The North Carolina Statewide Telepsychiatry Program (NC-STeP):
Enhancing Access to Mental Health Care in North Carolina

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NC-STeP

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STATEWIDE TELEPSYCHIATRY PROGRAM

Mental disorders are common

- 26.2% of Americans ages 18 and older (about 1 in 4) Americans have a mental disorder in any one year[1]

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

Mental disorders are often untreated

In the past year in the US:

- More than 47% of the 60.1 million adults with any mental illness, did not receive mental health services*

- Among people aged 12 or older who needed substance use treatment, about 80% did not receive substance use treatment*

    - Only about 1 in 5 (19.3%) received treatment*

Highlights for the 2024 National Survey on Drug Use and Health

SAMHSA
Substance Abuse and Mental Health Services Administration

In North Carolina

- 54.7% of adults with mental illness receive no mental health treatment.[1]

- 72.2% of the children with a treatable mental health disorder did not receive needed treatment. US average was 49.4%.[2]

- 93 counties qualify as Mental Health Professional Shortage Areas.[3]

1. SAMHSA
2. Whitney DG, Peterson MD. JAMA Pediatr. 2019 Apr 1;173(4):389-391
3. North Carolina Health Professional Shortage Area. 2022 Profile (current HPSA Data as of 06/01/2023). https://www.ncdhhs.gov/nc-dhhs-orh-hpsa-one-pager/open. Accessed February 5, 2024.

Where can you go if you do not have access to community-based behavioral health care?

- In 2013, NC hospitals had 162,000 behavioral health ED visits.[1]

- 2008- 2010, in North Carolina.[2]

  - 10% of ED visits had one or more mental health diagnosis (MHD) code assigned to visit; twice the estimated national average

  - 17.7% increase in rate of ED visits of patients with MHD; compared to 5.1% increase in overall rate of ED visits

  - People with mental health disorders were admitted to the hospital at twice the rate of those without.

1. NC Hospital Association

2. CDC. Emergency Department Visits by Patients with Mental Health Disorders — North Carolina, 2008–2010. *Morbidity and Mortality Weekly Report (MMWR)* June 14, 2013. 62(23);469-472.

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How Long Does It Take to Place BH Patients From NC Hospital EDs?

Average ED Length of Stay (ALOS) for Admitted Behavioral Health Patients

Category	Value
Community Hospital (Non-Psych)	14
Non-acute Facility	16
Community Psychiatric Unit	27
State ADATC	33
State Psychiatric Hospital	78
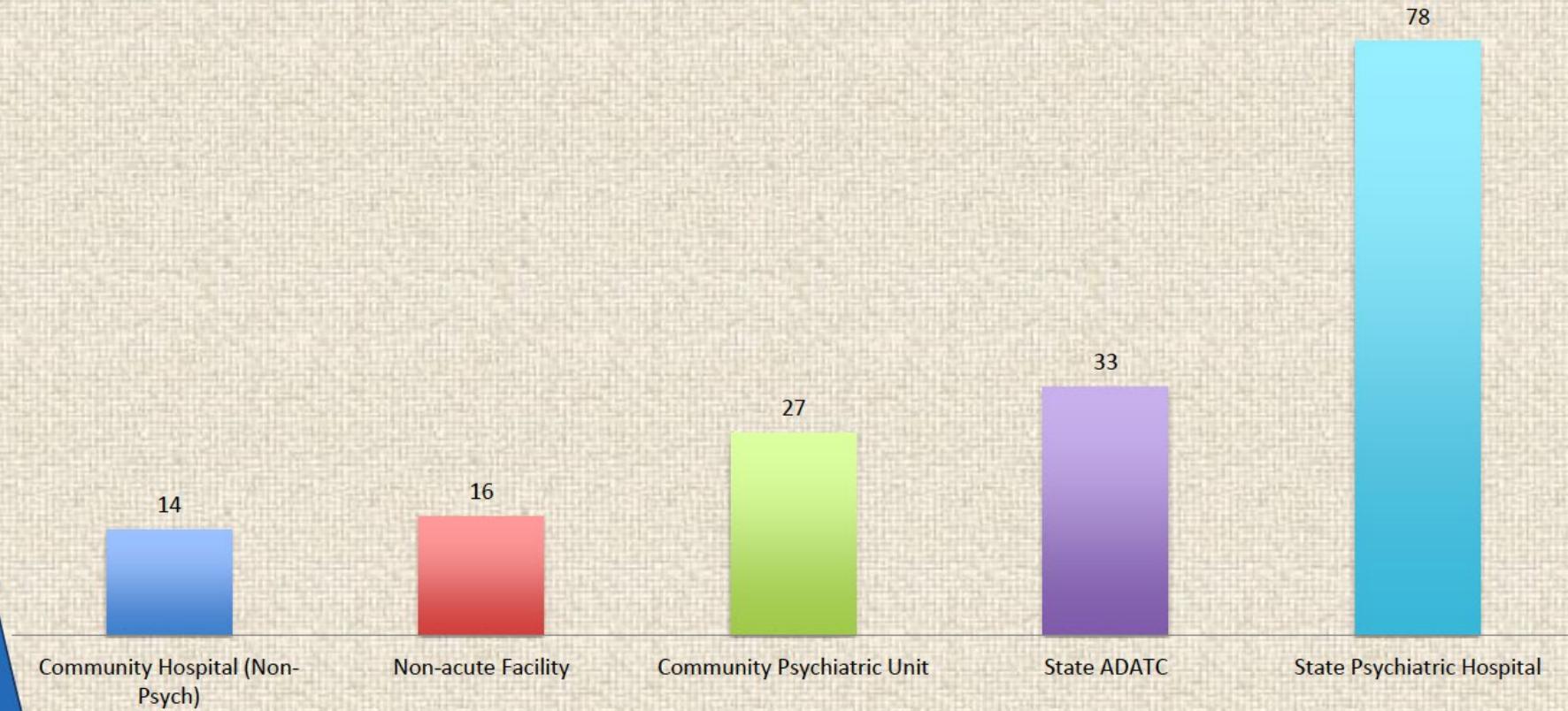
Source: NCHA ED Tracker. 2012 Data.

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 Mission and Vision

- **Mission:** Deliver timely, high-quality psychiatric care statewide regardless of geography

- **Vision:** A connected, evidence-based, efficient, technology-supported mental-health system

- **Focus**: Crisis stabilization, continuity of care, and prevention of unnecessary hospitalization

How NC-STeP Works (Model & Infrastructure)

- NC-STeP is administered by the ECU Center for Telepsychiatry and e-Behavioral Health, in coordination with NC DHHS/ORH.

- Hospitals and community-based sites connect via secure, HIPAA-compliant video-conferencing technology for psychiatric consultations.

- NC-STeP developed a proprietary "Web Portal" to coordinate scheduling, clinical data exchange, encounter data collection, referrals, and billing — designed to work across varied electronic health record (EHR) systems (or even where no EHR exists).

- This portal helps streamline care across different settings and ensures continuity and documentation of telepsychiatry encounters.
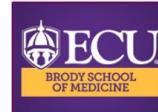
Using Technology to Develop Smart Workflows

ED physician requests a tele-psychiatry consult

ED nurse/staff logs into the Portal, confirms patient data, and submits to psychiatric provider work queue in the Portal

Provider reviews patient data, conducts telepsychiatry consult, and documents the results in the Portal, which sends the results to the hospital EHR via Direct Message and C-CDA

ED physician reviews telepsychiatry consult results and determines best course of action

ED nurse discharges patient and closes the encounter

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NC- STeP Core Program Goals

- Reduce ED psychiatric length-of-stay ("psych boarding")
- Reduce unnecessary involuntary commitments (IVCs)
- Improve transitions to community follow-up care
- Expand psychiatric access for underserved populations
- Improve system efficiency and reduce statewide behavioral-health costs

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NC-STeP Status as of September 30, 2025

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 Pediatric Site Coming Soon
- ▪ NC-STeP Pediatric Site

MOTHeRS Sites

- Ⓜ LIVE
- Ⓜ PENDING

NC-STeP Counties

- ▰ LIVE
- ▰ IN PROGRESS
- ▱ NEIGHBORING

NC-STeP Status as of September 30, 2025

- 28 hospitals in the network

- 68,510 total psychiatry assessments (in hospital EDs) since program inception
  - Cumulative return on investment = $64,513,800 (savings from preventing unnecessary hospitalizations)

- 31% of the patients served had no insurance coverage

- 24 community-based sites.

- 39,888 patient visits since community-based program inception in October 2018.

Consult Elapsed Time: July - September 2025

CBC & ECU
Average Consult Exam Elapsed Time
In Que to Exam Complete
FY26 July - September 2025
4 hrs. 47mins. 36 secs
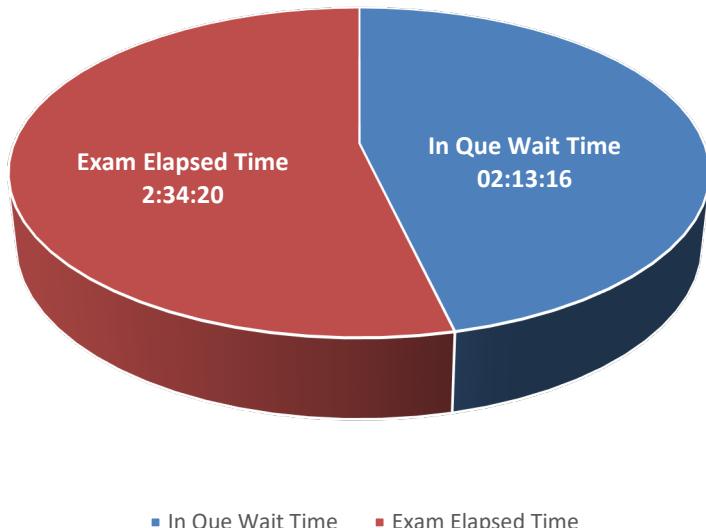
Comparison CBC & ECU
Average Consult Elapsed Time
In Que to Exam Complete
FY 26 July - September 2025

Pie chart:
- In Que Wait Time 02:13:16
- Exam Elapsed Time 2:34:20

■ In Que Wait Time   ■ Exam Elapsed Time

Line chart:
- CBC: 2:23:04 to 5:07:14
- ECU: 02:08:09 to 04:36:01

— CBC   — ECU
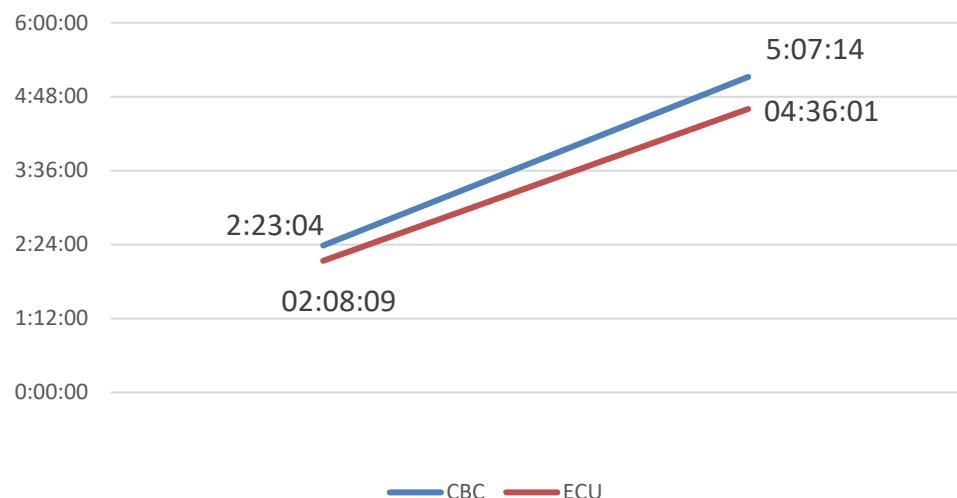
NC-STeP: Impact on Mental Health Care

- **Improved Access**: Patients in rural and underserved areas can access specialized care that may otherwise be unavailable locally.

- **Cost-Effective**: Reduces the need for travel, hospital admissions, and in-person consultations, saving both time and money.

- **Timely Care**: Reduces wait times for psychiatric assessments, especially in crisis situations.

- **Enhanced patient satisfaction**

- **Financial benefits to both patients and hospital systems**

NC-STeP Assessments by Hospital
## October 2013 - September 2025
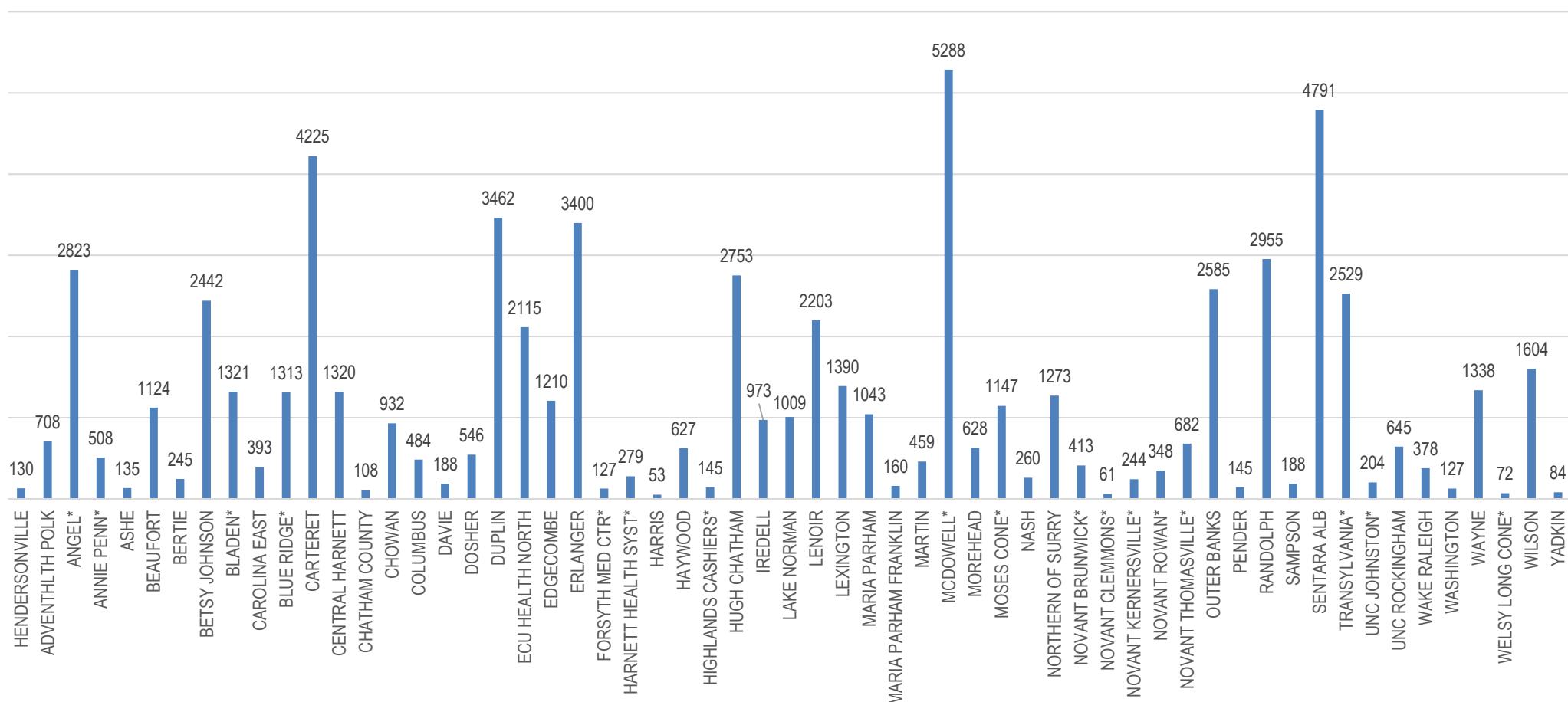
Hospitals with fewer than 50 assessments not shown: Pungo, Granville, Alleghany, Med Center High Point, Our Community, Alamance, Person, Swain.

* Indicates Model 2 hospital.

Hospital	Assessments
HENDERSONVILLE	130
ADVENTHLTH POLK	708
ANGEL *	2823
ANNIE PENN *	508
ASHE	135
BEAUFORT	1124
BERTIE	245
BETSY JOHNSON	2442
BLADEN *	1321
CAROLINA EAST	393
BLUE RIDGE *	1313
CARTERET	4225
CENTRAL HARNETT	1320
CHATHAM COUNTY	108
CHOWAN	932
COLUMBUS	484
DAVIE	188
DOSHER	546
DUPLIN	3462
ECU HEALTH NORTH	2115
EDGECOMBE	1210
ERLANGER	3400
FORSYTH MED CTR *	127
HARNETT HEALTH SYST *	279
HARRIS	53
HAYWOOD	627
HIGHLANDS CASHIERS *	145
HUGH CHATHAM	2753
IREDELL	973
LAKE NORMAN	1009
LENOIR	2203
LEXINGTON	1390
MARIA PARHAM	1043
MARIA PARHAM FRANKLIN	160
MARTIN	459
MCDOWELL *	5288
MOREHEAD	628
MOSES CONE *	1147
NASH	260
NORTHERN OF SURRY	1273
NOVANT BRUNWICK *	413
NOVANT CLEMMONS *	61
NOVANT KERNERSVILLE *	244
NOVANT ROWAN *	348
NOVANT THOMASVILLE *	682
OUTER BANKS	2585
PENDER	145
RANDOLPH	2955
SAMPSON	188
SENTARA ALB	4791
TRANSYLVANIA *	2529
UNC JOHNSTON *	204
UNC ROCKINGHAM	645
WAKE RALEIGH	378
WASHINGTON	127
WAYNE	1338
WELSY LONG CONE *	72
WILSON	1604
YADKIN	84

NC-STeP Assessments, IVCs, and Overturned IVCs by Year Since Progam Inception
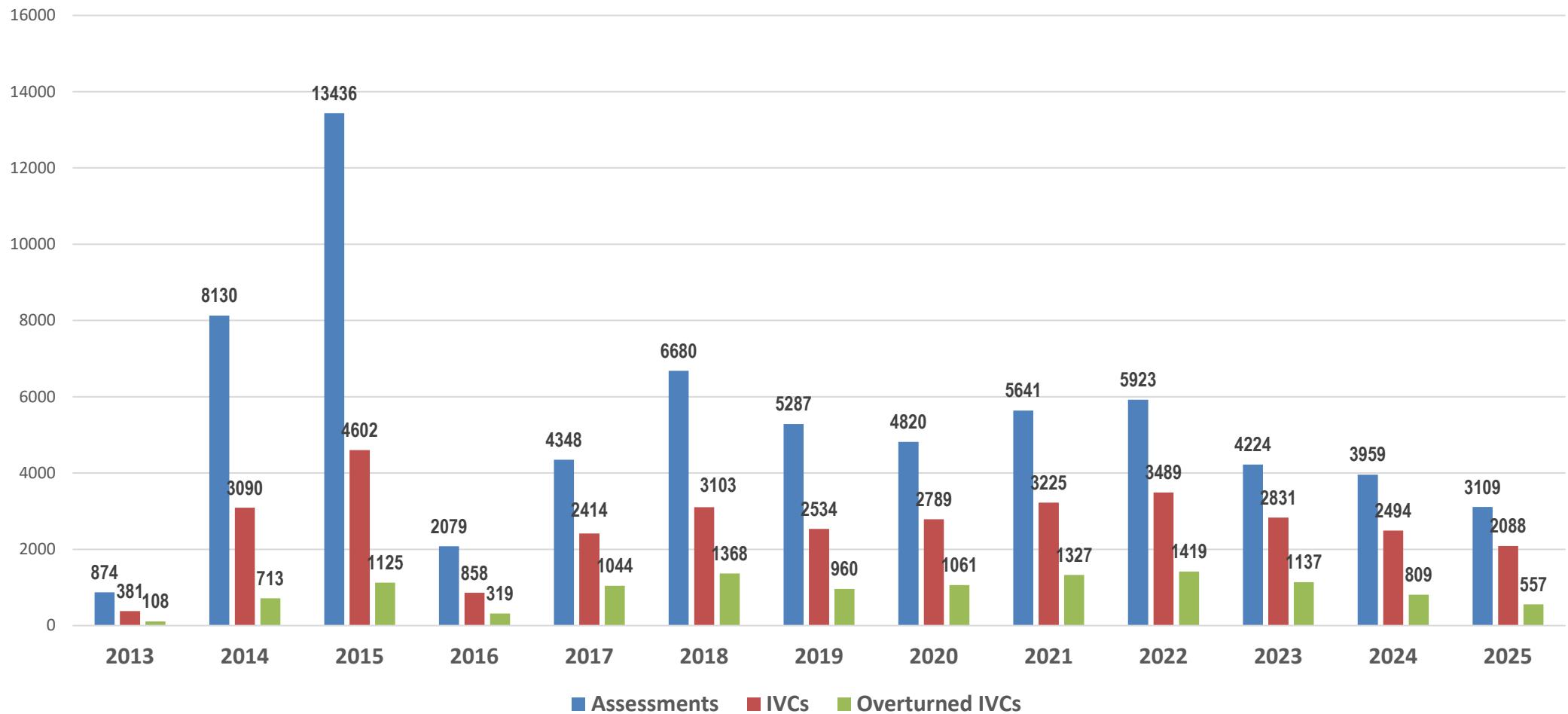
Year	Assessments	IVCs	Overturned IVCs
2013	874	381	108
2014	8130	3090	713
2015	13436	4602	1125
2016	2079	858	319
2017	4348	2414	1044
2018	6680	3103	1368
2019	5287	2534	960
2020	4820	2789	1061
2021	5641	3225	1327
2022	5923	3489	1419
2023	4224	2831	1137
2024	3959	2494	809
2025	3109	2088	557

Note: 2013 includes November-December; 2025 includes January – September. All other years are January – December.

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NC-STeP Total Assessments, IVCs, and Overturned IVCs Since Program Inception (2013-2025)

68,510 — Total Assessments
33,898 — Total IVCs
11,947 — Total Overturned IVCs
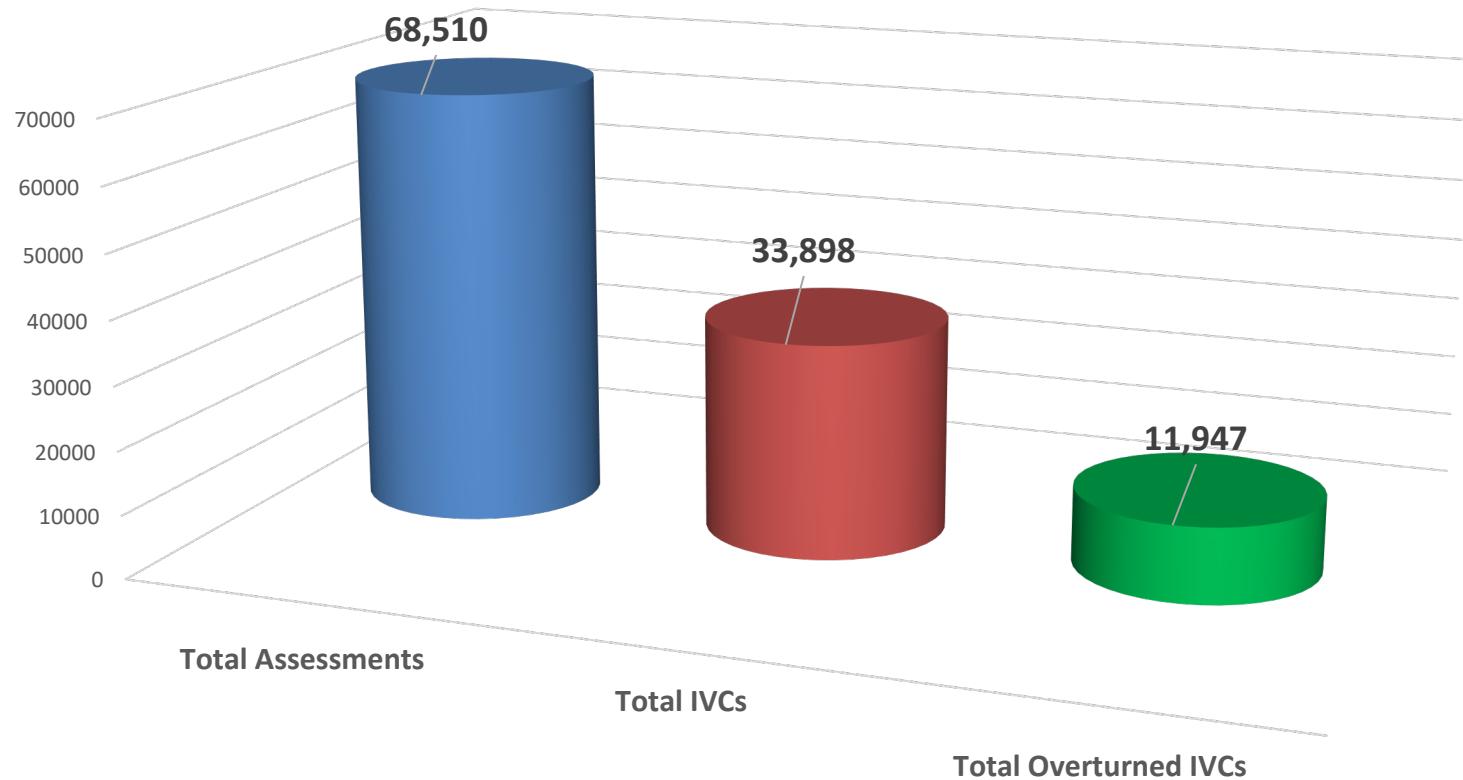
NC-STeP IVCs and Overturned IVCs by Calendar Year
Since Program Inception
with percent overturned
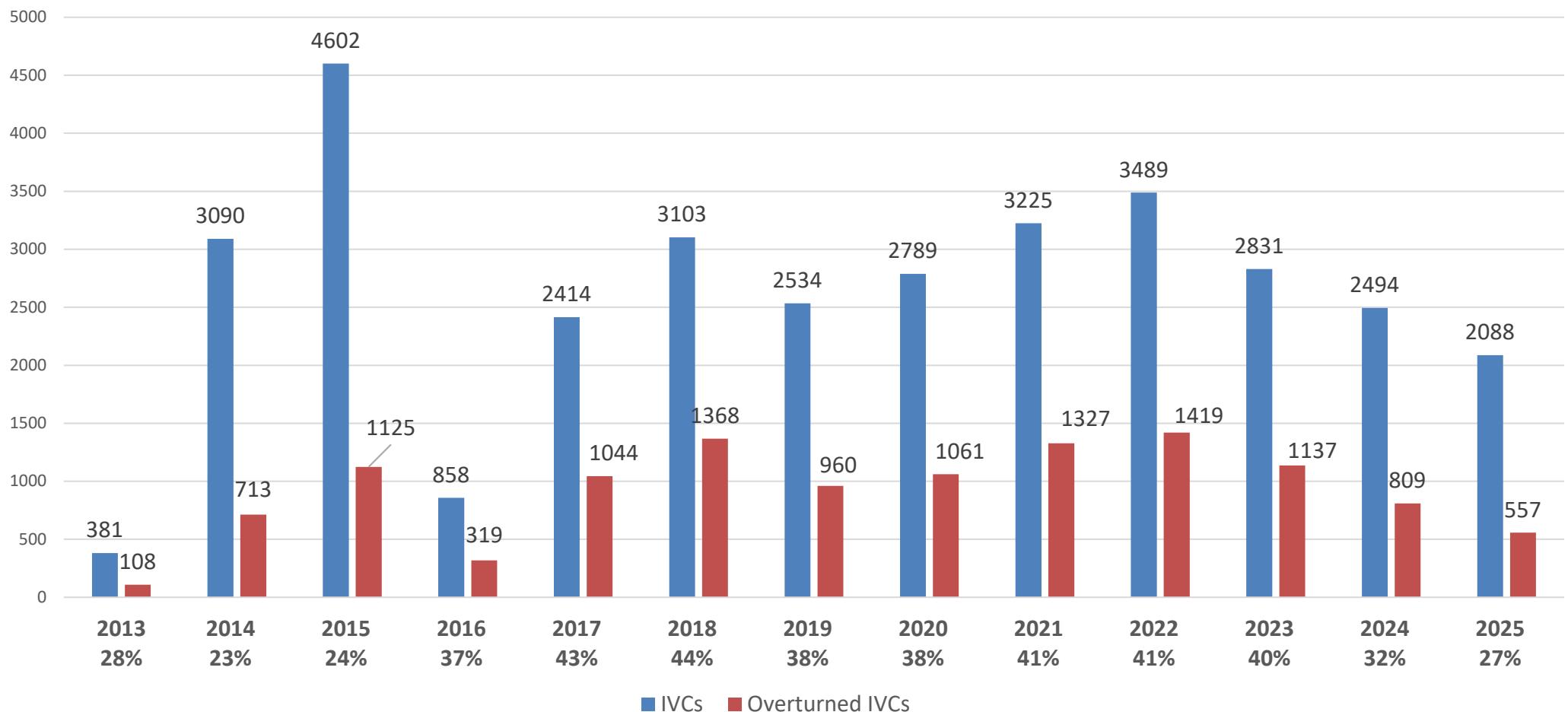
Year	IVCs	Overturned IVCs	% Overturned
2013	381	108	28%
2014	3090	713	23%
2015	4602	1125	24%
2016	858	319	37%
2017	2414	1044	43%
2018	3103	1368	44%
2019	2534	960	38%
2020	2789	1061	38%
2021	3225	1327	41%
2022	3489	1419	41%
2023	2831	1137	40%
2024	2494	809	32%
2025	2088	557	27%

■ IVCs ■ Overturned IVCs

Note: 2013 includes November-December; 2025 includes January – September. All other years are January – December.

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NC-STeP IVCs by Quarter
2013- 2025
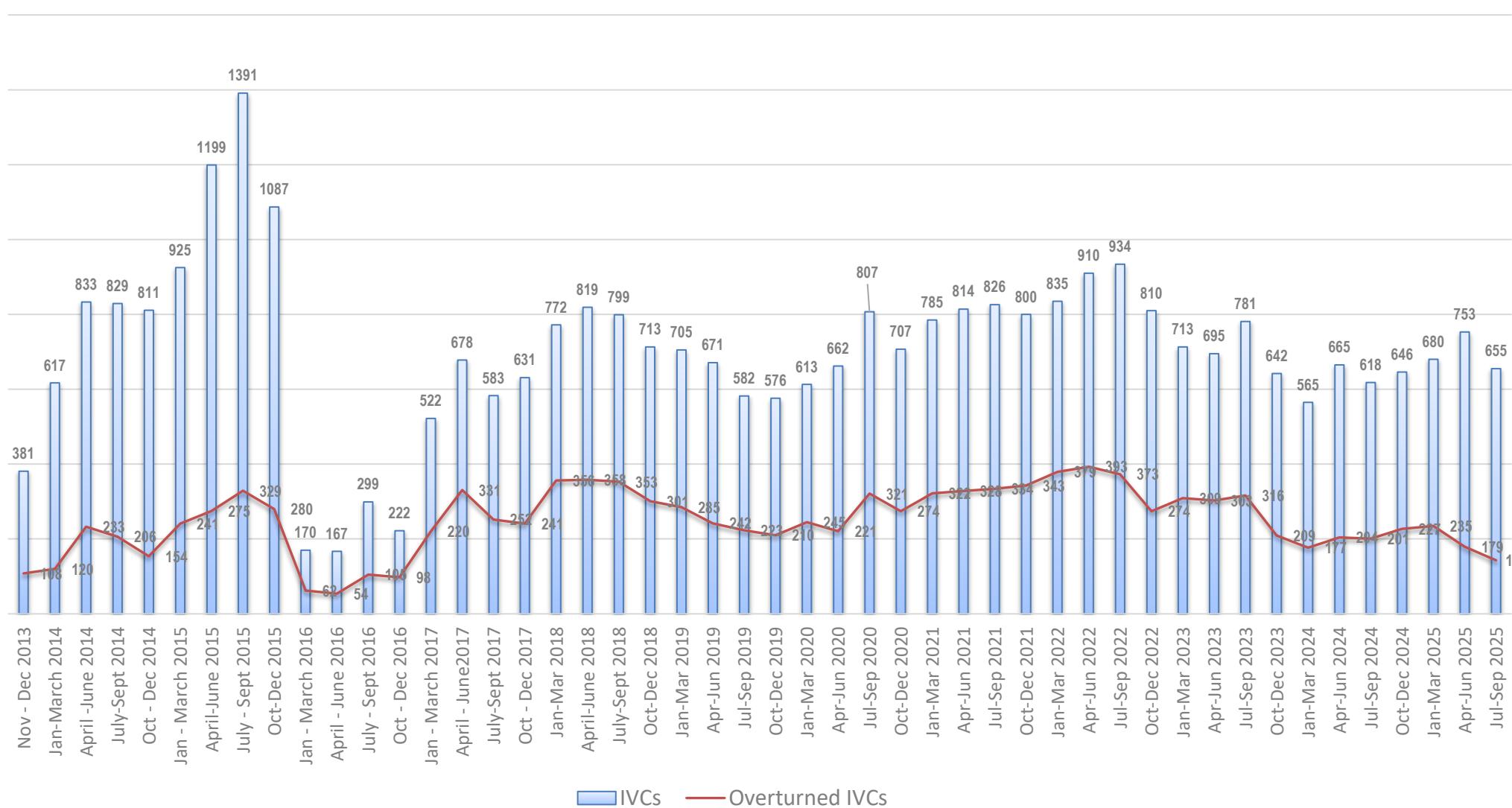
The Impact of the North Carolina Statewide Telepsychiatry Program (NC-STeP) on Patients' Dispositions From Emergency Departments

Radhika Jamanadas Kothadia, M.D., Katherine Jones, Ph.D., Sy Atezaz Saeed, M.D., M.S., Matthew J. Torres, B.S.

Objective: The number of patients seeking treatment in emergency departments (EDs) for mental health reasons is rising, and these patients are often kept in the ED until they can be treated or discharged, leading to overcrowding. Telepsychiatry may alleviate overcrowding by increasing the rate of discharges home.

Methods: ED discharge records for 86,931 patients with psychiatric symptoms were examined to compare patient disposition and length of stay (LOS) between times when the North Carolina Statewide Telepsychiatry Program (NC-STeP) program was available or unavailable.

Results: For patients with a LOS of >2 days (N=3,144) and when NC-STeP was available, 62% (N=1,941) were discharged home, and 29% (N=922) were transferred to a psychiatric facility. When NC-STeP was unavailable (N=2,662), 43% (N=1,139) of these patients were discharged home, and 46%

(N=1,230) were transferred to a psychiatric facility. For patients with a LOS of 1–2 days and when NC-STeP was available (N=41,713), 77.0% (N=32,131) were discharged home, and 15.4% (N=6,441) were transferred to a psychiatric facility, compared with 74.2% (N=29,237) discharged home and 13.9% (N=5,495) transferred to a psychiatric facility when NC-STeP was unavailable (N=39,412). The increases in discharges home and decreases in referrals to psychiatric facilities when NC-STeP was available were statistically significant for patients in both groups (p<0.001).

Conclusions: Results suggest that telepsychiatry programs such as NC-STeP increase the number of discharges home and decrease transfers to psychiatric facilities, likely promoting patient satisfaction and improving ED efficiency.

Key Points

Telepsychiatry programs, like NC-STeP, can result in:

- ✓ Decreased ED overcrowding
- ✓ More patients discharged home
- ✓ Less patients transferred to a psychiatric facility
- ✓ Improvement in patient satisfaction
- ✓ Financial benefits to both patients and hospital systems

ORIGINAL PAPER

The Impact of NC Statewide Telepsychiatry Program (NC-STeP) on Cost Savings by Reducing Unnecessary Psychiatric Hospitalizations During a 6½ Year Period

Sy Atezaz Saeed[1] · Katherine Jones[2] · Kalyan Muppavarapu[1]

Abstract

Objective To study the impact of the North Carolina Statewide Telepsychiatry Program in reducing unnecessary psychiatric hospitalizations and cost savings during a 6½ year period.

Methods Patient encounter data was extracted from the NC-STeP database that captured records of 19,383 patients who received services over a 6½ -years' period. We analyzed the data to calculate the total number of patient encounters, the number of encounters with an IVC, and the number of encounters with an IVC that was overturned. For encounters with an overturned IVC, we also determined the patient discharge disposition. We estimated the cost of a typical mental health hospitalization to measure the savings generated by the overturned IVCs in the NC-STeP program.

Results Over the 6½ year period there were 19,383 NC-STeP patient encounters at partner hospital emergency departments. There were 13,537 encounters where the patient had an IVC in place during the ED stay, and 4,627 where the IVC was overturned (34%). For patients where there was an IVC that was overturned, 85.9% of those patients were ultimately discharged home. Using the "three-way bed" cost estimate of $4,500 for each overturned IVC, the cost savings generated by the NC-STeP program from November 2013 to June 2020 were $20,821,500.

Conclusions Telepsychiatry consultation services in the emergency departments can decrease unnecessary psychiatric hospitalizations and contribute to significant cost savings to the healthcare system and society and improve the outcomes for patients and families by decreasing financial burden and stress associated with a hospital stay.

Key Points

- Small, rural community hospitals often lack resources. ED physicians may "overprescribe" hospitalization and send patients to inpatient facilities

- Telepsychiatry consultation services in the EDs can decrease unnecessary psychiatric hospitalizations and contribute to significant cost savings

- Avoiding unnecessary psychiatric hospitalization can promote patient satisfaction, reduce costs, and improve outcomes for the patients and families

NC-STeP Telepsychiatry Network a Model for Statewide Coverage

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

David Raths

Sept. 9, 2019

Telepsych 5d7a8f106f152
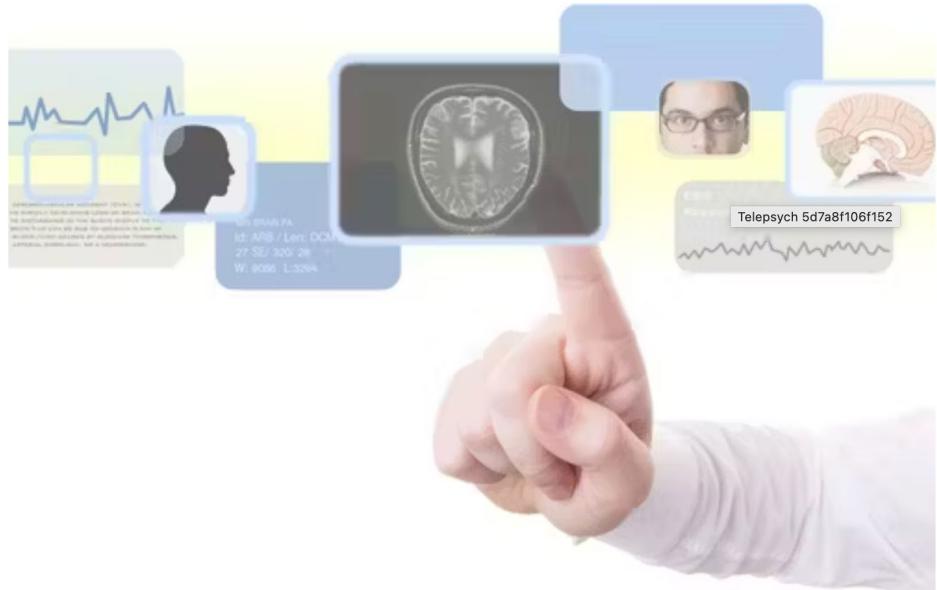
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North Carolina Statewide Telepsychiatry Program (NC-STeP): Using telepsychiatry to improve access to evidence-based care

S. Saeed [1] [2] [3] [4]

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- 24 community-based sites (Primary Care Clinics).
  - 39,888 adult patient visits since community-based program inception in October 2018

- 4 primary OB-Gyn sites
  - 122 MFM and over 2600 mental health visits completed
  - Over 434,000 driving miles saved for patients

- 5 pediatric primary care sites
  - Over 40,037 pediatric patients screened
  - Over 640 currently receiving integrated care

- As of September 30, 2025, the program has screened 40,037 children.

- 4,924 children (14.3%) of those screened with PSC-17 had scores of 15 or higher, indicating an increased likelihood of a behavioral health disorder being present.

- 3,345 children (18.0%) of those screened with GAD-7 had scores of 8 or higher, indicating at least a "mild to moderate" level of anxiety being present.

"Mental Health Crisis" in Higher Education[1]

Although university students report levels of mental health similar to their non-university counterparts[2] recent studies suggest an increase and severity of mental problems and help-seeking behaviors in university students around the world in the last decade.[3]

1. Evans, T. M., Bira, L., Gastelum, J. B., Weiss, L. T., and Vanderford, N. L. (2018). Evidence for a mental health crisis in graduate education. Nat. Biotechnol. 36, 282–284.

2. Blanco, C., Okuda, M., Wright, C., Hasin, D. S., Grant, B. F., Liu, S. M., et al. (2008) Mental health of college students and their non-college-attending peers: results from the national epidemiologic study on alcohol and related conditions. Arch. Gen. Psychiatry 65, 1429–1437..

3. Lipson, S. K., Lattie, E. G., and Eisenberg, D. (2019). Increased rates of mental health service utilization by US college students: 10-year population-level trends (2007–2017). Psychiatr. Serv. 70, 60–63.

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Mental disorders are often untreated in University Students

1. The majority of university students experiencing mental health problems and low levels of well-being are not receiving treatment[a]

2. While universities continue to expand, there is a growing concern that the services available to provide support to students are not developing at an equivalent rate[b]

a. Lipson, S. K., Lattie, E. G., and Eisenberg, D. (2019). Increased rates of mental health service utilization by US college students: 10-year population-level trends (2007–2017). Psychiatr. Serv. 70, 60–63.

b. Davy, C., Dobson, A., Lawrence-Wood, E., Lorimer, M., Moores, K., Lawrence, A., et al. (2012). The Middle East Area of Operations (MEAO) Health Study: Prospective Study Report. Adelaide: University of Adelaide.

# ECSU Screening and Service Data
April 2022 through March 2025 (3 years)

- 2,316 PHQ-9 screenings

- 2,317 GAD-7 screenings

- 184 referrals to LCSW/counselors

- 100 referrals to psychiatrists/Psych NPs

- 170 outreach activities

- 481 scheduled mental health service sessions

- 1,026 e-mail follow-ups

- 786 phone check-ins

- 26 on-call/evening sessions,

- 99 walk-ins seen

Challenges to Sustainability

- **Funding:** If you were a business and 32% of the people who purchased your product did not pay you anything, AND another 60% paid you below your cost, how would you sustain your business?

- **Workforce**: staffing (psychiatrists, behavioral-health providers), and community engagement — especially as the program expands beyond emergency care to ongoing community and pediatric mental health care.

- **Keeping up with technology and its advances**

NC-STeP Funding (in millions) compared to estimated amount if funding had kept up with inflation
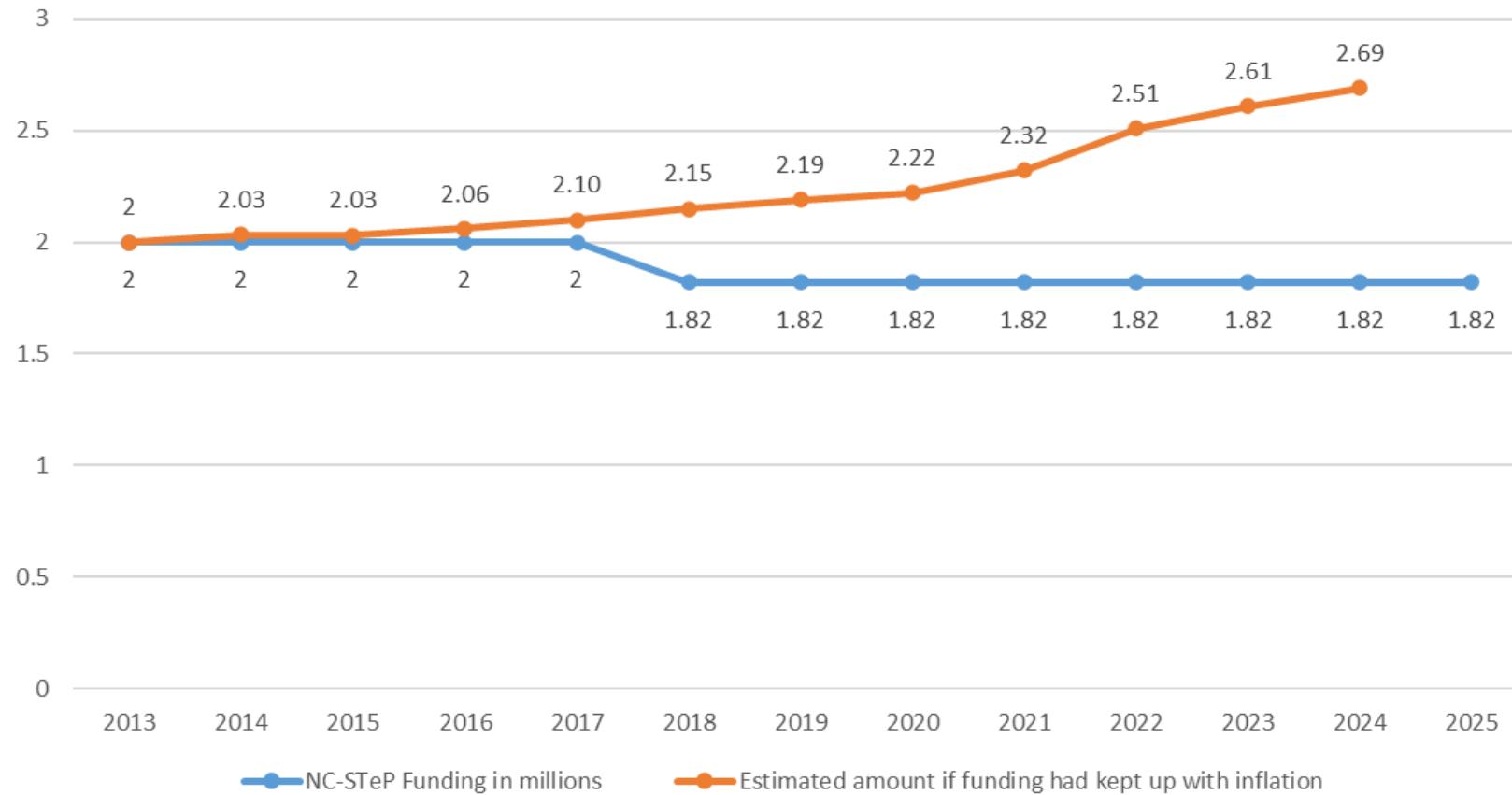
Year	inflation rate (%)	Year	inflation rate (%)
2014	1.6	2020	1.2
2015	0.1	2021	4.7
2016	1.3	2022	8.0
2017	2.1	2023	4.1
2018	2.4	2024	2.9
2019	1.8		

Source: US Bureau of Labor Statistics
Consumer Price Index (CPI-U)
Annual average percent increase
Not seasonally adjusted
https://www.bls.gov/

NC-STeP Funding (in millions) compared to estimated amount if funding had kept up with __healthcare__ inflation

Chart data:

Year	NC-STeP Funding in millions	Estimated amount if funding had kept up with healthcare inflation
2013	2	2
2014	2	2.05
2015	2	2.10
2016	2	2.18
2017	2	2.24
2018	1.82	2.28
2019	1.82	2.34
2020	1.82	2.44
2021	1.82	2.47
2022	1.82	2.57
2023	1.82	2.58
2024	1.82	2.65
2025	1.82	
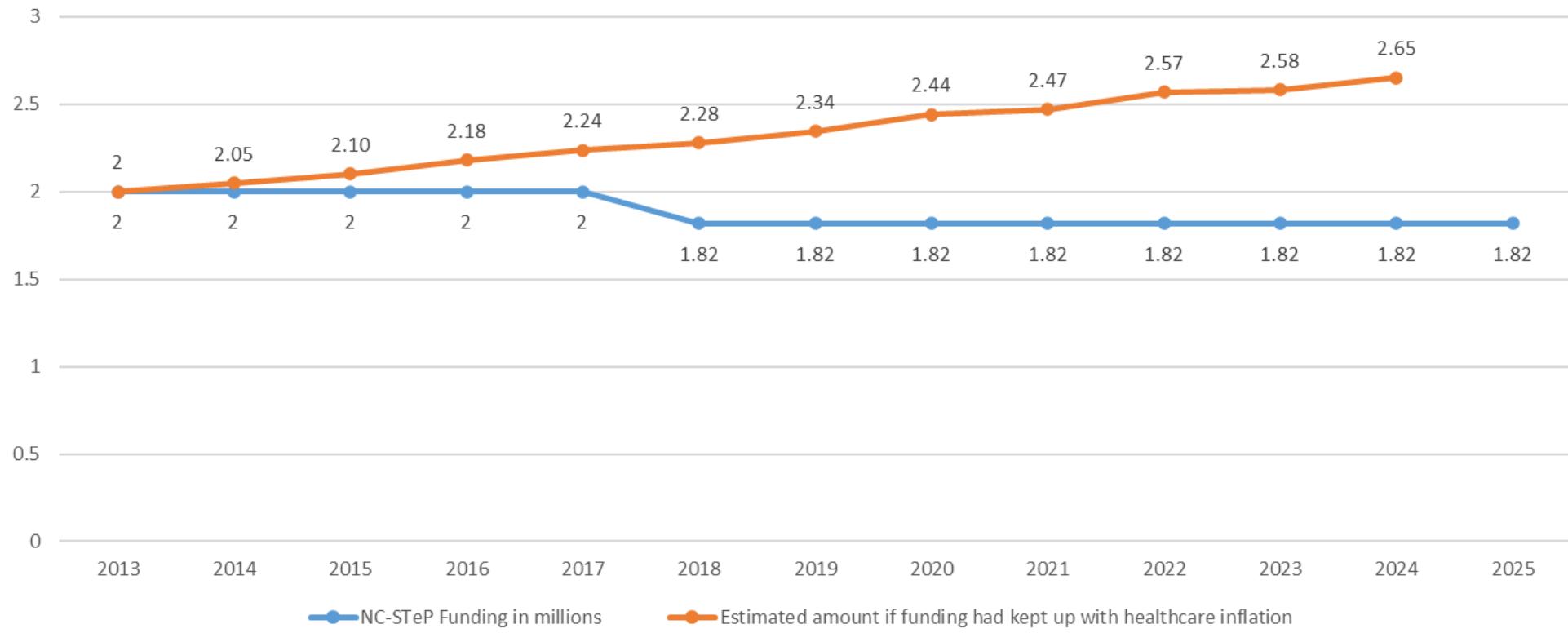
Year	healthcare inflation rate (%)	Year	healthcare inflation rate (%)
2014	2.4	2020	4.1
2015	2.6	2021	1.2
2016	3.8	2022	4.1
2017	2.5	2023	0.5
2018	2.0	2024	2.7
2019	2.8		

Source: Federal Reserve Bank of St. Louis
Consumer Price Index (CPI-U) for medical care in US Cities
Includes: medical care commodities, medical services, professional services,
Hospital related services.
https://fred.stlouisfed.org

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Why NC-STeP Matters

- **Addresses Psychiatrist Shortage**: Many counties in NC are designated mental-health professional shortage areas; NC-STeP helps fill that gap.

- **Access to Care**: Offers care to individuals in rural or underserved communities, including uninsured patients and children who may otherwise lack access.

- **Cost-Effective & Efficient**: Saves resources by reducing unnecessary inpatient admissions, shortening ER stays, and better utilizing psychiatric specialists.

- **Modernizes Mental Health Care**: Uses telemedicine and integrated health-IT solutions to modernize psychiatric care delivery statewide.
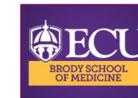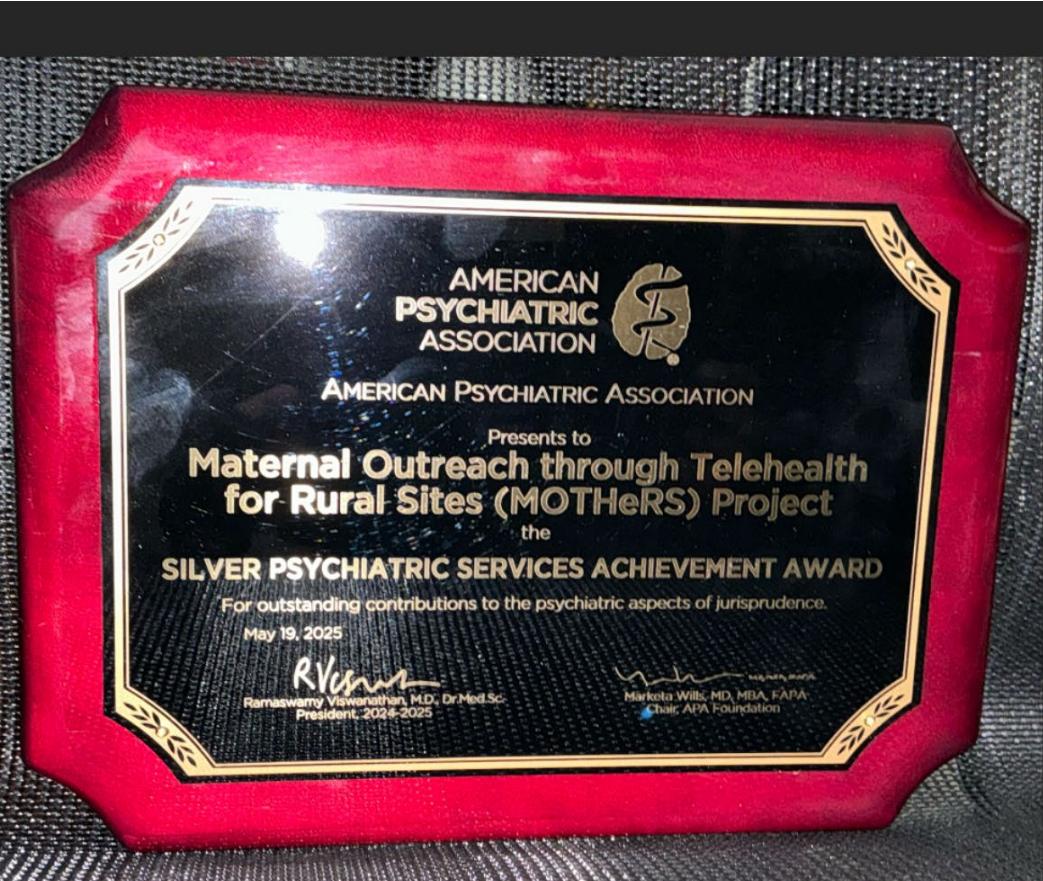
Psychiatric Services Achievement Awards

The Psychiatric Services Achievement Awards recognize outstanding programs that deliver services to people with mental illness or disabilities that have overcome obstacles and that can serve as models for other programs.

Conclusions

- Psychiatric disorders are common but the work force for mental health and substance use disorders has been in short supply and it's getting worse.

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

- NC-STeP is an established model with proven results that is nationally known as an effective model to help enhance access to evidence based mental health care.

Conclusions

- NC-STeP demonstrates a scalable, state-level model to expand mental-health access using telepsychiatry, bridging gaps in access across rural and underserved areas of North Carolina.
- The expansion into community and pediatric care suggests a shift from crisis-driven ED intervention toward preventive, integrated behavioral health care.
- Continued success will likely depend on sustained funding, technological infrastructure, workforce engagement, and expansion of telepsychiatry beyond EDs.

ACKNOWLEDGEMENTS

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