regardless of the EHR platform used by the community site.

NC-STeP estimates that the program will require an annual $2,000,000 for ongoing implementation and maintenance, not including the costs associated with the new community-based telepsychiatry programs. NC-STeP continues implementation while transitioning into ongoing management, evaluation, and program expansion phases. Due to amendment, GS 143B-139.4B in June 2018, NC-STeP expanded its telepsychiatry beyond emergency departments and into community-based settings. The program is showing an emphasis on staffing and provider support with the continued growth of the program.

As stated previously, the program has resulted in significant cost savings to the state, its partners, and external stakeholders. ECU's CTeBH reports the primary method of cost savings from this program is overturning unnecessary involuntary commitments. Of the 30,542 patients held under involuntary commitment and served by the program, 10,959 have been discharged into their communities to receive treatment using community resources. This has reduced the burden to patients and their families and lowered costs for state psychiatric facilities, other hospitals, law agencies, government payers, and private payers. Although total cost savings are difficult to quantify due to the number of stakeholders, NC-STeP estimates $59,178,600 in cumulative cost savings to the state of North Carolina.

The expansion into community-based settings will also contribute significantly to state cost savings. Although these cost savings will also be difficult to quantify due to the nature of services, allowing psychiatric consultation within the community will reduce the number of ED visits and stays for mental health concerns. The focus of savings will now be focused up-stream and within the patient's community versus during an emergent crisis, saving the North Carolina Healthcare systems more than can be easily calculated by this program.

Next Steps

Session Law 2013-360 was recodified as G.S. 143B-1494B (a)(1b) by Session Laws 2018-44, s. 15.1, effective July 1, 2018. The NC General Assembly shows continued support with legislative changes and continued funding for the NC-STeP program. The program has shown significant cost savings to the state of North Carolina in many aspects.

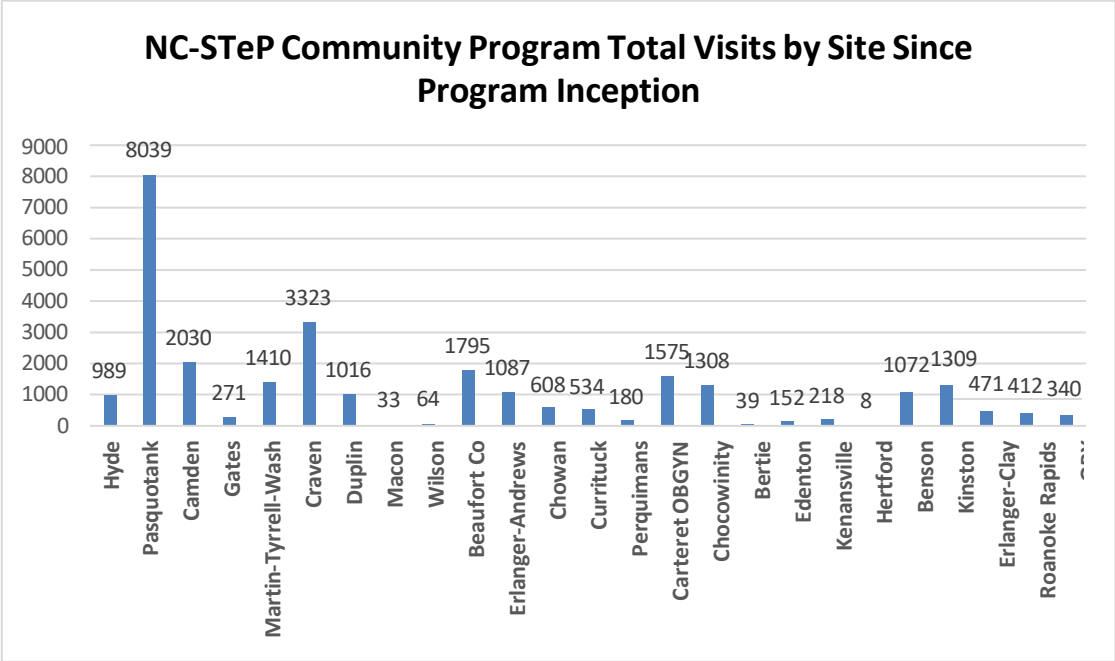
NC-STeP started in 2013 and onboarded more than 50% of the 108 North Carolina hospitals in the first year. Within the first 24 months, as of September 30,2015, NC-STeP reported 74 hospitals in its network. The leveling of hospital-based telepsychiatry sites happened in SFY 2020 at approximately 51 sites, with that number dropping to 39 in SFY 2022, 29 in SFY 2023, and now 23 in SFY2024. This is consistent with the 2012-13 original proposal to the legislature that suggested that 59 hospital sites (of 108 hospitals in North Carolina) may need a program like NC-STeP. When new hospital sites are added, this is sometimes countered by existing hospital sites choosing to stop services or develop in-house psychiatry services. NC-STeP considers hospitals' development of in-house psychiatric services a success due to NC-STeP's initial support of hospitals developing local expertise and comfort in providing psychiatric services. As described earlier, NC-STeP prefers to this as graduating a hospital from the program to become self-sustaining. This allows NC-STeP to free up funds for developing new community-based sites.

The future growth of the program will come from expanding community-based sites. The evaluation of these sites is challenging as the program captures individuals before a mental health crisis that requires a hospital-level IVC assessment. If the community sites are preventing an unnecessary hospital based IVC assessment, then cost savings are realized by preventing an IVC from occurring. This upstream approach aligns with the DHHS Healthy Opportunities initiative, as well as Medicaid Transformation and Expansion, to address health before it progresses to high-cost services and time for both individuals and providers.

The expansion of NC-STeP to community-based settings represents a new delivery model for the program. The SFY 2024 community-based sites are in the following locations:

- Albemarle Regional Health Services (9 sites) locations in Camden, Chowan, Currituck, Pasquotank, Perquimans, Bertie, Hertford, Hyde and Gates counties
- Erlanger Health – Hayesville, NC
- Erlanger Health – Andrews, NC
- Elizabeth City State University Student Health Center – Elizabeth City, NC
- ECU Health Specialty Clinic – Kinston, NC
- ECU Health Women's Clinic – Kenansville, NC
- ECU Women's Clinic – Edenton, NC
- ECU Health Family Practice – Roanoke Rapids, NC
- Martin County Health Department – Plymouth, NC
- Craven County Health Department – New Bern, NC
- Duplin County Health Department – Kenansville, NC
- Beaufort County Health Department – Washington, NC
- ECU Health Family Medicine – Chocowinity, NC
- Carteret OB-GYN Associates – Morehead City, NC

Figure 7: Total Visits at Community Sites



In conjunction with primary care and a mental health provider at the referring site, NC-STeP will provide psychiatric consultation as well as direct patient care. This approach affords an opportunity for rural partners to maintain patients in the community rather than send them far distances or to the ED for care.

The Telepsychiatry Web Portal has been developed,[14] and ECU's CTeBH is implementing it to all sites as part of the go-live process. The web portal enables provider scheduling, billing, and exchange of health information, allowing hospitals and community-based sites to transmit clinical outcomes to CTeBH. However, as is usually the case with technology, the Web Portal needs to be continually updated, with major upgrades needed every 4-5 years. NC-STeP made a major upgrade this past fiscal year. A major improvement to the portal is the ability for the portal to interfacing with the numerous electronic medical records of providers submitting referrals. The contract between ORH and ECU's CTeBH will continue to allow expenses for this upgrade, annual hosting, and maintenance costs.

Program Developments and Long-Term Sustainability

The COVID-19 Pandemic aftermath is continuing to have an impact on patient's mental health and these issues have continued throughout SFY 2024. As the founding head of the NC-STeP Program, Dr. Saeed offers the following insights and predictions:

> "The COVID-19 pandemic has impacted lives globally, posing unique challenges in all walks of life and for all fields of medicine. With the pandemic affecting lives in so many ways, psychological endurance is a challenge that many will continue to face in the coming months. Physical and social isolation, the disruption of daily routines, financial stress, food insecurity, and numerous other potential triggers for stress response have all been intensified due to this pandemic, setting up a situation in which the mental well-being and stability of individuals is likely to be threatened.

[14] Saeed SA. (2018). Successfully Navigating Multiple Electronic Health Records When Using Telepsychiatry: The NC-STeP Experience. Psychiatric Services. 2018 May 15: appips 201700406. doi: 10.1176/appi.ps.201700406.

> The uncertain environment is likely to increase the frequency and/or severity of mental health problems worldwide. North Carolina will not be an exception. It has also been widely discussed by professional organizations that a surge in mental health and substance use disorder patients, both during the pandemic and in its aftermath, is likely. A national poll released by American Psychiatric Association in late March found that more than 36% of Americans say that coronavirus is having a serious impact on their mental health.[15] The long-term impact of COVID-19 on mental health and well-being is likely to take months before it becomes fully apparent. In the meantime, managing this impact will require a concerted effort from the health care system at large, not just from mental health care providers."

It will be important to identify patients with existing illnesses who present in acute crisis, to diagnose new cases of mental illness in individuals not previously diagnosed, and to provide support for those who do not meet criteria for a mental disorder but will need therapy. Increased screening will be necessary for these three groups to be identified, and services made available. Once patients have been identified, the appropriate psychiatric services and therapies will need to be tailored to presenting problems. This includes education on coping mechanisms, stress adaptation, cognitive behavioral therapy, medication therapy and adjustment of medication/dosage (medication management).

With the surge in psychiatric disorders, increasing pharmacotherapy will need to be monitored for adverse effects and drug interactions. For therapy-based services, patients will need to be assessed adequately to identify which therapies are indicated and available. For individuals who do not meet criteria for a medical diagnosis, coping strategies, support, and resources should be provided." [16] NC-STeP is well-positioned to help with all these aspects as the state deals with a surge of patients who need services for mental health and substance use disorders.

The expansion to community-based settings could impact long-term sustainability by presenting new opportunities for healthier populations, early treatment, and prevention, as well as new revenue options. With the push to community-based sites, it may be difficult to demonstrate cost savings to the state as it is not as easy as calculating an overturned involuntary commitment. It will be important for the program and state to determine data points acceptable that reflect the upstream program impact.

ECU's CTeBH reports a challenge as the number of individuals served who have no insurance coverage has ranged from 30% to 42% quarter by quarter with the average at 33% since the program inception. The program has made note that Medicaid expansion throughout the state of North Carolina would assist with sustainability of this program, assisting with some of the third of patients who are uninsured. The program has demonstrated savings by reducing unnecessary hospitalization, improving ED throughput, reducing patient transportation costs for law enforcement, and reducing ED boarding times. The program will require continued funding from the state to function.

The program shows a positive return on investment when savings are compared to unnecessary use of hospital ED bed holds and avoided admissions to state psychiatric facilities. The budget deficits for this program are recovered by:

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15 Saeed SA (2018). Tower of Babel Problem in Telehealth: Addressing the Health Information Exchange Needs of the North Carolina Statewide Telepsychiatry Program (NC-STeP). Psychiatric Quarterly. 2018 Jun;89 (2):489-495.

16 O'Neal G, Grant R. New poll: COVID-19 impacting mental well-being: Americans feeling anxious, especially for loved ones; Older Adults are Less Anxious. APA. 2020. https://www.psychiatry.org/

1) Charging hospitals a subscription fee to use the service, which is currently set at $70 for each telepsychiatry assessment (about one third of the cost),

2) Billing public and private payors for each assessment,

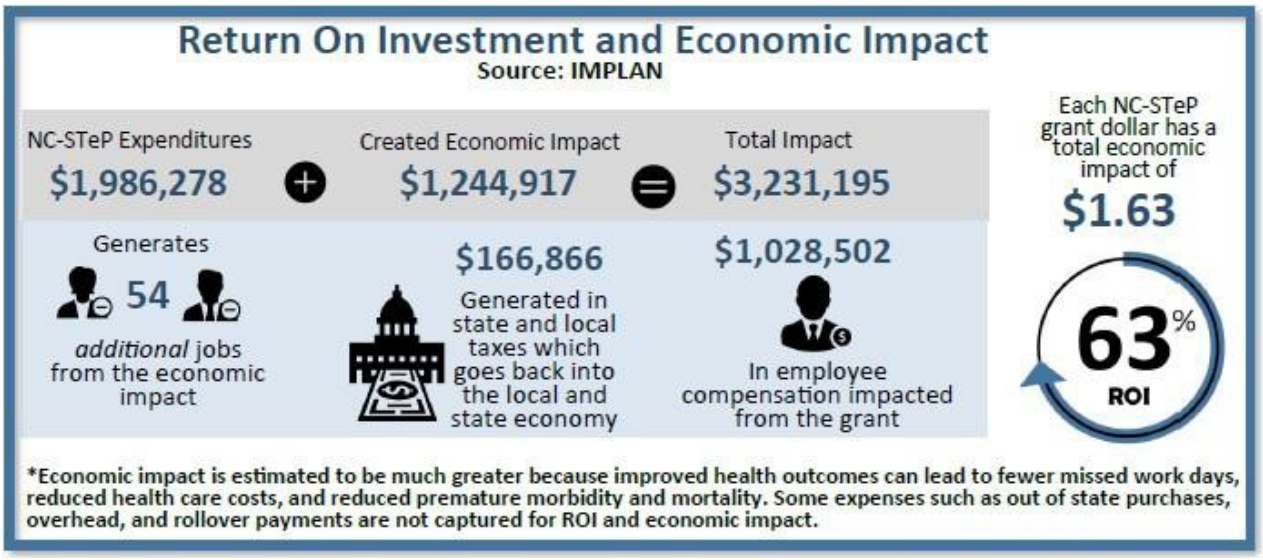
3) State appropriations, and

4) Non-state grant funding.

In rural North Carolina, mental health care access is very limited, as reported by the Health Professional Shortage Areas for mental health in 93 of 100 counties (Figure 1). The NC- STeP Program, with the assistance from continued legislative support, is on the forefront of creating long lasting impacts on patients in the mental health care continuum. Many states have contacted the NC-STeP, as well as the Office of Rural Health, to inquire about this program. North Carolina legislators started an innovative program that other states wish to duplicate.

The individuals that have accessed this program have benefited from the mental healthcare previously unavailable in their area. The psychiatry and counseling services in community clinics reaches more people, earlier, to mitigate a crisis and offer preventative treatment. With this program, the state of North Carolina improves the wellness of its people and enhances the lives of communities that will enjoy the enduring positive effects.

Appendix A: Economic Impact of the program



Appendix B: List of Enrolled Hospitals and Go-Live Status

As of June 30, 2024. Sorted by county, then by hospital.

County	Hospital	Provider	Status
Ashe	Ashe Memorial Hospital Model 1	Carolina Behavioral Care	Live
Beaufort	ECU Health Beaufort Hospital Model 1	Carolina Behavioral Care	Live
Bertie	ECU Health Bertie Hospital Model 1	Carolina Behavioral Care	Live
Bladen	Cape Fear Valley- Bladen County Hospital Model 2	Cape Fear	Live
Brunswick	J. Arthur Dosher Memorial Hospital Model 1	Carolina Behavioral Care	Live
Carteret	Carteret Regional Medical Center Model 1	Carolina Behavioral Care	Live
Cherokee	Erlanger Western Carolina Hospital Model 1	Carolina Behavioral Care	Live
Chowan	ECU Health Chowan Hospital Model 1	Carolina Behavioral Care	Live
Cumberland	Cape Fear Valley Medical Center Model 2	Cape Fear	Live
Dare	Outer Banks Hospital Model 1	Carolina Behavioral Care	Live
Duplin	ECU Health Duplin Hospital Model 1	Carolina Behavioral Care	Live

County	Hospital	Provider	Status
Edgecombe	ECU Health Edgecombe Hospital Model 1	Carolina Behavioral Care	Live
Franklin	DLP Franklin Hospital Model 1	Carolina Behavioral Care	Live
Halifax	ECU Health North - Halifax Model 1	Carolina Behavioral Care	Live
Harnett	Betsy Johnson Regional Model 1	Carolina Behavioral Care	Live
Harnett	Central Harnett Hospital Model 1	Carolina Behavioral Care	Live
Henderson	Advent Health Henderson (Park Ridge) Model 1	Carolina Behavioral Care	Live
Hoke	Cape Fear Valley Health Hoke Model 2	Cape Fear	Live
Iredell	Lake Norman Regional Medical Center Model 1	Carolina Behavioral Care	Live
Iredell	Iredell Hospital Model 1	Carolina Behavioral Care	Live
Jackson	Harris Regional Medical Center Model 1	Carolina Behavioral Care	Live

County	Hospital	Provider	Status
Pasquotank	Sentara Albemarle Medical Center Model 1	Carolina Behavioral Care	Live
Pender	Pender Memorial Hospital Model 1	Carolina Behavioral Care	Live
Person	Person Memorial Hospital Model 1	Carolina Behavioral Care	Live
Polk	St Luke's Hospital Model 1	Carolina Behavioral Care	Live
Robeson	Southeastern Hospital Model 1	Carolina Behavioral Care	Live
Surry	Northern Hospital of Surry County Model 1	Carolina Behavioral Care	Live
Swain	Swain Community Hospital Model 1	Carolina Behavioral Care	Live
Vance	Maria Parham Medical Center Model 1	Carolina Behavioral Care	Live
Washington	Washington Regional Medical Center Model 1	Carolina Behavioral Care	Live
Wilkes	Hugh Chatham Memorial Hospital Model 1	Carolina Behavioral Care	Live

*Model 1 Hospitals are hospitals that do not have access to psychiatric services within their health system and exclusively rely on NC-STeP to provide services to hospital.

*Model 2 Hospitals are hospitals that have access to psychiatric services within their healthcare system and report IVC and assessments to NC-STeP to demonstrate cost savings of having services available for acute care patients.

Appendix C: List of Enrolled Consulting Sites and Go-Live Status

As of June 2024. Sorted by county and site.

County	Consulting Site	Status
Cumberland	Cape Fear Valley Health System	Live
Durham, Moore, Orange	Carolina Behavioral Care	Live
Forsyth	Carolina Behavioral Care	Live
Pitt	East Carolina University	Live

Appendix D: NC-STeP Advisory Workgroup Member Organizations

ORH and NC-STeP expresses gratitude to the following organizations for their commitment and participation in quarterly NC-STeP Advisory Council meetings:

North Carolina College of Emergency Physicians
North Carolina Psychiatric Association
Harnett Health System
Albemarle Regional Health Services
Duke University
East Carolina University
MedAccess Partners
Mission Health System
Murphy Medical Center
NC DHHS Division of Medical Assistance
NC DHHS Division of Mental Health Developmental Disability Substance Abuse Services
North Carolina Medical Society
NC DHHS Office of Rural Health
North Carolina Healthcare Association
St. Luke's Hospital
Trillium Health Resources
UNC- Chapel Hill
Vidant Health
Cape Fear Valley Health

Appendix E: NC-STeP Publications in Journals

1. Xue, Y., Saeed, S.A., Muppavarapu, K.S. et al. Exploring the Impact of Education Strategies on Individuals' Attitude Towards Telemental Health Service: Findings from a Survey Experiment Study. Psychiatr Q (2023). https://doi.org/10.1007/s11126-023-10033-y

2. Saeed SA, Jones K, Sacks AJ, Craven K, Xue Y (Lucky). Maternal Outreach Through Telehealth for Rural Sites: The MOTHeRS Project. North Carolina Medical Journal. 2023;84 (1).

3. Piro L, Luo H, Jones K, Lazorick S, Cummings DM, Saeed SA. (2023). Racial and Ethnic Differences Among Active-Duty Service Members in Use of Mental Health Care and Perceived Mental Health Stigma: Results From the 2018 Health-Related Behaviors Survey. *Preventing* Chronic Disease 2023; 20;220419.

4. Saeed SA, Lauriello J, and Roberts LW (Editors). (2023). Textbook of Psychiatric Administration and Leadership, Third Edition. American Psychiatric Association Publishing, Washington, DC. ISBN 978-1- 61537-337-6

5. Xue, Y., Saeed, S.A., Muppavarapu, K.S. et al. Exploring the Impact of Education Strategies on Individuals' Attitude Towards Telemental Health Service: Findings from a Survey Experiment Study. Psychiatr Q (2023). https://doi.org/10.1007/s11126-023-10033-y

6. Khanchandani AT, Saeed SA. (2023). Using apps in clinical practice: 8 studies. Current Psychiatry 2023; Vol 22, No. 7: pp 37-47

7. Saeed SA, Shore JH, Yellowlees P. Using Technology for Providing Care. (2023). In Saeed SA, Lauriello J, and Roberts LW (Editors). Textbook of Psychiatric Administration and Leadership, Third Edition. American Psychiatric Association Publishing, Washington, DC. ISBN 978-1-61537- 337-6

8. Saeed SA, Kolodner RM, Balog DJ. Health Information Technology. (2023). In Saeed SA, Lauriello J, and Roberts LW (Editors). Textbook of Psychiatric Administration and Leadership, Third Edition. American Psychiatric Association Publishing, Washington, DC. ISBN 978-1-61537- 337-6

9. Xue Y, Saeed SA, Liang H, Jones K, Muppavarapu KS. (2022). Investigating the impact of COVID-19 on telepsychiatry use across sex and race: a study of North Carolina emergency departments. Telemedicine and e-Health. Vol.00, No.00, Month 2022. Online first March 2022. DOI: 10.1089/tmj.2021.0549.

10. Muppavarapu K, Saeed SA, Jones K, Hurd O, Haley V. (2022). Study of impact of telehealth use on clinic "no show" rates at an academic practice. Psychiatric Q. 2022. April 12. Online ahead of print.

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pp. S66. DOI: https://doi.org/10.1016/j.eurpsy.2016.01.968.
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26. Saeed, S. A. (2015). *Innovations in the Emergency Department-Based Care of the Mentally Ill.* American College of Emergency Physicians Annual Meeting, Boston, Massachusetts, October 25, 2015. *Abstract.*
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28. Saeed SA. (2015). Current Challenges and Opportunities in Psychiatric Administration and Leadership. Psychiatric Quarterly. Volume 86, Issue 3, September: pp 297-300.
29. Saeed SA. (2015). Telebehavioral Health: Clinical Applications, Benefits, Technology Needs, and Setup. *NCMJ:* Vol. 76, Number 1, pp 25-26.

Appendix F: NC-STeP Awards and Recognitions

2024. ***Psychiatric Services Achievement Bronze Award*** from the American Psychiatric Association. NC-STeP was awarded the prestigious Psychiatric Services Achievement Bronze Award for its significant contributions to the field of mental health. Since 1949, the Psychiatric Services Achievement Awards have recognized innovative programs for people with mental illness or disabilities. The award is given to outstanding programs that provide services to individuals with mental illness or disabilities and have demonstrated innovative services, a focus on quality improvement, effective use of psychiatrists, peer specialists, and other staff, as well as the involvement of consumers and/or families.

2022. ***Innovation Award for Technology*** from North Carolina's i2i Center for Integrative Health. The award was given for Dr. Saeed's work as the founder and executive director of the North Carolina Statewide Telepsychiatry Program (NC-STeP). The award celebrates innovation in services and programs that improve approaches to health care. The i2i Center for Integrative Health convenes health care leaders to solve the most important issues affecting behavioral, intellectual, and developmental disabilities and primary health care in North Carolina.

2022. ***The Steve Jordan Award*** from the National Alliance for Mental Illness in recognition of Dr. Saeed's work as an innovator and advocate for the development of effective services and supports for all those affected by mental illness.

NC-STeP was the 2020 **Breaking Barriers Through Telehealth Award** winner from the Mid-Atlantic Telehealth Resource Center (MATRC).

NC-STeP was highlighted in the June 2020 issue of Current Psychiatry, a peer-reviewed professional journal, as a model program.

Dr. Saeed received the 2019 Oliver Max Gardner Award, highest UNC System honor, for his innovative work in the field of telepsychiatry.

September 2019 issue of the Healthcare Innovations journal referred to NC-STeP as a model for Statewide coverage.

NC-STeP has been invited to present at several national and international venues including:

- The American Psychiatric Association's Annual Meeting, May 2024, New York City, New York.
- Keynote presentation at the Annual Meeting of the Pennsylvania Health Information Management Association (PHIMA), May 20 - 21, 2024, Gettysburg, Pennsylvania.
- Benjamin Rush Society Annual Meeting, March 20 - 22, 2024, Santa Barbara, California.
- HIMSS Global Health Conference, March 11- 15, 2024, Orlando, Florida.
- American Psychiatric Association Annual Meeting, May 20- 24, 2023, San Francisco, California Annual
- Rural Health Conference. May 10-13, 2022, Albuquerque, New Mexico.
- Mid-Atlantic Telehealth Resource Center (MATRC) 2022 Annual Telehealth Summit. April 24- 26, 2022, Concord, North Carolina.
- American Telemedicine Association's Annual Meeting, San Antonio, Texas, March 4-6, 2023.
- Rural Summit, Raleigh, North Carolina, March 20, 2023.
- American Telemedicine Association Annual Meeting, Boston, May 2022
- NC Commission for Mental Health, Developmental Disabilities, and Substance Abuse Services Advisory Committee, January 2021
- American Psychiatric Association, Washington DC, January 2021

- Vermont Program for Quality in Health Care. August 2021
- United Health Group. Virtual. October 21, 2020
- Temple University School of Medicine. Virtual. October 14, 2020
- Mid Atlantic Telehealth Resource Center (MATRC) 2021 Summit. March 2021
- The 5th National Telehealth Summit, Chicago, July 2020
- HIMSS Global Conference, Orlando, Florida, March 2020
- The 3rd National Telehealth Summit, Miami, May 2019
- Weill Cornell Medicine | New York-Presbyterian, New York, April 2019
- The US News and World Reports, Washington DC, November 2017
- UNC Kenan-Flagler Business School, Chapel Hill, NC, November 2017
- The White House, March 2016
- Avera e-Care, Sioux Falls, South Dakota, September 2017.
- IPS: The Mental Health Services Conference, Washington DC, October 8, 2016
- European Congress of Psychiatry, Madrid, March 2016
- St. Elizabeth Hospital, Washington DC, February 2016
- NC Academy of Family Physicians (NCAFP). Asheville, NC. December 2015.
- Center for Evidence-Based Policy, Oregon Health Sciences Univ., Portland, Oregon. October 2015.
- American College of Emergency Physicians' Annual Meeting. Boston, October 2015.
- North Carolina Institute of Medicine (NCIOM) August 2015.
- State Offices of Rural Health (SORH), July 2015.

Appendix G: NC-STeP Scientific Posters

1. Xue Y, Saeed SA, Bake R, Liang H, Jones K, Smith-Martinez LA. Creating an Effective Framework for Providing Multidisciplinary Integrated Care in Rural Areas: Insights from a Telehealth Outreach Program for High-Risk Pregnant Women. Poster presented at the Mid-Atlantic Telehealth Resource Center (MATRC) 2024 Annual Telehealth Summit. April 14- 16, 2024, Pocono Manor, Pennsylvania.
2. Xue Y, Saeed SA, Xue L, Edwards P. Addressing Children's Mental Health Care Disparities with a Virtual Community House. Poster presented at the American Medical Informatics Association (AMIA) Informatics Summit, Boston, MA, in March 18- 21, 2024.
3. Khanchandani AT, Saeed SA. Is there an app for that? Selecting apps that are safe and effective. Poster presented at North Carolina Psychiatric Association Annual Meeting, September 26-29, 2023, Asheville, NC.
4. Gargano SP, Saeed SA. Natural Disasters and Mental Health. Presented at the American Psychiatric Association Annual Meeting, May 20- 24, 2023, San Francisco, California
5. Buwalda V; Li L; Rachal J; Saeed SA; Sapra M; Wasser T; Wilkaitis J. Physician Leadership Program. American Psychiatric Association. Available at: https://education.psychiatry.org/diweb/catalog/item?id=6323901. Accessed March 10, 2023
6. Saeed SA, Muppavarapu K, Jones K, Baker R (2022). North Carolina Statewide Telepsychiatry Program (NC-STeP): Using Telepsychiatry to Improve Access to Evidence-Based Care. Presented at Annual Rural Health Conference. May 10-13, 2022, Albuquerque, NM.
7. Saeed SA, Muppavarapu K, Baker R, Jones K, Sacks A, Martinez S, Craven K (2022). MOTHeRS: Maternal Outreach Through Telehealth for Rural Sites. Poster presented at the Mid-Atlantic Telehealth Resource Center (MATRC) 2022 Annual Telehealth Summit. April 24-26, 2022, Concord, North Carolina.
8. Muppavarapu K, Saeed SA (2020). Use of telepsychiatry to Improve mental health access for rural population. Poster presented at the Office of Ruralhealth Conference, Greenville, NC, 2020
9. Saeed SA (2020). North Carolina Statewide Telepsychiatry Program (NC-STeP): Using telepsychiatry to improve access to evidence-based care. European Psychiatry , Volume 33 , Issue S1: Abstracts of the 24th European Congress of Psychiatry, Cambridge University Press: 23 March 2020, pp. S66. DOI: https://doi.org/10.1016/j.eurpsy.2016.01.968.
10. Muppavarapu K, Saeed SA (2020). Using NC Statewide Telepsychiatry Program to Address Access to Critical Behavioral HealthCrises for the Populated Coast. Poster presented at the Hurricon, NSF Conference, Greenville, NC, 2020
11. Saeed SA; Muppavarapu K; Jones K; Baker R. (2020). North Carolina Statewide Telepsychiatry Program (NC-STeP): Using Telepsychiatry to Improve Access to Evidence-Based Care: 6-year Update. Poster presented at the Mid-Atlantic Telehealth Resource Center (MATRC) 2020 Annual Telehealth Summit.
12. Radhi Kothadia, Mathew Torres, Katherine Jones, Sy Saeed. The Role of the North Carolina Statewide Telepsychiatry Program (NC-STeP) in Boarding Outcomes for Adult Patients Presenting to North Carolina Emergency Departments with Acute Behavioral Health Crises. Poster presented at North Carolina Psychiatric Association Conference, Myrtle Beach, SC, September 2019.
13. Saeed SA; Davies S; Tacozza G; Jones K; Cooper BP (2015). North Carolina Statewide Telepsychiatry Program (NC-STeP): Using Telepsychiatry to Improve Access to Evidence-Based Care. Poster presented at the Mid-Atlantic Telehealth Resource Center (MATRC) 2015 Annual Telehealth Summit, White Sulphur Springs, West Virginia, March 29-31, 2015.

Appendix H: NC-STeP Presentations

1. Saeed SA. (2024). Building and Sustaining a Statewide Telepsychiatry Program: Lessons Learned from the NC Statewide Telepsychiatry Program (NC-STeP). Presented at the NC State Psychiatry Residency Programs Lecture Series. August 21, 2024. Virtual.
2. Baker RB. (2024). Optimizing Success: Developing Key Performance Measures and Metrics for Telepsychiatry. Presented at the EMSC (Emergency Medical Services for Children) EIIC (EMSC Innovation and Improvement Center) Annual Conference, July 22-24, 2024, Cleveland, Ohio.
3. Saeed SA. (2024). Using Telepsychiatry and Health Technologies to Provide Evidence-Based Care: A Decade Long Experience of the North Carolina Statewide Telepsychiatry Program (NC-STeP). Keynote speaker at the Annual Meeting of the Pennsylvania Health Information Management Association (PHIMA), May 20 - 21, 2024, Gettysburg, Pennsylvania.
4. Saeed SA, Smith-Martinez L. (2024). Building and Sustaining a Statewide Telepsychiatry Program: Lessons Learned from the NC Statewide Telepsychiatry Program (NC-STeP). Psychiatric Services Achievement Bronze Award Lecture. Presented at the American Psychiatric Association Annual Meeting, May 4-8, 2024, New York City, New York.
5. Saeed SA. (2024). Building and Sustaining a Statewide Telepsychiatry Program: Lessons Learned from the NC Statewide Telepsychiatry Program (NC-STeP). Presented at the Benjamin Rush Society Annual Meeting, March 20 - 22, 2024, Santa Barbara, California.
6. Saeed SA. (2024). A Decade-Long Experience of the North Carolina Statewide Telepsychiatry Program (NC-STeP). Presented at the HIMSS Global Health Conference, March 11- 15, 2024, Orlando, Florida.
7. Saeed SA. (2024). Innovations in Health Technologies: Enhancing Access to Evidence-Based Care. Presented at the Leadership North Carolina (LNC) Health and Human Services Session, February 8, 2024, Greenville, North Carolina.
8. Saeed SA. (2023). Using Telepsychiatry and Health Technologies to Provide Evidence-Based Care: A Decade Long Experience of the North Carolina Statewide Telepsychiatry Program (NC-STeP). Presented at the Avel eCare Annual Forum and Innovation Summit, October 10, 2023, Vail, Colorado.
9. Saeed SA. (2023). Using Telepsychiatry and Health Technologies to Provide Evidence-Based Care: A Decade Long Experience of the North Carolina Statewide Telepsychiatry Program (NC-STeP). Presented at the North Carolina Health Information Management Association's Annual Meeting, June 25-27, 2023, Raleigh, North Carolina.
10. Saeed SA. (2023). COVID-19 Impact on Mental Health and Wellbeing: The Toll on Health Care Workers, Patients, and Populations. Presented at the 2nd Southeastern Summit for Behavioral Health, May 12, 2023, Wrightsville Beach, North Carolina.
11. Saeed SA., Smith-Martinez L, Jones K, Kothadia RJ, Xue L (2023). Research Findings from a Decade Long Experience of the North Carolina Statewide Telepsychiatry Program (NC-STeP). Presented at the American Psychiatric Association's Annual Meeting, San Francisco, California, May 4-6, 2023.
12. Saeed SA. (2023). Using Telepsychiatry and Health Technologies to Provide Evidence-Based Care. Presented as part of the symposium: Merkel R, Saeed SA, Fadley N, Widener A. Multidisciplinary Partnering in an Effort to Address Mental Health and Substance Use Concerns in Central Appalachia." Presented at the American Psychiatric Association Annual Meeting, May 20- 24, 2023, San Francisco, California.
13. Graham J, Saeed SA, Shock L. (2023). Healthcare Beyond Your Zip Code: Increasing Access to Telehealth Solutions in Rural Areas. Presented at the Rural Summit, Raleigh, North Carolina, March 20, 2023.

14. Saeed SA. (2023). Building and Sustaining a Statewide Telepsychiatry Network: A Decade Long Experience of the North Carolina Statewide Telepsychiatry Program (NC-STeP). Presented at the American Telemedicine Association's Annual Meeting, San Antonio, Texas, March 4-6, 2023.
15. Xue L (2023) Virtual Reality and Mental Health. The next generation internet: The role of metaverses, AR, VR, MR, and digital twins research workshop in Philadelphia, April 27-28, 2023.
16. Galvez N, Baker, R (2023) Telepsychiatry in North Carolina Hospitals and Communities. Presented at North Carolina Community Health Center Association Primary Care Conference, Durham, NC, June 7- 9, 2023.
17. Saeed SA. (2022). Using Telepsychiatry and Health Technologies to Enhance Access to Evidence-Based Care. Research Seminar, University of Memphis, Memphis, Tennessee, October 14, 2022.
18. Brian E, Henderson E, Posey A, Saeed SA. (2022). Virtual Crisis Care Strategies: Expanding ED Access to Behavioral Health Specialists through Telehealth. Presented at the American Telemedicine Association's Annual Meeting, Boston, MA, May 1-3, 2022.
19. Carr MJ, Muppavarapu K, Saeed SA. 2022. HRSA Telehealth Learning Series: A Session on Innovative Rural Health Programs. February 28, 2022. Virtual.
20. Saeed SA. 2021. Using Telepsychiatry to Enhance Access to Evidence-Based Care. Presented at the Duke University Web-Based Grand Rounds. November 17, 2021. Virtual.
21. Saeed SA. 2021. Using the North Carolina Statewide Telepsychiatry Program (NC-STeP) to Ensure Access, Quality, and Availability of Psychiatric Services During and After the Covid-19 Pandemic. Presented at the North Carolina Rural Health Centers/ North Carolina Office of Rural Health. September 14, 2021. Virtual.
22. Saeed SA. 2021. *Building a Statewide Telepsychiatry Network: The North Carolina Statewide Telepsychiatry Program (NC-STeP). A Presentation & Discussion with Sy Saeed, MD. Presented for the Vermont Program for Quality in Health Care. August 31, 2021. Available at:* https://vimeo.com/601925302. *Accessed March 4, 2022.*
23. Saeed SA. 2021. Covid-19 and its Impact on the Brain and Mind: The Toll on Health Care Workers, Patients, and the General Public. Presented the keynote address at the EAHEC Adult Mental Health Conference. April 29, 2021. Virtual.
24. Albero K, Hubbard D, Saeed SA, Wiggins W. 2021 Statewide Telebehavioral Health Network Development. Presented at the Mid Atlantic Telehealth Resource Center (MATRC) 2021 Summit. March 30, 2021. Virtual.
25. Saeed SA. 2021. An Update on the North Carolina Statewide Telepsychiatry Program. Presented at the NC Senate Appropriations Committee on Health and Human Services, March 18, 2021. Virtual.
26. Saeed SA. 2021. Leadership. Presented as part of the Physician Leadership Program. American Psychiatric Association. January 13, 2021. Virtual. Available at https://education.psychiatry.org/diweb/catalog/item?id=6323901.
27. Saeed SA 2021. Using Telepsychiatry to Enhance Access to Evidence-Based Care. Presented at the North Carolina Commission for Mental Health, Developmental Disabilities, and Substance Abuse Services Advisory Committee Meeting. January 28, 2021.
28. Saeed, S.A. 2020. Using Telepsychiatry to Reduce Emergency Departments' Length of Stay and Enhancing Value: 5- Years' Experience of the North Carolina Statewide Telepsychiatry Program (NC- STeP). Presented at the 2020 HIMSS Global Conference. Virtual. Originally scheduled for Orlando, Florida.
29. Saeed, S.A. 2020. Using Telehealth Across the Behavioral Health Continuum of Care: 6- Years' Experience of the North Carolina Statewide Telepsychiatry Program (NC-STeP). Presented at the 5th National Telehealth Summit. Virtual. July 17, 2020. Originally Scheduled for Chicago.
30. Saeed, S.A. 2020. Using Telepsychiatry to Enhance Access to Evidence-Based Care. Psychiatry

Grand Rounds, Temple University School of Medicine. Virtual. October 14, 2020. Originally scheduled for Philadelphia.

31. Saeed, S.A. 2020. Partnering to Make an Impact – Roundtable Discussions on Patient-Physician Relationship. United Health Group. Virtual. October 21, 2020.
32. Saeed, S.A. (2020). Using Telehealth to Bridge Social Distancing During the COVID-19 Pandemic. Statewide live webinar organized by Eastern AHEC, April 28 and May 20, 2020.
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33. Saeed, S.A. (2020). Ensuring Access, Quality, and Availability of Psychiatric Services During and After the Pandemic. Presented at the NC General Assembly House Select Committee, Health Care Working Group, April 14, 2020, via videoconference.
34. Saeed, S.A. (2020). North Carolina Statewide Telepsychiatry Program: Using Telepsychiatry to Provide Evidence-Based Care. HIMSS Global Conference, Orlando, Florida., March 2020
35. Saeed, S.A. (2020). Building a Statewide Telepsychiatry Network: NC-STeP Experience. Presented at the 2nd annual ECU/UNC NC Teledentistry Symposium, Durham, NC, March 6, 2020.
36. Saeed, S.A. (2020). Using Telepsychiatry and Health Technologies to Provide Evidence-Based Care. 2 Part Webinar provided for APRN RURAL Scholar HHRSA Grant, February 4 and 11, 2020.
37. Saeed, S.A. (2020). North Carolina Statewide Telepsychiatry Program: Using Telepsychiatry to Provide Evidence-Based Care. NC HIMSS Winter meeting, Greensboro, NC, January 30, 2020.
38. Saeed, S.A. (2019). Using Telepsychiatry to Reduce Emergency Departments' Length of Stay. Presented at the NCHICA 25th Annual Conference, Winston-Salem, NC, September 16, 2019.
39. Saeed, S.A. (2019). Presenting at the Duke EMBA HSM Seminar Team: Discussions on Telepsychiatry with Healthcare Leaders. Duke University, the Fuqua School of Business, Durham, September 10, 2019.
40. Saeed, S.A. (2019). Using Telepsychiatry to Reduce Emergency Departments' Length of Stay and Enhancing Value: 5- Years' Experience of the North Carolina Statewide Telepsychiatry Program (NC- STeP). Presented at the 3rd National Telehealth Summit, Miami, May 2019.
41. Saeed, S.A. (2019). Using Telepsychiatry to Provide Evidence-Based Mental Health Care. Presented Weill Cornell Medicine | New York-Presbyterian, New York, April 2019
42. Saeed, S.A. (2019). Using Telehealth to Enhance Access to Evidence-Based Care. Keynote address at the NC Rural Health Leadership Alliance's Regional Telehealth Summit. Wilmington, NC. January 18, 2019.
43. Saeed, S.A. (2018). Telepsychiatry: A New Way of Delivering Behavioral Health Services. North Carolina Medical Society, Webinar, October 16, 2018.
44. Saeed, SA, and Buwalda VJ (2018). The Bridge Between Administrative Psychiatry and Research on Outcome Measurement and New Technology. Presented at the American Psychiatric Association Annual Meeting, May 7, 2018, New York, NY.
45. Sapra, M, Wasser, T, Saeed, SA, Goldberg, L, Herman, B, Jayaram, G. Diverse Career Pathways to Leadership in Psychiatry. Presented at the American Psychiatric Association Annual Meeting, May 8, 2018, New York, NY.
46. Saeed, S.A. (2018). Using Telepsychiatry to Provide Evidence-Based Psychiatric Care: An Update on the North Carolina Statewide Telepsychiatry Program. Presented Grand Rounds, Wake Forest University School of Medicine, Winston-Salem, NC, February 28, 2018.
47. Saeed, S.A. (2017). Provider shortage and the North Carolina Statewide Telepsychiatry

Program. Presented at the UNC Kenan-Flagler Business School 7th Annual Healthcare Conference, Chapel Hill NC, November 17, 2017.

48. Breland-Noble, AM; Saeed, SA: Briggs, R; Gorman, KC. Behavioral Health: The Next Frontier in Pediatric Care. The US News and World Reports' the Healthcare of Tomorrow summit, Washington DC, November 2, 2017.
49. Saeed, S.A. (2017). Replicating North Carolina Statewide Telepsychiatry Program. Presented at the Avera e-Care, September 12, 2017, Sioux Falls, SD.
50. Saeed, S.A. (2017). Expanding North Carolina Statewide Telepsychiatry Program into Community- Based Settings. Presented at the NC Association of Local Health Directors, August 16, 2017, Raleigh, NC.
51. Saeed, S.A. (2017). North Carolina Statewide Telepsychiatry Program. Presented at the NC Bar Association's Health Law Section's Annual Meeting, April 28, 2017, Raleigh, NC.
52. Saeed, SA. (2016). Establishing and Sustaining a Statewide Program: NC-STeP Experience. Presented at IPS: The Mental Health Services Conference October 8, 2016, Washington D.C.
53. Saeed S.A. (2016). Role of Leadership in Narrowing the Gap Between Science and Practice: Improving Treatment Outcomes at the Systems' Level. Presented at IPS: The Mental Health Services Conference October 6, 2016, Washington D.C.
54. Saeed, S.A. (2016). Statewide Telepsychiatry Program. Presented at the North Carolina Digital Government Summit. August 31, 2016, Raleigh, North Carolina.
55. Saeed, S.A. (2016). Enhancing Access and Quality of Psychiatric Care to Patients Presenting in Emergency Departments Across the State: NC-STeP Experience. Presented Grand Rounds at Central Regional Hospital. June 16, 2016, Butner, North Carolina.
56. Saeed, S.A. (2016). Enhancing Access and Quality of Psychiatric Care to Patients Presenting in Emergency Departments Across the State: NC-STeP Experience. Presented Grand Rounds at Duke University, June 16, 2016, Durham, North Carolina.
57. Saeed, S.A. (2016). Current Challenges and Opportunities in Psychiatric Administration and Leadership. Presented at the American Psychiatric Association Annual Meeting, May 16, 2016, Atlanta, Georgia.
58. Schwarting, K.; Saeed, S.A.; Mutrux, R.E. Successes and Lessons Learned from State-Funded Telehealth Initiatives. Presented at the MATRC 2016 Telehealth Summit, Cambridge, Maryland. April 11, 2016.
59. Saeed, S.A. Spotlight on Innovation: NC-STeP. Invited presentation at the White House Rural Council Convening on Telehealth, Washington DC. March 30, 2016.
60. Saeed, S.A. Shaping the Future of Healthcare through Innovation and Technology. Presented at the 24th European Congress of Psychiatry, Madrid, Spain. Via Videoconferencing. March 15, 2016.

Appendix I: NC-STeP Grant Fundings

1. 2023-26. Caring for the Mental Health and Wellbeing of Children: Using Telepsychiatry to Enhance Access to Care and Promote Well-Being. The United Health Foundation. PI: Saeed, Funding:
   $3,272,706
2. 2021- 26. A Partnership to Bridge the Behavioral Health Care Gap at Elizabeth City State University (ECSU). To address the access to behavioral health care challenge for students at ECSU by using NC- STeP model. Funded by the BlueCross BlueShield of NC. PI: Saeed, Funding: $1,543,477.
3. 2019- 23. Advanced Practice Registered Nurse Academic-Clinical Practice Collaborative. To support the education of the advance practice registered nurse (APRN) primary care workforce throughout Eastern North Carolina (ENC) by building academic-practice partnerships. Funded by the Health Resources & Services Administration (HRSA). PI: Reis, Co-I: Saeed. Funding: $2,798,904.
4. 2020- 22. Maternal Outreach Through Telehealth for Rural Sites (MOTHeRS) Project. This project encompasses patient, nurse navigator, diabetes educator, behavioral health manager, primary obstetrician, maternal fetal medicine (MFM) specialist, and psychiatrist, to provide support and the insights of specialty physicians to identified rural obstetric practices seeing high risk pregnant women. Funded by the United Health Foundation. PI: Saeed. Funding: $1.2M
5. 2018- 21. NC-PACT (North Carolina Psychiatric Access through Community Telepsychiatry) a community-based behavioral health project that provides evidence-based, out-patient mental health care to patients who currently lack access to this care. Funded by the Fullerton Foundation. PI: Saeed. Funding: $120,000.
6. 2014-16. North Carolina Statewide Telepsychiatry Program (NC-STeP). To implement this program in an additional 16 hospital EDs. ECU Center for Telepsychiatry was the home for this statewide program that connected 76 hospital emergency departments across the state of North Carolina to provide psychiatric assessments and consultations to patients presenting at these EDs. Funded by the Duke Endowment to supplement the $4.0 million support from state appropriations (above). PI: Saeed, Funding: $1.5M.
7. 2006- 2016. Enhancing the Quality, Access, and Availability of Psychiatric Services in Eastern North Carolina. Multi-year grant, awarded by Eastern Area Health Education Center (EAHEC), that addresses the psychiatrist shortage as well as the training needs in the community-based settings, envisioning a mental health care system for eastern North Carolina that is recovery oriented, consumer centered, and evidence-based. The proposal also promotes the use of technology in general and telepsychiatry in particular. PI: Saeed, Funding: $129,410.
8. 2004- 2022. To place general psychiatry resident physicians and post graduate child psychiatry fellows in various stages of their training at several community training sites. Funded by Eastern Area Health Education Center (EAHEC). PI: Saeed, Funding: $106,300/year.