



NC-STeP

NORTH CAROLINA  
STATEWIDE TELEPSYCHIATRY PROGRAM

# Quarterly Progress Update



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Brody School of Medicine - East Carolina University

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North Carolina Statewide Telepsychiatry Program (NC-STeP)



**East Carolina University**  
CENTER FOR TELEPSYCHIATRY

# NC-STeP Status as of December 31, 2015

- As of December 12, 2015, 74 hospitals in the network
  - 57 “Live”
  - 17 in process (i.e. waiting on credentialing, equipment, training, or portal)
- 2,788 total telepsychiatry assessments were conducted under the program during this three month period
- 20,716 total telepsychiatry assessments have been conducted under the program since its inception
- 13,219 total encounters since program inception (11,373 at Model-1 hospitals and 1846 at Model-2 hospitals).



# NC-STeP Status as of December 31, 2015

- During the second quarter, 1089 ED patients who received telepsychiatry services had an IVC in place during their ED stay.
  - 281 (26%) of those patients did not have an IVC in place when they were discharged.
- Of the ED patients who received telepsychiatry services, 36.3% were discharged to home. 56% were discharged to another facility.



# NC-STeP Status as of December 31, 2015

- Four Clinical Providers' Hubs
  - Cape Fear Valley
  - Cone Health
  - Mission
  - Novant
- One clinical provider hub closed as of December 13, 2015
  - Coastal Carolina Neuropsychiatry Center (CCNC)
- Four new hubs in various stages of development
  - Two Weekday Model-1 Hubs
  - One Weekend and Holidays Model-1 Hub
  - One Multi-Hospital Model-1 Hub



# NC-STeP Status as of December 31, 2015

EVALUATION CRITERIA	BASELINE VALUES/MEASURES AS REPORTED ON 09/30/2015	TARGET TO BE REACHED BY 06/30/2016	VALUES/MEASURES REACHED AS OF 12/31/2015
1. To maintain the number of full-time equivalent (FTE) positions supported by this contract at 0.70 FTEs.	0.95 FTEs	0.70 FTEs	0.70 FTEs
2. To increase the number of overturned involuntary commitments by 106, from 1,059 to 1,165 in order to address unnecessary hospitalization of behavioral health patients	1567	1165	281 in this quarter Cumulative total since program inception 1947
3. To increase the number of participating consultant providers by 1, from 32 to 33	32	33	32*
4. To increase the number of telepsychiatry assessments conducted by 1,067, from 10,665 to 11,732	17,899	11,732	2788 in this quarter Cumulative total since program inception 20,687



# NC-STeP Status as of December 31, 2015

EVALUATION CRITERIA	BASELINE VALUES/MEASURES AS REPORTED ON 09/30/2015	TARGET TO BE REACHED BY 06/30/2016	VALUES/MEASURES REACHED AS OF 12/31/2015
5. To increase the number of state-supported telepsychiatry referring sites by 14, from 59 to 73	74 in network 57 live 17 in process	73 referring sites	74 in network** 57 live 17 in process
6. To increase the reports of involuntary commitments to an enrolled hospital by 436, from 4,364 to 4,800	6729	4,800	1089 in this quarter Cumulative total since program inception 8076
7. To reduce the average (mean) Length of Stay for all patients with a primary mental health diagnosis across all dispositions by approximately 19 hours, from 42 to 23 hours	50.1 hours Median 27.4	23 hours	45.8 mean this quarter  Median = 26.6
9. To increase the ratio of the overall revenues (billing, subscription fees), exclusive of grant funding, to program costs (exclusive of start-up costs)	0.64:1.00	>1.00:1.00	0.65:1.00

# NC-STeP Status as of December 31, 2015

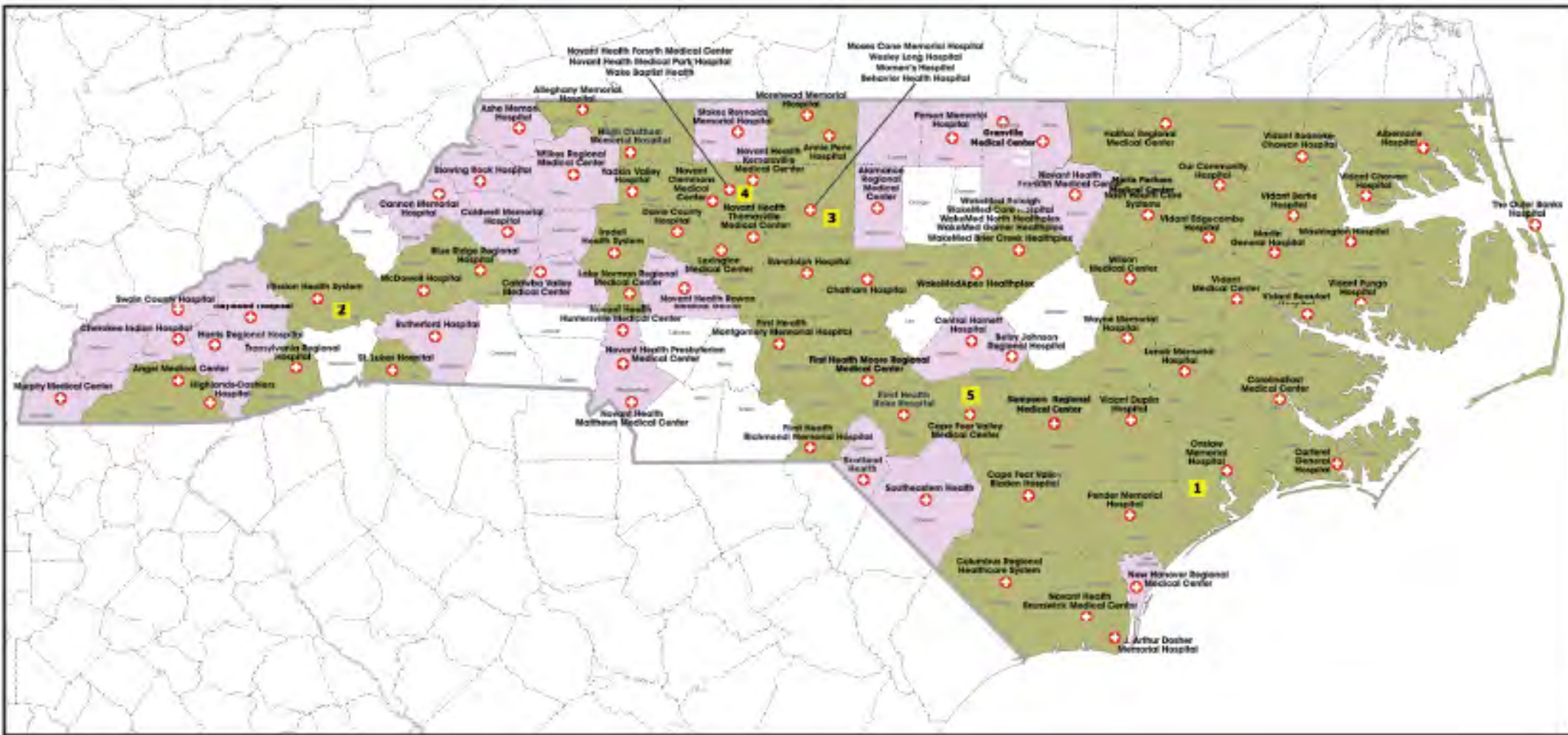
<b>EVALUATION CRITERIA</b>	<b>BASELINE VALUES/MEASURES AS REPORTED ON 09/30/2015</b>	<b>TARGET TO BE REACHED BY 06/30/2016</b>	<b>VALUES/MEASURES REACHED AS OF 12/31/2015</b>
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## COMMENTS/EXPLANATIONS:

\*\* On 12/13/15 - CCNC stopped providing services, network now less 12 consulting providers; 45 hospitals put on hold; 5 hospitals terminated contracts; 2 other hospitals have closed; 1 hospital in process of going live.



# NC-STeP Status - December 2015



## Provider Hubs

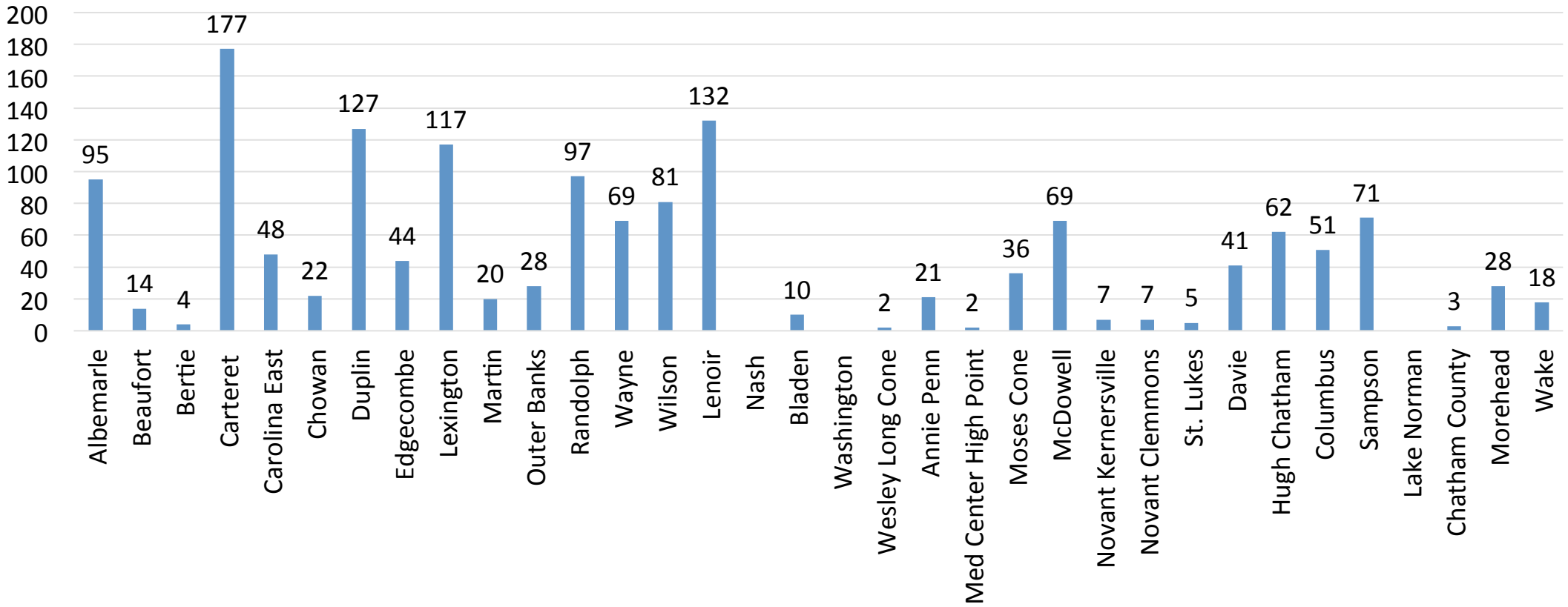
- 1. Coastal Carolina Neuropsychiatric Center**
- 2. Mission**
- 3. Cone Health**
- 4. Novant**
- 5. Cape Fear**





# Total Number of ED Telepsychiatry Patients by Hospital

## Second Quarter: October- December 2015

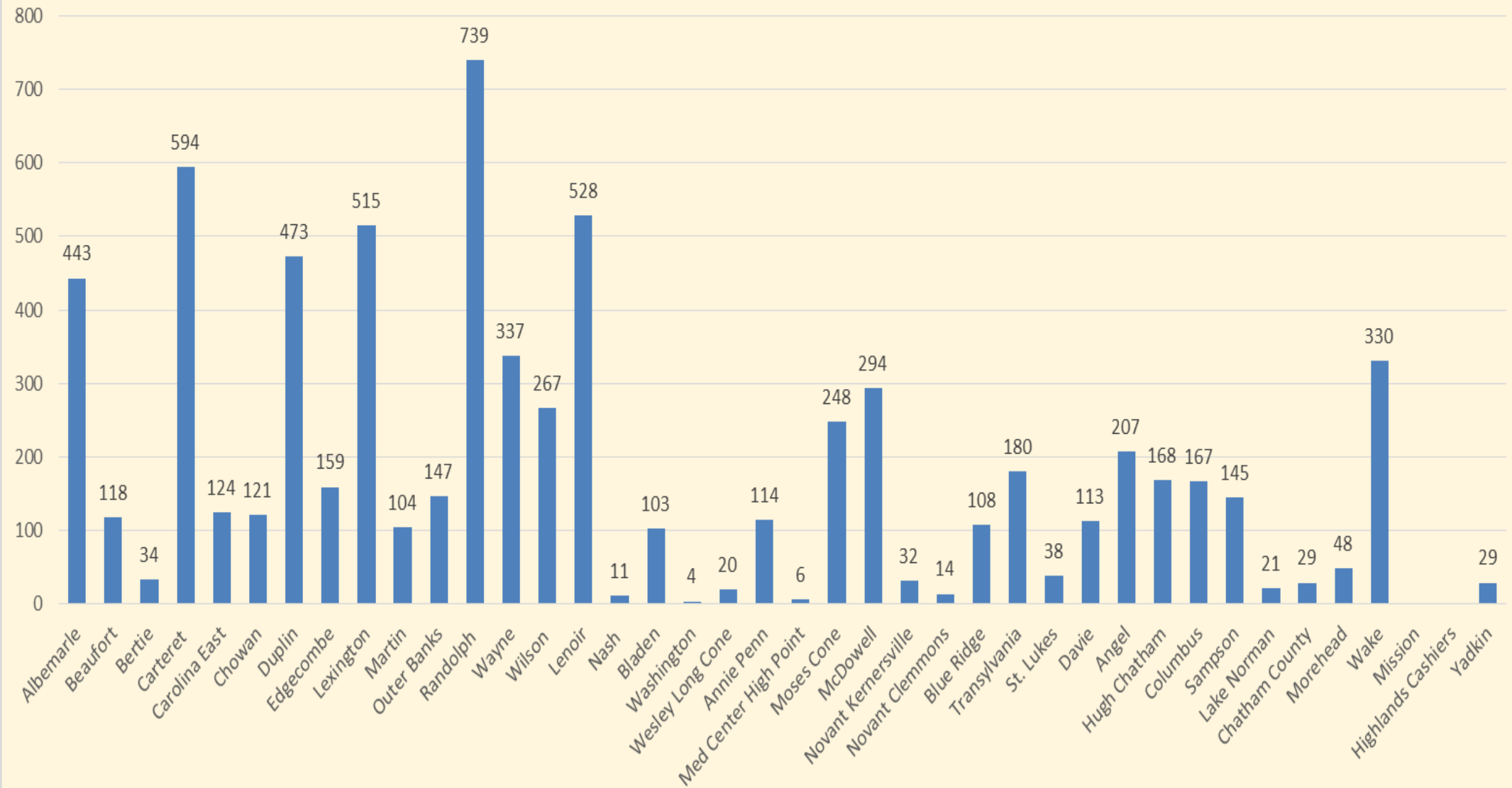


NC-STeP



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## Total Number of ED Telepsychiatry Patients by Hospital for 2015 (January - December)



# Patient Encounters and Assessments Continued to Grow

	Since project inception in November 2013	During Calendar Year 2014	During Calendar Year 2015	During Quarter October - December 2015
<b>Total Patient Encounters</b>	13,219	5,144	7,132	1,691
Model-1 hospitals	11,373	4,578	5,872	1,368
Model-2 hospitals	1,846	566	1,280	323
<b>Total Number of Assessments</b>	20,716	7,548	12,294	2,788



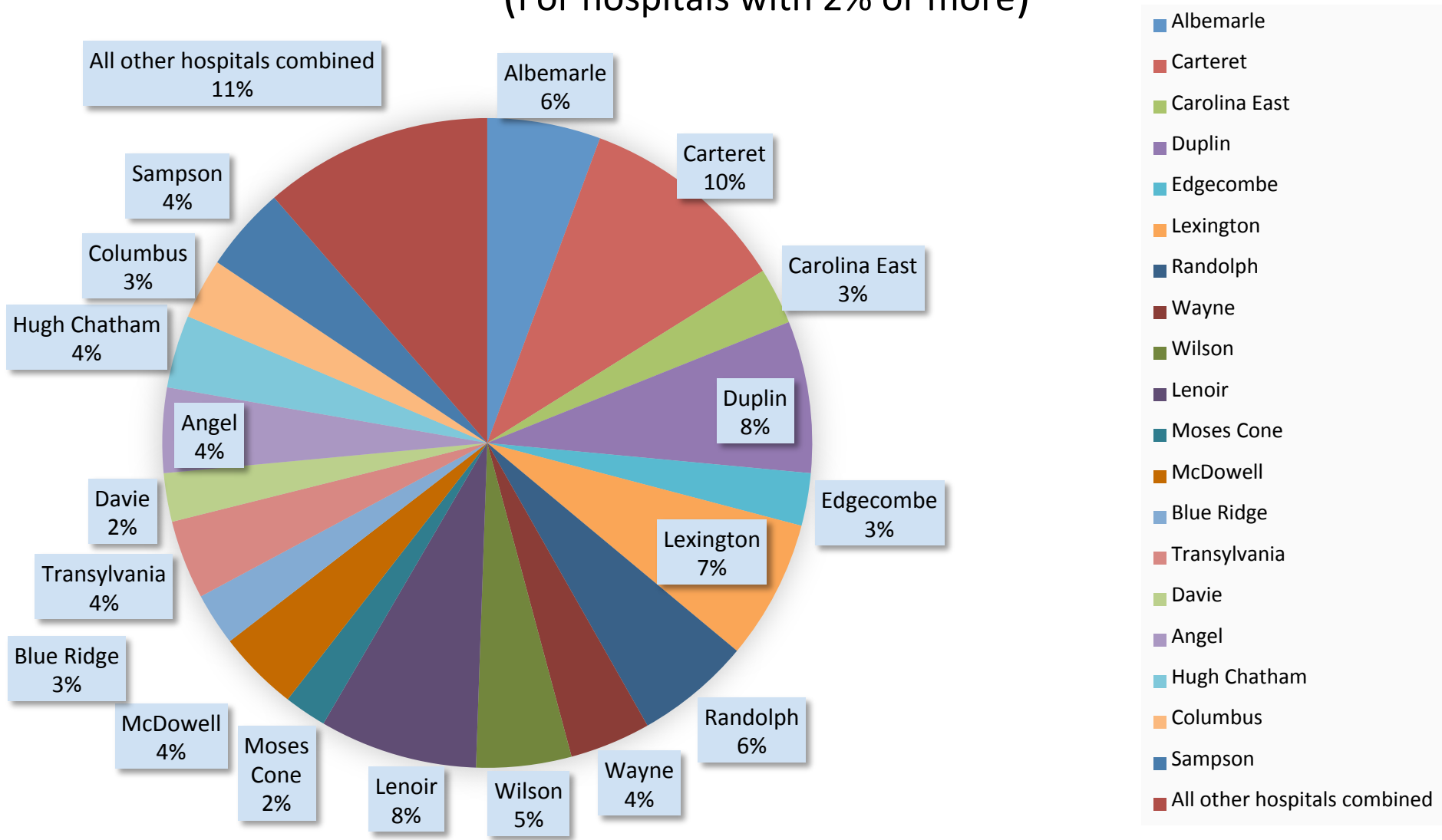
NC-STeP



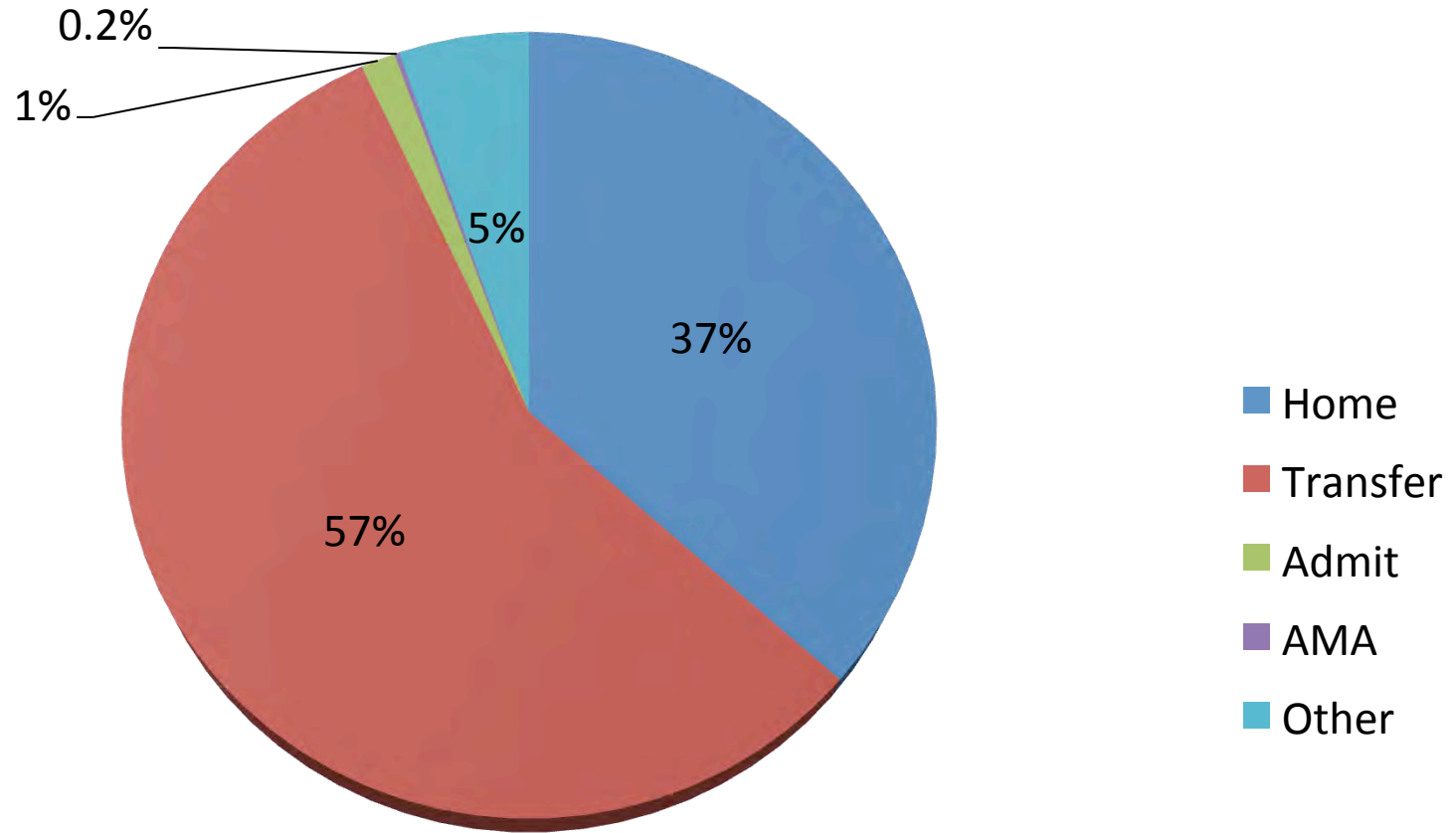
East Carolina University  
CENTER FOR TELEPSYCHIATRY

# Percent of Use by Hospital: October - December 2015

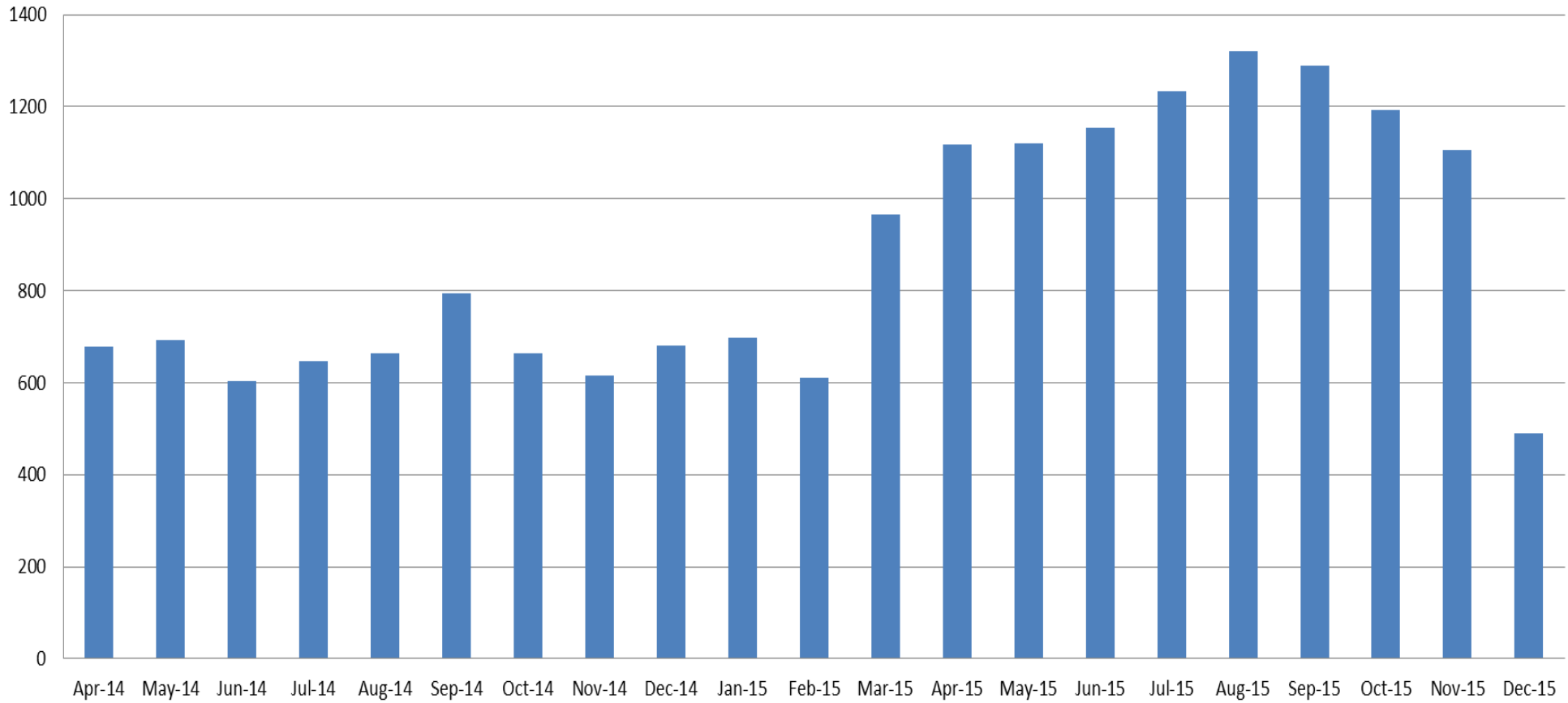
(For hospitals with 2% or more)



# Percent of Telepsychiatry Patients by Discharge Disposition October - December 2015



## NC STeP Number of Total Assessments Billed by Month for 18 Months (April 2014 - Dec 2015)

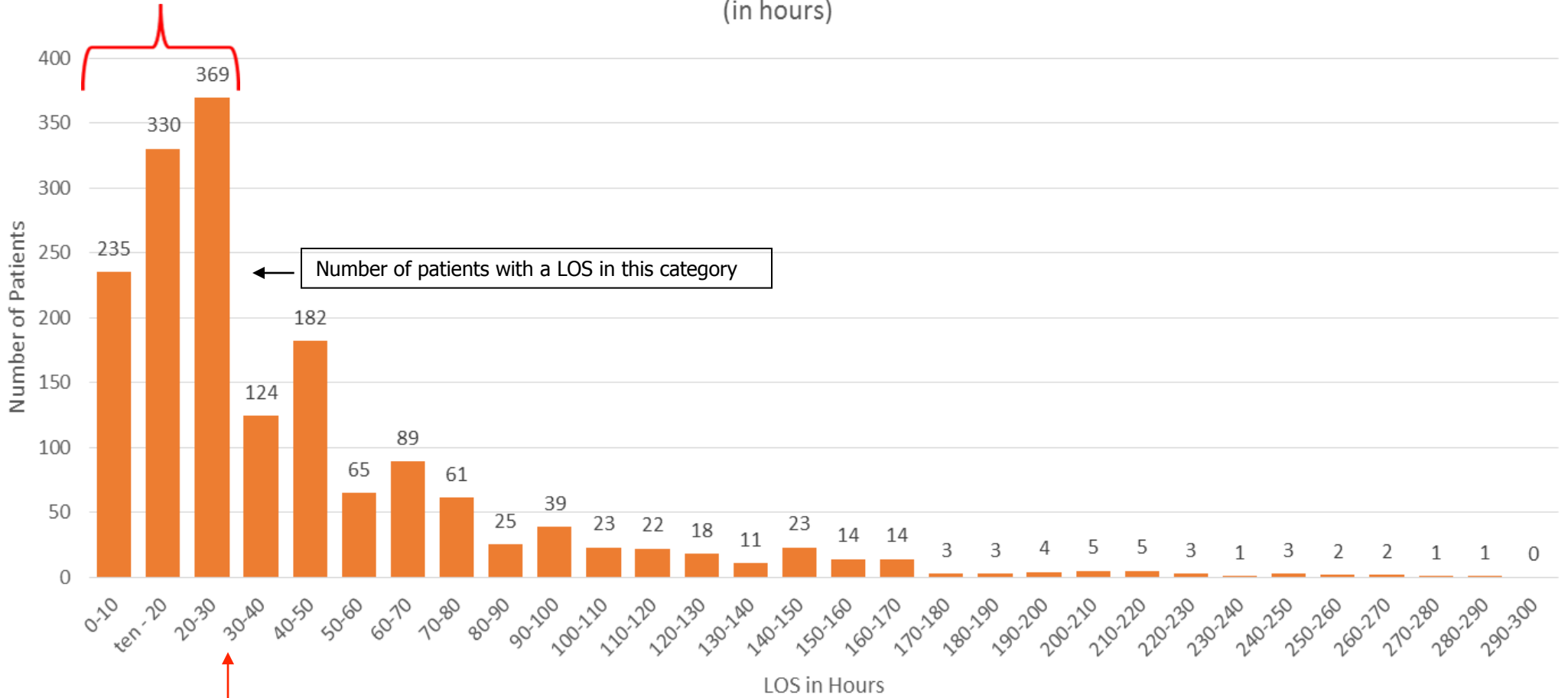


	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15
■ Number of Total Assessments Billed	678	692	603	647	664	795	664	616	681	697	610	965	1117	1119	1155	1233	1321	1289	1192	1105	491



55% percent of patients  
Had a LOS of 30 hours or less

## NC STeP October - December 2015 Number of Patients by LOS Category (in hours)

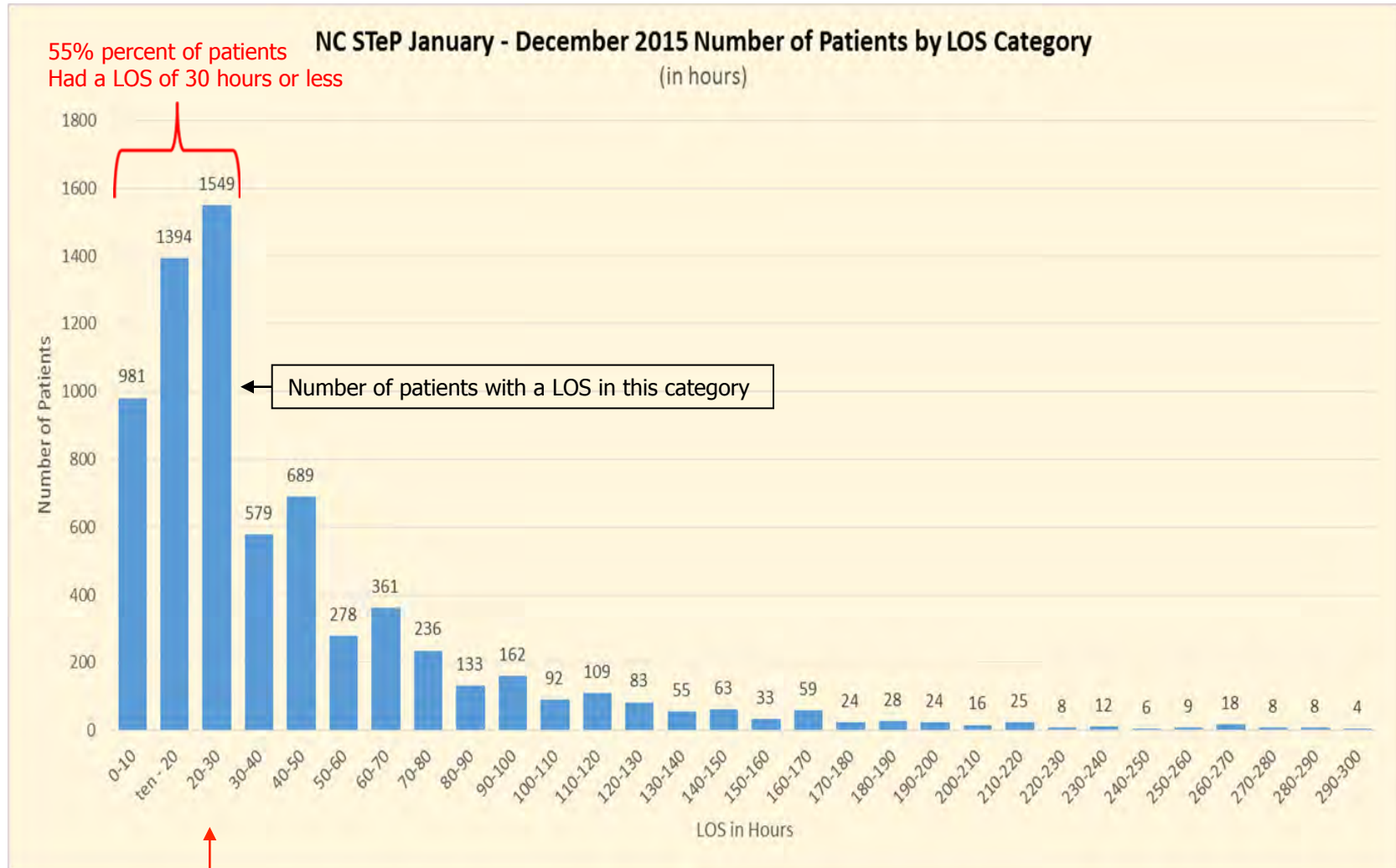


Median Length of Stay for October 2015 – December 2015 = 26.6 Hours

There were 14 patients with a length of stay longer than 300 hours.



# Annual Charts for January – December 2015



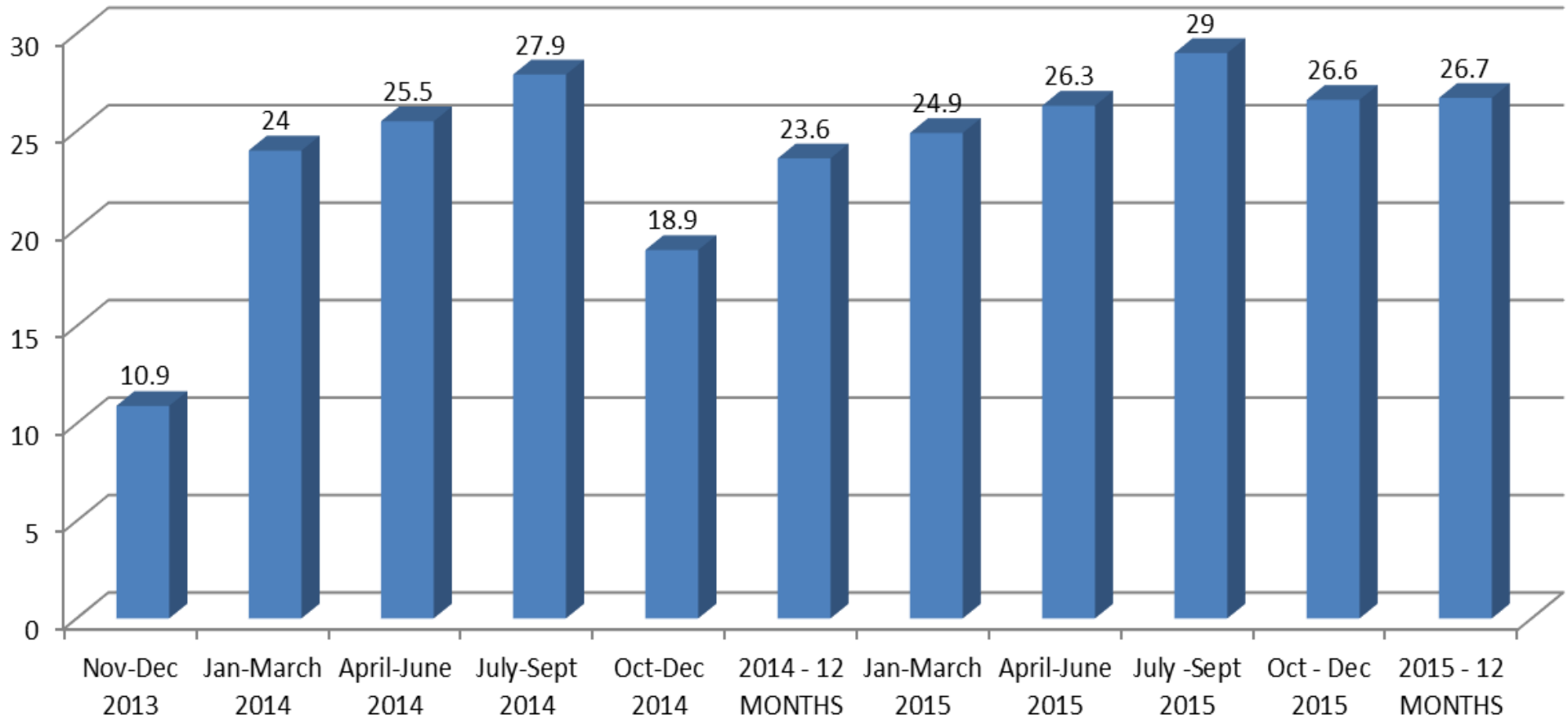
Median Length of Stay for January – December 2015 = 26.7 Hours

There were 90 patients (1.2%) with a length of stay longer than 300 hours.





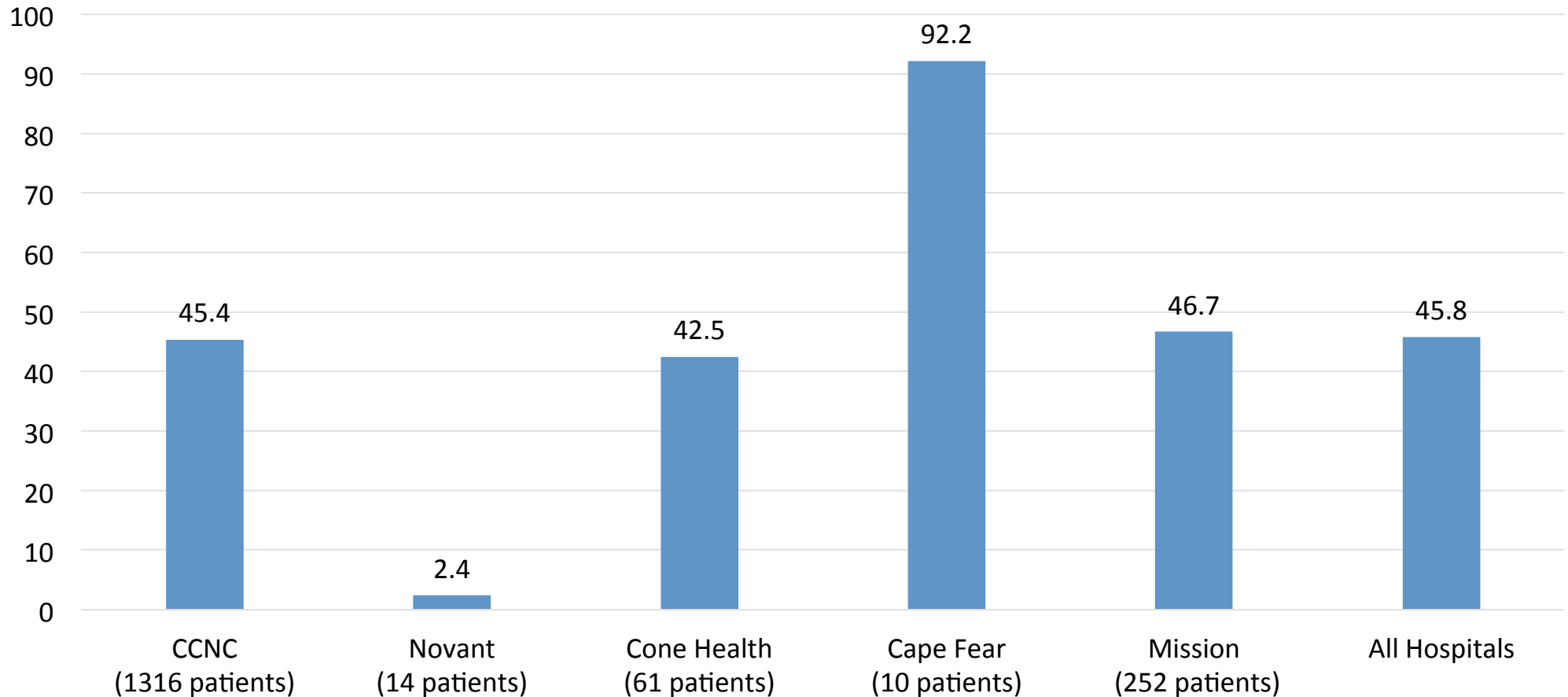
## Median Length of Stay in Hours



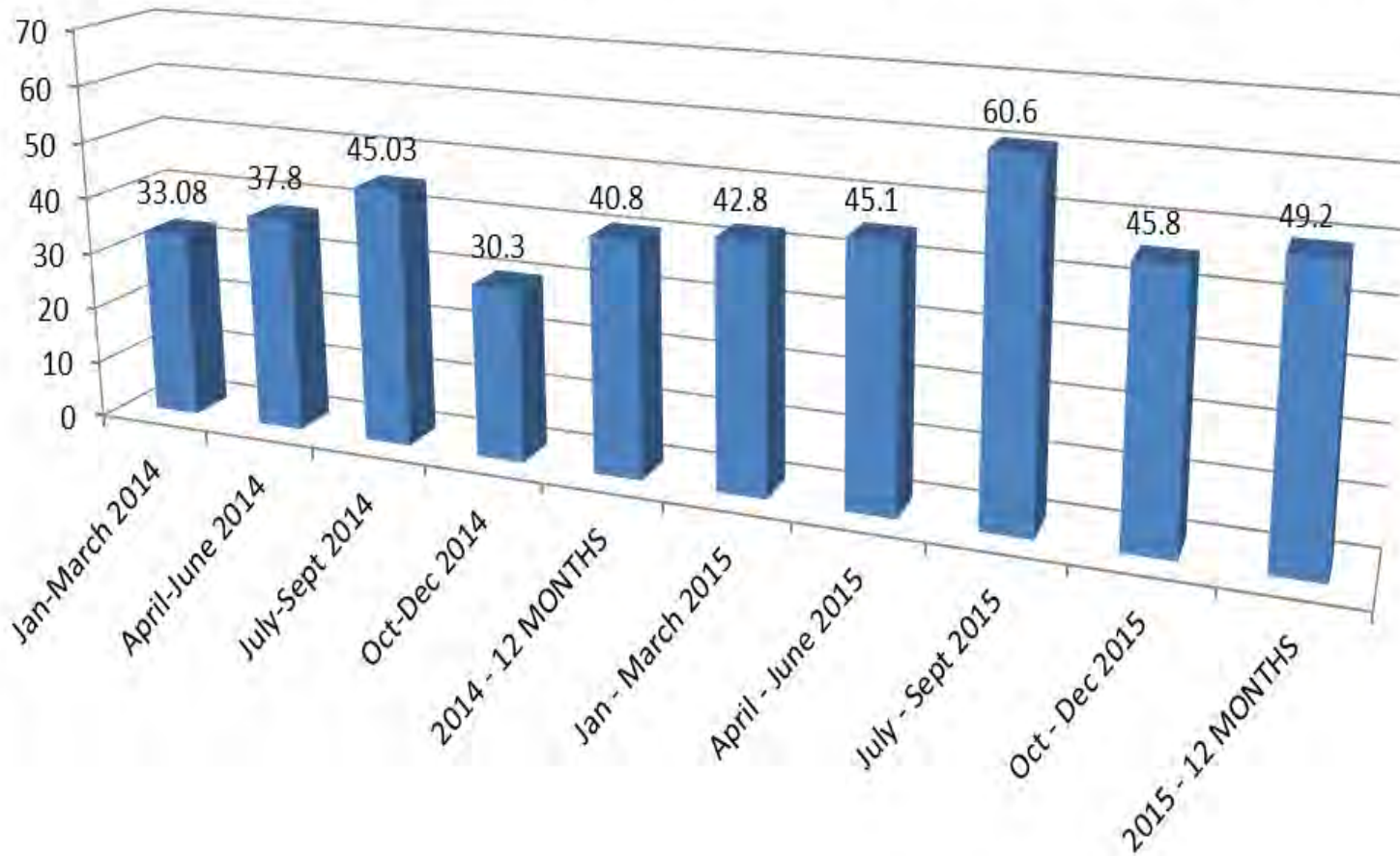
NC-STEP

# Average Length of Stay by Provider

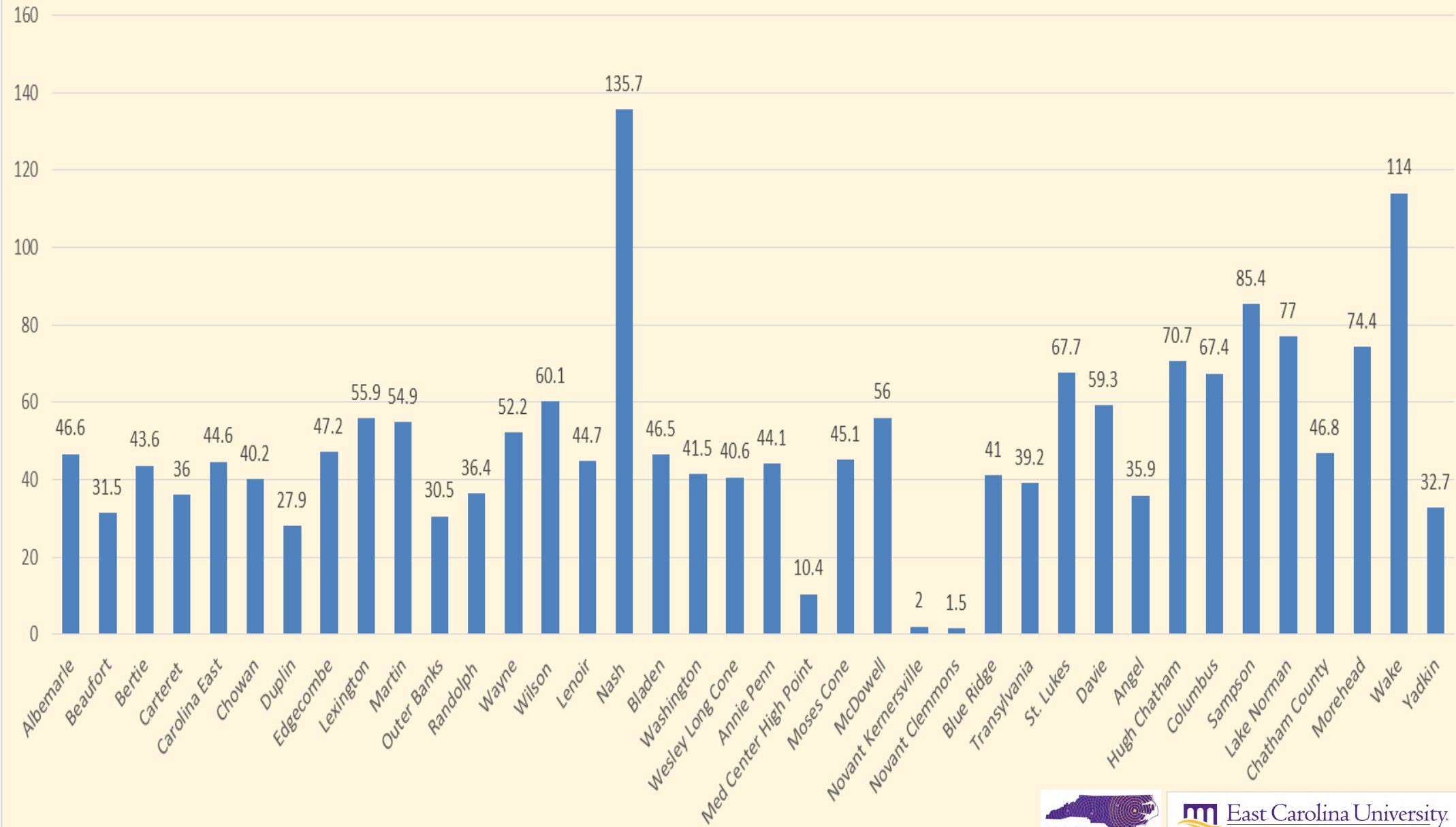
## October-December 2015 (in hours)



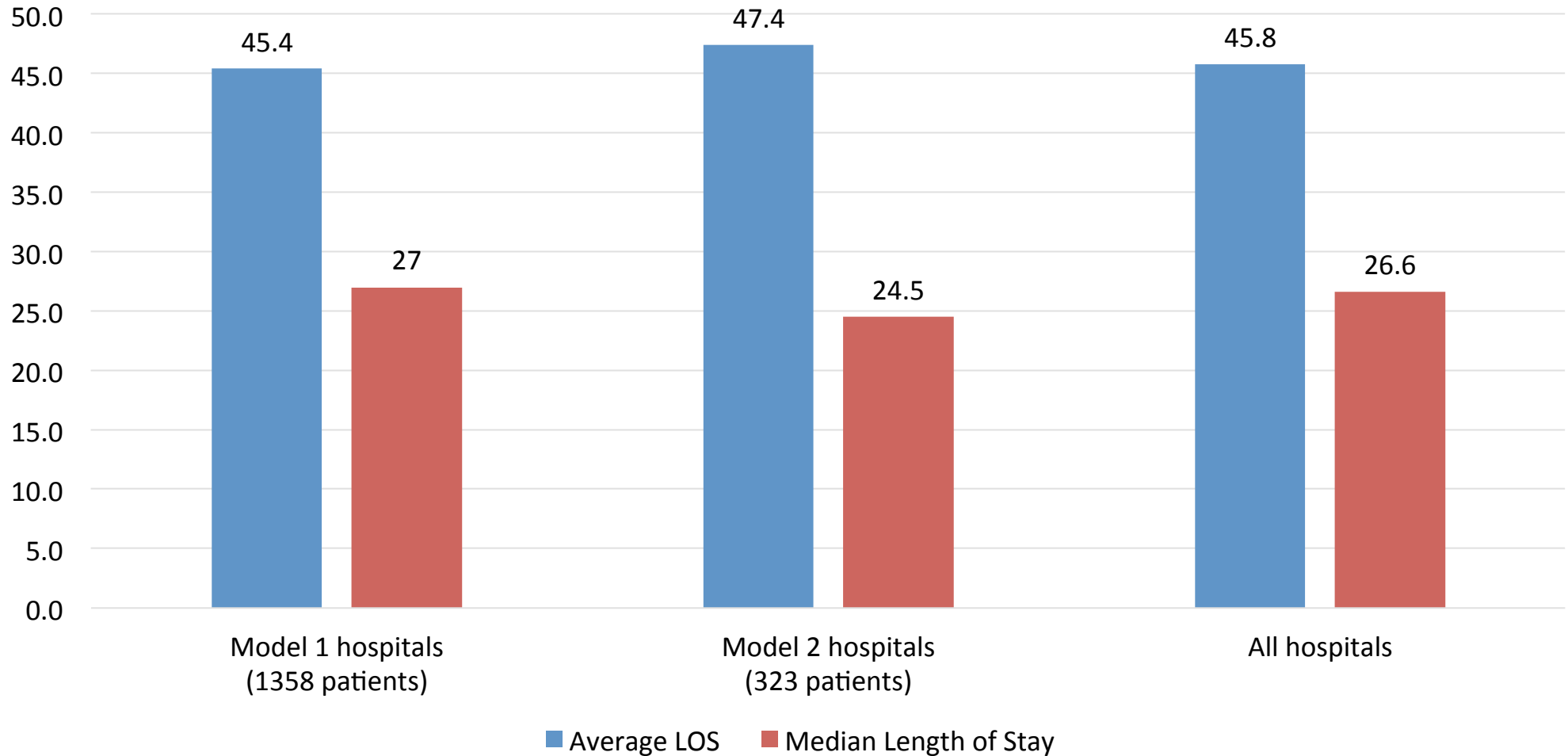
# Average Length of Stay for Hospitals Participating in NC STeP



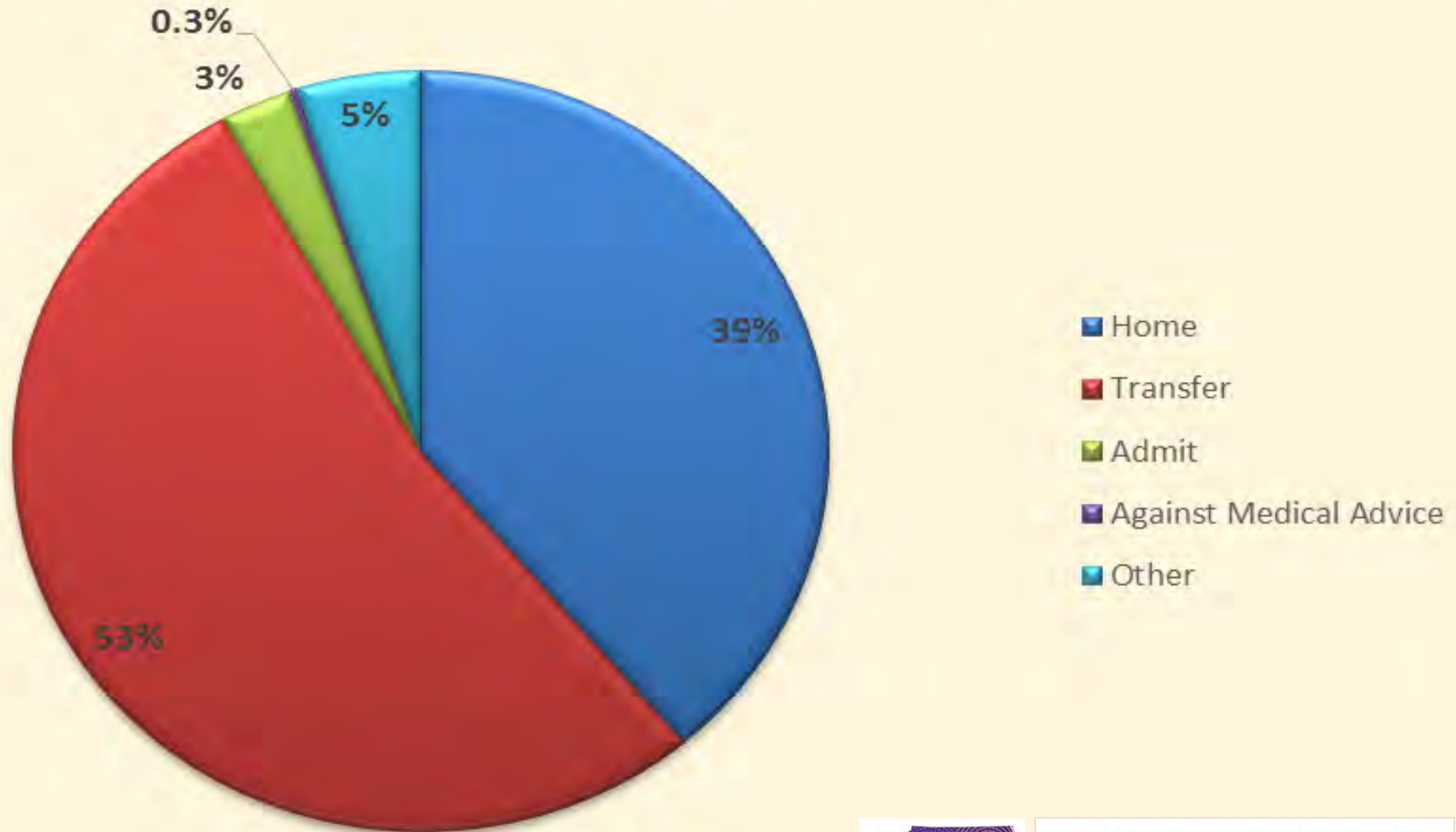
# Average Length of Stay for ED Telepsychiatry Patients by Hospital for 2015 (January - December) (in hours)



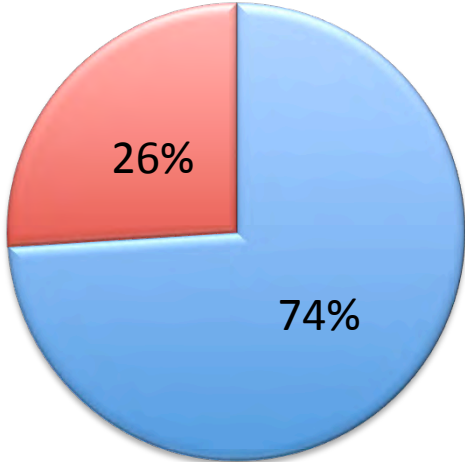
## Length of Stay by Hospital Model for Oct-Dec. 2015 (in hours)



# Percent of ED Telepsychiatry Patients by Discharge Disposition for Jan - Dec 2015

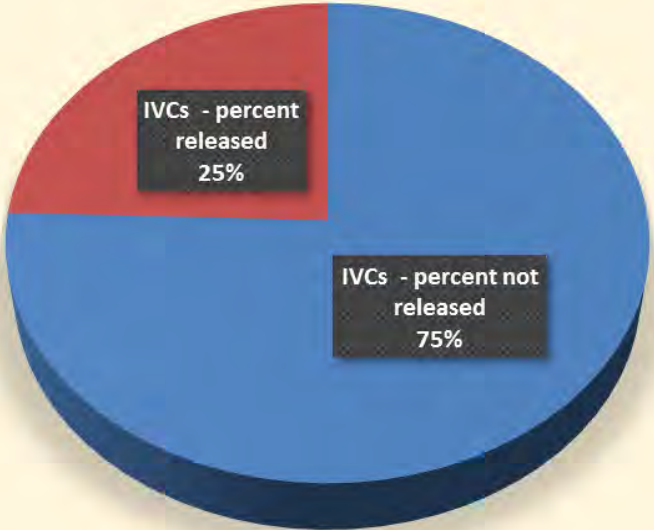


# IVCs - By Release Status Oct - Dec. 2015



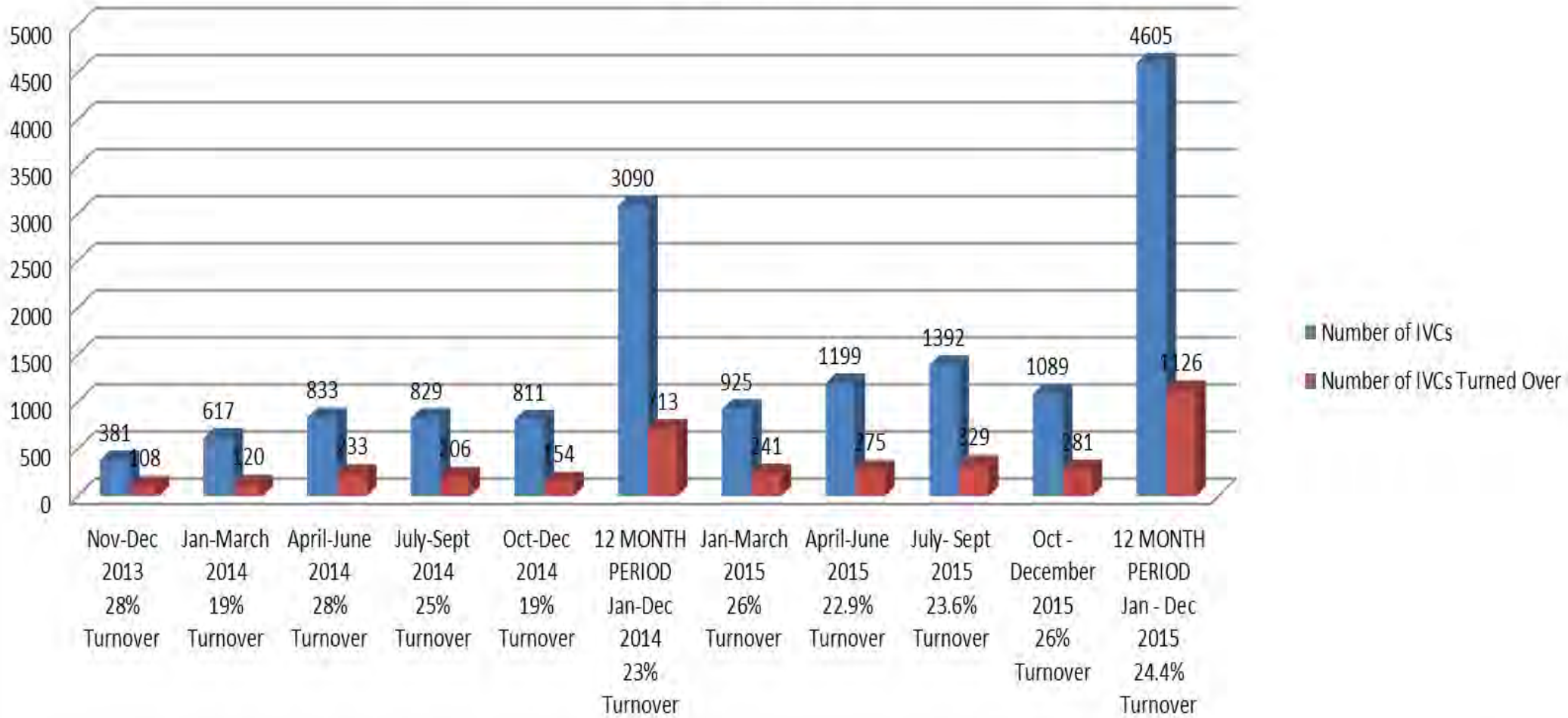
- IVCs - percent not released
- IVCs - percent released

## IVCs - By Release Status for January - December 2015



- IVCs - percent not released
- IVCs - percent released

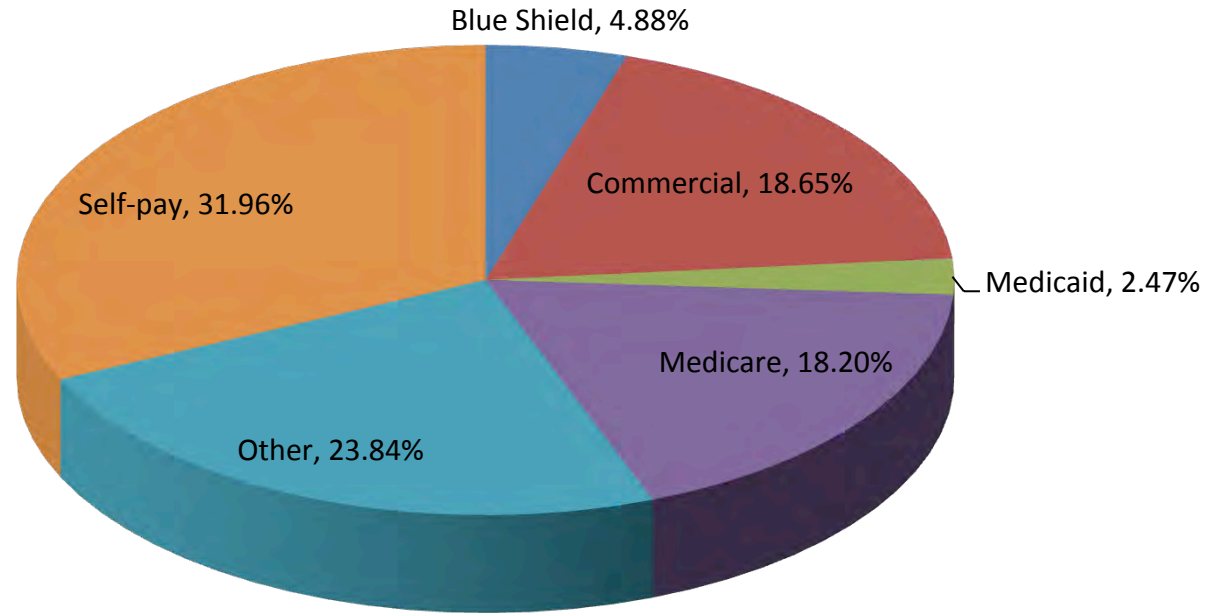
## NC STeP: Number of IVCs for Participating Hospitals by Quarter



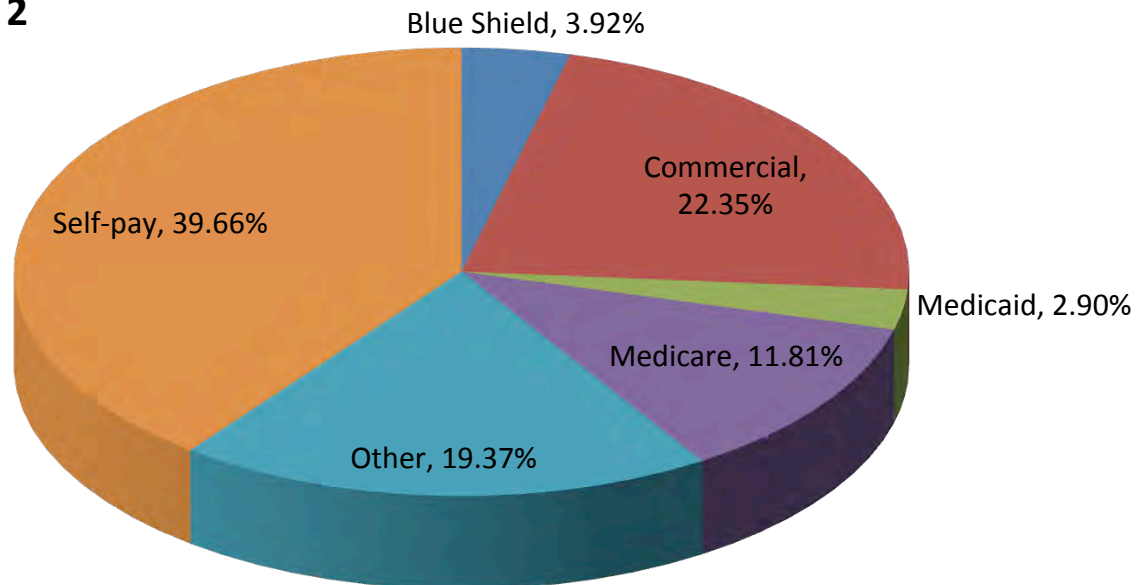


# NC-STeP CHARGE MIX FY 2016 (based on initial status)

## Quarter 1



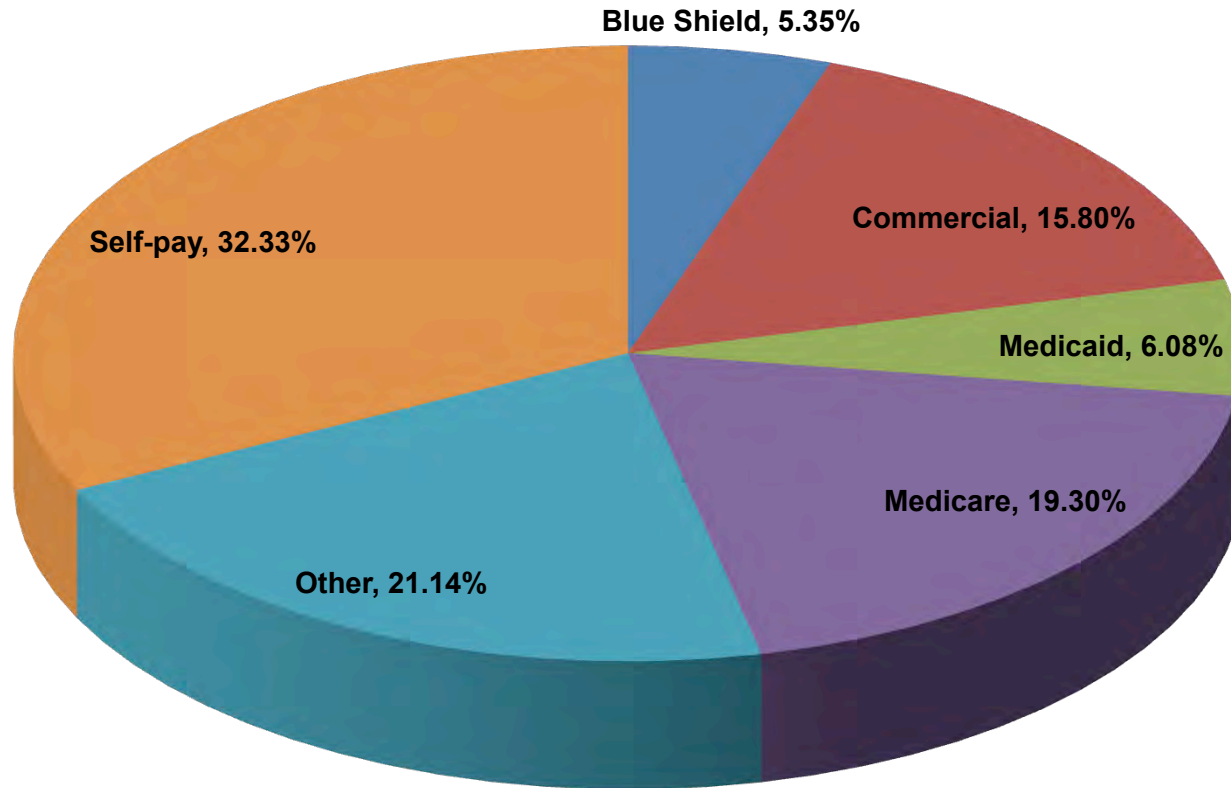
## Quarter 2



# NC-STeP CHARGE MIX

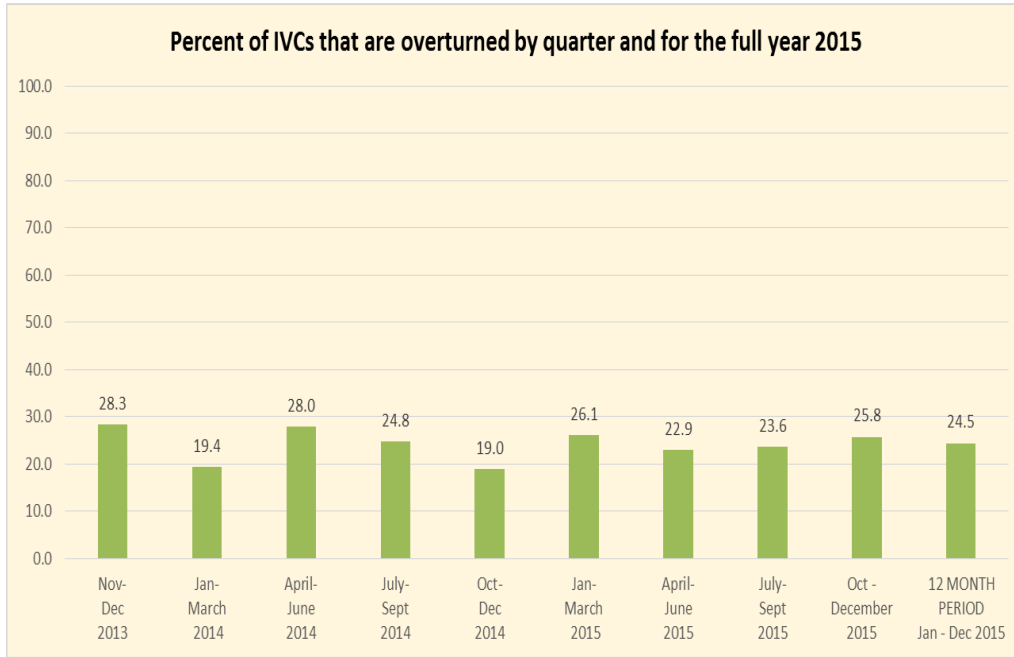
PROJECT TO DATE: 10/1/13 - 12/31/15

(based on initial status)

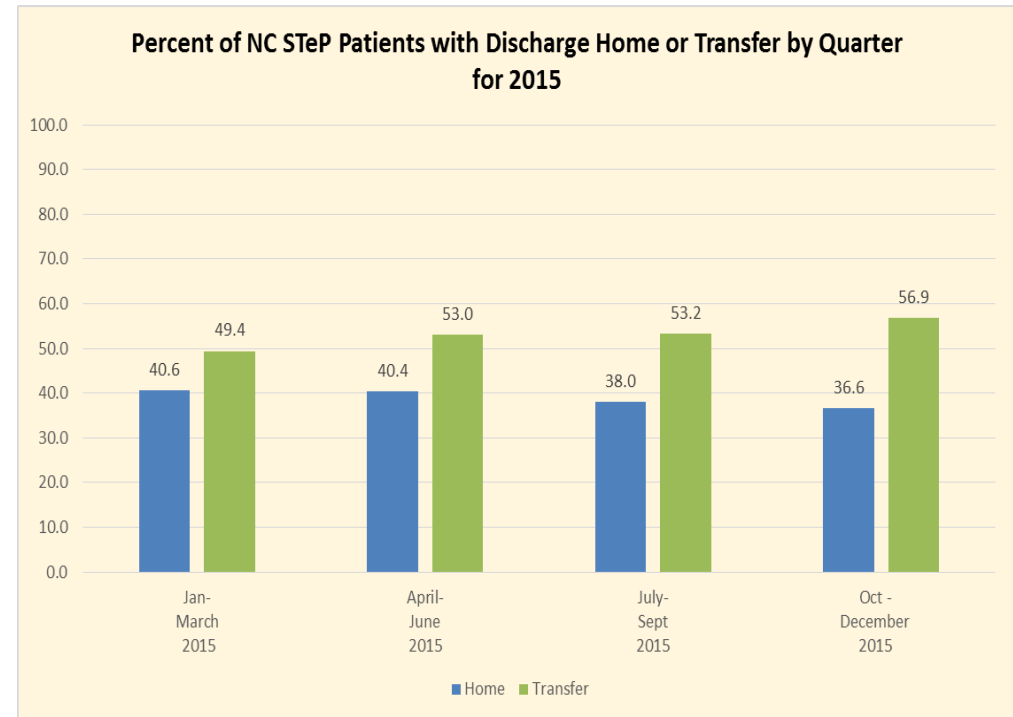


# Comparison Charts

Program measurements show stability from quarter to quarter.



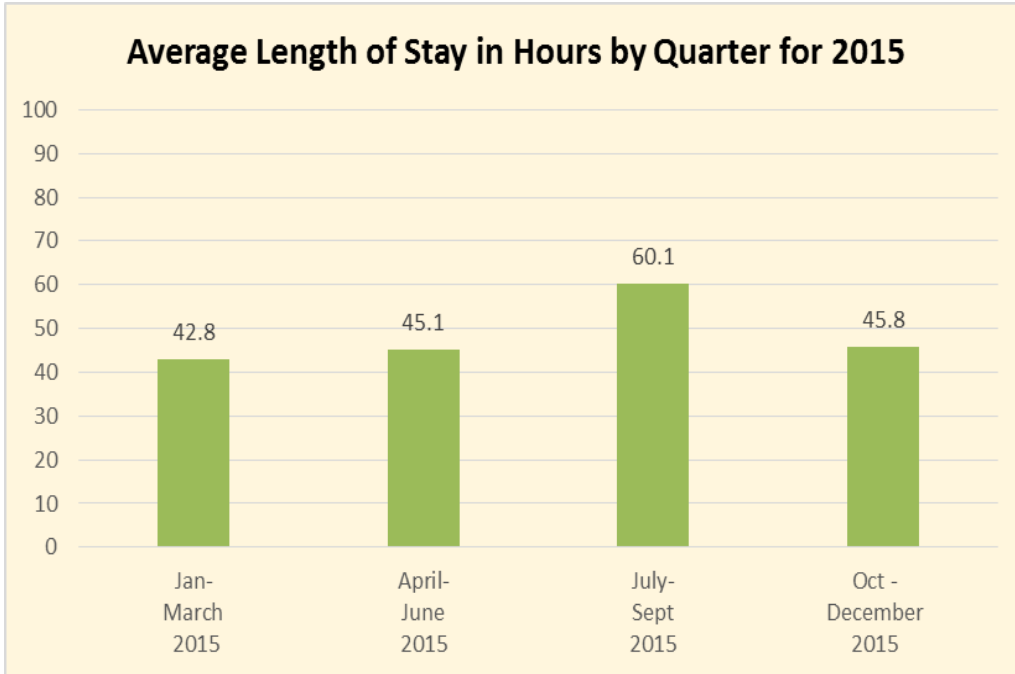
The percent of IVCs overturned are about 25%.



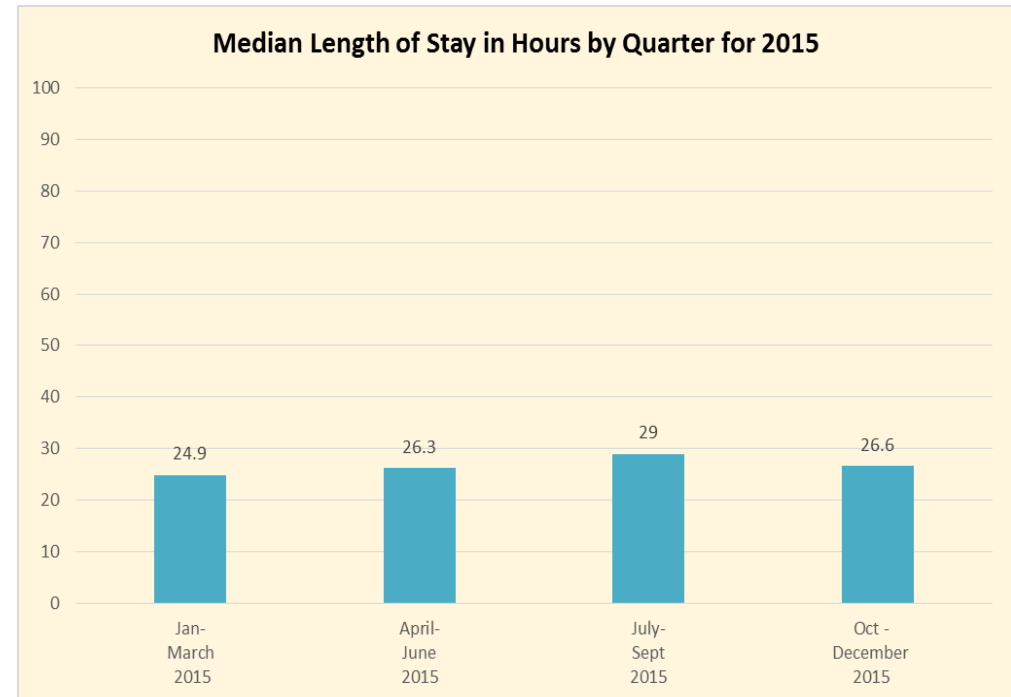
The percent of patients sent home is about 40%.  
The percent transferred to another facility is about 50%.



# Comparison Charts



Average Length of Stay is about 45 hours.

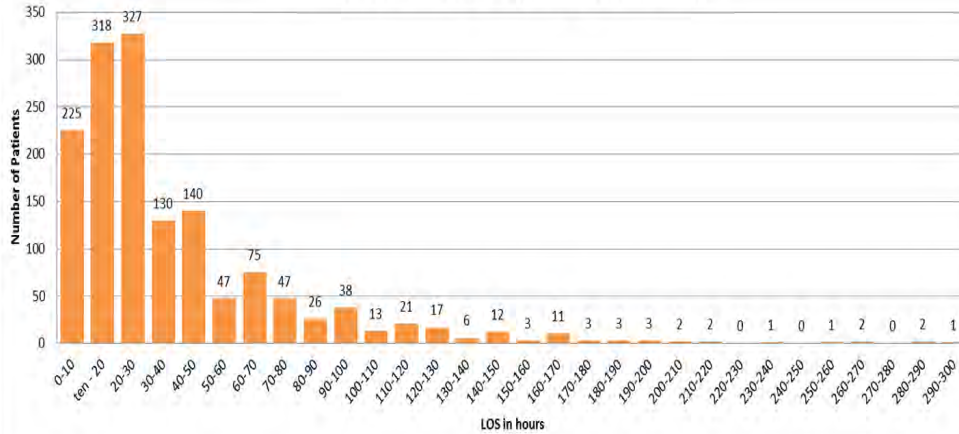


Median Length of Stay is about 26 hours.

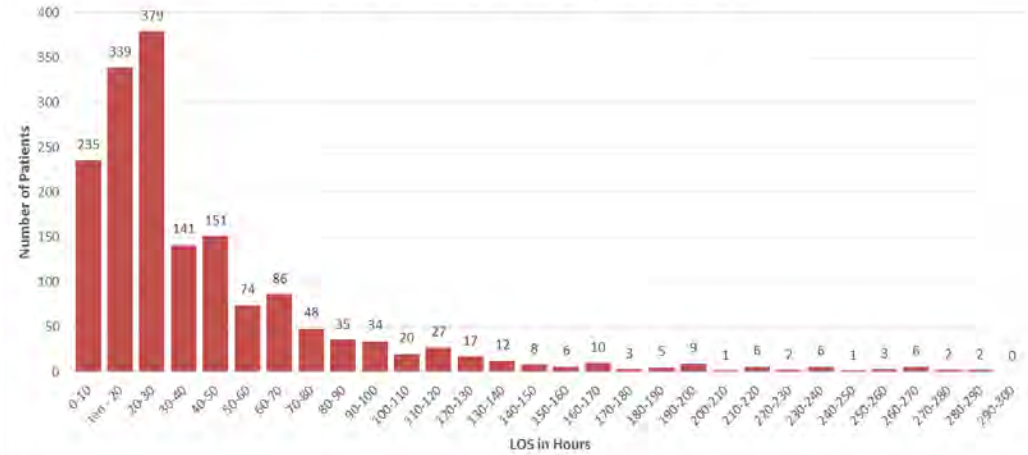


# Comparison Charts: The distribution of patient Length of Stay is consistent. 60% of patients are discharged within 30 hours.

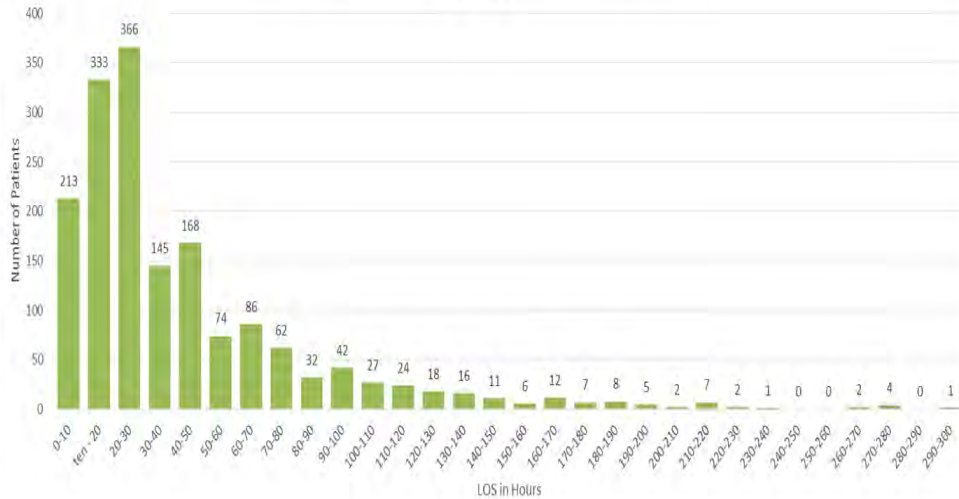
NC STeP January - March 2015  
Number of Patients by LOS Category (in hours)



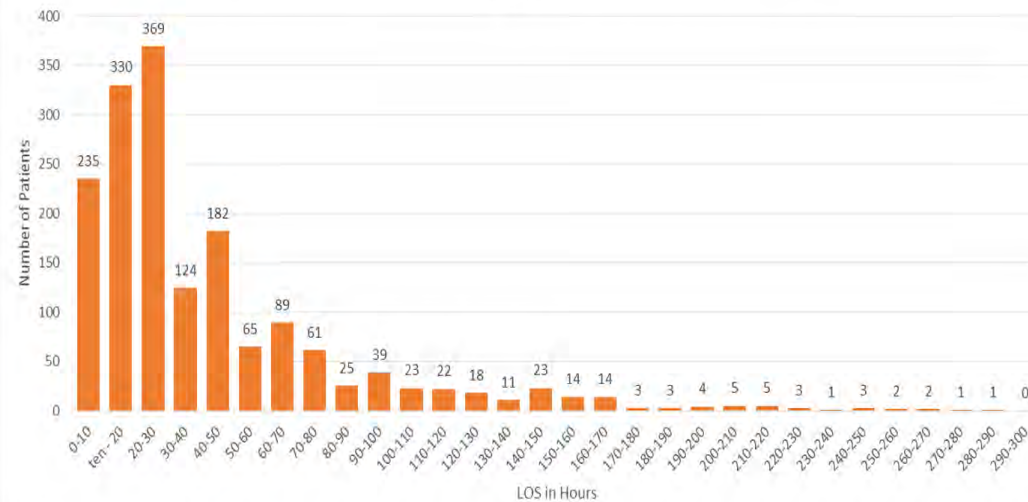
NC STeP April - June 2015  
Number of Patients by LOS Category (in hours)



NC STeP July - September 2015 Number of Patients by LOS Category (in hours)

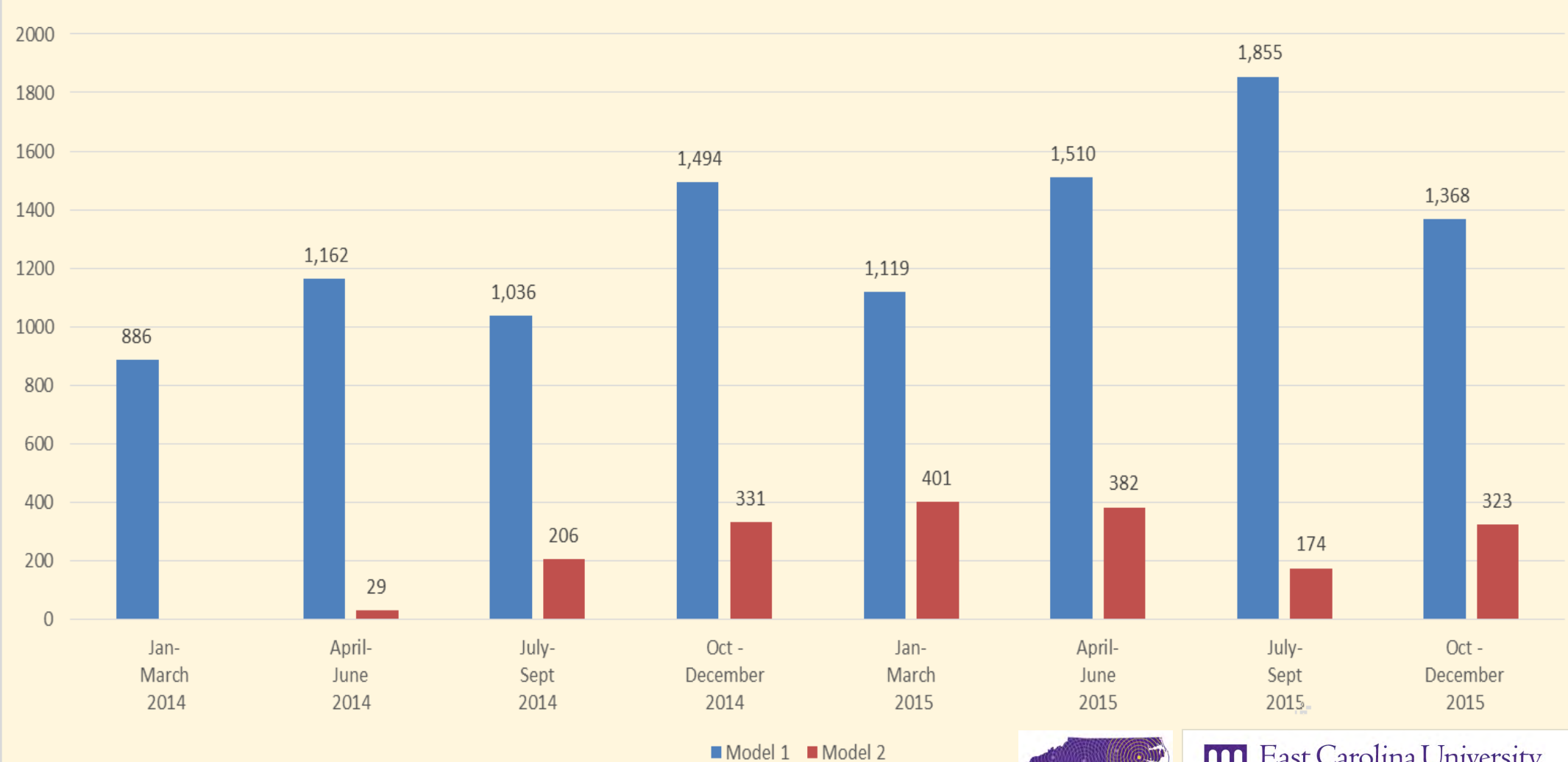


NC STeP October - December 2015 Number of Patients by LOS Category (in hours)

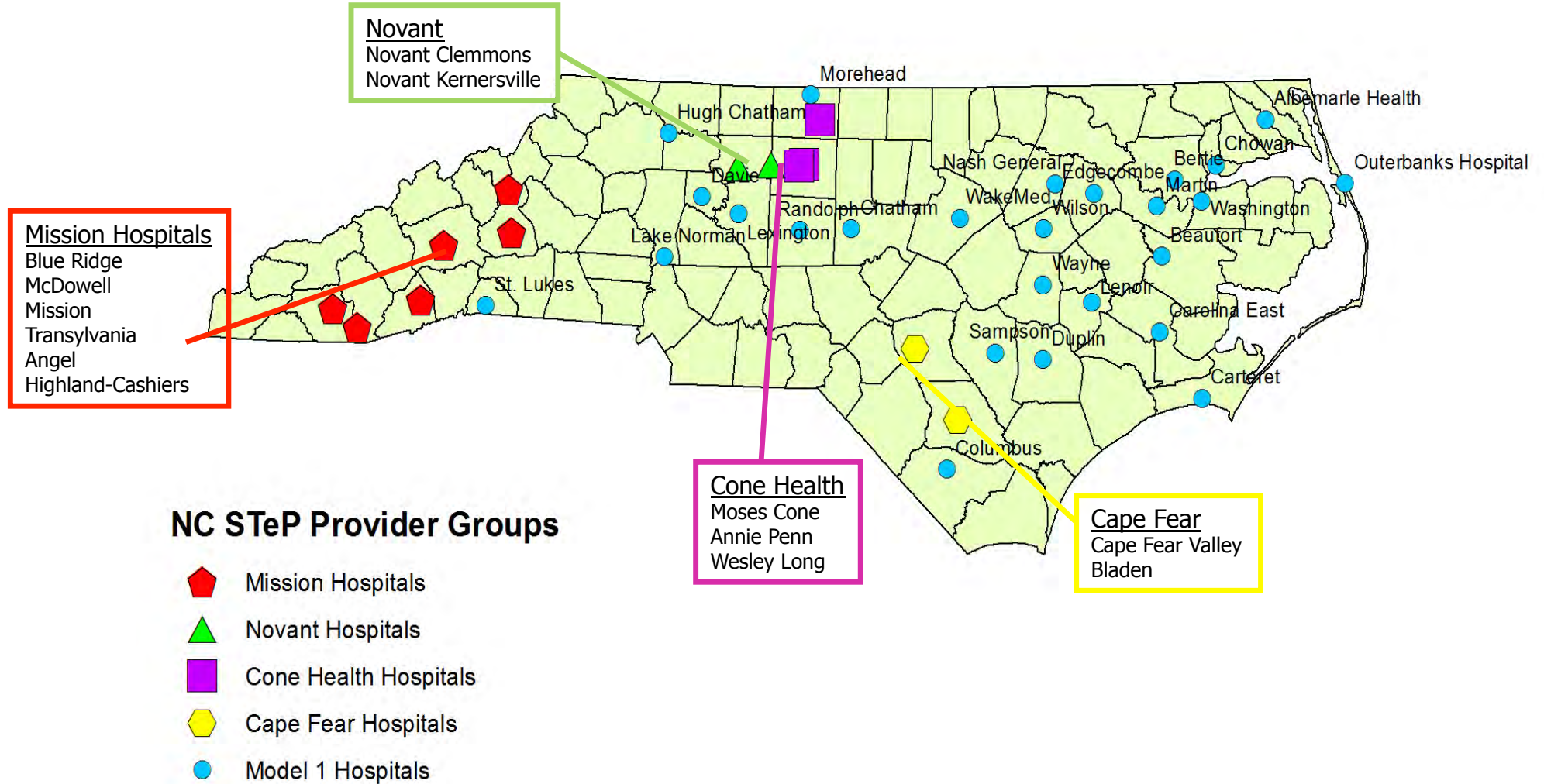


# Comparison Charts: The program has extended Model-1 and Model-2 Hospitals. Localized networks of Model 2 Hospitals have grown into regional service clusters.

## NC STeP Number of Patients for Model 1 and Model 2 Hospitals for 2014 and 2015



# NC-STeP Provider Groups - January 2016



# NC-STeP Status as of December 31, 2015

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  - 57 are “Live”
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# NC-STeP Portal Update

NC-STeP Advisory Board  
February 5, 2016



# Objective of the Portal



- NC-STeP RFI and RFP called for a “Health Information Exchange System”
- NCHF and Proficient Health responded with a web-based “portal” solution with the following features:
  - Direct Messaging and CCD/CCDA to deliver clinical information via DirectTrust HISP, using MU standards
  - Scheduling function to match patients with providers
  - Reporting of utilization, program needs, population health
  - Billing data formatted and delivered to ECU Physicians
  - NCHA Psychiatric and Substance Abuse Bed Board linkage



# Objective of the Portal

- Collaborative development process
- Using Lean/Agile techniques to help manage the project

# Key stakeholders in the development process of the portal

- NC-STeP
- East Carolina University Center for Telepsychiatry
- MedAccess Partners
- ECU Physicians
- Vidant Health
- Sentara Albemarle Hospital
- Coastal Carolina Neuropsychiatric Center (CCNC)
- Mission Health
- Hill & Associates



# Solution Workflow

## **For Mode 1 Hospitals**

Hospitals use the Portal directly for one or more consults for each patient encounter. The Portal securely sends the appropriate clinical, administrative, billing, and reporting data in a timely manner to the appropriate destination.

## **For Mode 2 Hospitals**

Hospitals have their own psychiatrists and billing services, and send required data elements to the Portal on a periodic basis. It is up to each hospital to follow their own workflow and generate a reliable report in the format prescribed by NC-STeP.



# Mode 1 Workflow

1. Patient presents in ED, consult is ordered by attending physician
2. CCDA sent to Portal where it is parsed into database
3. ED staff confirm accuracy, then supplement data in Portal via
  - a) Manual entry
  - b) Document upload
  - c) Fax
4. Portal Patient List shows patients in various stages of process



# Mode 1 Workflow (continued)

5. Provider initiates consult with next ready patient and performs intake interview, updates Portal
6. Provider performs examination, updates Portal
7. Portal sends CCDA back to ED with care recommendations
8. Portal sends billing data to ECU Physicians, updates reporting system



# Mode 2 Workflow

1. Hospitals conduct consults using existing equipment and document into EHR according to workflow
2. Hospitals export required data on periodic basis from EHR and/or data warehouse and send to NCHF for validation
3. NCHF validates data, working with hospitals to make necessary corrections and resubmit as needed
4. NCHF populates Portal with validated data



# Portal Participants

## Mode 1 Participants

- 22+ hospitals in various stages of onboarding
- Domains of review include detailed analysis and tracking of
  - CCDA completeness and accuracy
  - Direct messaging vendor availability
  - ED staff workflow considerations

## Mode 2 Participants

- Mission Health and Hospitals (6)
- Cone Health (6)
- Domains of review include detailed analysis and tracking of
  - A common data set capable of being obtained from all Mode 2 participants
  - Extraction, Transfer, and Loading (ETL) requirements from health system EHR or data warehouse



# Highlights of the Portal



NC-STEP



East Carolina University  
CENTER FOR TELEPSYCHIATRY

# Patient List



**NORTH CAROLINA**  
STATEWIDE TELEPSYCHIATRY PROGRAM

Patients

Bed Board

Help ▾

*Britany Foster*

Logout

## PATIENT LIST

Status	#	Hold	Elapsed	Arrival	Encounter	Facility	Locatn	Conslt	Name	D O B	Contact	Action
[-] Pending												
[-] Pending			0d 0h 59m	12/30	32479	Hospital1	ED	no. 1	Thomas, Joseph	04/21/1987	910-456-4577	<a href="#">Review</a>
[-] Pending			0d 0h 59m	04/25	32474	Hospital1	ED	no. 1	Douglas, Sammi	08/15/1998	910-456-4577	<a href="#">Review</a>
[-] Pending			0d 0h 59m	04/27	32469	Hospital1	ED	no. 1	Lee, John	06/18/1995	910-456-4577	<a href="#">Review</a>
[-] Queue												
[-]	-	-	-	-	-	-	-	-	-	-	-	-
[-] Intake Underway												
[-] Intake Under...			0d 16h 32m	04/14	30474	Hospital1	ED	no. 3	Anderson, Karen	01/17/1985	910-456-4577	<a href="#">Update</a>
[-] Intake Complete												
[-]	-	-	-	-	-	-	-	-	-	-	-	-
[-] Exam Underway												
[-]	-	-	-	-	-	-	-	-	-	-	-	-
[-] Consulted												
[-] Billed												
[-] Billed			4d 20h 40m	04/14	30474	Hospital1	ED	no. 1	Anderson, Karen	01/17/1985	910-456-4577	<a href="#">Update</a>
[-] Billed			4d 20h 40m	04/27	30505	Hospital1	ED	no. 1	Duncan, Clay	05/17/1980	910-456-4577	<a href="#">Update</a>

Search

Add New Encounter

# Emergency Department

Encounter ID: 122304 (TEST, ADDIE) - Status: Pending

EMERGENCY DEPARTMENT

INTAKE

EXAMINATION

PATIENT RECORD

[Follow-up Exam](#) | [Place on Hold](#) | [Close Encounter](#)

Attach...

Fax...

## DEMOGRAPHICS

\* Arrival Date

Jan

31

2016

\* Arrival Time

12:32

PM

MRN

223405

Name

Prefix

\* First

Middle

\* Last

Suffix

ADDIE

TEST

\* Address Line 1

PO BOX 123

Address Line 2

\* City, State, ZIP

HENDERSON

NC

27536

\* Next of Kin

\* Home Phone

atest2014@gmail.com

Cell Phone



# Psychiatrist Intake

## MENTAL STATUS

\* Psychomotor Activity

\* Eye Contact

\* Attitude

\* Mood

\* Affect

\* Speech

\* Thought Process

\* Perception (Hallucinations)

\* Thought Content

\* Insight

\* Judgement

\* Cognition-Orientation

\* Cognition-Memory

\* Appearance/Hygiene

Submit for Exam

Save Changes

Discard Changes



# Psychiatrist Examination

Encounter ID: 43756 (15, Patient Number) - Status: Exam underway

EMERGENCY DEPARTMENT

INTAKE

EXAMINATION

PATIENT RECORD

[Place on Hold](#) | [Add addendum](#)

## CURRENT DIAGNOSIS

\* Primary Diagnosis

F23 Psychogenic paranoid psychosis

Rule Out

stroke

History Of

depression

Secondary Diagnosis 1

F11.10 Opioid abuse, in remission

Rule Out

History Of

Add Secondary Diagnosis...

Non-Psychiatric Diagnosis

\* Procedure Code

90792-GT Psychiatric diagnostic eval





# CCDA–Raw Data Example

```
<?xml version="1.0"?>
<!--
  Title: US_Realm_Header_Template
  Original Filename:  Version: 1.0
  Revision History:
  01/31/2011 bam created
  07/29/2011 RWM modified
  11/26/2011 RWM modified
-->
<!--<?xml-stylesheet type="text/xsl" href="cda2_to_cdar3.xsl"?-->
<?xml-stylesheet type="text/xsl" href="cda.xsl"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="urn:hl7-org:v3 ../../schemas/CDA.xsd" xmlns="urn:hl7-
org:v3" xmlns:cda="urn:hl7-org:v3" xmlns:sdtc="urn:hl7-org:sdtc">
  <!--
  *****
  CDA Header
  *****
  -->
  <realmCode code="US"/>
  <typeId root="2.16.840.1.113883.1.3" extension="POCD_HD000040"/>
  <!-- US General Header Template -->
  <templateId root="2.16.840.1.113883.10.20.22.1.1"/>
  <!-- *** Note: The next templateId, code and title will differ depending on what type of document is being sent. *** -->
  <!-- conforms to the document specific requirements -->
  <templateId root="2.16.840.1.113883.10.20.22.1.2"/>
  <id extension="999021" root="2.16.840.1.113883.19"/>
  <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" code="34133-9" displayName="Summarization of Episode Note"/>
  <title>Good Health Health Summary</title>
  <effectiveTime value="20050329171504+0500"/>
  <confidentialityCode code="N" codeSystem="2.16.840.1.113883.5.25"/>
  <languageCode code="en-US"/>
  <setId extension="111199021" root="2.16.840.1.113883.19"/>
  <versionNumber value="1"/>
```



# CCDA–Viewer Example

## Continuity of Care Document

Created On: July 25, 2015

**Patient:**

Patient 07  
1024 Swan Lake Road  
Whiteville, NC, 28472-1111  
(910)642-5100

MRN: M125428007

**Birthdate:**

January 17, 1985

Sex: Female

**Guardian:**

**Next of Kin:**

BrotherFirstName FamilyName  
1241 Westside Avenue  
Whiteville, NC, 28472-1111  
(910)642-3500

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# Reporting

Ad Hoc Data

## Ad Hoc Data Report

Rpt 1: Referring Sites

Rpt 2: Assessments

Rpt 3: Length Of Stay

Rpt 4: IVC

Report

Data

### Encounter

Arrival Date Or  Departure Date

From Date

Month

Day

Year

End Date

Month

Day

Year

Generate Arrival Date Report

[Download Latest Arrival Date Report File](#)



# Reporting

Ad Hoc Data

## IVC and IVC Turnover Report

Rpt 1: Referring Sites

Rpt 2: Assessments

Rpt 3: Length Of Stay

Rpt 4: IVC

Report

From Date

Month

Day

Year

End Date

Month

Day

Year

Options

- Standard
- By Hospital
- By County
- By Region
- By Discharge Disposition
- By RECODE Disposition
- By Hospital, By Disposition
- By Hospital, By Recode Disposition
- By MCO

Generate Standard IVC and IVC Turnover Report

[Download Latest Standard IVC and IVC Turnover Report File](#)



# Bed Board

## PSA Bed Board

North Carolina Psychiatric and Substance Abuse Bed Availability

Find Beds

Manage Beds

Manage Users

Manage Site

FAQ

Help

Logout

Mark Bell, Database Administrator

Vidant Beaufort Hospital

### Find a Bed

Region:	Eastern	Primary Issue:	ANY ISSUE
Gender:	ANY GENDER	Secondary Issue:	
Age:	ANY		
Commitment:	ANY COMMITMENT		
<input checked="" type="checkbox"/> Include zero bed listings			

**Notice:** NCHA behavioral health providers request that all referrals be initiated by a telephone call to the unit rather than a paper submission by fax or other means. Contact information can be obtained by clicking the name of the provider listed below, or by [clicking here](#) for a list of North Carolina hospitals.

Some NCHA inpatient providers have agreed to accept the Regional Access Referral Form (RARF) as a standard referral document for behavioral health patients. [Click here \(PDF,1MB\)](#) for a copy of the RARF form.

Current Beds Matching Criteria Above	Description	Beds	Time Elapsed	Distance
▶ Coastal Plain Hospital	Adult Acute/Substance Abuse/Detox	0	22 mins	55 miles
▶ Vidant Medical Center	DD (MR/MI)	4	38 mins	21 miles
▶ Vidant Medical Center	Geriatric - Psych/Med	0	38 mins	21 miles
▶ Vidant Medical Center	Adult Psych	0	38 mins	21 miles
▶ Halifax Regional Medical Center	Adult	0	2 hours	70 miles
▶ Cape Fear Valley Behavioral Health Care	Adult Psych	2	2 hours	113 miles
▶ Walter B. Jones Alcohol and Drug Abuse Treatment Center	Female Acute Care Unit	10	4 hours	22 miles
▶ Walter B. Jones Alcohol and Drug Abuse Treatment Center	Substance Abuse - Adult - Pregnant	0	4 hours	22 miles
▶ Walter B. Jones Alcohol and Drug Abuse Treatment Center	Substance Abuse - Adult - Mom w/Baby < 1 Year Old	0	4 hours	22 miles
▶ Walter B. Jones Alcohol and Drug Abuse Treatment Center	Male Acute Care Unit	1	4 hours	22 miles



NC-STeP

# NORTH CAROLINA

STATEWIDE TELEPSYCHIATRY PROGRAM

