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Using Telepsychiatry to Enhance Access to Evidence-Based Care: A North Carolina Experience

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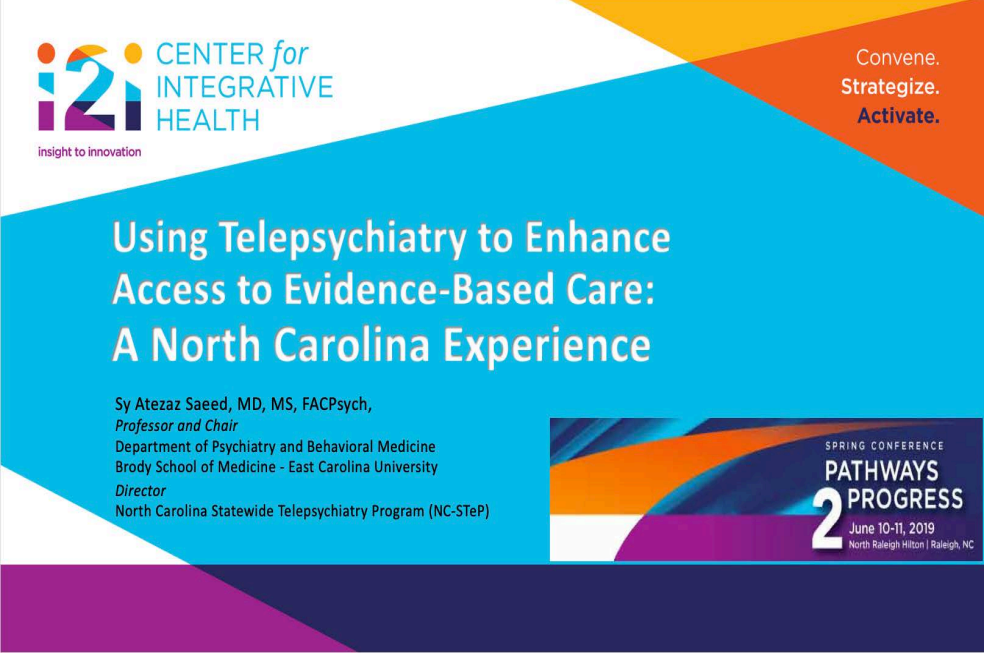
SPRING CONFERENCE
PATHWAYS 2 PROGRESS
June 10-11, 2019
North Raleigh Hilton | Raleigh, NC

ECU BRODY SCHOOL OF MEDICINE

NC-STeP NORTH CAROLINA STATEWIDE TELEPSYCHIATRY PROGRAM



LEARNING OBJECTIVES

1. State the demonstrated benefits of using telepsychiatry in mental health settings.
2. Identify the infrastructure needs to implement telepsychiatry services on a statewide level.
3. Describe how North Carolina Statewide Telepsychiatry Program (NC-STeP) is addressing problems in areas of access to quality (evidence-based) mental health services.
4. Discuss how NC-STeP model is now being used to provide care in community-based settings.

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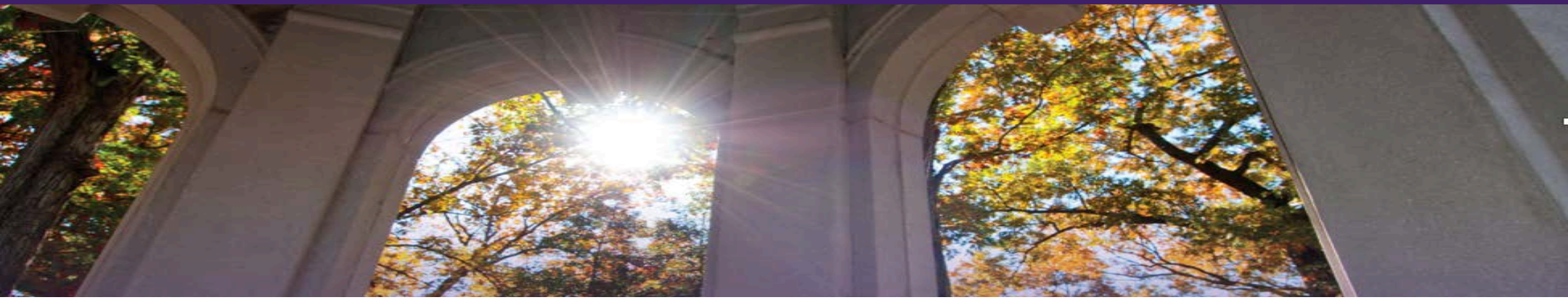

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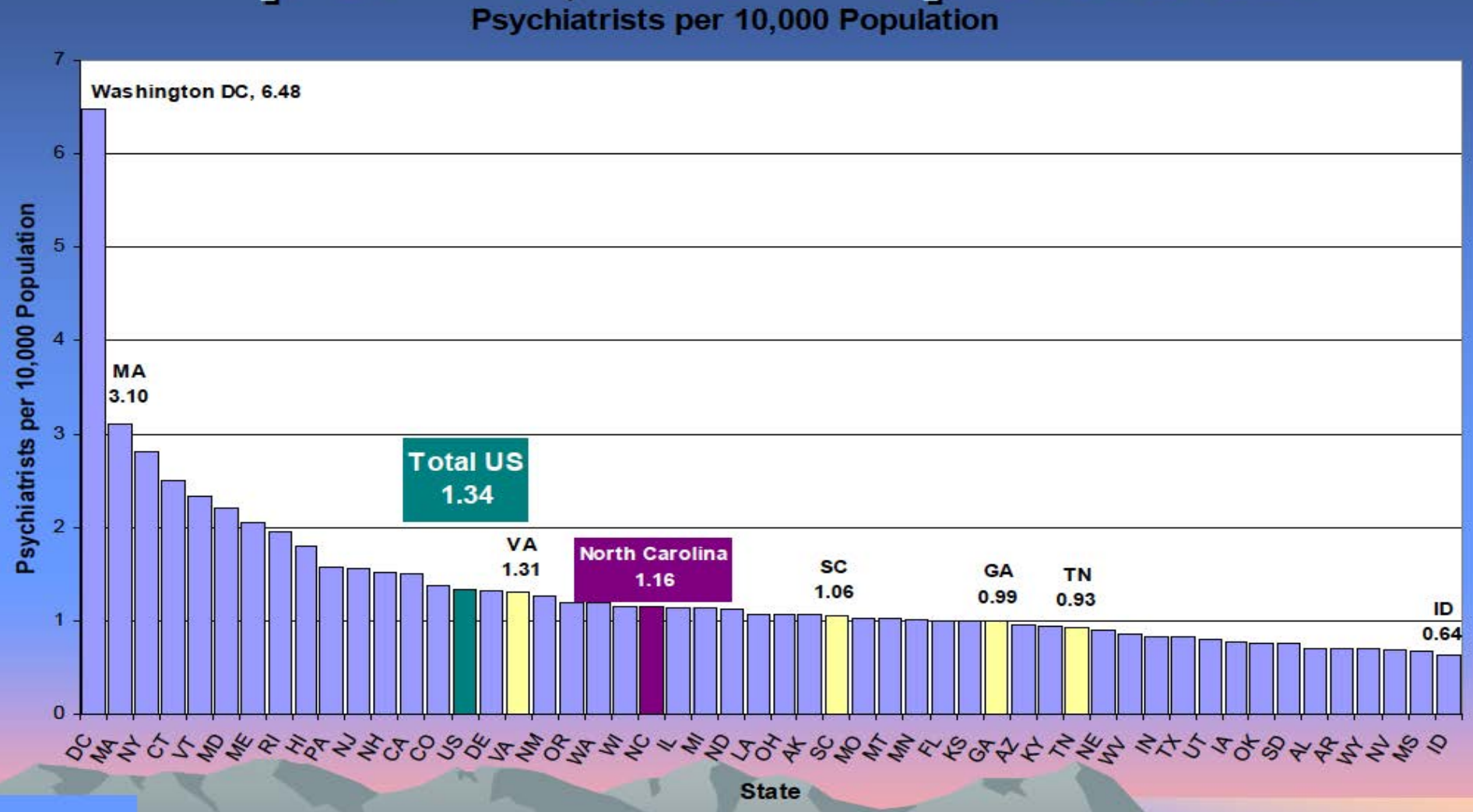
Mental disorders are common

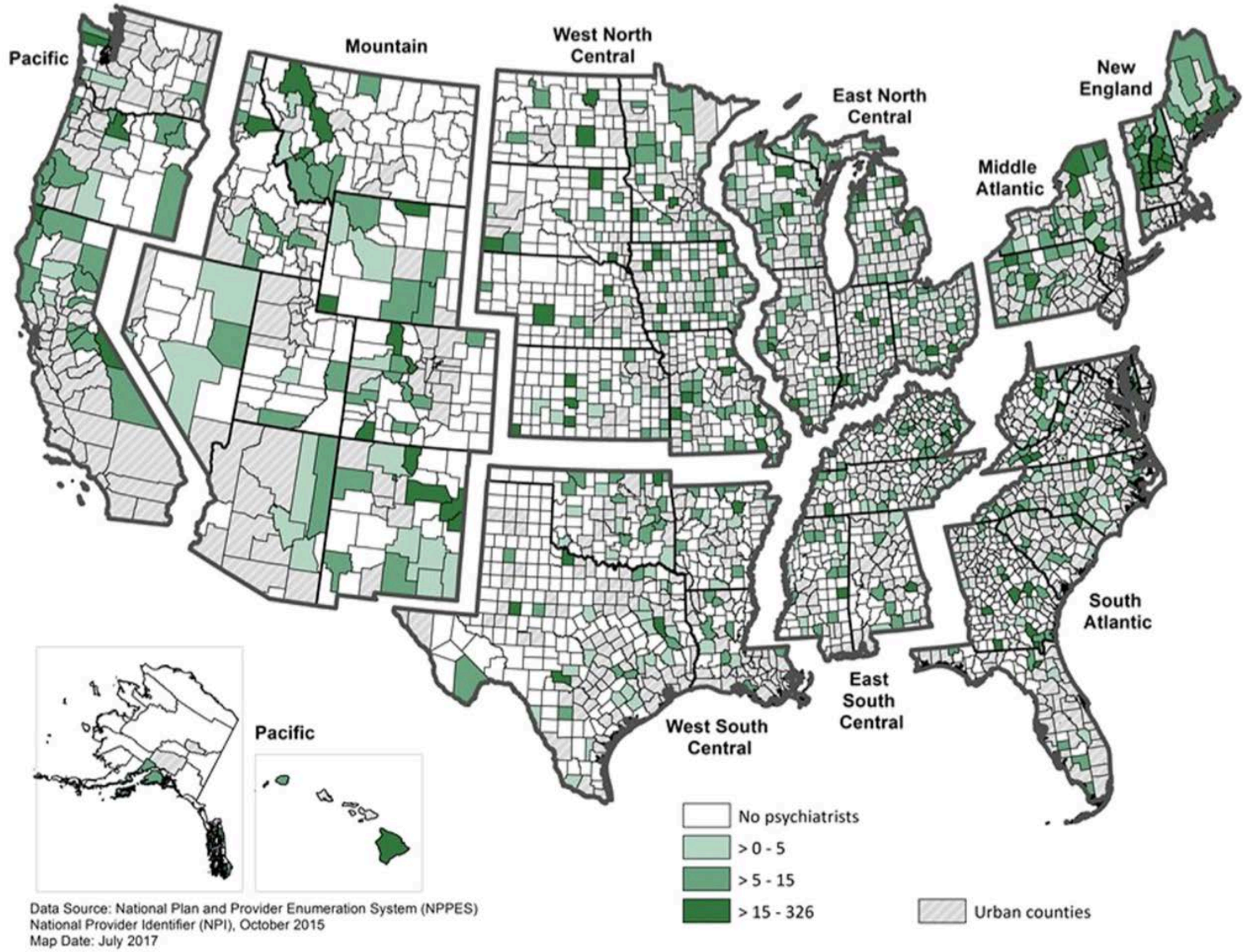
- An estimated 26.2% of Americans ages 18 and older (about 1 in 4) Americans have a mental disorder in any one year[1].
  - When applied to the 2018 U.S. Census residential population estimate for ages 18 and older, this figure translates to 66 million[2].
- The main burden of illness is concentrated in a much smaller proportion — about 6 percent, or 1 in 17 (15.12 million) — who suffer from a serious mental illness[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.
2. https://www.census.gov/quickfacts/fact/table/US/PST045217. ACCESSED September 25, 2018.

Psychiatrists per 10,000 Population



Source: AMA Masterfile; US Census Bureau (http://www.census.gov/popest/states/tables/NST-EST2005-01.xls, .



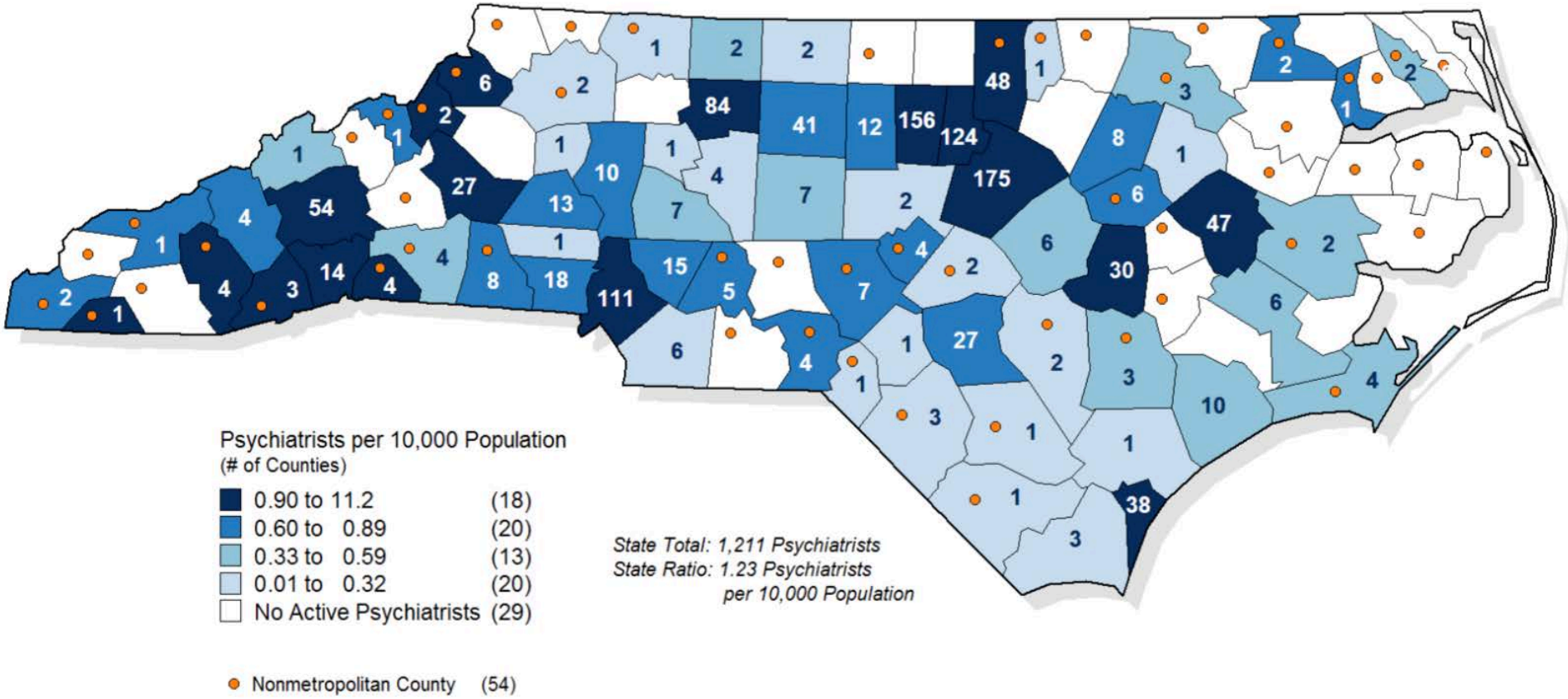
Psychiatrists in rural U.S. counties per 100,000 population by Census Division

BHPs per 100,000 Population and Percent of Counties Without a Provider, by U.S. Census Division

	Psychiatrists		Psychologists		Psychiatric NPs	
Census division	Provider/ 100,000 population	% of Counties without provider	Provider/ 100,000 population	% of Counties without provider	Provider/ 100,000 population	% of Counties without provider
Overall U.S.	15.6	51	30.0	37	2.1	67
Metropolitan	17.5	27	33.2	19	2.2	42
Non-metropolitan	5.8	65	13.7	47	1.6	81
Micropolitan	7.5	35	16.8	19	2.1	60
Non-core	3.4	80	9.1	61	0.9	91

Andrilla et al / Am J Prev Med 2018;54(6S3):S199–S207

Psychiatrists per 10,000 Population
North Carolina, 2013



Source: North Carolina Health Professions Data System, with data derived from the North Carolina Medical Board, 2013; US Census Bureau and Office of Management and Budget, March 2013.

Note: Data are based on primary practice location and include active, instate, nonfederal, non-resident-in-training MDs and DOs licensed in NC as of October 31, 2013 who indicate that their primary area of practice is psychiatry, child psychiatry, psychoanalysis, psychosomatic medicine, addiction/chemical dependency, forensic psychiatry or geriatric psychiatry."Core Based Statistical Area" (CBSA) is the OMB's collective term for Metropolitan and Micropolitan Statistical areas. Here, nonmetropolitan counties include micropolitan and counties outside of CBSAs.

Produced by: Program on Health Workforce Research and Policy, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

Map labels reflect the number of psychiatrists within the county.

North Carolina Distribution of Psychiatrists and MH Services at the County Level

- 31 out of 100 counties in NC have no psychiatrists
- 63 counties have less than 1.9 psychiatrists per 10,000
- 13 counties have no active behavioral health provider (BHP)
- 35 counties have less than 1 per 10,000 BHPs
- According to federal guidelines, 90 counties in North Carolina qualify as Health Professional Shortage Areas

- Psychiatrists, psychologists, and psychiatric nurse practitioners are unequally distributed throughout the U.S. Disparities exist across Census Divisions and geographic categories.
- Understanding this unequal distribution is necessary for developing approaches to improving access to behavioral health services for underserved populations.

Andrilla et al / Am J Prev Med 2018;54(6S3):S199–S207

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

- North Carolina has seen high emergency department admissions related to behavioral health issues and extended lengths of stays (LOS), ranging from long hours to multiple days. [1]
- In 2013, NC hospitals had 162,000 behavioral health emergency department visits.[2]
- In 2010, patients with mental illness made up about 10 percent of all emergency room visits in North Carolina, and people with mental health disorders were admitted to the hospital at twice the rate of those without.[3]

1. Akland, G. & Akland, A. (2010). State psychiatric hospital admission delays in North Carolina. (http://naminc.org/nn/publications/namiwakerpt.pdf.)
2. NC Hospital Association
3. Study by the Centers for Disease Control

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ED visit rates by type of first-listed diagnosis, 2006 and 2014

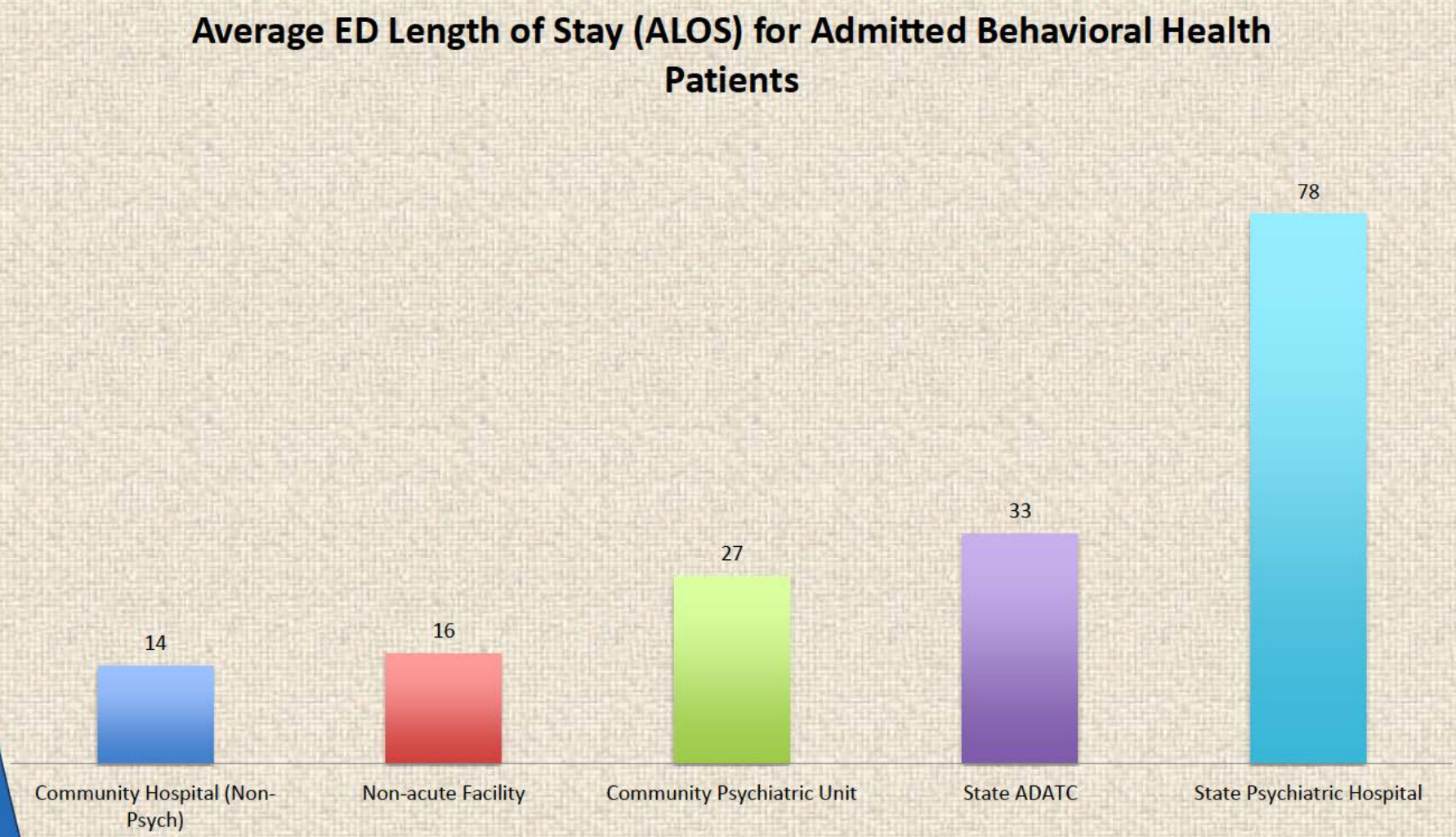
Type of first-listed diagnosis	Rate of ED visits overall per 1,000 population			Rate of ED visits resulting in an admission per 1,000 population			Rate of ED visits that were treated and released per 1,000 population		
	2006	2014	Percent change	2006	2014	Percent change	2006	2014	Percent change
Injury	93.9	81.8	–12.9	5.3	4.8	–10.1	88.6	77.0	–13.1
Medical	284.2	317.5	11.7	52.0	49.9	–4.0	232.2	267.5	15.2
Mental health/ substance abuse	14.1	20.3	44.1	3.4	4.5	31.8	10.6	15.8	48.1
Maternal/neonatal	10.1	12.7	25.3	1.4	1.7	23.4	8.7	11.0	25.6

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Emergency Department Sample (NEDS), 2006–2014

The majority of NC Emergency Departments do not have access to a full-time psychiatrist

- Currently, there are 108 hospitals with either single ED's, or in some cases, multiple site ED's across the state with varying degrees of psychiatric coverage.
- The majority of ED's do not have access to a full-time psychiatrist.

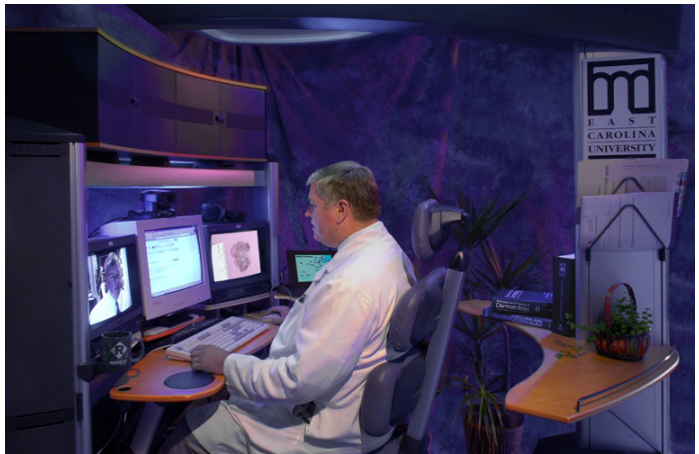
How Long Does It Take to Place BH Patients From NC Hospital EDs?



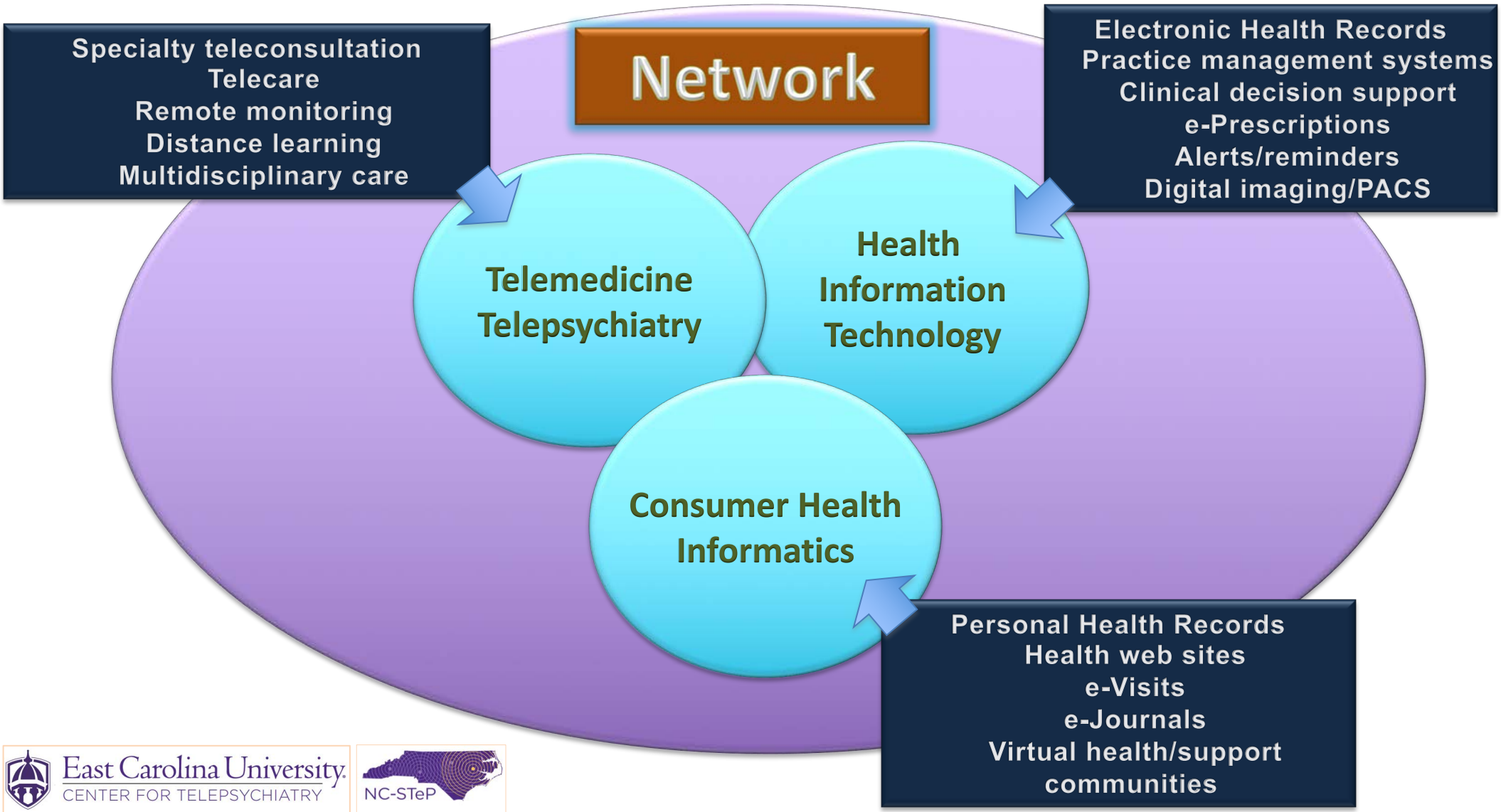
Source: NCHA ED Tracker. 2012 Data.

Telepsychiatry can offer help!

Telepsychiatry is defined in the statute as *the delivery of acute 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.*



Connected Health (Saeed and Anand, 2015)



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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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Telepsychiatry and e-Mental Health:
Clinical Applications

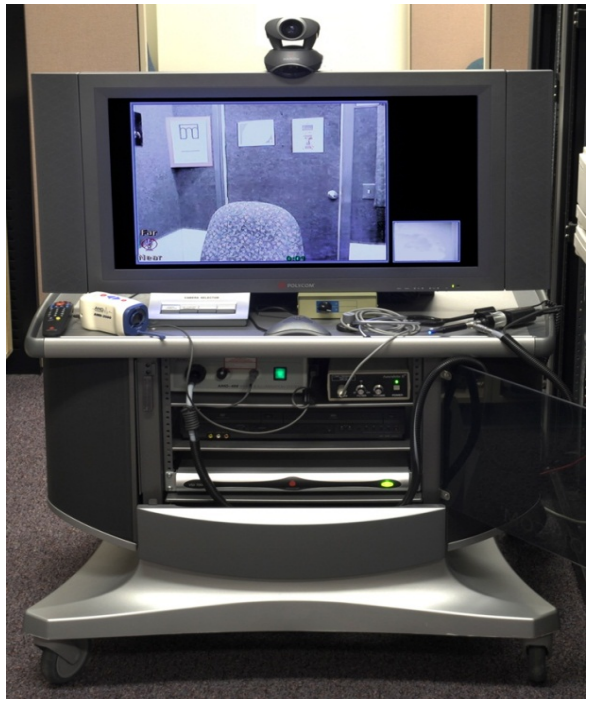
- Diagnostic, therapeutic, and forensic modalities across the age span.
- Points of delivery may include hospitals and their EDs, clinics, offices, homes, nursing homes, schools and prisons.
- Common applications include pre-hospitalization assessment and post-hospital follow-up care, medication management, psychotherapy, and consultation.

Technology Basics

- A typical telepsychiatry setup includes a video camera, microphone, speakers (or headset), and one or two displays (monitors) at each end of the system.
- Often, separate displays or a picture-in-picture (if one display) are used to enable participants to see both outgoing (preview) and incoming video.

Technology Basics: Configuration

- Mobile capability: IP technologies equipped with encryption for interactive
- Patient Room Pan/Zoom/Tilt camera w/far-end control
- Mobile desktop unit for clinic connectivity



Where to start?

- Type of TH service identified
- Equipment /network needs
- Available Telecommunication
- Available providers
- Technical and user support
- PHI transfer/MR creation
- F/U to referring provider
- Scheduling/ presentation protocol
- Training of users
- ONE number call center

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NORTH CAROLINA

STATEWIDE TELEPSYCHIATRY PROGRAM

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.

NORTH CAROLINA
STATEWIDE TELEPSYCHIATRY PROGRAM

Quality Management and Outcomes Monitoring

- All participating clinical providers:
  - Participate in a Peer review process
  - Meet quality and outcome standards

Center for Telepsychiatry and e-Behavioral Health

ECU Center for Telepsychiatry is the home for the statewide program (NC-STeP) that is connecting 60-75 hospital emergency departments across the state of North Carolina to provide psychiatric assessments and consultations to patients presenting at these EDs.

http://www.ecu.edu/cs-dhs/telepsychiatry/index.cfm

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Telepsychiatry Portal

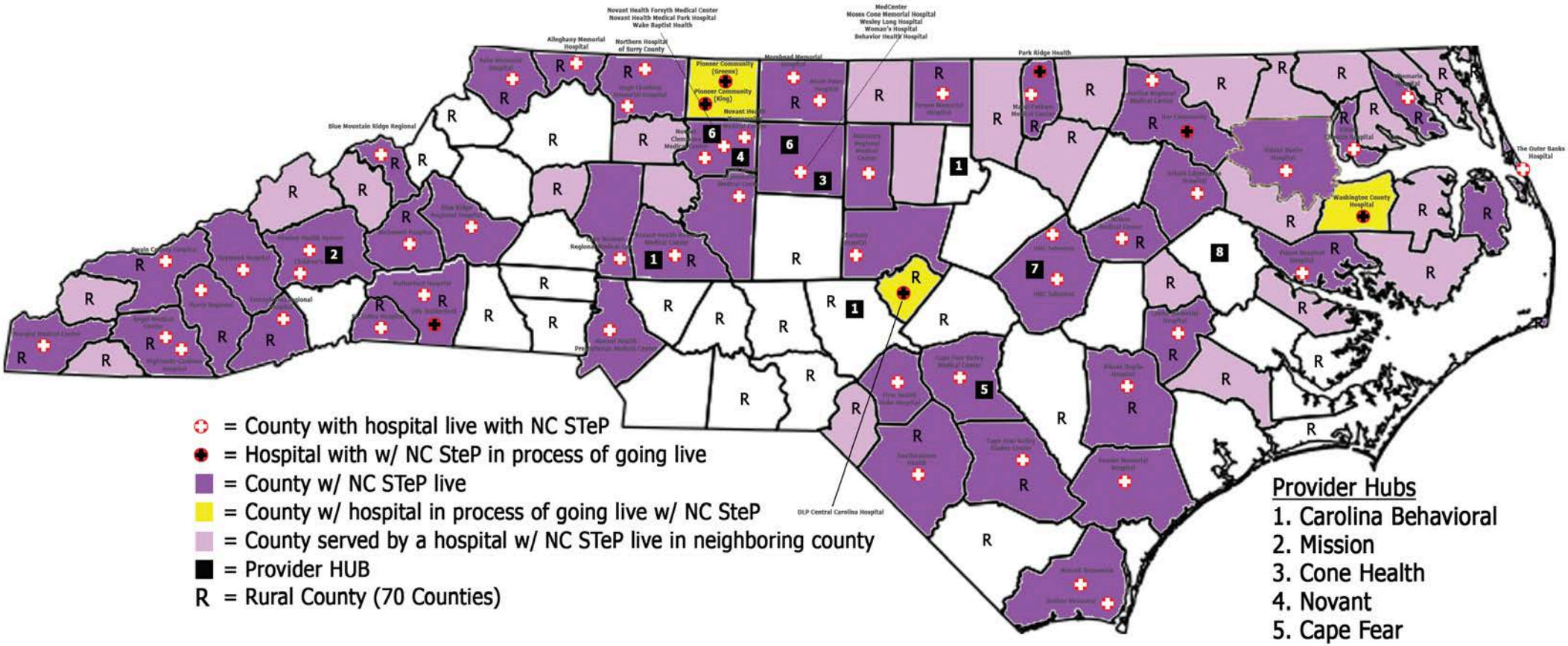
NC-STeP NORTH CAROLINA STATEWIDE TELEPSYCHIATRY PROGRAM

- Support all the HIT functions required of NC-STeP
- The portal is a group of separate but related technologies that serves as the primary interface through which data is reviewed and created regarding patient encounters, including:
  - Scheduling of patients and providers
  - Exchanging clinical data for patient care
  - Collection of encounter data to support the needs of network managers and billing agents and to support timely referrals

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
Total Patient Encounters	26,476	5,144	7,128	1,896	3,970	6,087
Total Number of Assessments	36,959	8,130	13,573	1,942	4,347	6,658

	Calendar Year 2018	During Quarter Jan-Mar 2018	During Quarter Apr-Jun 2018	During Quarter Jul-Sep 2018	During Quarter Oct-Dec 2018
Total Patient Encounters	6,087	1,238	1,287	1,950	1,612
Total Number of Assessments (Billed Assessments for Model 1 Hospitals + Number of Patient Encounters for Model 2 Hospitals)	6,658	1,393	1,448	2,103	1,714

NC-STeP Status as of March 31, 2018



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Workflow for the Portal

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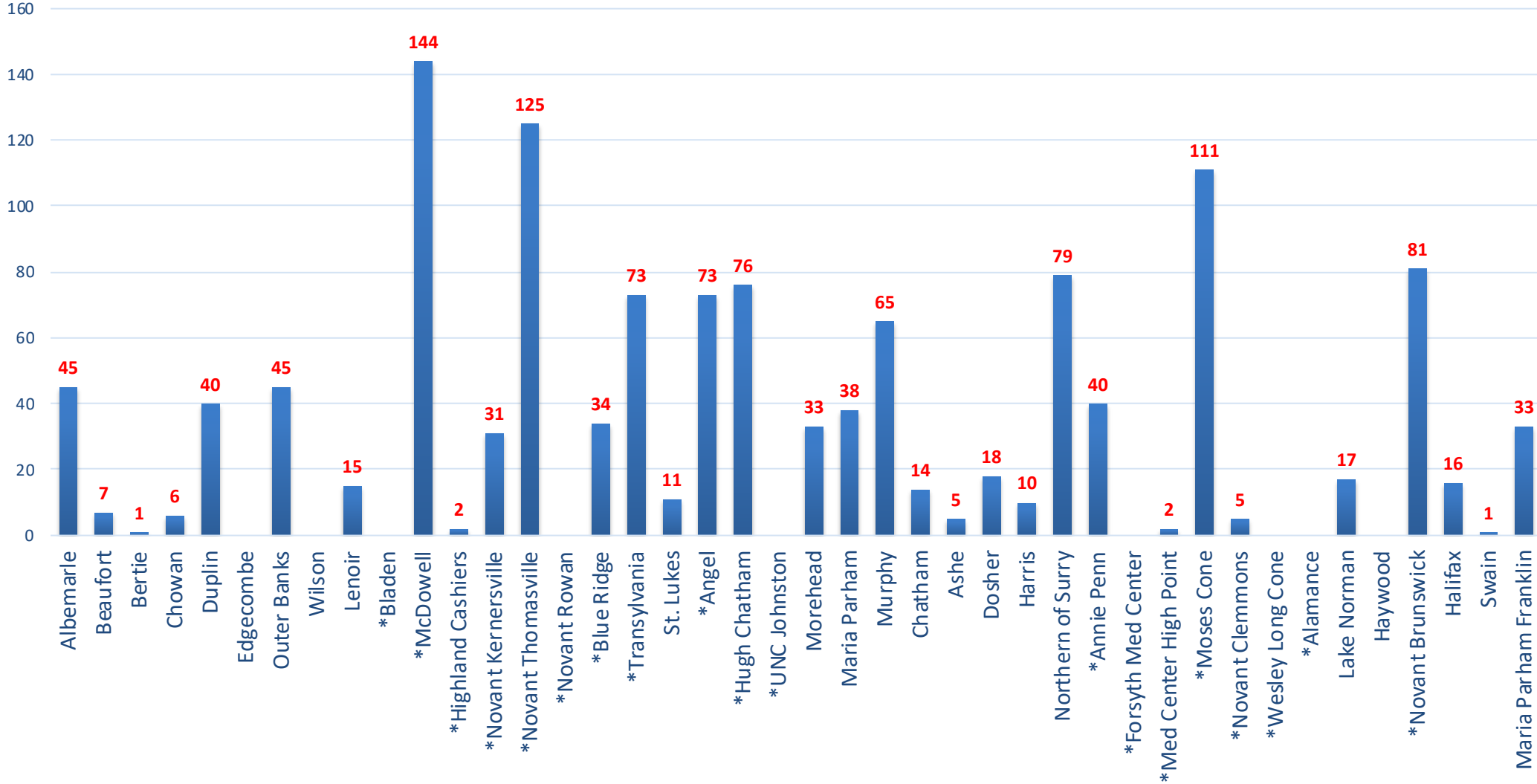
Number of NC-STeP Patients by Hospital

January - March 2019



* Indicates Model 2 hospitals

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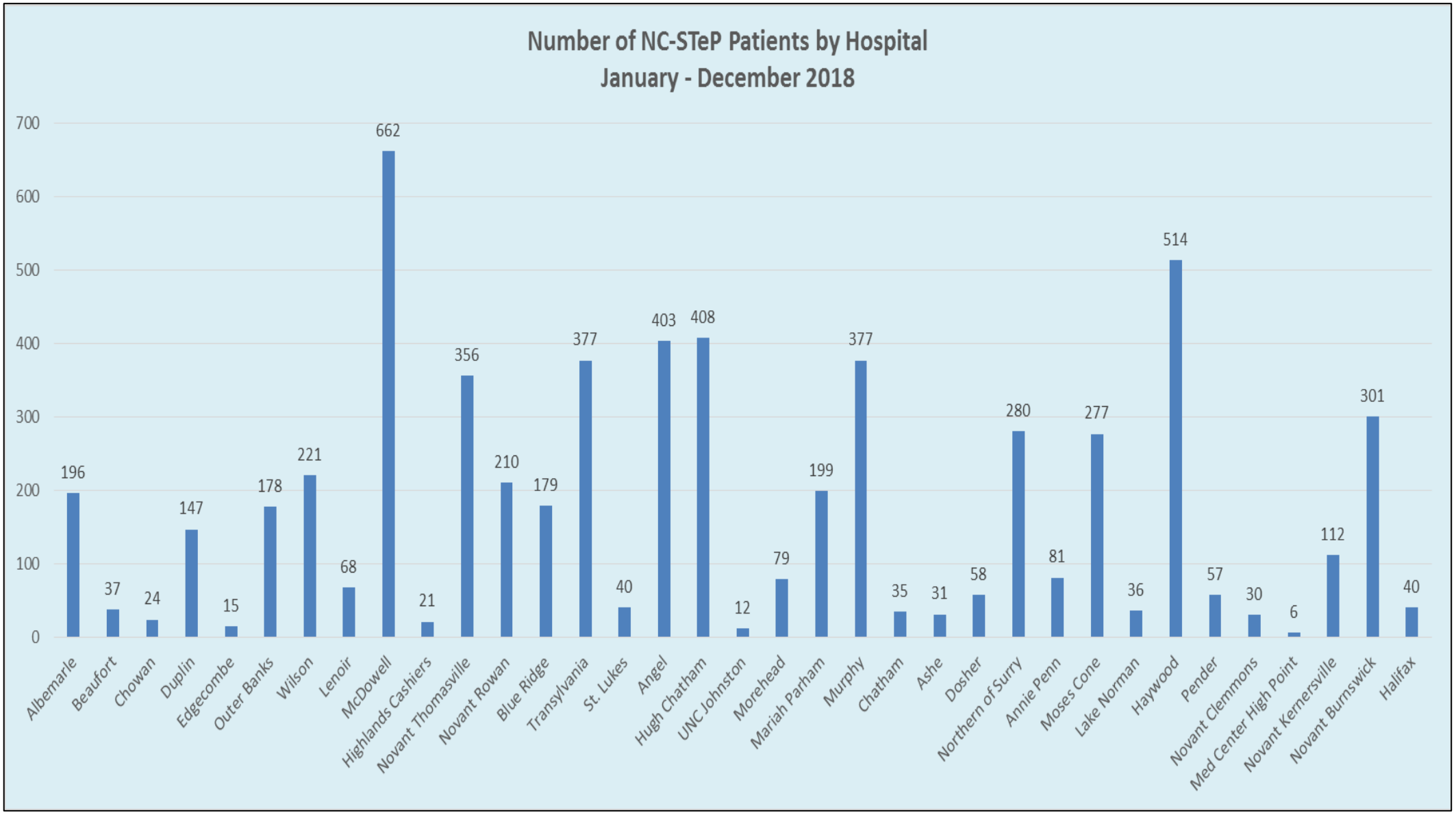

Note: Several hospitals with a count of 5 or fewer were not included on this chart. Those hospitals are: Swain, Person, Wesley Long Cone, Alamance, Novant Forsyth, Bladen, Bertie

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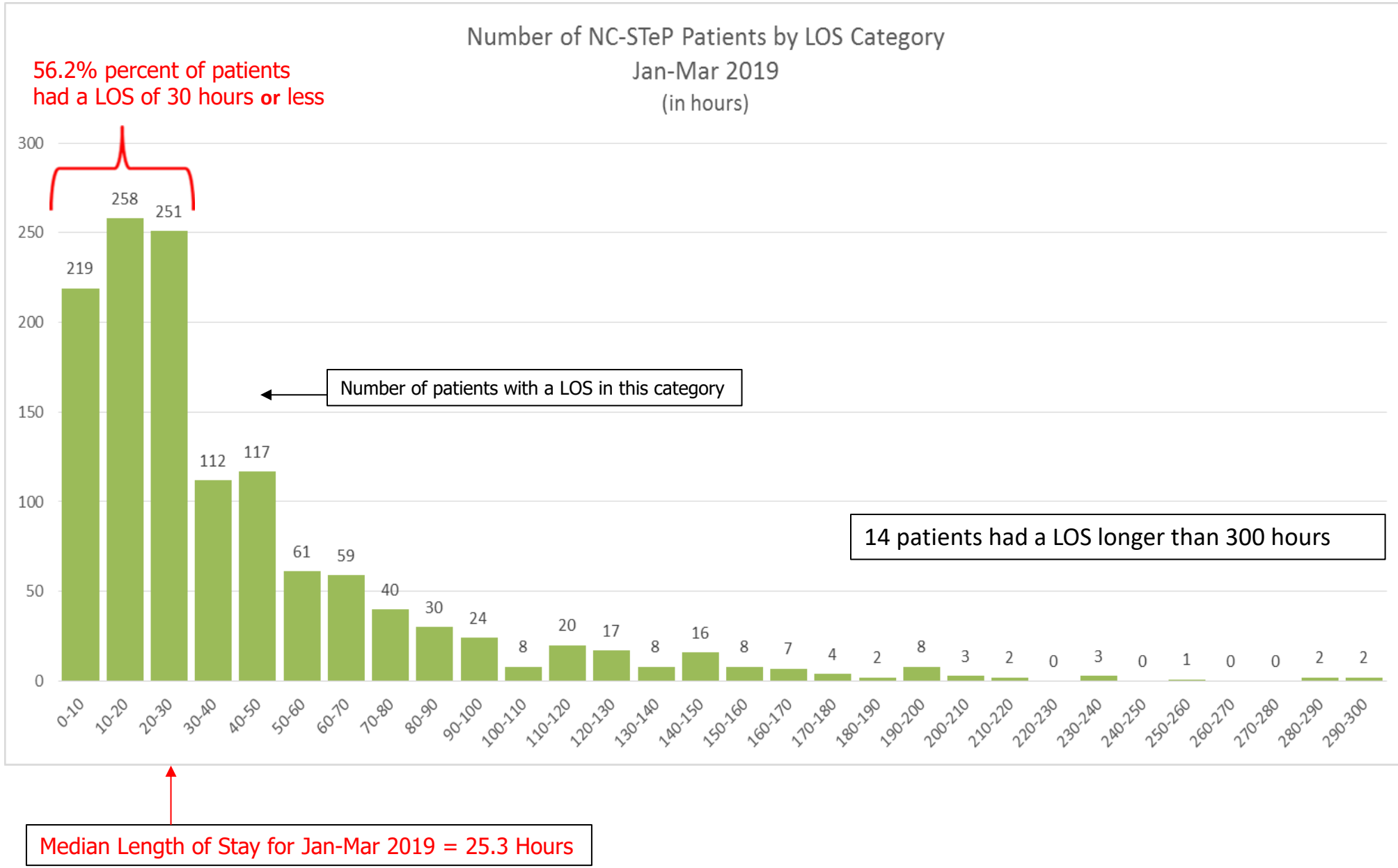

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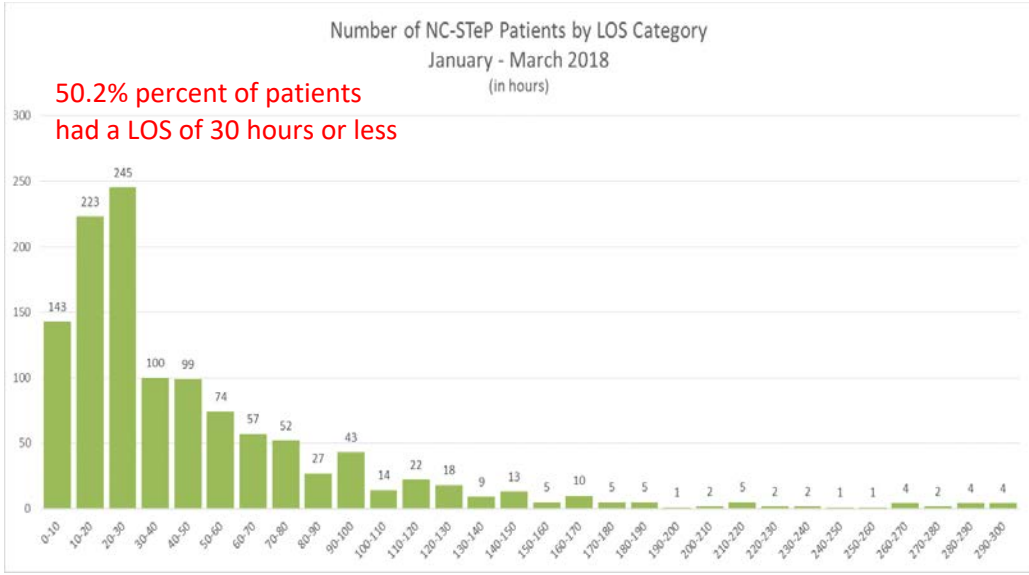

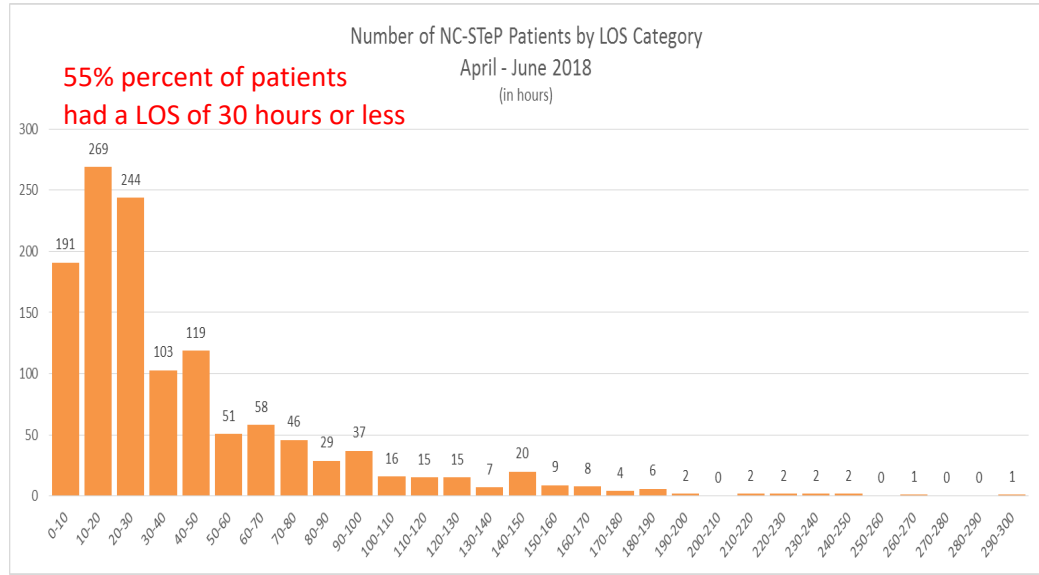

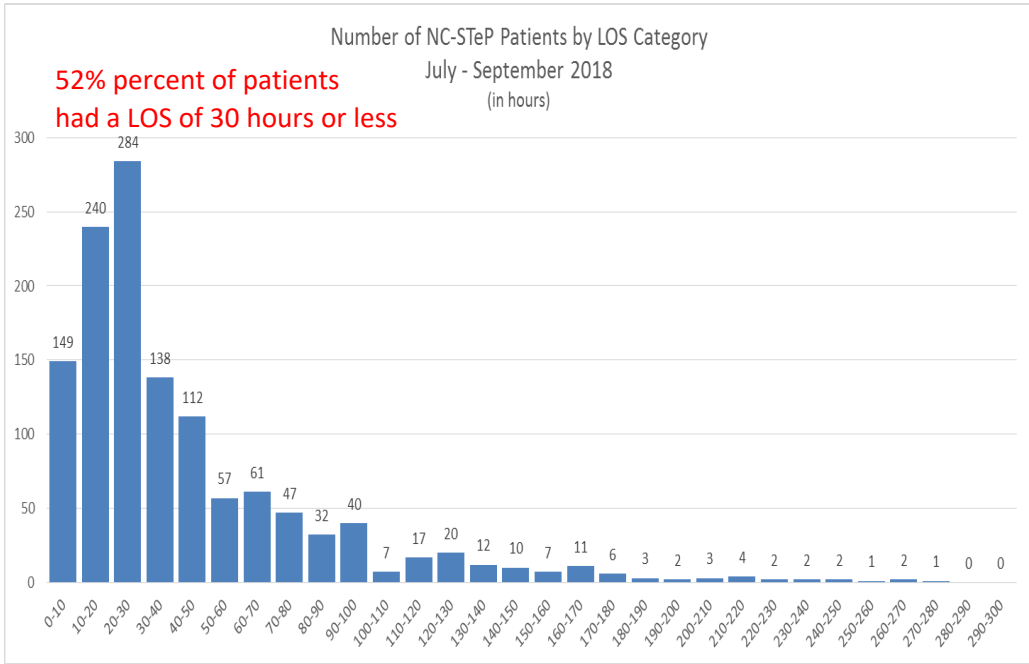

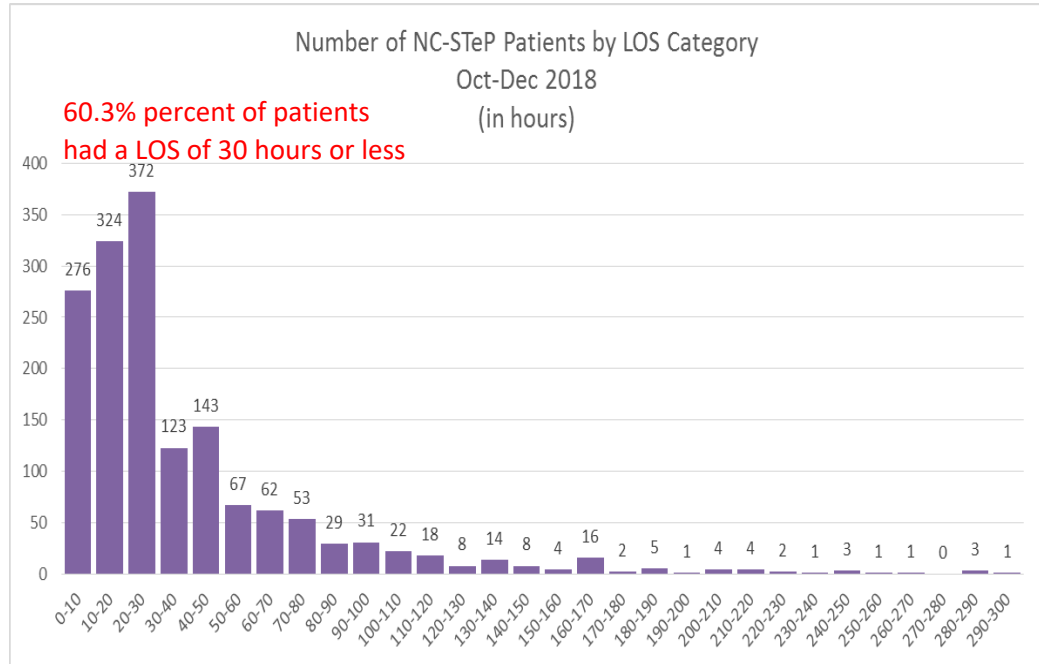

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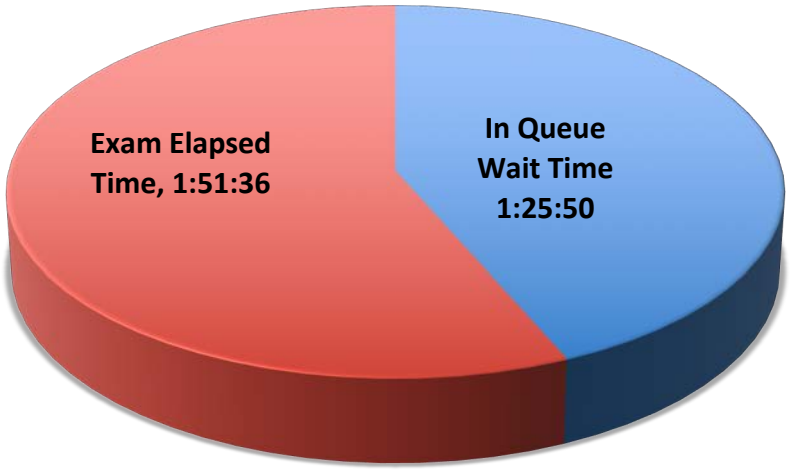
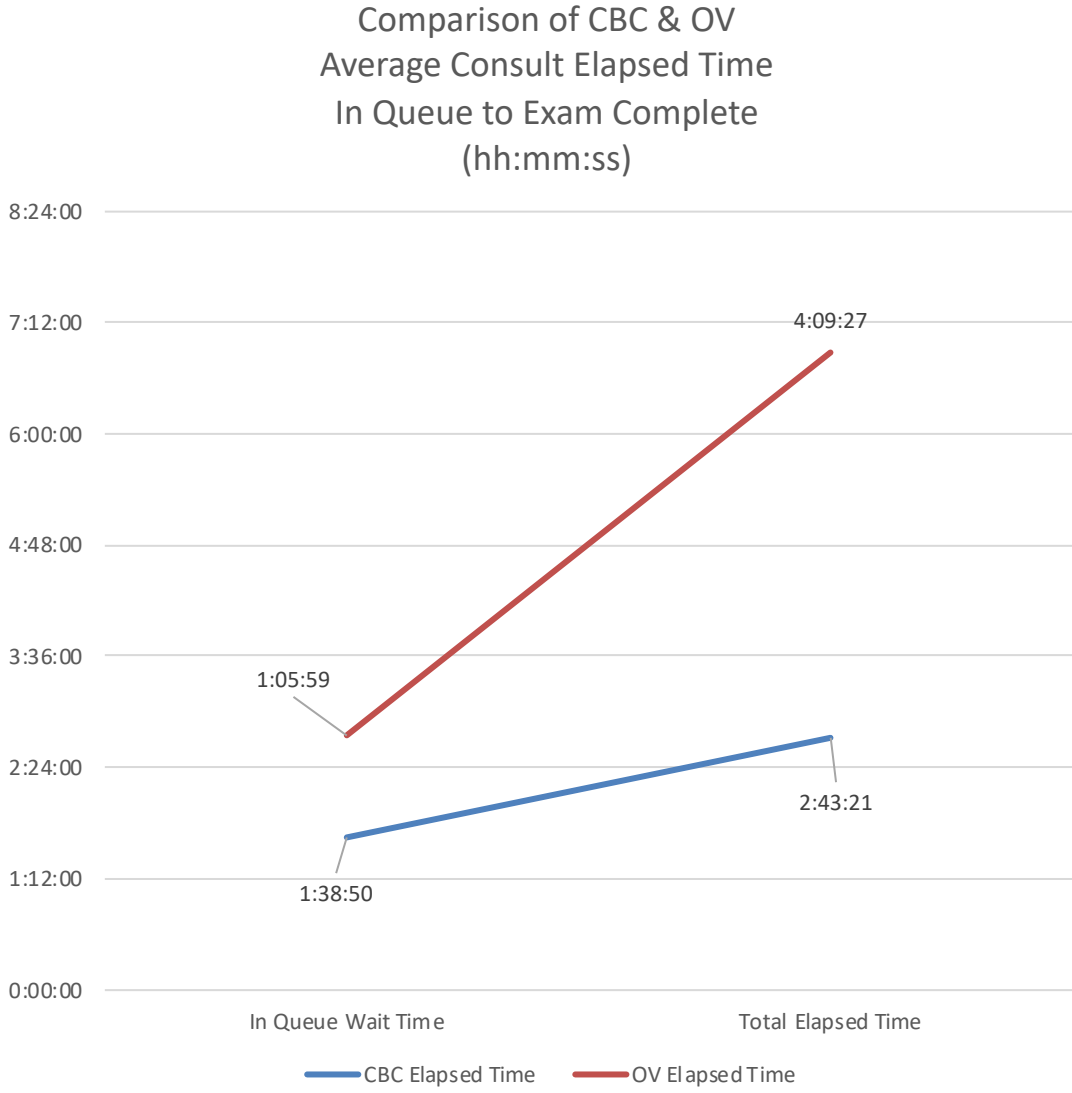
Consult Elapsed Time: January - March 2019

Average Consult Elapsed Time In Queue to Exam Complete (3:17:26)





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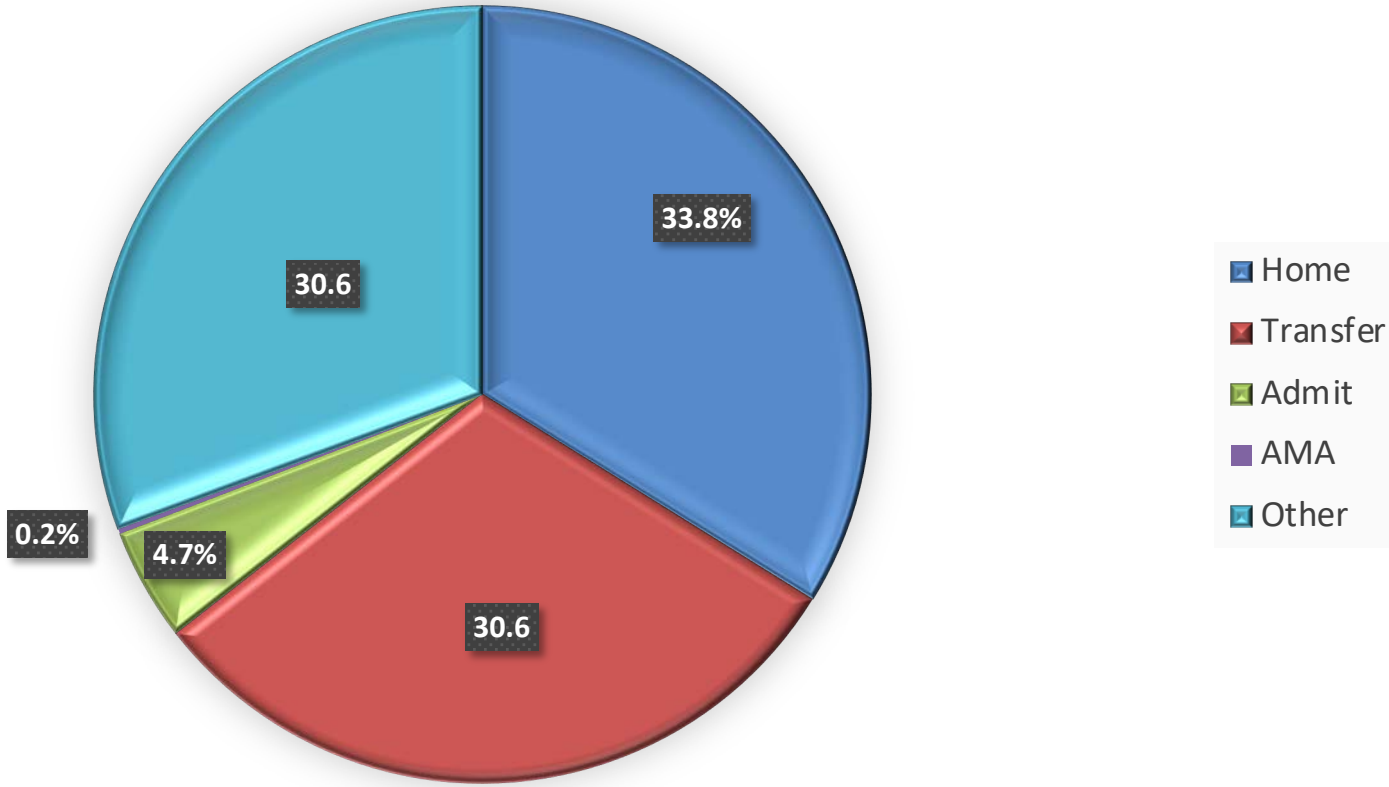
Percent of Patients by Discharge Disposition

Jan-Mar 2019



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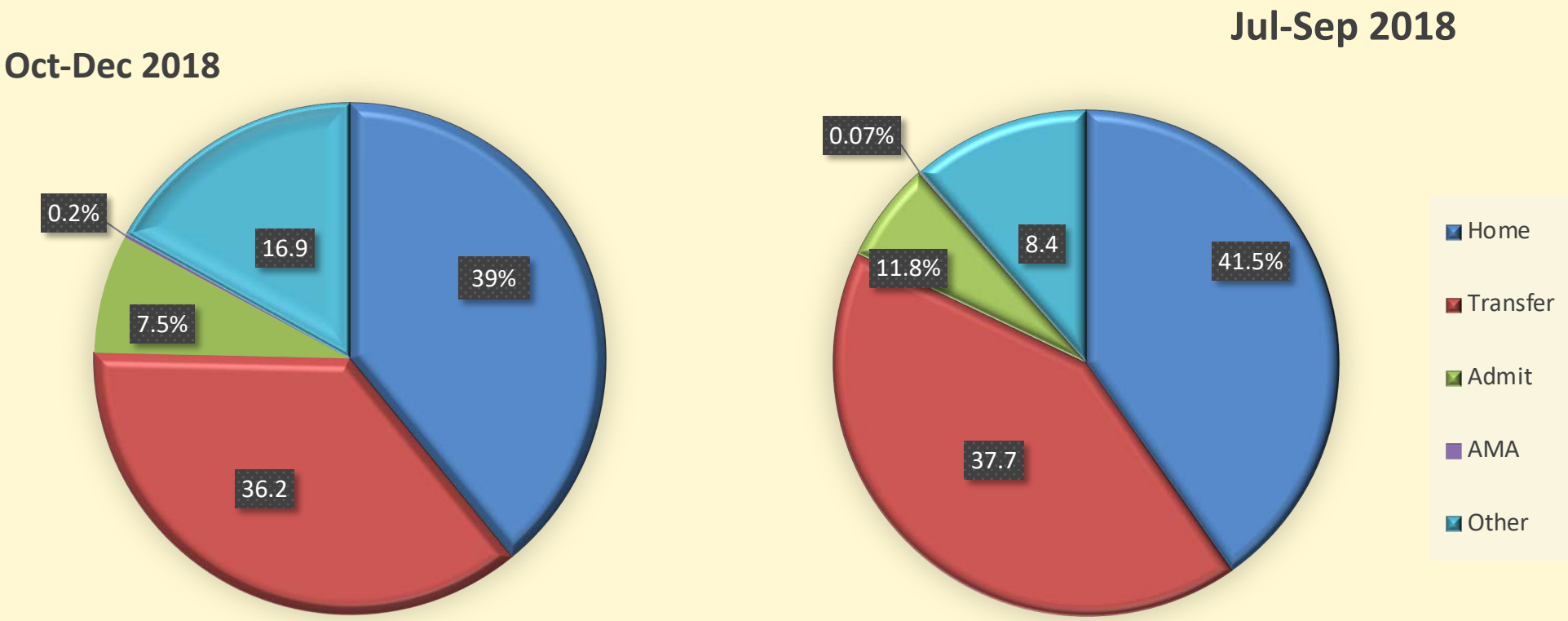
Percent of Patients by Discharge Disposition



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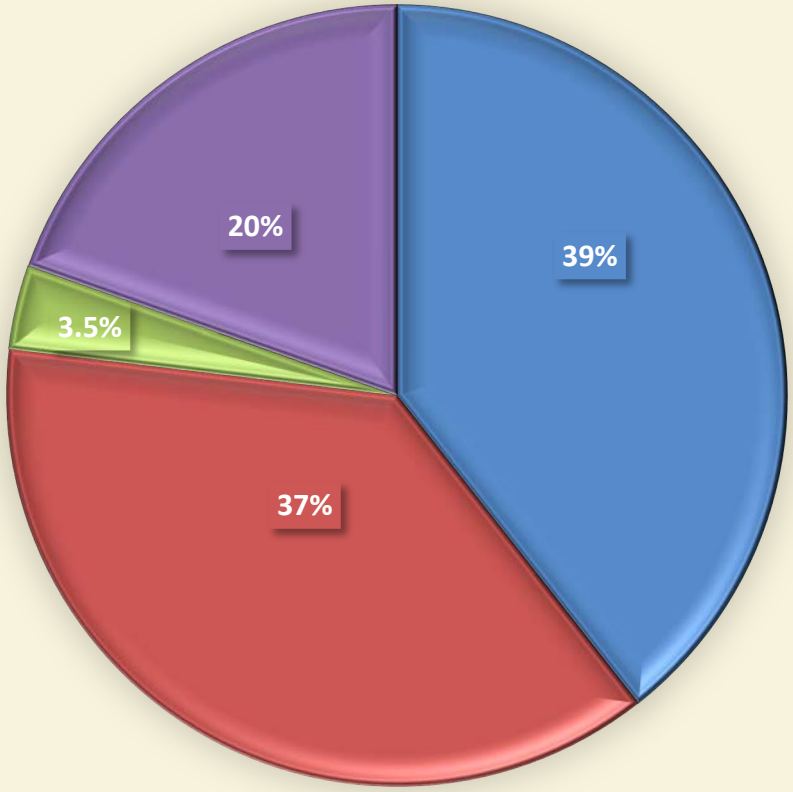
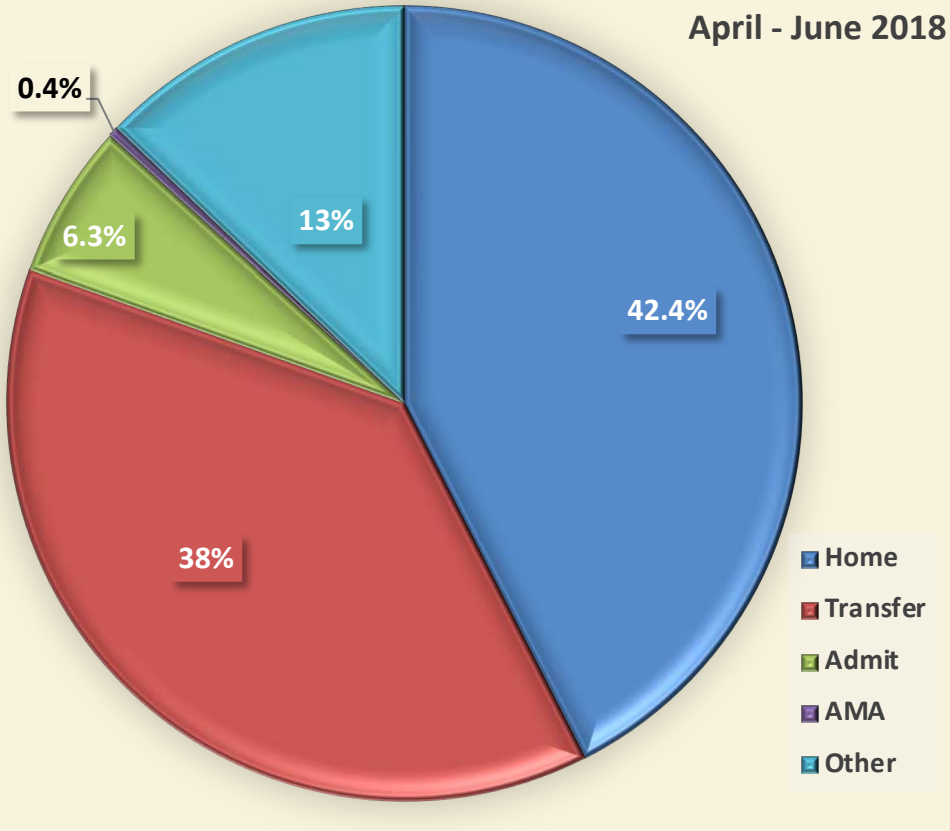
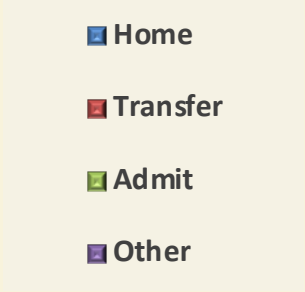
Percent of Patients by Discharge Disposition

January – March 2018



April - June 2018





Note: Data for Cone hospitals did not include a discharge disposition so it was coded as "Other," so the 13% for "Other" is higher than it otherwise would be.

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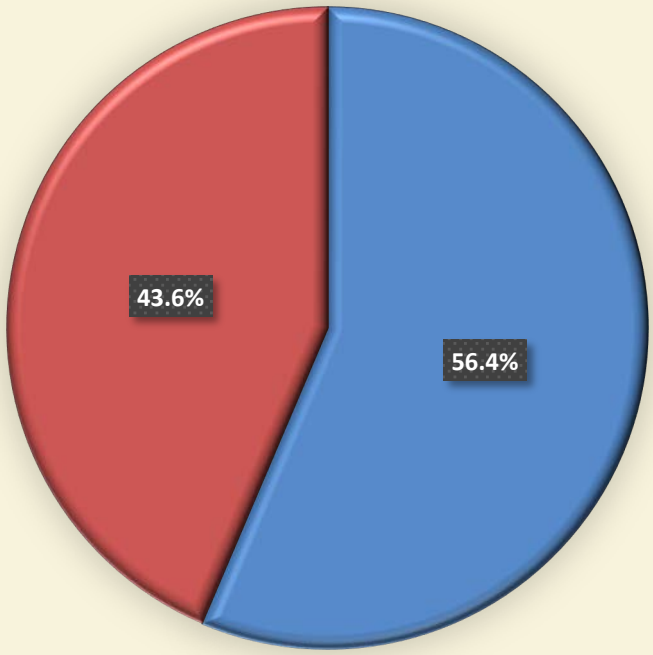
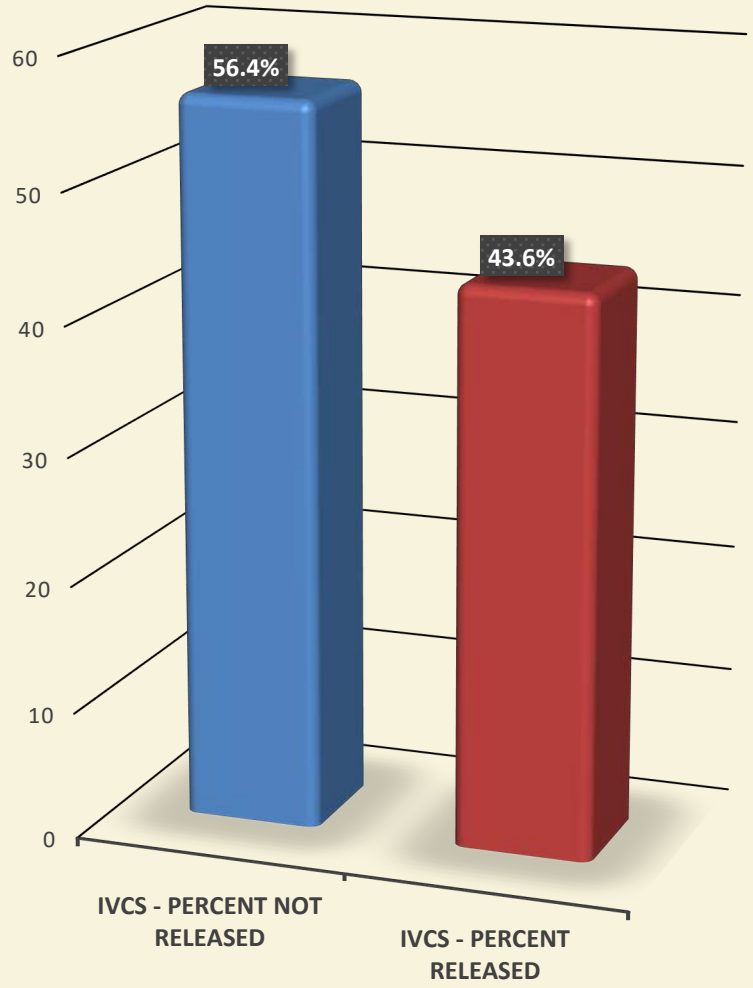
IVCs - By Release Status

Jul-Sep 2018





IVCs - percent not released

IVCs - percent released

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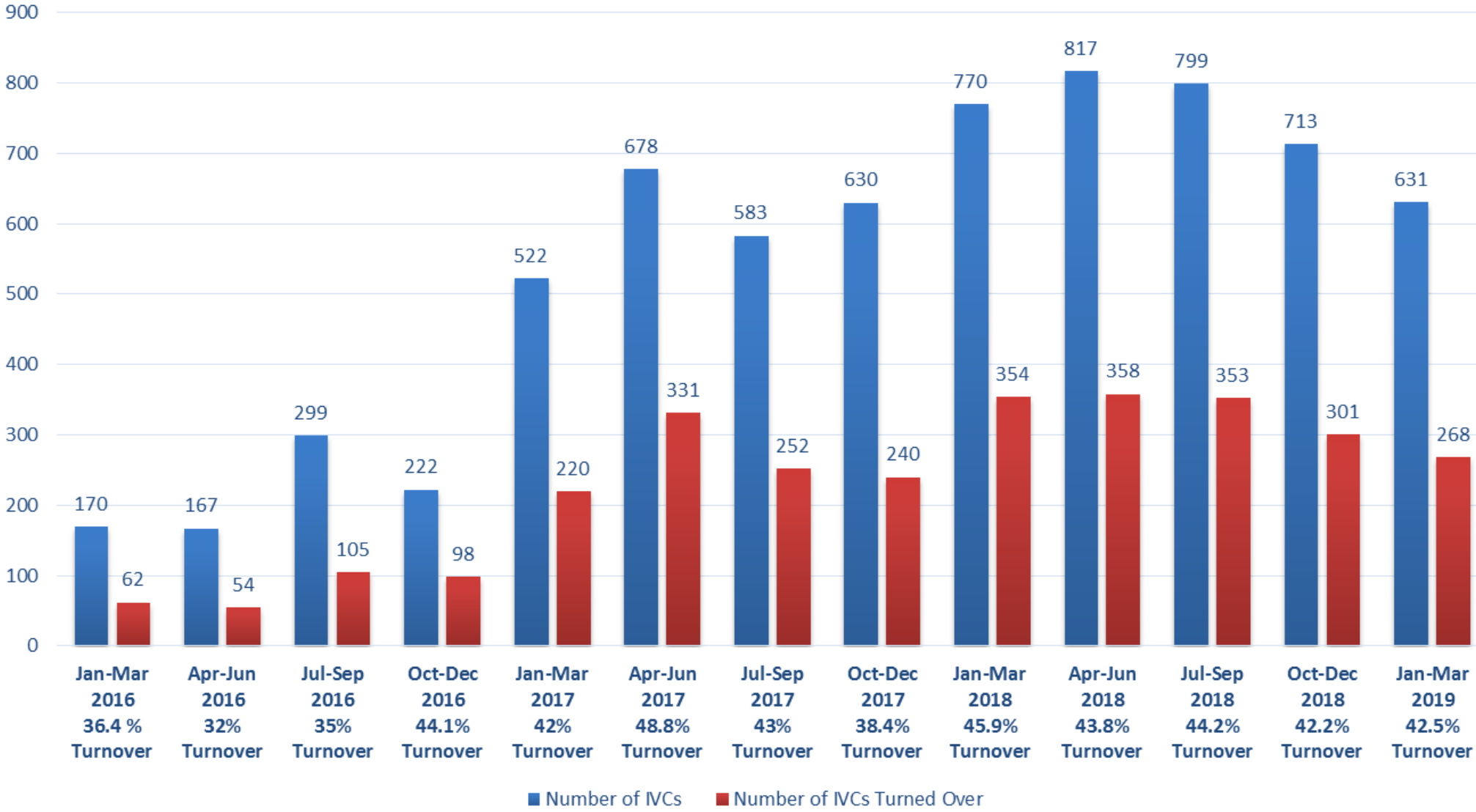
Number of IVCs and IVCs Turned Over by Quarter



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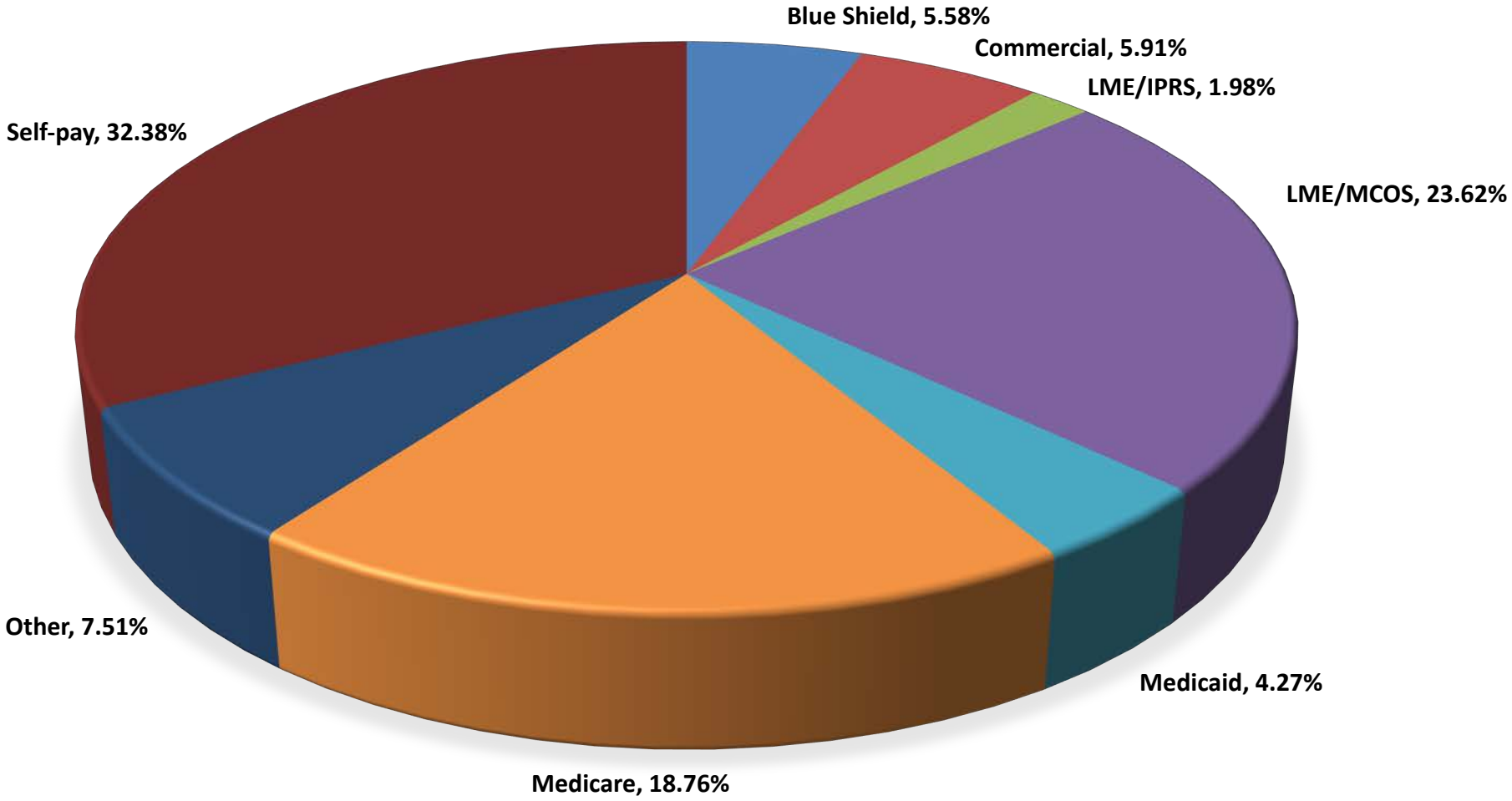
NC-STeP Charge Mix – Project to Date

October 1, 2013 – March 31, 2019



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

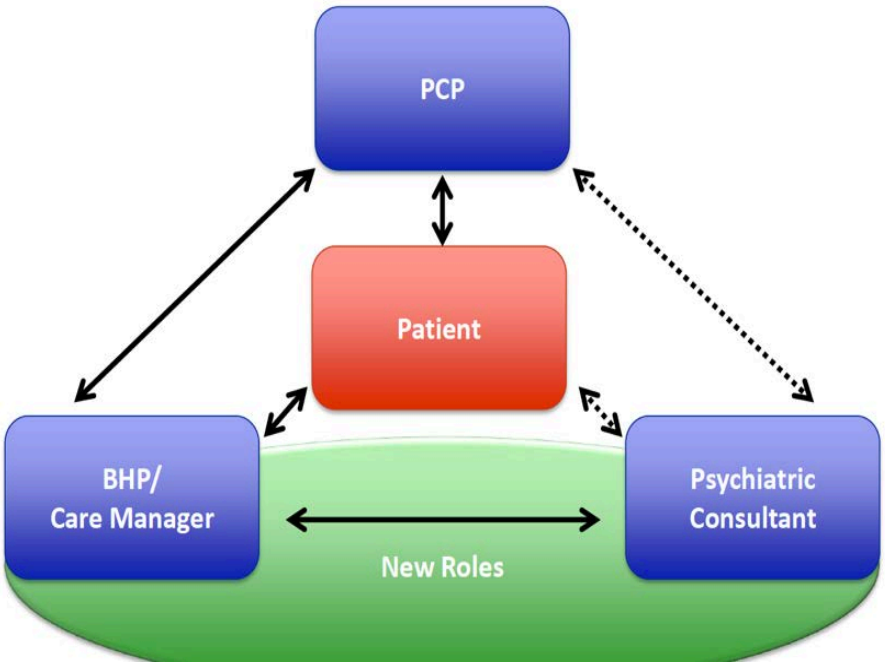
Entity	Cost Savings
Patients and Families	Evidence-based care closer to home. Reduced distress/disability, functional improvement, quality of life, gainful employment, etc.
Communities	Better "citizenship", reduced homelessness, crime reduction, more self reliance, etc.
NC-Medicaid, MCOs, and other Third 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.

NC-STeP Status as of March 31, 2019

- 56 hospitals in the network
- 36,959 total psychiatry assessments since program inception
- 4,942 IVCs overturned
  - Cumulative return on investment = $26,686,800
    (savings from preventing unnecessary hospitalizations)
- Eight Clinical Provider Hubs with 54 consultant providers
- Administrative costs below industry standard
- Over 30% of the patients served had no insurance coverage

Next Steps:
Community-Based Demonstration Projects

Patient-Centered Collaboration

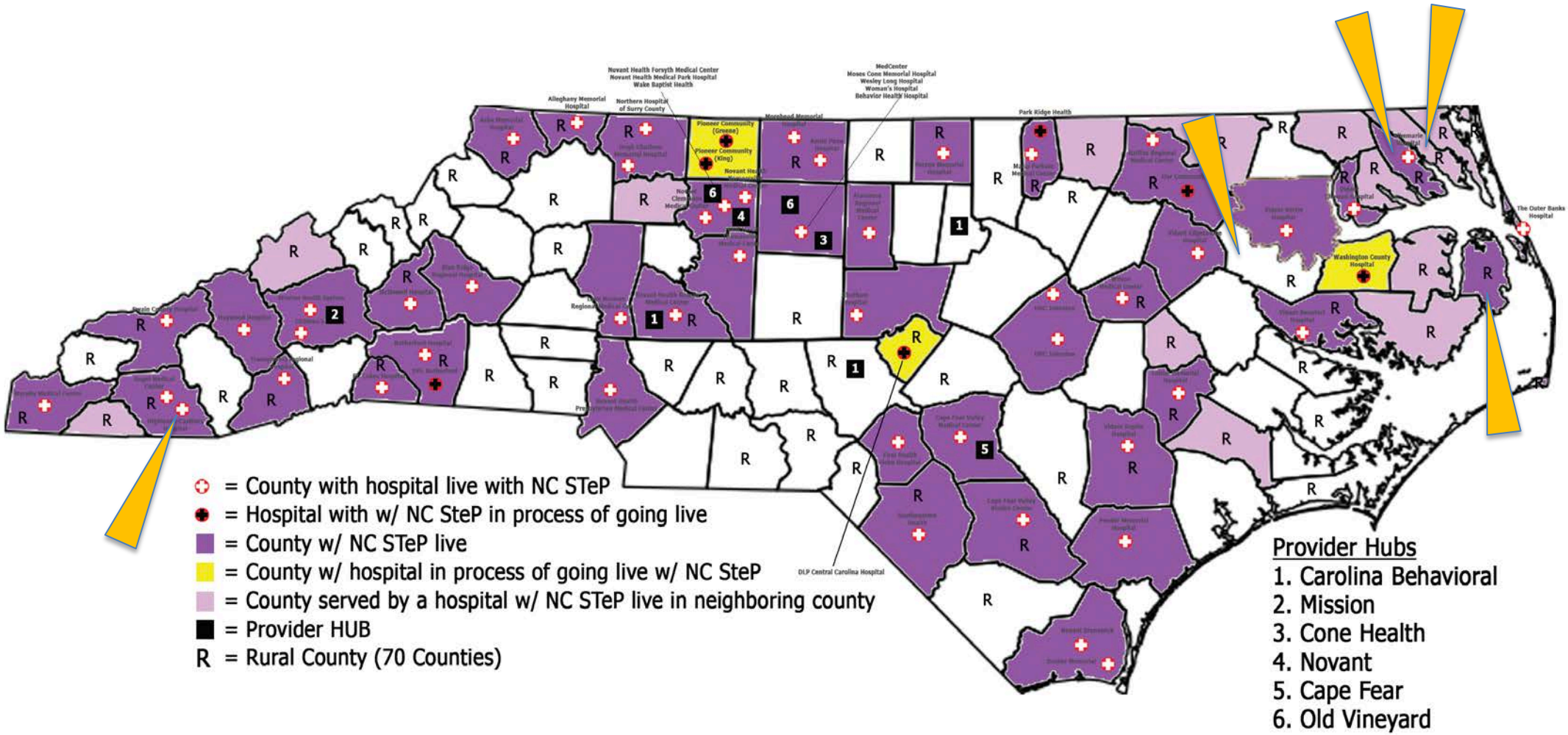


- Provide evidence-based, out-patient mental health care to patients who currently lack access to this care.
- Embedded in a currently operational primary care clinic providing a multi-disciplinary approach to health maintenance.
- Utilizes an integrated care model in which a behavioral health provider (BHP) or care manager is embedded in a primary care setting. BHP is linked, via telepsychiatry, to a clinical psychiatrist for case consultation and care planning.
- Emphasis is upon the total health care needs of the patient.

Opportunities

- Creating collaborative linkages and developing innovative models of mental health care:
  - EDs and Hospitals
  - Communities-based mental health providers
  - Primary Care Providers
  - Public Health Clinics
  - 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 Demonstration Projects



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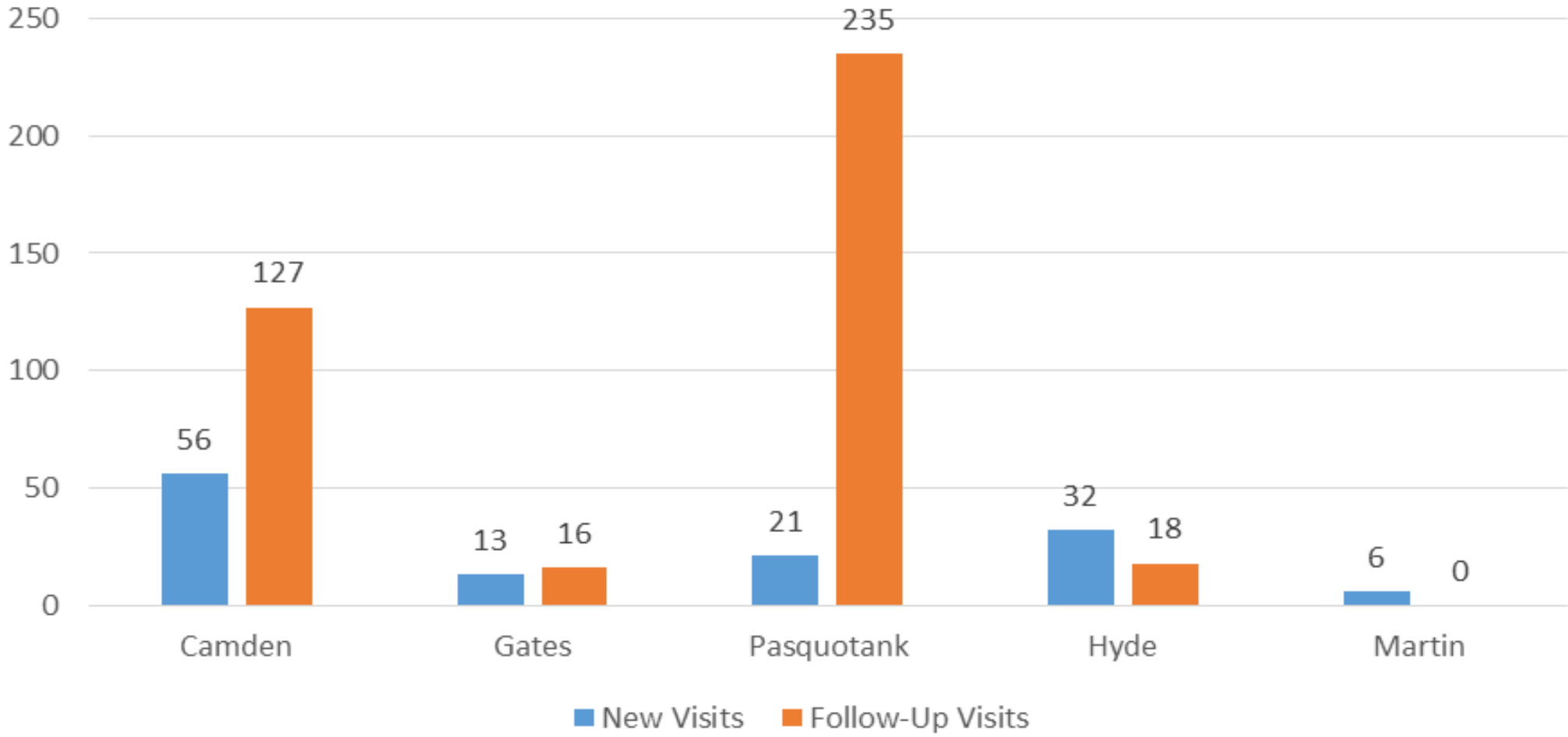
NC-STeP Community Visits by Site

New and Follow-up

January - March 2019



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Recent Recognition of NC-STeP

Invited Presentations:

- 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.
- NC Psychiatric Association Annual Meeting & Scientific Session. Winston-Salem. October 2015.
- North Carolina Institute of Medicine (NCIOM) August 2015.
- State Offices of Rural Health (SORH), July 2015.

NC-STeP Published Papers

1. 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. [Epub ahead of print].
2. 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.
3. 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.
4. Saeed SA, Anand V. (2015). Use of Telepsychiatry in Psychodynamic Psychiatry. Psychodynamic Psychiatry: Vol.43, No.4, pp.569-583.
5. Saeed SA. (2015). Current Challenges and Opportunities in Psychiatric Administration and Leadership. Psychiatric Quarterly. Volume 86, Issue 3, September: pp 297-300.
6. Saeed SA. (2015). Telebehavioral Health: Clinical Applications, Benefits, Technology Needs, and Setup. *NCMJ:* Vol. 76, Number 1, pp 25-26.

Conclusions

- Telepsychiatry is a viable and reasonable option for providing psychiatric 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.
- Numerous applications have already been defined.
- Many documented benefits to the EDs and hospitals.

Conclusions

- Overcoming the barriers to implementation will require a combination of consumer, provider, and governmental advocacy.
- The purpose and fit of telecare services in the wider care system should drive its introduction –not the technology.
- Investing in a “connected network” should be the goal.
- It’s about relationships, not technology.

ACKNOWLEDGEMENTS

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HRSA
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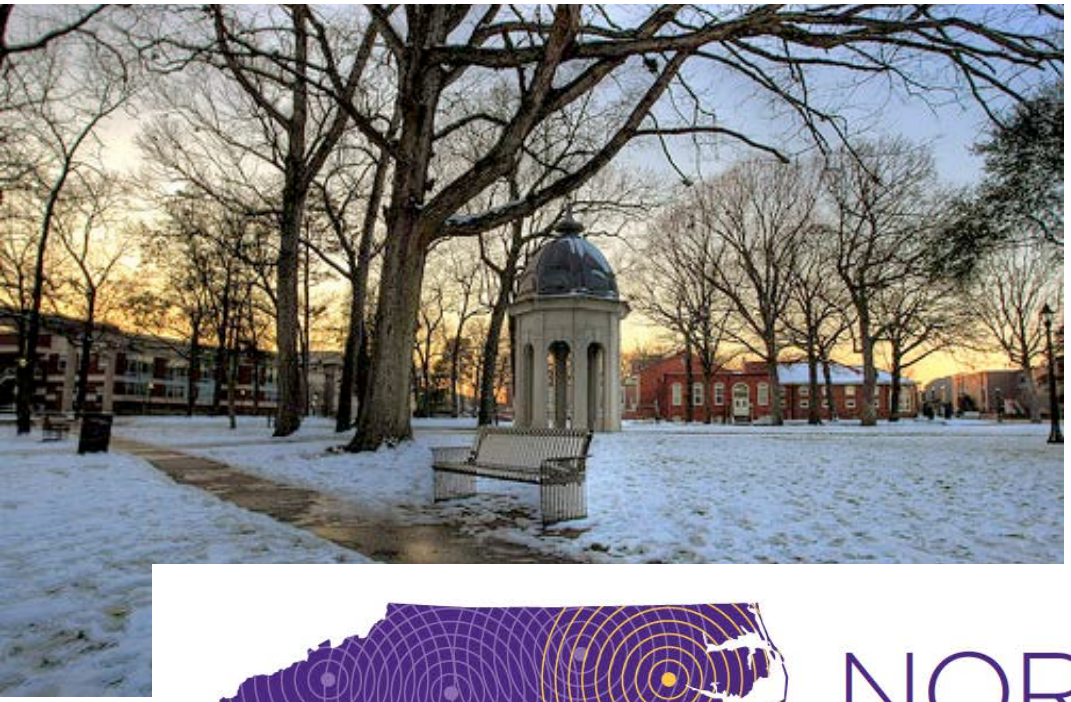
ECU CAPTURE YOUR HORIZON



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