North Carolina Statewide Telepsychiatry Program (NC-STeP):
Using Telepsychiatry to Enhance Access to Evidence-Based Care

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ECU
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NC-STeP

NORTH CAROLINA
STATEWIDE TELEPSYCHIATRY PROGRAM

Mental disorders are common

- An estimated 26.2% of Americans ages 18 and older (about 1 in 4) Americans have a mental disorder in any one year[1].
  - 66 million adults, when applied to the 2018 U.S. Census residential population estimate.[2]

- About 6 percent, or 1 in 17 (15.12 million), suffer from a serious mental illness.[1]

- Four of the ten leading causes of disability—major depression, bipolar disorder, schizophrenia, and obsessive-compulsive disorder—are mental illnesses.

1. 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.
2. https://www.census.gov/quickfacts/fact/table/US/PST045217. ACCESSED September 25, 2018.

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Behavioral Health Needs Are Growing

18% of adults have a mental illness

8% of adults have a substance abuse disorder

89.3 million Americans live in federally designated Mental Health Professional Shortage Areas

But only 50% receive treatment

68% with a mental health disorder also have 1 or more medical conditions

29% of adults with a chronic medical condition have a comorbid mental disorder

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North Carolina Behavioral Health Landscape

- Only 45.3% of adults with mental illness in North Carolina receive any form of treatment from either the public system or private providers. The remaining 54.7% receive no mental health treatment.[1]

- According to Mental Health America, North Carolina is ranked 33 out of the 50 states and Washington D.C. for providing access to mental health services.[2]

1. SAMHSA
2. Mental Health Resources in North Carolina. Accessed March 12, 2021 at: https://www.rtor.org/directory/mental-health-north-carolina/.

Covid-19 and its Impact on the Brain and Mind:
The Toll on Health Care Workers, Patients, and the General Public

- Stress during an outbreak can include fear, changes in sleeping and eating patterns, worsening of chronic health problems, increase in drug and alcohol use.

- Stress can induce new episodes of anxiety, depression, substance use disorders, psychotic disorders, and traumatic stress disorders.

- Worsening of mental health conditions for people with existing conditions.

- Certain people may be at a higher risk e.g., older people, people with chronic diseases, children and teens, healthcare workers, first responders.

Mental Health and COVID-19: More People Impacted by Anxiety and Depression

- The per day number of anxiety screenings completed in August was **535% higher** than in January, before coronavirus stress began.

- The per day number of depression screens was **709% higher** in August than in January.

- Impacts on mental health are **more pronounced in young people** (<25):
  - over 9 in 10 are screening with moderate-to-severe depression
  - over 8 in 10 are screening with moderate-to-severe anxiety.

Mental Health America. Accessed March 15, 2021 at:
https://mhanational.org/sites/default/files/Coronavirus_Mental_Health_Presentation_9-1-2020_Final.pptx

Mental Health Pandemic?

- Isolation and loneliness; unemployment; food and shelter insecurity; and socioeconomic stress add to health concerns.
- Psychotic decompensations in the SMI.
- Symptoms of grief, depression, anxiety, PTSD and insomnia.
- Suicide risk: separation and loss, unemployment, family strife, civic unrest
- Parental stress about children
- Stress related illnesses in patients, families and caregivers: burnout and moral injury, compassion fatigue and PTSD.
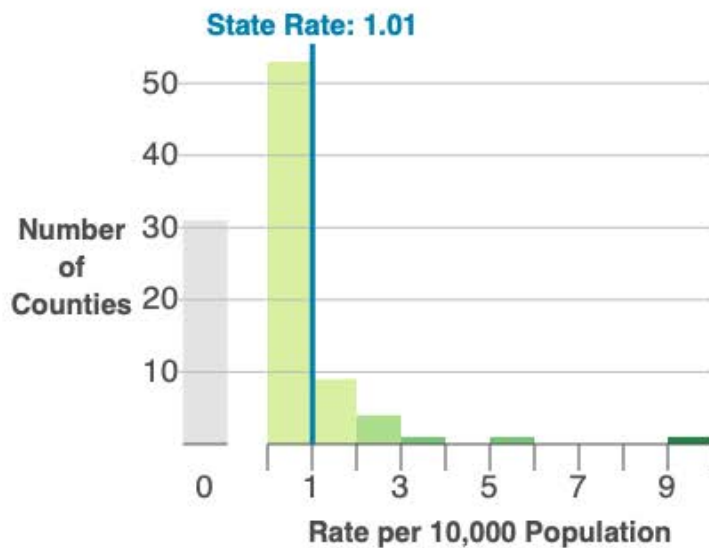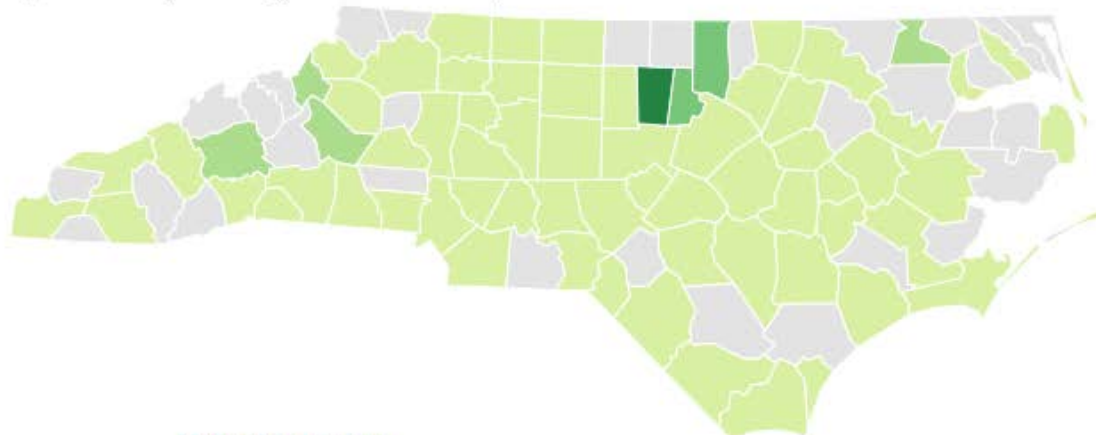
Mental health and substance use disorders are common, but services have been in short supply even before the Covid-19 pandemic.

North Carolina Distribution of Psychiatrists and Mental Health Services at the County Level

- 31 out of 100 counties in NC have no psychiatrists

- 13 counties have no active behavioral health provider (BHP)

- According to federal guidelines, 90 counties in North Carolina qualify as Health Professional Shortage Areas

Shortage of mental health providers has resulted in patients going to hospital emergency departments to seek services, leading to long lengths of stay and boarding of psychiatric patients in hospital emergency departments.

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Physicians with a Primary Area of Practice of Psychiatry, General per 10,000 Population by County, North Carolina, 2018

Profession Demographics for North Carolina

Rate per 10,000 Population

1.03   1.01

2011   2018

Total

997   1,047

2011   2018

State Rate: 1.01

Number of Counties

Rate per 10,000 Population

SHEPS HEALTH WORKFORCE NC

Telepsychiatry can offer help!

A growing body of literature now suggests that the use of telepsychiatry to provide mental health care has the potential to mitigate the workforce shortage that directly affects access to care, especially in remote and underserved areas.

- Telepsychiatry is *the delivery of mental health or substance abuse care, including diagnosis or treatment, by means of* two-way real-time interactive audio and video *by a consulting provider at a consultant site to an individual patient at a referring site.*
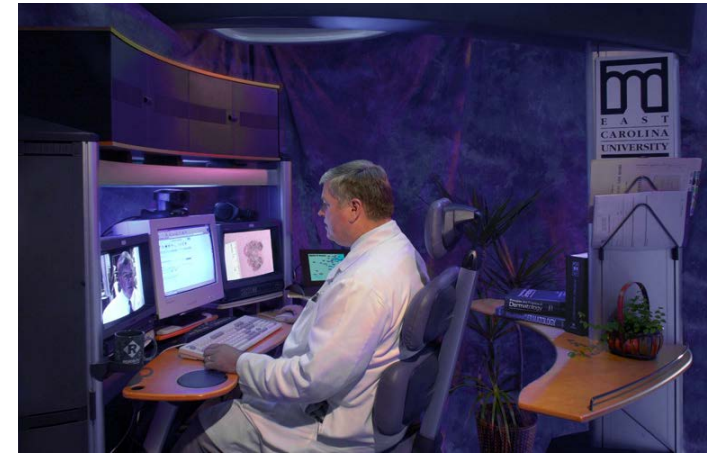
Demonstrated Benefits of Telepsychiatry
Saeed SA, Diamond J, Bloch RM. (2011)

- ↑access to mental health services
- ↓geographic health disparities
- ↑ consumer convenience
- ↓ professional isolation
- ↑ recruiting and retaining MH professionals in underserved
- Improved consumer compliance.
- Improved education of mental health professionals.
- Improved coordination of care across mental health system.
- Reduction of stigma associated with receiving mental health services.

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Developed in response to Session Law 2013-360.

- G.S. 143B-139, 4B
- Recodified as G.S. 143B-139.4B(a)(1b) by Session Laws 2018-44, s. 15.1, effective July 1, 2018
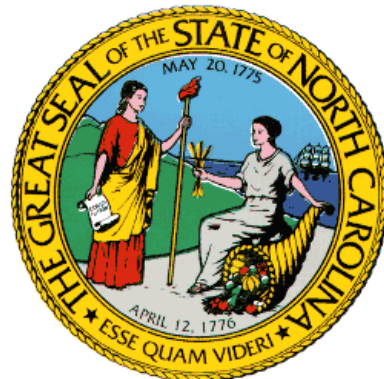
NC- STeP Vision

If an individual experiencing an acute behavioral health crisis enters an emergency department, s/he will receive timely specialized psychiatric treatment through the statewide network in coordination with available and appropriate clinically relevant community resources.

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NC-STeP

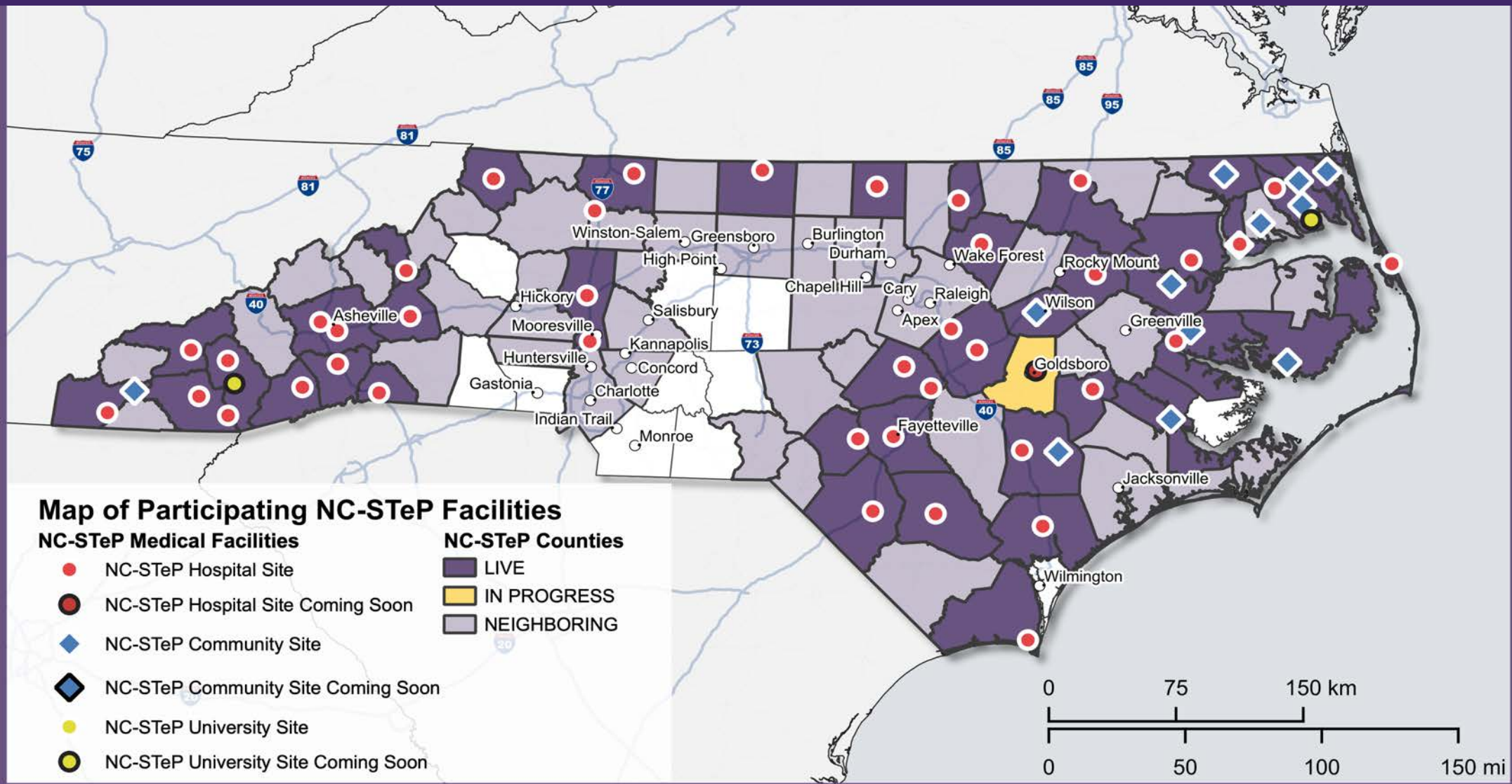| NC-STeP	Since project inception in November 2013	During Calendar Year 2014	During Calendar Year 2015	During Calendar Year 2016	During Calendar Year 2017	During Calendar Year 2018	During Calendar Year 2019	During Calendar Year 2020
Total Patient Encounters	34,623	5,144	7,128	1,896	3,971	6,104	4,832	4,246
Total Number of Assessments (Billed Assessments for Model 1 Hospitals + Number of Patient Encounters for Model 2 Hospitals)	45,578	8,130	13,573	1,942	4,348	6,680	5,284	4,747

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NC-STeP Status as of December 31, 2020

Map of Participating NC-STeP Facilities

NC-STeP Medical Facilities

- 🔴 NC-STeP Hospital Site
- 🔴 NC-STeP Hospital Site Coming Soon
- 🔷 NC-STeP Community Site
- 🔷 NC-STeP Community Site Coming Soon
- 🟡 NC-STeP University Site
- 🟡 NC-STeP University Site Coming Soon

NC-STeP Counties

- LIVE
- IN PROGRESS
- NEIGHBORING

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NORTH CAROLINA STATEWIDE TELEPSYCHIATRY PROGRAM

NC-STeP Status as of December 31, 2020

- 41 hospitals in the network. 40 live.

- 45,578 total psychiatry assessments since program inception

- 6,688 IVCs overturned

    - Cumulative return on investment = $36,115,200 (savings from preventing unnecessary hospitalizations)

- Six Clinical Provider Hubs with 42 consultant providers

- Administrative costs below industry standard

- Over 33% of the patients served had no insurance coverage

- 13 community-based sites.
- 6,039 total patient visits since program inception in October 2018.
  - 809 total patient visits with a psychiatrist
  - 5,230 total patient visits with a mid-level provider

Number of NC-STeP Assessments by Hospital as of December 31, 2020
(since project inception November 2013)
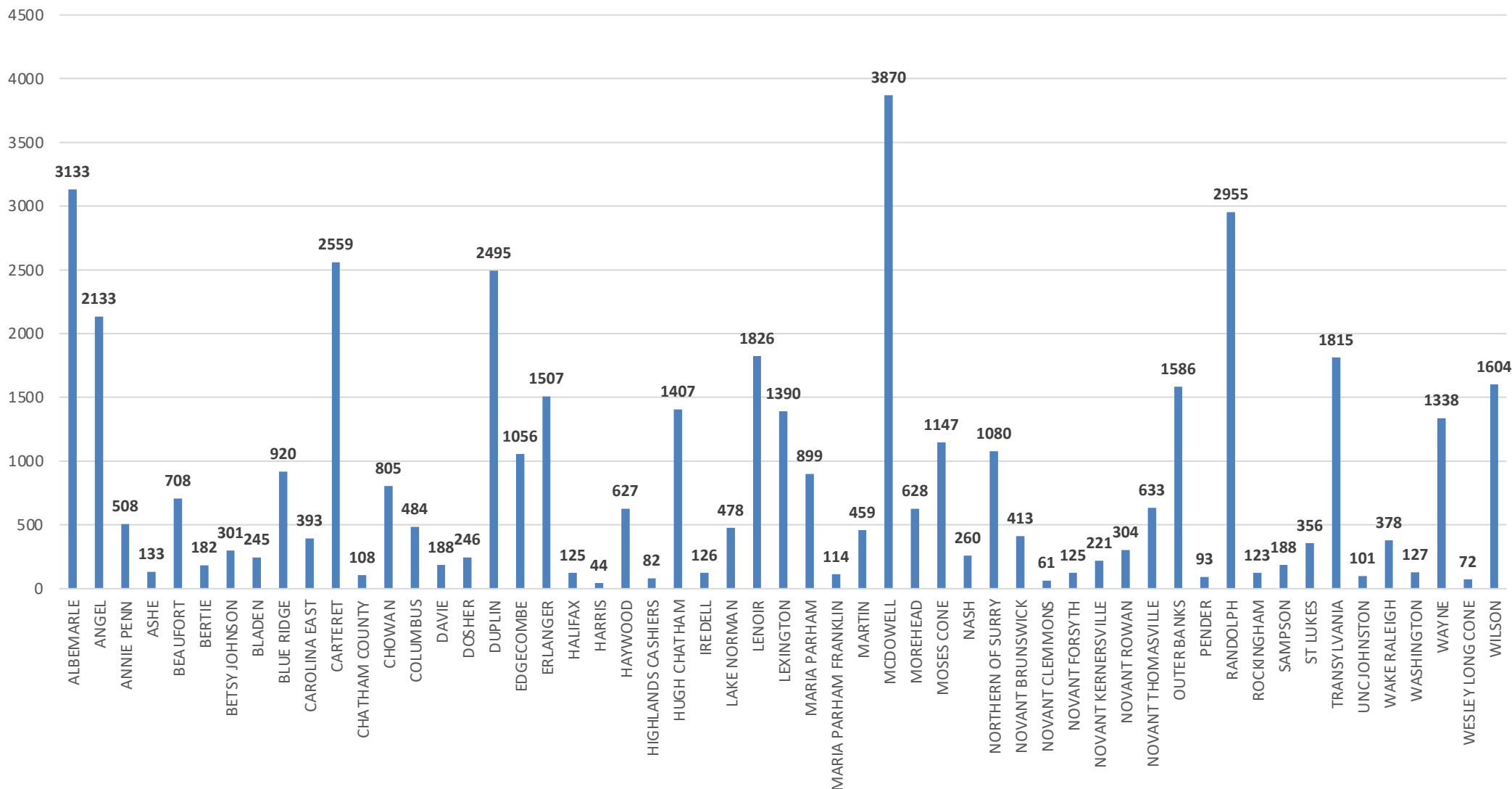
Note: Hospitals with a count of less than 20 are not shown (Harnett, Med Center High Point, Alamance, Advent Health, Our Community, Swain, Person, Forsyth, Yadkin, and Pungo)

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NC-STeP

Percent of Use by Hospital Jan - Dec 2020
(based on number of patient encounters)
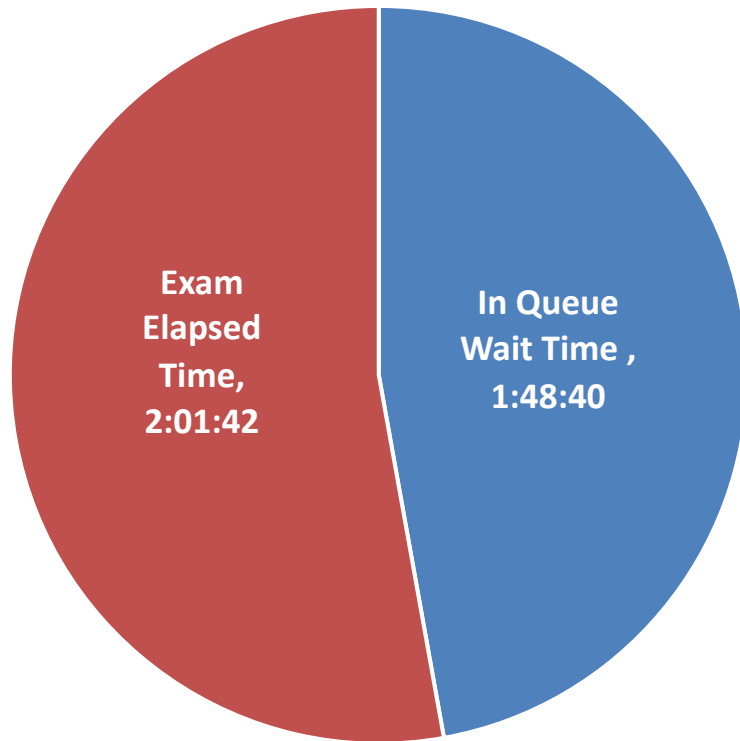

- McDowell 20%
- Transylvania 9%
- Angel 8%
- Hugh Chatham 8%
- Erlanger 7%
- Albemarle 6%
- Betsy Johnson 5%
- Outer Banks 5%
- Duplin 4%
- Blue Ridge 4%
- Northern of Surry 3%
- Maria Parham 3%
- Beaufort 3%
- Iredell 2%
- Rockingham 2%
- All Others Combined 12%

Legend:
- McDowell
- Transylvania
- Angel
- Hugh Chatham
- Erlanger
- Albemarle
- Betsy Johnson
- Outer Banks
- Duplin
- Blue Ridge
- Northern of Surry
- Maria Parham
- Beaufort
- Iredell
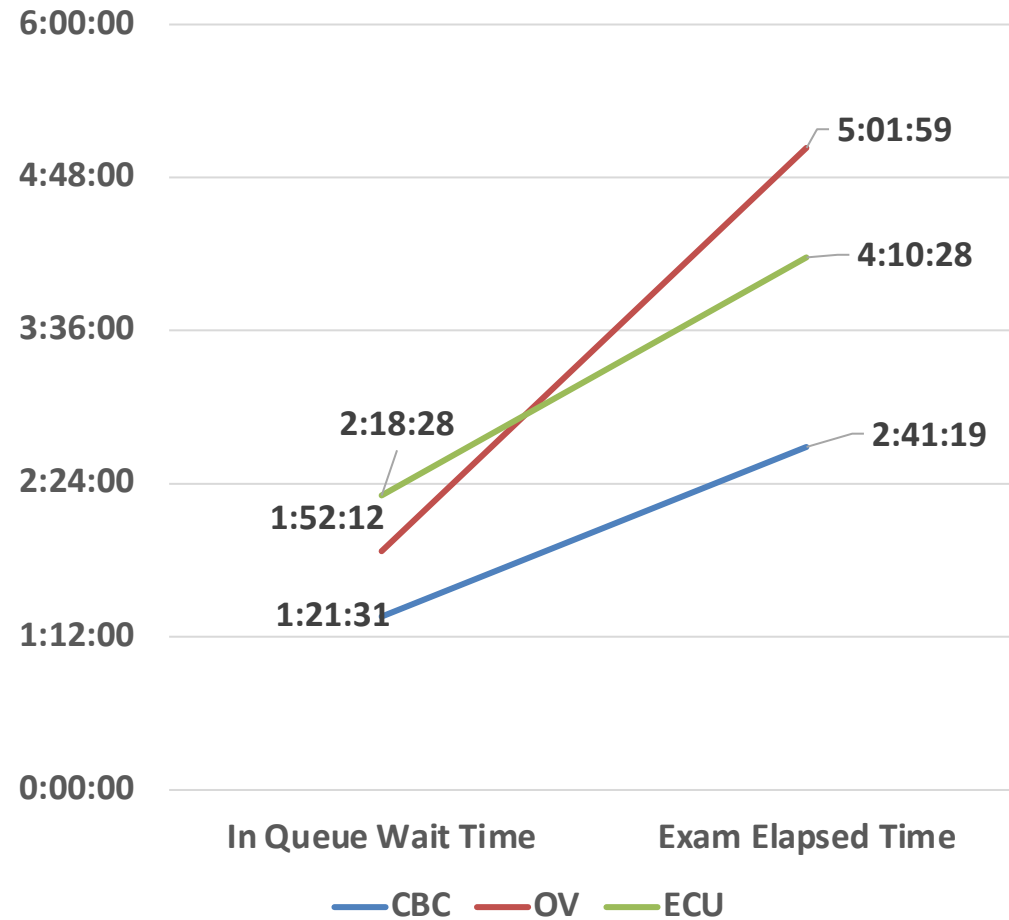- Rockingham
- All Others Combined

Consult Elapsed Time: January - December 2020

**CBC, OV & ECU
Average Consult Elapsed Time
In Queue to Exam Complete
CY2020 (3:50:22)**

**Comparison CBC, OV & ECU
Average Consult Elapsed Time
CY2020 (hh:mm:ss)**

Pie chart:
- Exam Elapsed Time, 2:01:42
- In Queue Wait Time, 1:48:40

Line chart values:
- 5:01:59
- 4:10:28
- 2:41:19
- 2:18:28
- 1:52:12
- 1:21:31

X-axis: In Queue Wait Time | Exam Elapsed Time

Legend: CBC — OV — ECU

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Percent of Patients by Discharge Disposition

Oct-Dec 2020
- 47% (Home)
- 45% (Transfer)
- 3% (Admit)
- 5% (Other)

Jan-Mar 2020
- 36% (Home)
- 50% (Transfer)
- 1% (Admit)
- 13% (Other)

Jul-Sep 2020
- 34% (Home)
- 43% (Transfer)
- 2% (Admit)
- 21% (Other)
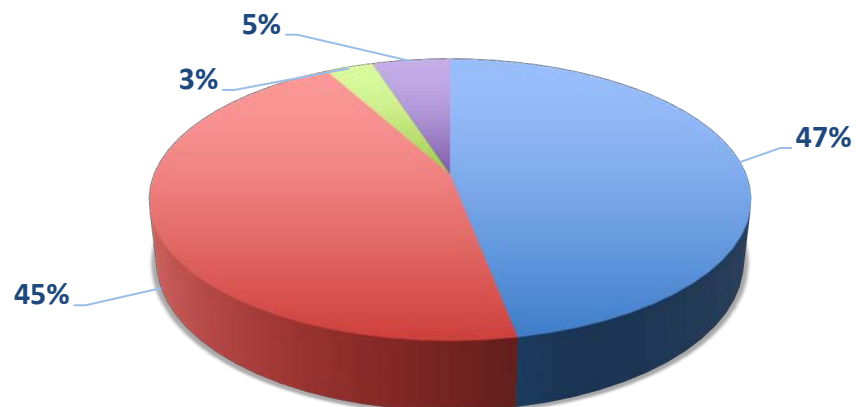
Apr-Jun 2020
- 41% (Home)
- 53% (Transfer)
- 2% (Admit)
- 4% (Other)
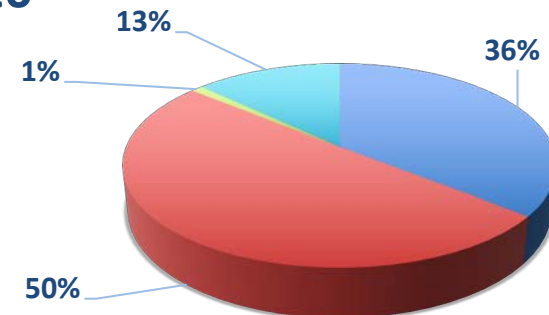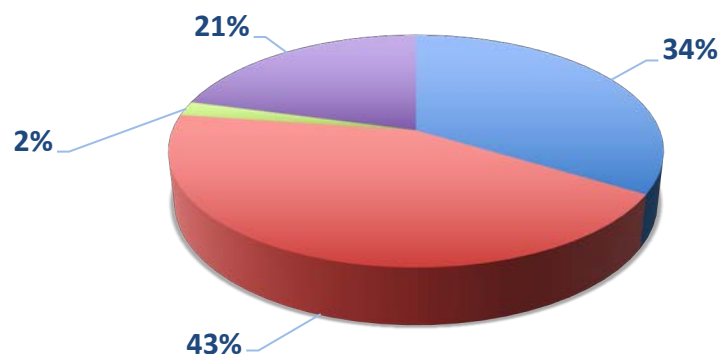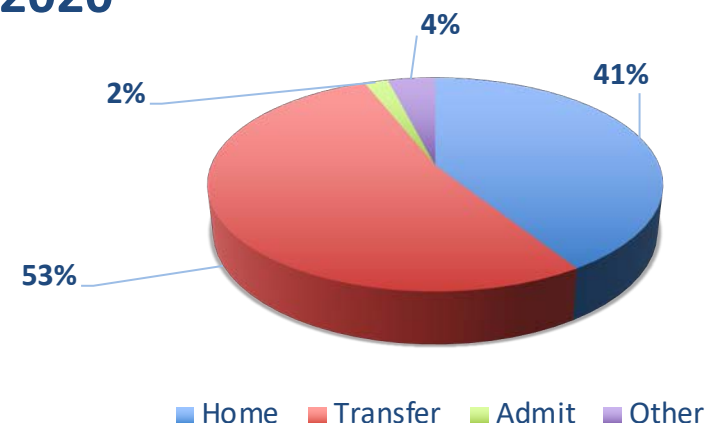
Legend: Home, Transfer, Admit, Other

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IVCs –
By Release Status

Oct-Dec 2020

38%
62%

Jan-Mar 2020

31%
69%
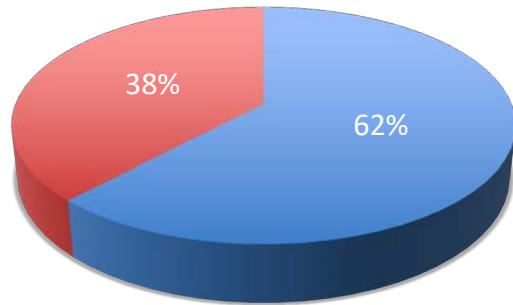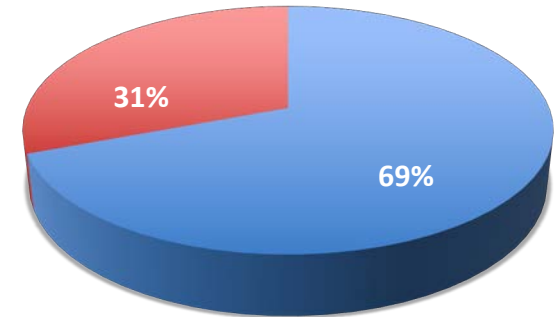
■ IVCs - percent not released
■ IVCs - percent released

Jul-Sep 2020

39%
61%

Apr-Jun 2020

33%
67%

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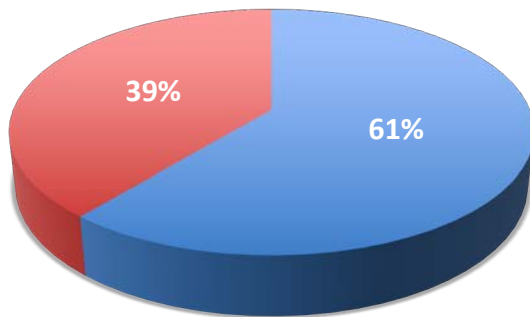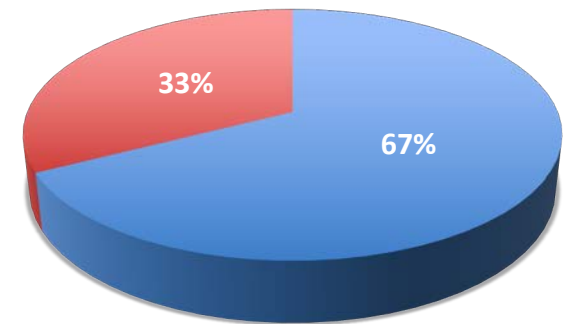
NC-STeP

NC-STeP Charge Mix - Project to Date
Service Dates: October 1, 2013 - December 31, 2020

- Blue Shield, 5.97%
- Commercial, 5.63%
- LME/IPRS, 2.67%
- Self-pay, 33.64%
- LME/MCOS, 24.47%
- Other, 6.18%
- Medicaid, 3.69%
- Medicare, 17.75%

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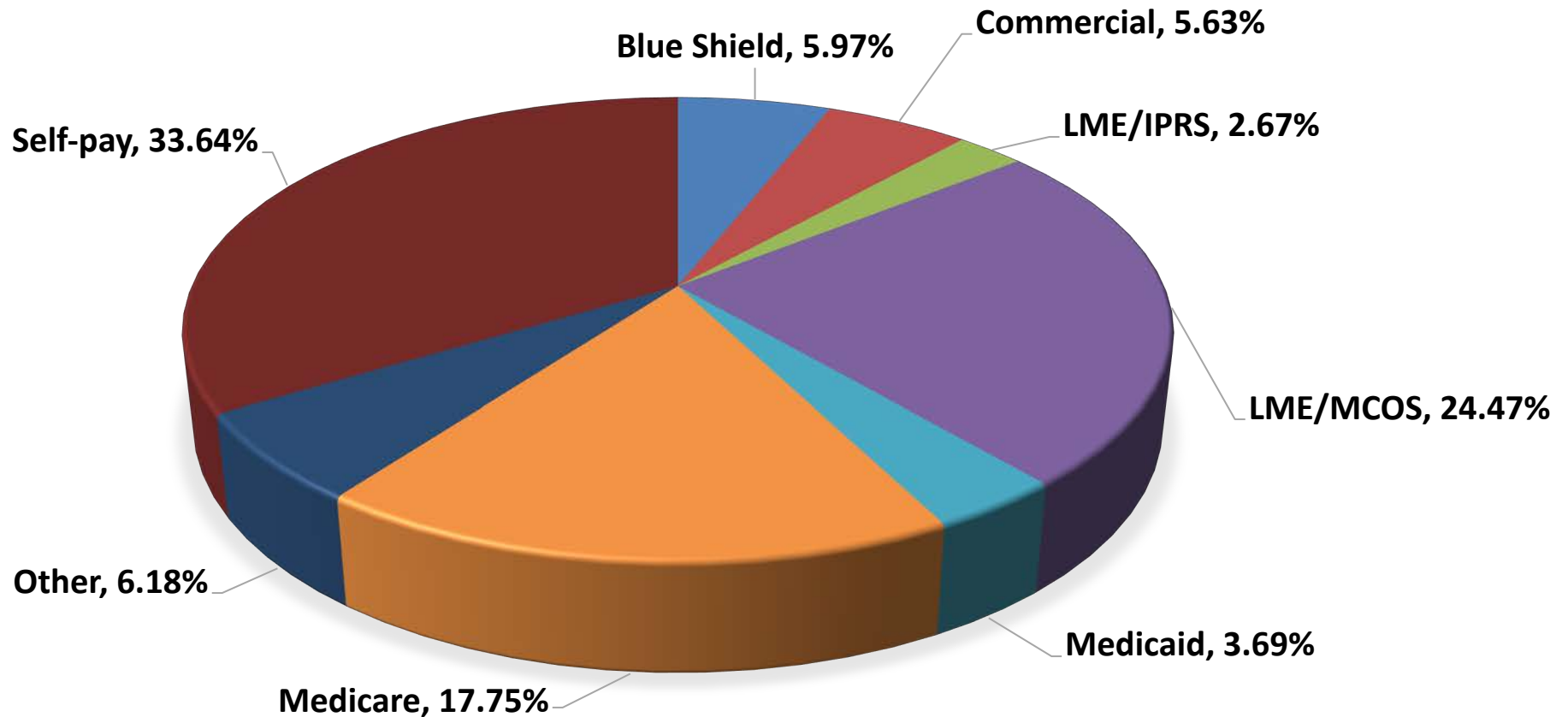
Who are the beneficiaries?
(Who should pay for it?)

Entity	Cost Savings
Patients and Families	Evidence-based care closer to home. Reduced distress/disability, functional improvement, quality of life, gainful employment, etc.
Communities	Better "citizenship", reduced homelessness, crime reduction, more self reliance, etc.
NC-Medicaid, MCOs, and other Third Party Payors	Projected cost savings from overturned IVC's. Cost savings from reduced recidivism
EDs	Reduced length of stay, improved throughput, reduced recidivism, assistance with medication management while in ED, etc.
Sheriff Department	Projected cost savings to Sheriff Department from overturned IVCs
Hospitals	Costs savings from increased throughput in the ED, reduced costs associated with psych consults, other benefits to EDs (as above), etc.

HOME | POPULATION HEALTH MANAGEMENT | TELEHEALTH

NC-STeP Telepsychiatry Network a Model for Statewide Coverage

Program provides psychiatric assessments, consultations to patients in more than 50 emergency departments

Author — David Raths

Sep 9th, 2019

Community-Based Demonstration Projects

- NC-STeP is well positioned to build community capacity by taking care of patients in primary care settings by embedding psychiatric providers in community-based settings, such as health department clinics, primary care clinics, and rural and federally qualified health centers, to meet a tremendous demand for their services.

- The model utilizes an integrated care model in which a behavioral health provider (BHP) or care manager is embedded in a primary care setting.

- Primary care providers and BHPs are linked, via telepsychiatry, to a clinical psychiatrist for case consultation and care planning.

Opportunities

- Creating collaborative linkages and developing innovative models of mental health care:
    - Communities-based mental health providers
    - Primary Care Providers
    - Health Department Clinics
    - FQHCs
    - Others
- NC-STeP web portal, accessible by participating providers, as a central point for coordinated care.
- Evidence-based practices to make recovery possible.

NC-STeP Community-Based Sites' Patient Visits

	Since project inception in October 2018	During Calendar Year 2018	During Calendar Year 2019	During Quarter Jan-Mar 2020	During Quarter Apr-Jun 2020
Patient Visits with Medical Doctor	676	8	536	81	51
Patient Visits with Mid-Level Provider	3,533	7	2,006	613	907
Total Patient Visits	4,300	15	2,633	694	958

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NC-STeP Community Appointments by Site
Appointments, Visits Kept, Rescheduled, Cancelled, No Show
January - December 2020
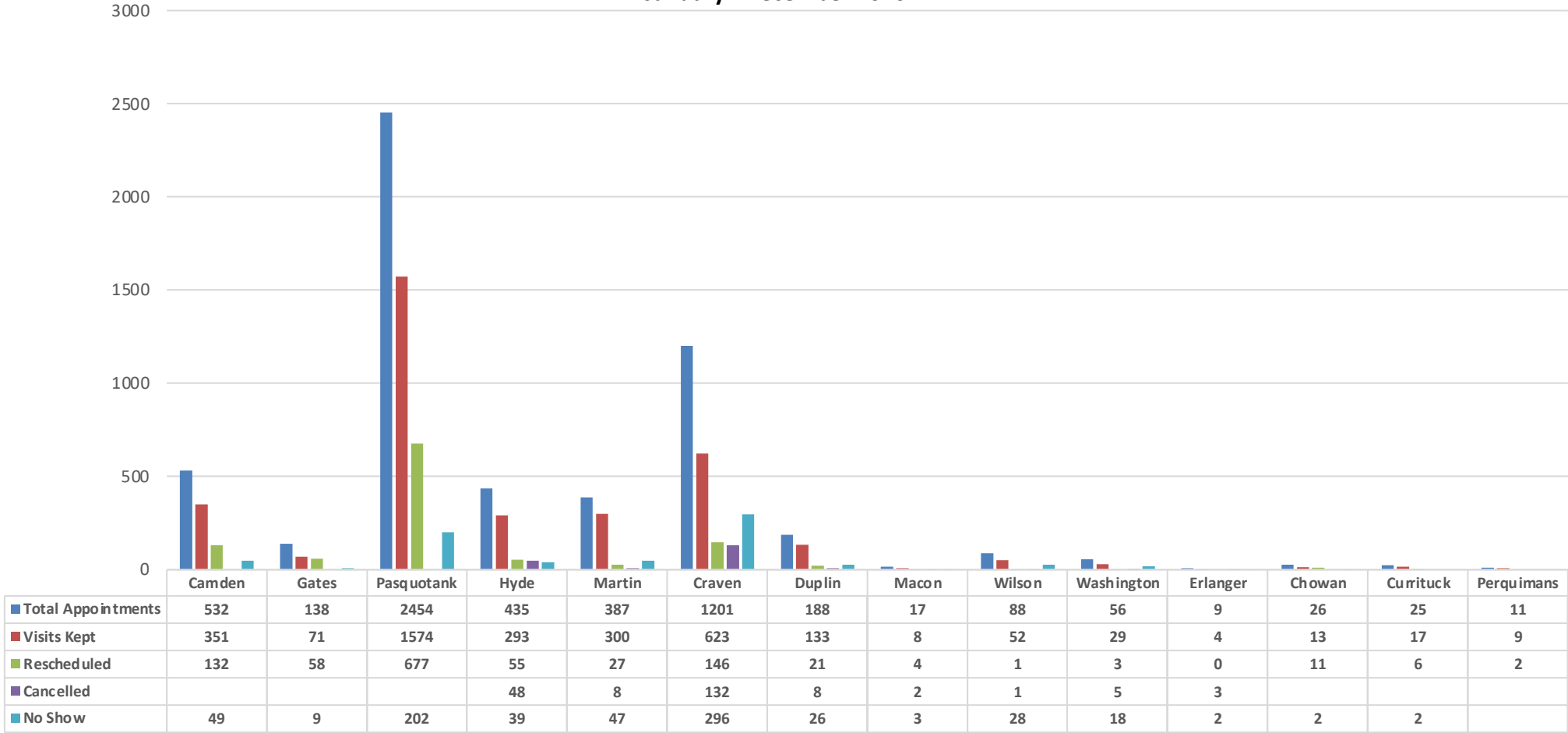
	Camden	Gates	Pasquotank	Hyde	Martin	Craven	Duplin	Macon	Wilson	Washington	Erlanger	Chowan	Currituck	Perquimans
Total Appointments	532	138	2454	435	387	1201	188	17	88	56	9	26	25	11
Visits Kept	351	71	1574	293	300	623	133	8	52	29	4	13	17	9
Rescheduled	132	58	677	55	27	146	21	4	1	3	0	11	6	2
Cancelled				48	8	132	8	2	1	5	3			
No Show	49	9	202	39	47	296	26	3	28	18	2	2	2	

■ Total Appointments   ■ Visits Kept   ■ Rescheduled   ■ Cancelled   ■ No Show

Maternal Outreach Through Telehealth for Rural Sites (MOTHeRS Project)
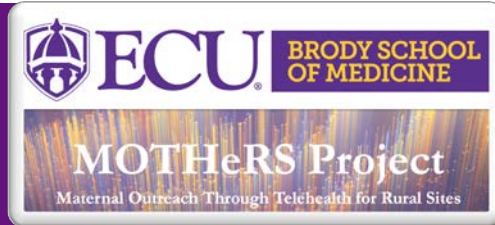
- The Covid-19 pandemic has forced healthcare providers to rethink and quickly reinvent the delivery of care, particularly in rural settings.

- Fear of COVID-19 and the lack of definitive and timely information have caused many patients to be no-shows at clinic appointments, and, as a result, not receive the care they need.

- This has posed an especially critical issue for pregnant women and their newborns in the 29-county area that ECU serves

- ECU, the safety net provider for 1.4 million people in eastern North Carolina and the only source for high-risk prenatal care in the region, is using NC-STeP model to provide this much needed service.

- Team-Based Care
- Patient-Centered Collaboration
- Primary care provider remains the driver and prescriber
- It's about expanding the limits of care within primary care setting
- Measurement-Based Treatment
- Evidence-Based Care
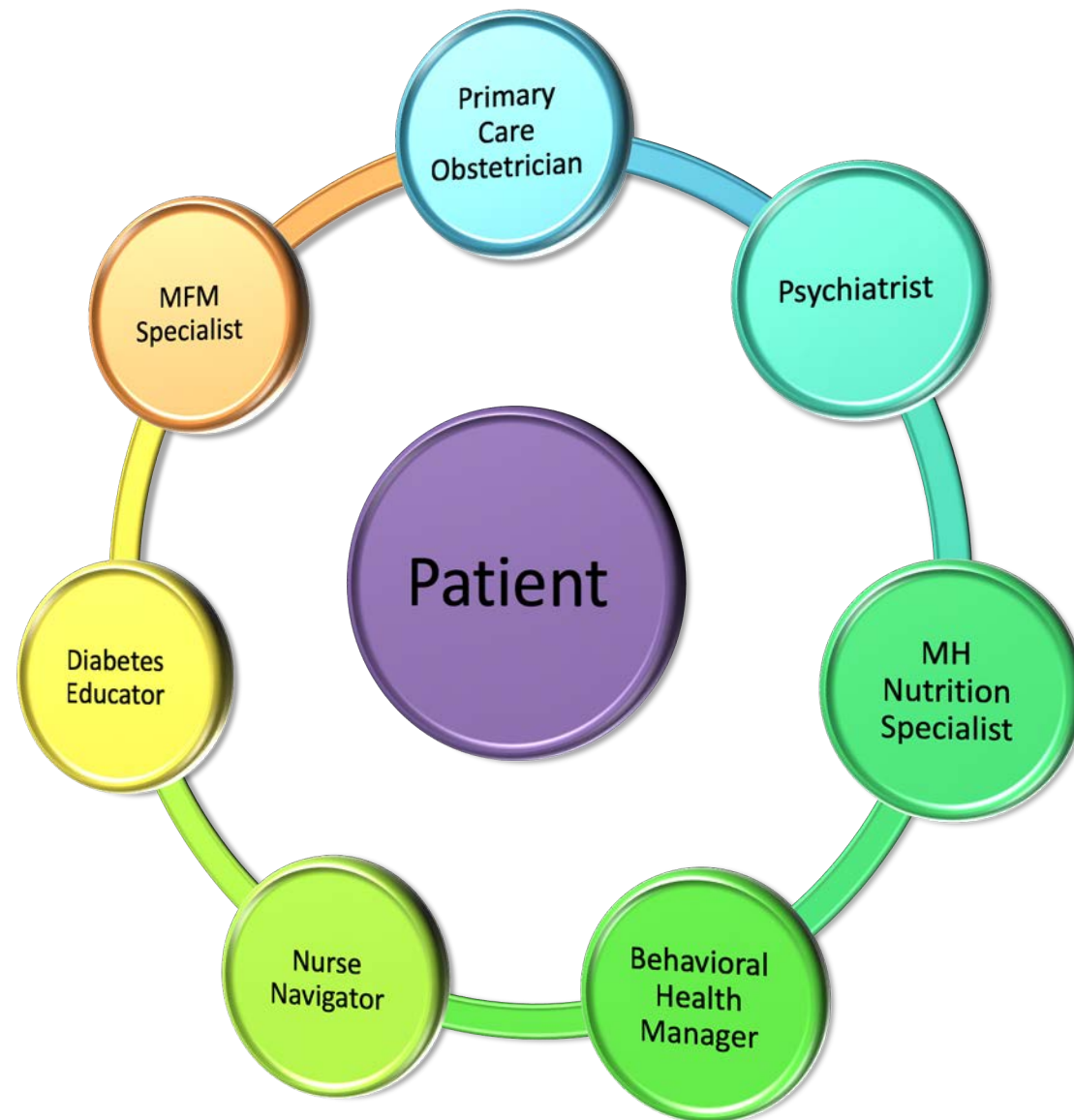
NC-STeP Published Papers

1. Kothadia RJ, Jones K, Saeed SA, Torres MJ, (2020). The Impact of NC-Statewide Telepsychiatry Program (NC-STeP) on Patients' Dispositions from Hospital Emergency Departments. Psychiatric Services. *PS in Advance October 2020.*

2. Saeed SA. (2018). Successfully Navigating Multiple Electronic Health Records When Using Telepsychiatry: The NC-STeP Experience. Psychiatric Services. 2018 Sep 1; 69(9):948-951

3. 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.

4. Saeed SA, Johnson TL, Bagga M, Glass O. (2017). Training Residents in the Use of Telepsychiatry: Review of the Literature and a Proposed Elective. Psychiatric Quarterly. Volume 88. No.2. June. pp. 271-283.

5. Saeed SA, Anand V. (2015). Use of Telepsychiatry in Psychodynamic Psychiatry. Psychodynamic Psychiatry: Vol.43, No.4, pp.569-583.

6. Saeed SA. (2015). Current Challenges and Opportunities in Psychiatric Administration and Leadership. Psychiatric Quarterly. Volume 86, Issue 3, September: pp 297-300.

7. Saeed SA. (2015). Telebehavioral Health: Clinical Applications, Benefits, Technology Needs, and Setup. *NCMJ:* Vol. 76, Number 1, pp 25-26.

Congrats to 2020 Breaking Barriers Through Telehealth Award Winners!
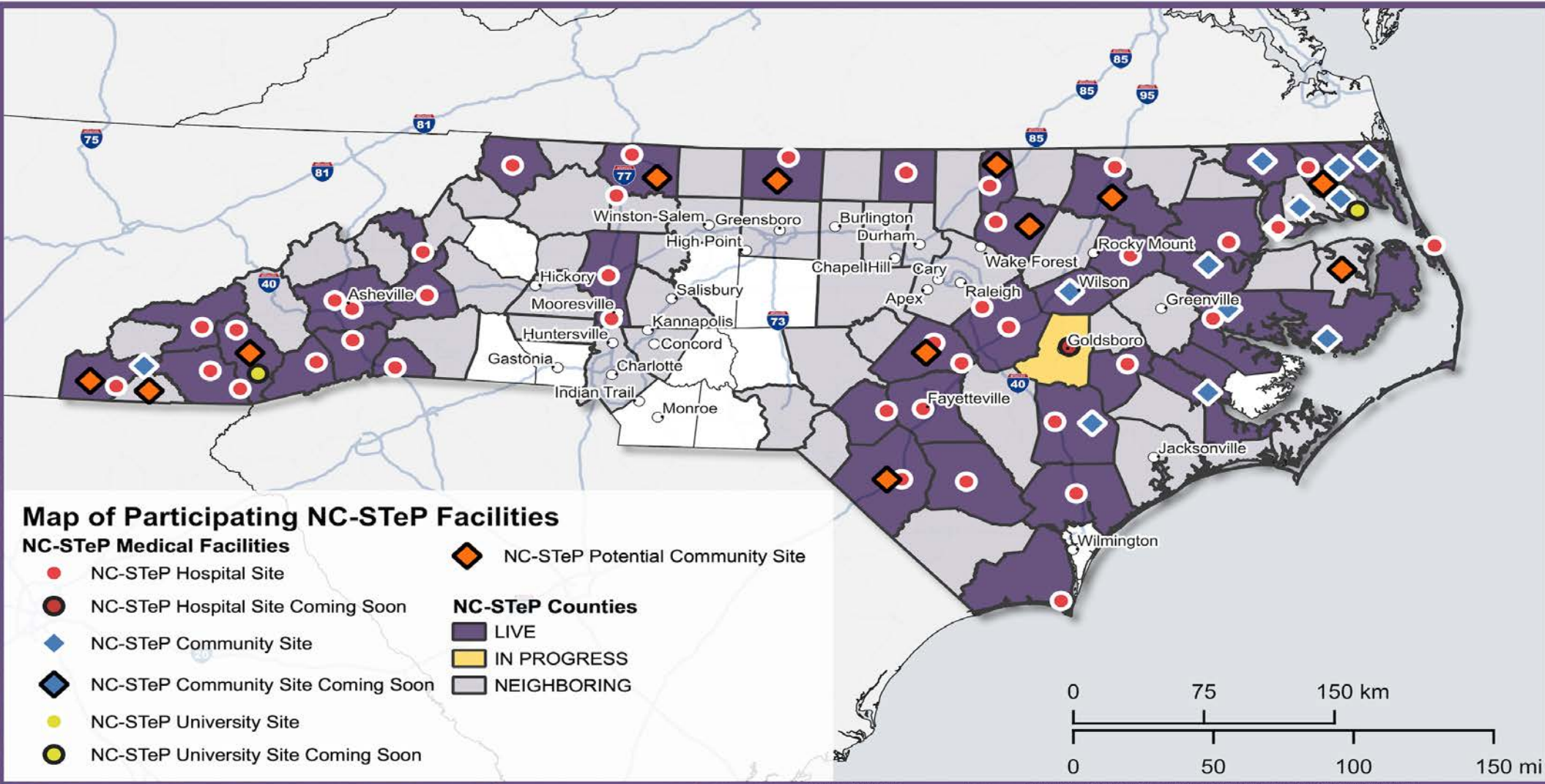
2020 Award goes to the **North Carolina Statewide Telepsychiatry Program**
The program provides telepsychiatry services to individuals experiencing acute behavioral health crises in hospital emergency departments across North Carolina. Since its inception, the program has realized a return on investment of over $30 million dollars by preventing unnecessary hospitalizations.

Proposal for NC-STeP Expansion

- To meet the urgent mental health care needs of citizens of north Carolina, NC-STeP is proposing to expand this program to 5-10 additional sites across the state.

- Given that the program is already well established and mature, with a track record of running successfully for over seven year, NC-STeP has the ability, expertise, and experience to ramp up expeditiously.

- Funding will be needed for recruitment of psychiatrists and clinical social workers, equipment, web portal, EHR, credentialing, workflow design, data management, training, and costs associated with the infrastructure and other administrative functions.

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Map of Participating NC-STeP Facilities

NC-STeP Medical Facilities
- 🔴 NC-STeP Hospital Site
- 🔴 NC-STeP Hospital Site Coming Soon
- 🔵 NC-STeP Community Site
- 🔷 NC-STeP Community Site Coming Soon
- 🟡 NC-STeP University Site
- 🟡 NC-STeP University Site Coming Soon

- 🔶 NC-STeP Potential Community Site

NC-STeP Counties
- LIVE
- IN PROGRESS
- NEIGHBORING

For future expansion, we are considering additional community-based sites in the following counties:

Cherokee	Clay	Franklin	Halifax	Harnett	Jackson
Pasquotank	Robeson	Rockingham	Surry	Tyrell	Vance

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Conclusions

- Telehealth is a viable and reasonable option for providing mental health care to those who are currently underserved or who lack access to services.

- The current technology is adequate for most uses and continues to advance.

- There are many documented benefits of using telehealth.

- NC-STeP launched, in October 2013 has provided 45,578 telepsychiatry consults with 6,688 involuntary commitments being overturned, with associated savings in excess of $34,603,200.

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Conclusions

- Telehealth can also help with the surge in mental health and substance use disorder patients that is occurring in the aftermath of the pandemic.

- The NC-STeP team-based approach to care has developed a scalable model that can be implemented at one site or statewide.

- This model is currently in use at 13 outpatient sites across North Carolina and can be expanded to other sites .

Contact

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