



NORTH CAROLINA

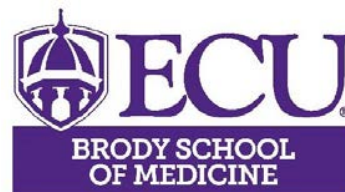
STATEWIDE TELEPSYCHIATRY PROGRAM

Quarterly Progress Update

Sy Atezaz Saeed, MD, MS, FACPpsych,
Professor and Chair

Department of Psychiatry and Behavioral Medicine
Brody School of Medicine - East Carolina University

Executive Director
North Carolina Statewide Telepsychiatry Program (NC-STeP)





NC-Step Advisory Council Meeting

Friday, December 3, 2021

10:30 am – 12:00 pm

Virtual Meeting via Zoom Video Conferencing

Agenda

- | | |
|-------------------|--|
| 10:30- 10:40 a.m. | Welcome and Introductions <ul style="list-style-type: none">• New Advisory Council Members |
| 10:40- 10:45 a.m. | Review and Approval of September 17, 2021 Minutes |
| 10:45- 11:45 a.m. | NC-Step FY22-Q1 (Jul-Sep) Performance Data |
| 11:45- 11:50 a.m. | Old Business <ul style="list-style-type: none">• Update on COVID Funding Appropriations• Update on HRSA funded project• Update on MOTHeRS Project• 5-Year Review of Center for Telepsychiatry |
| 11:50- 11:55 a.m. | New Business <ul style="list-style-type: none">• New funding from the BCBS• Potential new hospitals sites |
| 11:55- 12:00 p.m. | Announcements |
| 12:00 p.m. | Adjourn |



Join Zoom Meeting

<https://us06web.zoom.us/j/82770846638?pwd=U3FJUmdYbkdEOWNIWVZGdTFMQVZ5dz09>

Meeting ID: 827 7084 6638

Passcode: 425763

Members of the NC-STeP Advisory Council

1. **Teresa Bowleg, MSN, RN**
Chief Nursing Officer, Erlanger Murphy Medical Center
2. **Scott W. Brown, MD, FACEP**
NCCEP Board of Directors/ Harnett Health System
3. **R. Battle Betts, Jr., MPA**
Health Director, Albemarle Regional Health Services
4. **John Bigger**
Corporate Director of Behavioral Health, Cape Fear Valley Health
5. **Robin Huffman**
Executive Director, NCPA
6. **Keith McCoy, MD**
Deputy CMO for Behavioral Health and I/DD Community Systems, NC-DHHS
7. **Shakeerah McCoy, MSN,RN,PCCN**
Director, Rural Health Innovation
8. **Amy Roberts, MHA**
Executive Director Telehealth – Mission Health
9. **Sy Atezaz Saeed, MD, MS**
Executive Director, NC-STeP (*Chair*)
10. **Glenn M. Simpson, MBA, MA, NCC**
Behavioral Health Service Line Administrator, Vidant Health
11. **Victoria Soltis-Jarrett, PhD, PMHCNS/NP-BC**
Psychiatric-Mental Health Nursing, UNC Chapel Hill
12. **Marvin Swartz, MD**
Professor & Head Division of Social & Community Psychiatry, Duke
14. **Leza Wainwright**
CEO, Trillium Health Resources

Ex Officio Members

1. Ryan Baker, NC-STeP/ECU
2. Kalyan Muppavarapu, MD, MPH, NC-STeP
3. Renee Clark, MSW, DHHS-ORH
4. Sheila Davies, Ph.D., NC-STeP/MedAccess Partners
5. Phil Donahue, NC-STeP/MedAccess Partners
6. Art Eccleston, DHHS, Division of Mental Health
7. Nick Galvez, DHHS-ORH
8. Katherine Jones, Ph.D., NC-STeP/ECU
9. Maggie Sauer, DHHS-ORH
10. Mary Schiller, NC-STeP/ECU



NC-STeP Quality Management and Outcomes Monitoring Processes: July – September 2021

- 41 hospitals in the network, 40 hospitals were live
- 30 hospitals reporting Telepsychiatry patients in their ED
 - not all live hospitals had telepsychiatry patients
- Total number of assessments for this quarter = 1,312
- Total number of encounters for this quarter = 1,104
- Patient assessments billed for Model 1 hospitals = 675

NC-STeP Quality Management and Outcomes Monitoring Processes: July – September 2021

- The Median Length of Stay was 30.0 hours
- The Average Length of Stay was 60.0 hours
 - 59.1 hours for those discharged to home
 - 60.1 hours for those transferred to another facility
- Average Consult Elapsed Time (in Queue to Exam Complete) for Model 1 hospitals was 4 hours and 11 minutes.

NC-STeP Quality Management and Outcomes Monitoring Processes: July – September 2021

- 774 ED patients who received telepsychiatry services had an IVC in place during their ED stay.
 - 320 (41.3%) of those patients did not have an IVC in place when discharged.
- Of the ED patients who received telepsychiatry services:
 - 46.3% were discharged to home
 - 44.6% were discharged to another facility

NC-STeP Quality Management and Outcomes Monitoring Processes: July – September 2021

- 16 Community based sites were live.
- 1,069 total behavioral health visits.
 - 71 visits with a Psychiatrist.
 - 997 visits with a behavioral health manager.
 - 23 visits with a Maternal and Fetal Medicine Specialist.



	Since project inception in November 2013	Quarter Jul- Sep 2021	Quarter Oct- Dec 2021	Quarter Jan- Mar 2022	Quarter Apr- Jun 2022
Total Patient Encounters	37,717	1,104			
Model 1 Hospital Patient Encounters	22,932	675			
Model 2 Hospital Patient Encounters	14,785	429			
Total Number of Assessments (Billed Assessments for Model 1 Hospitals + Number of Patient Encounters for Model 2 Hospitals)	49,643	1,312			



	Since project inception in November 2013	Quarter Jul- Sep 2020	Quarter Oct- Dec 2020	Quarter Jan- Mar 2021	Quarter Apr- Jun 2021
Total Patient Encounters	37,717	1,179	1,075	1,112	1,219
Model 1 Hospital Patient Encounters	22,932	620	545	695	737
Model 2 Hospital Patient Encounters	14,785	559	530	417	482
Total Number of Assessments (Billed Assessments for Model 1 Hospitals + Number of Patient Encounters for Model 2 Hospitals)	49,643	1,334	1,202	1,307	1,415

NC-STeP Benchmarks



Goals	Values Reached		
Cumulative Target to be reached by (06/30/2022)	Value Reached as of most recent previous quarter (06/30/2021)	Value Reached as of this reporting quarter (09/30/2021)	Year-to-Date Total with % of the Yearly Target (09/30/2021)
Number of IVCs	2,557	805	774 30.3% of Yearly Target
Number of IVCs Overturned	1,023	326	320 31.3% of Yearly Target
Total Number of Assessments (Billed assessments for Model 1 hospitals + Number of patient encounters for Model 2 hospitals.)	4,261	1,415	1,312 30.8% of Yearly Target

NC-STeP Status as of September 30, 2021

EVALUATION CRITERIA	BASELINE VALUES/MEASURES AS REPORTED ON 03/31/2021	TARGET TO BE REACHED BY 06/30/2022	VALUES/MEASURES REACHED AS OF 09/30/2021
1. The number of full-time equivalent (FTE) positions supported by these contracts	4.10 FTEs	4.30 FTEs	3.98 FTEs
2. The number of overturned involuntary commitments (inpatient admission prevented)	711	1,023	320 in this quarter Cumulative total since program inception 7,662
3. The number of participating consultant providers	40	48	42

NC-STeP Status as of September 30, 2021

EVALUATION CRITERIA	BASELINE VALUES/MEASURES AS REPORTED ON 03/31/2021	TARGET TO BE REACHED BY 06/30/2022	VALUES/MEASURES REACHED AS OF 09/30/2021
4. The number of telepsychiatry assessments conducted.	4,251	4,261	1,312 in this quarter Cumulative total since program inception 49,643
5. The number of telepsychiatry referring sites	48	41	41 40 Live
6. The reports of involuntary commitments to enrolled hospitals	2,061	2,557	774 in this quarter Cumulative total since program inception 22,127

NC-STeP Status as of September 30, 2021

EVALUATION CRITERIA	BASELINE VALUES/MEASURES AS REPORTED ON 03/31/2021	TARGET TO BE REACHED BY 06/30/2022	VALUES/MEASURES REACHED AS OF 09/30/2021
7. The average (mean) Length of Stay for all patients with a primary mental health diagnosis across all dispositions.	55 hours	55 hours	QTD Average = 60.0 QTD Median = 30.0
8. The rate of "satisfied" or "strongly satisfied" among emergency department staff participating in NC-STeP.	88%	80%	79%

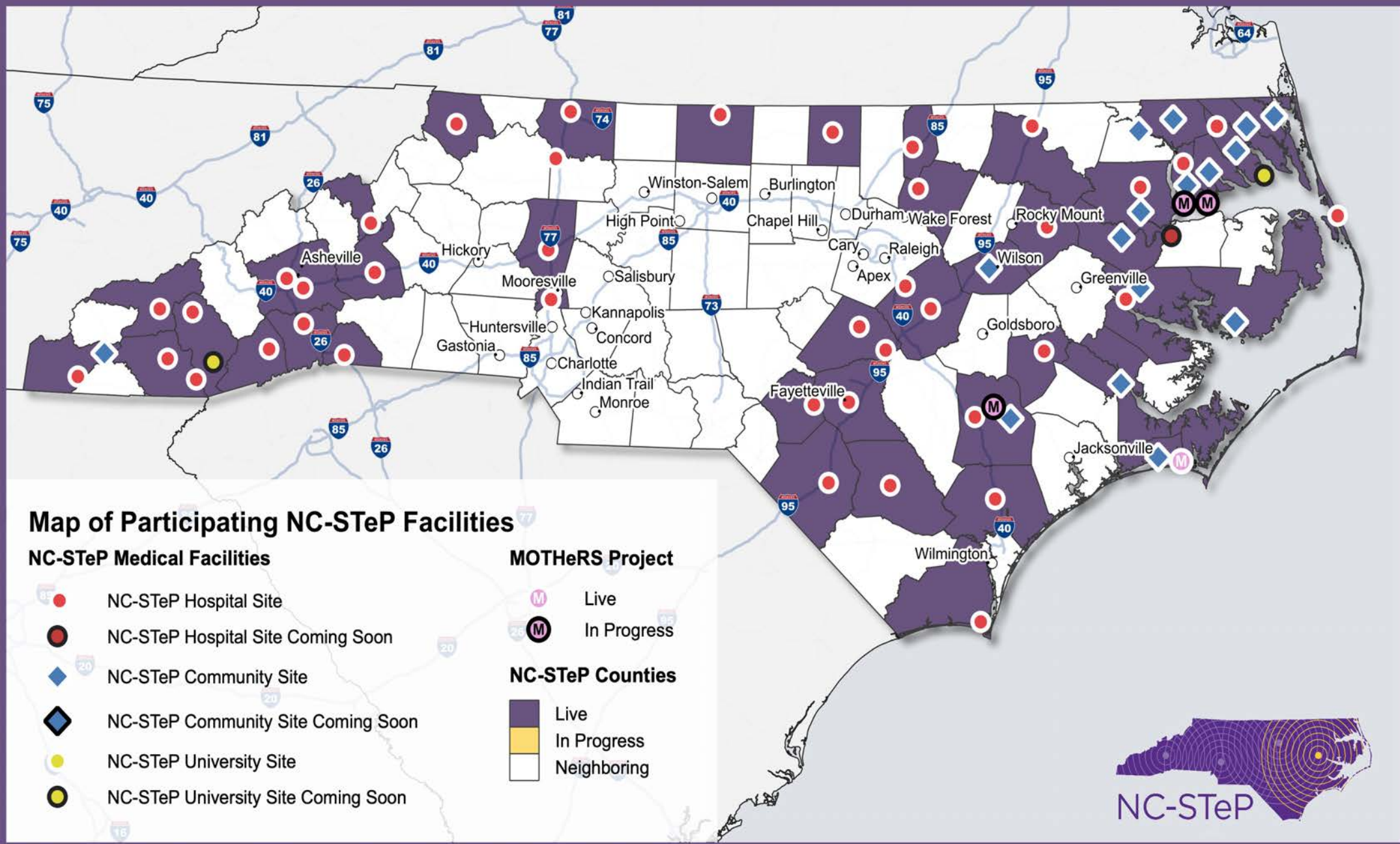
NC-STeP Status as of September 30, 2021

EVALUATION CRITERIA	BASELINE VALUES/MEASURES AS REPORTED ON 03/31/2021	TARGET TO BE REACHED BY 06/30/2022	VALUES/MEASURES REACHED AS OF 09/30/2021
9. The rate of "satisfied" or "strongly satisfied" among hospital CEOs/COOs participating in NC-STeP.	100%	100%	100%
10. The rate of "satisfied" or "strongly satisfied" among consulting (hub) providers participating in NC-STeP.	100%	85%	100%

NC-STeP Status as of September 30, 2021

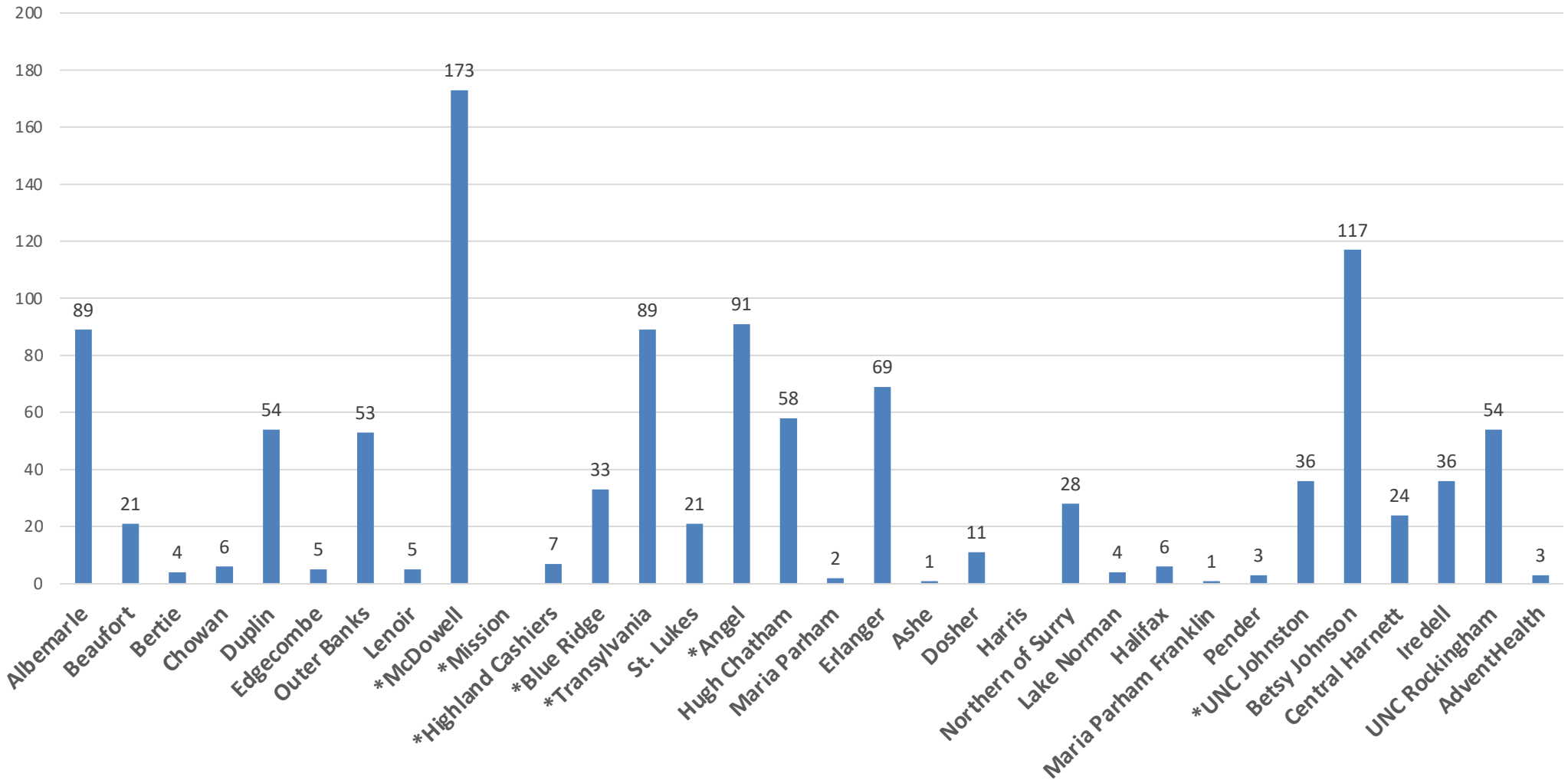
EVALUATION CRITERIA	BASELINE VALUES/MEASURES AS REPORTED ON 03/31/2021	TARGET TO BE REACHED BY 06/30/2022	VALUES/MEASURES REACHED AS OF 09/30/2021
11. The rate of "satisfied" or "strongly satisfied" among emergency department physicians participating in the statewide telepsychiatry program.	100%	85%	100%
12. Cumulative return on investment to state psychiatric facilities through overturned involuntary commitments (inpatient admission prevented)	\$3,890,000	\$5,522,256	\$1,728,000 Cumulative average since program inception \$41,374,800

NC-STeP Status as of September 30, 2021



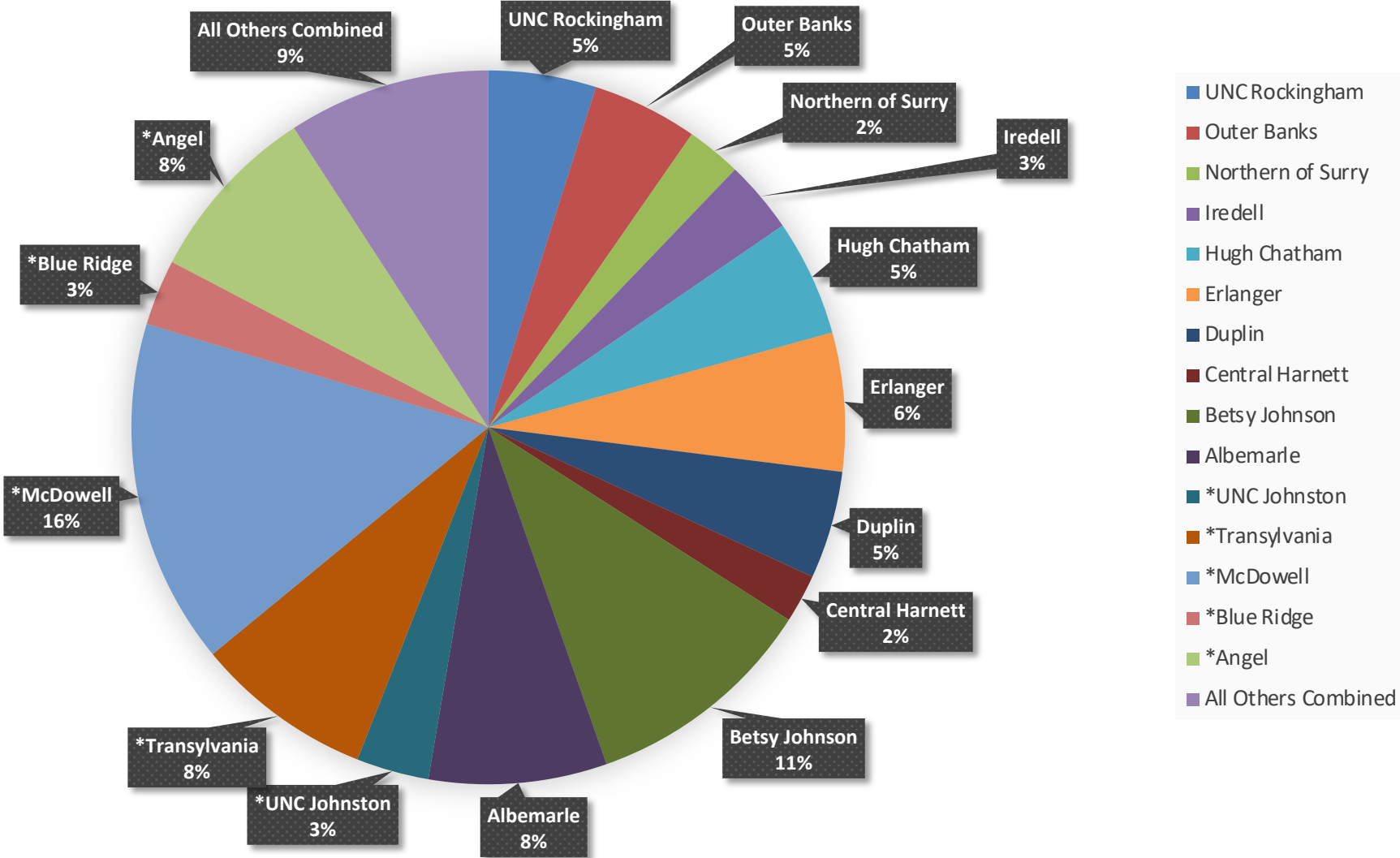
Number of NC-STeP Patients by Hospital

July - September 2021



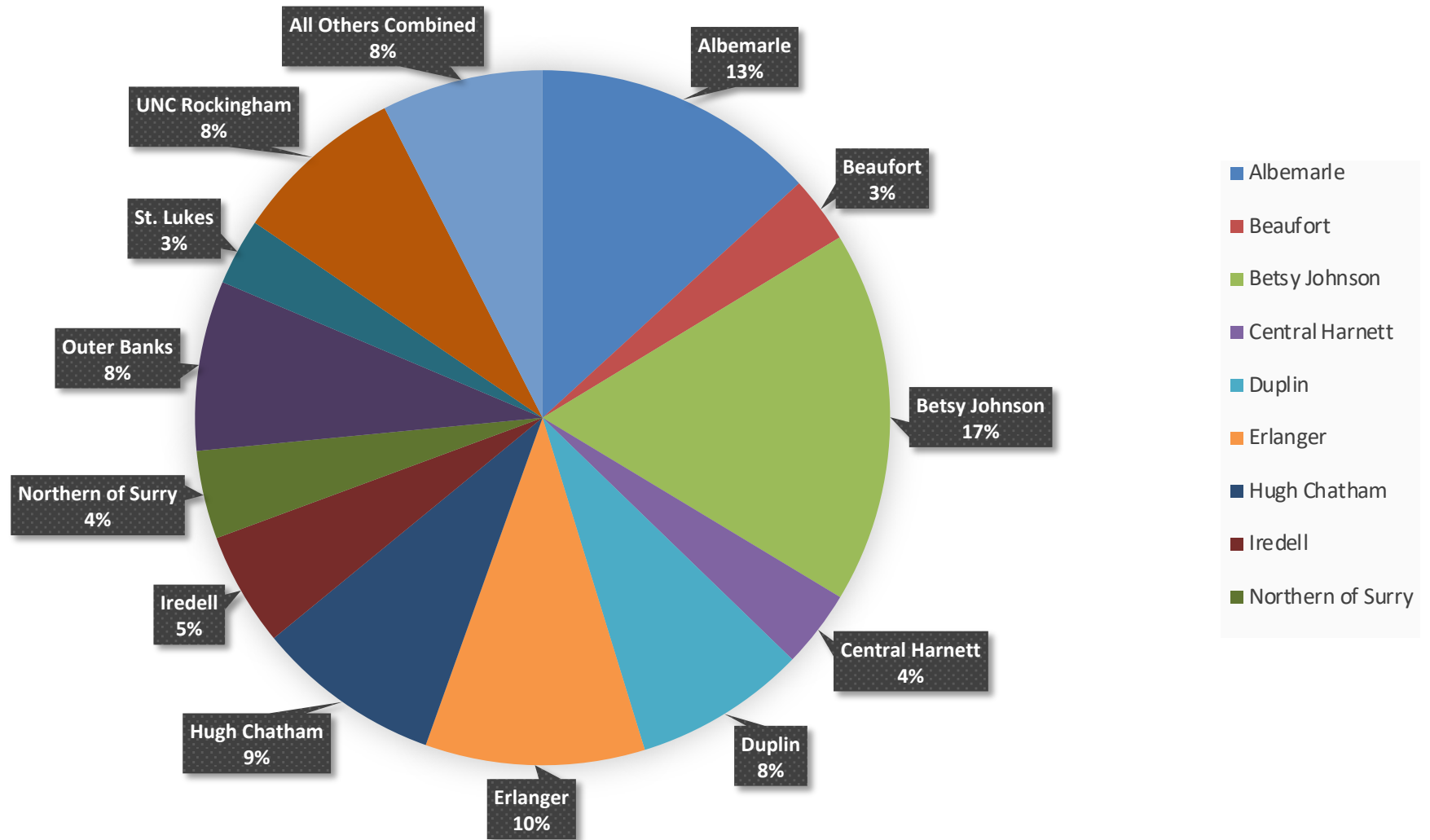
Percent of use by hospital Jul-Sep 2021

(based on number of encounters)



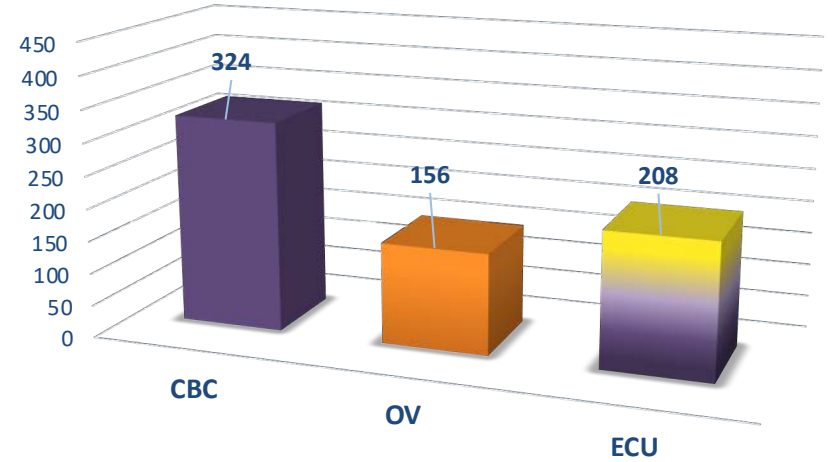
Percent of use for Model 1 hospitals Jul-Sep 2021

(based on number of encounters)

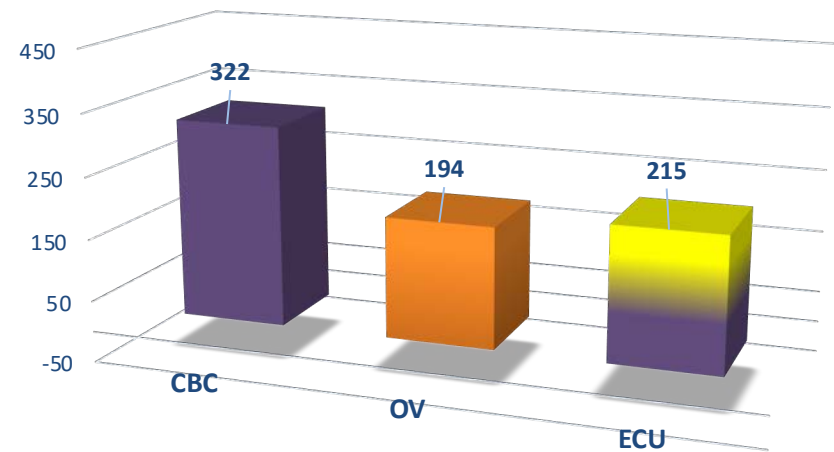


Number of Patients by Provider (Model 1)

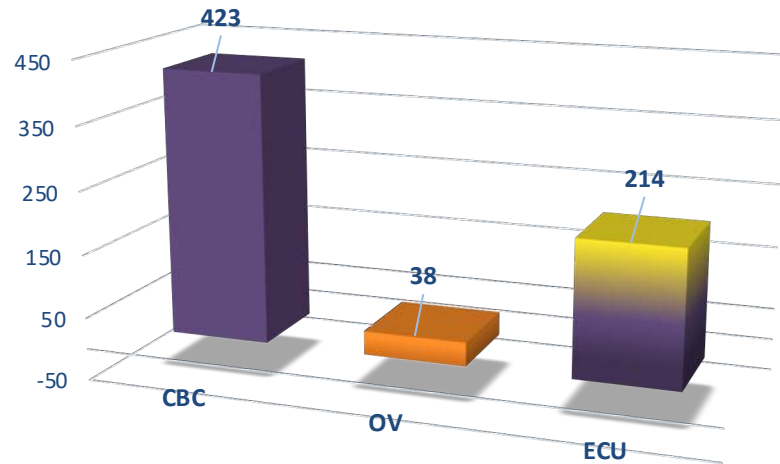
Jan-Mar 2021



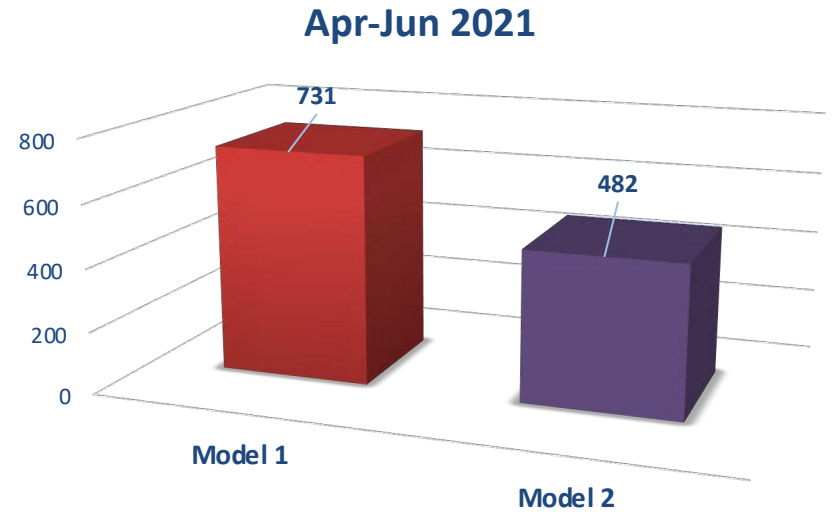
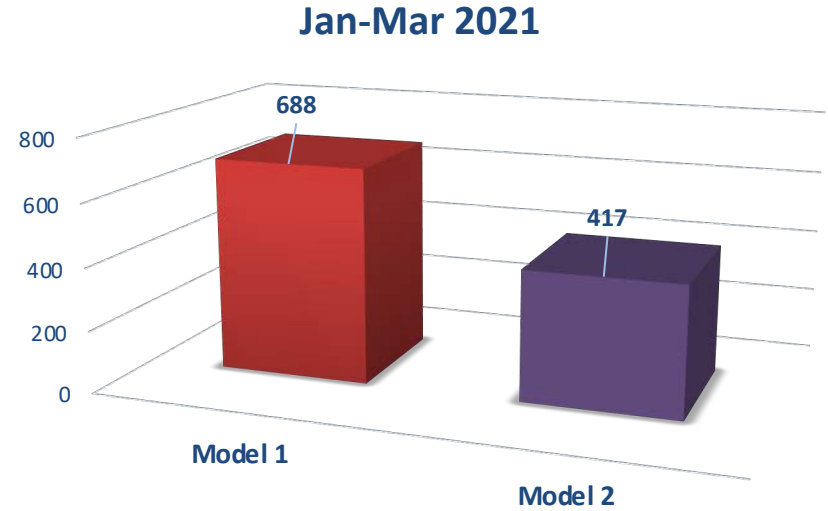
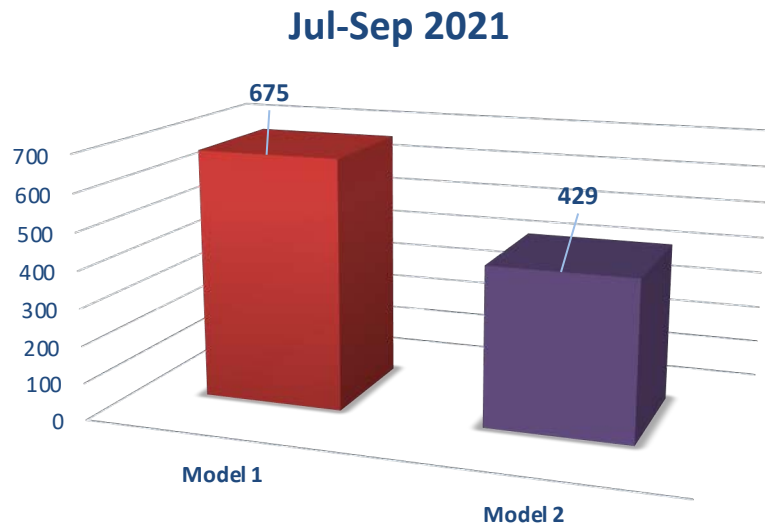
Apr-Jun 2021



Jul-Sep 2021

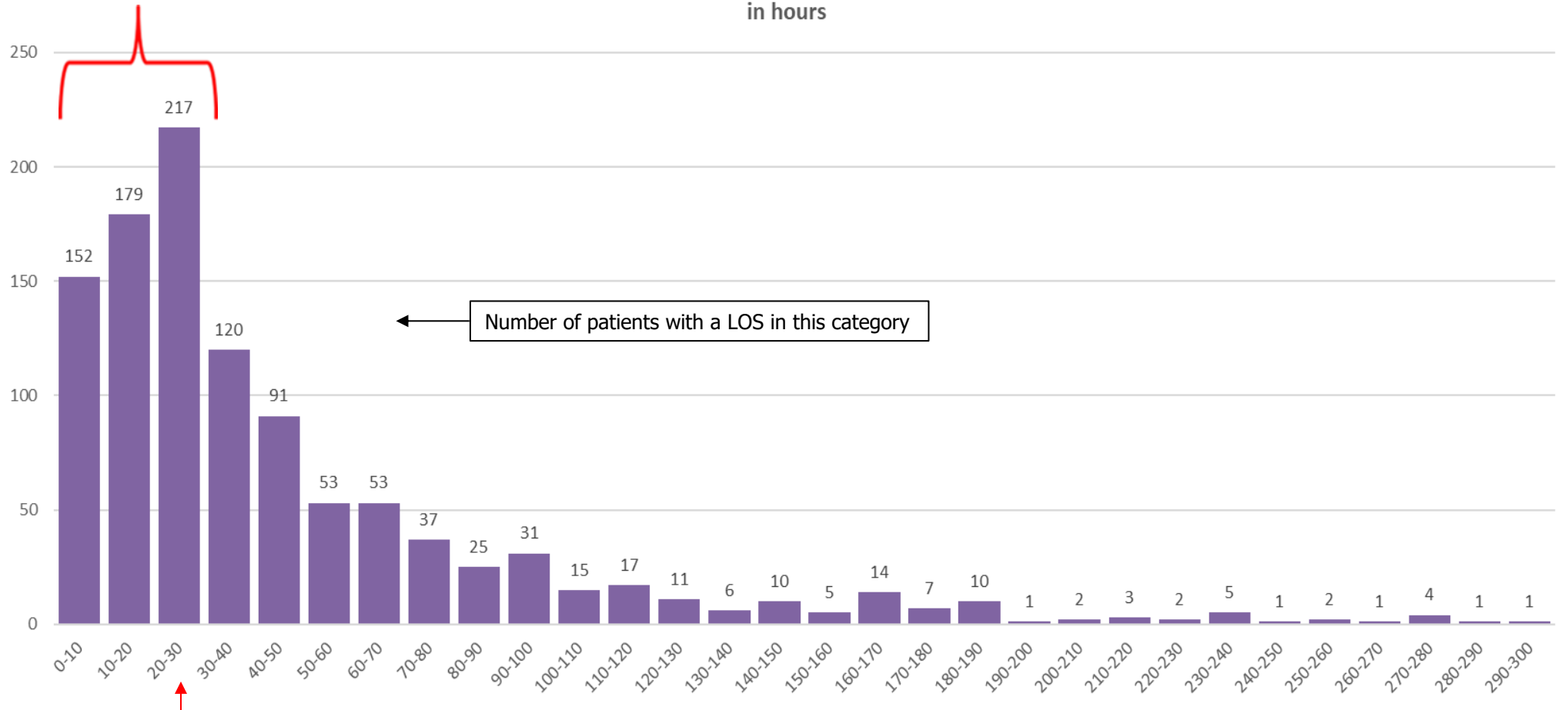


Number of Patients by Model



Number of NC-Step Patients by LOS Category Jul - Sep 2021 in hours

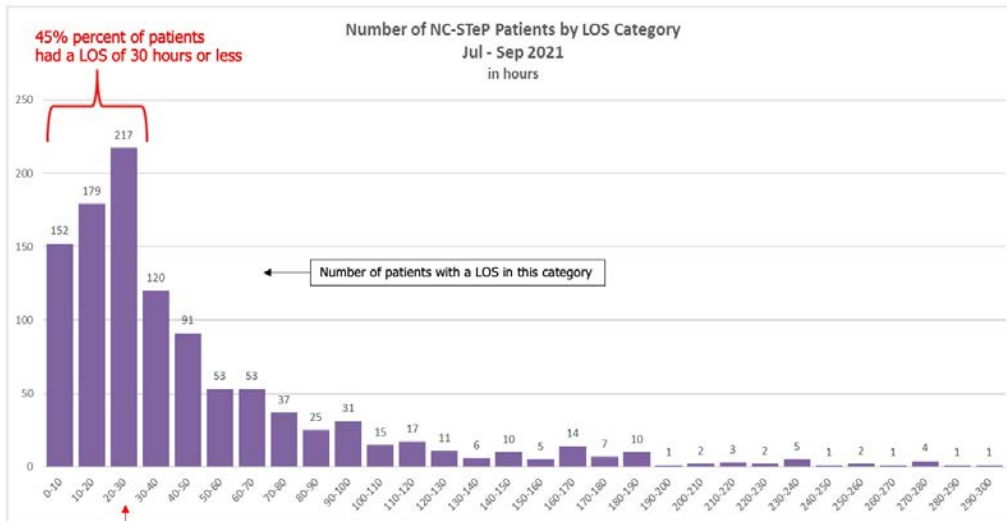
45% percent of patients had a LOS of 30 hours or less



Median Length of Stay for Jul-Sep 2021 = 30 Hours

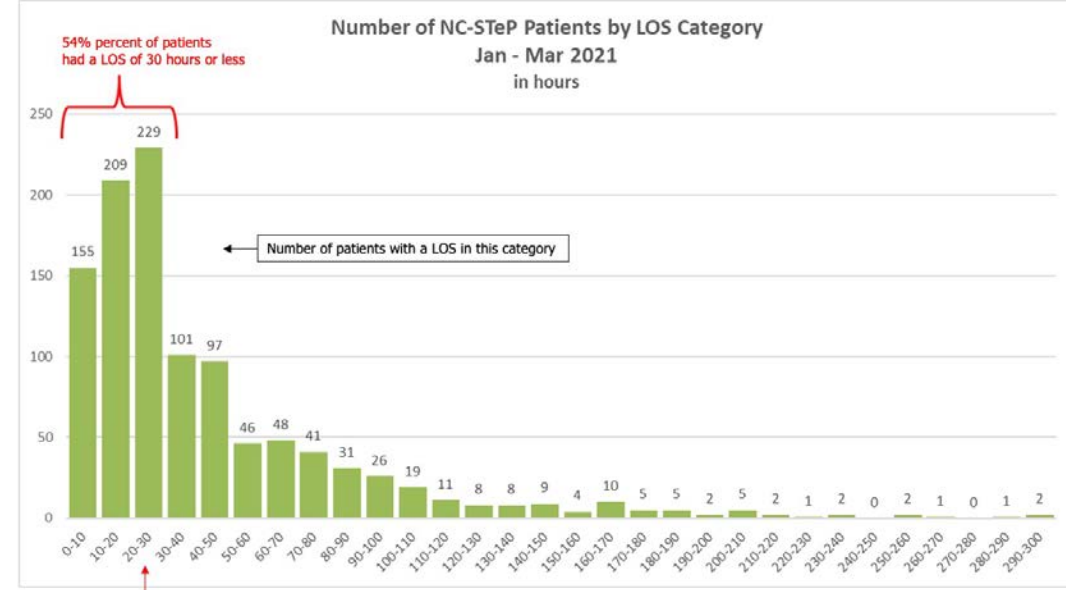
28 patients had a LOS longer than 300 hours





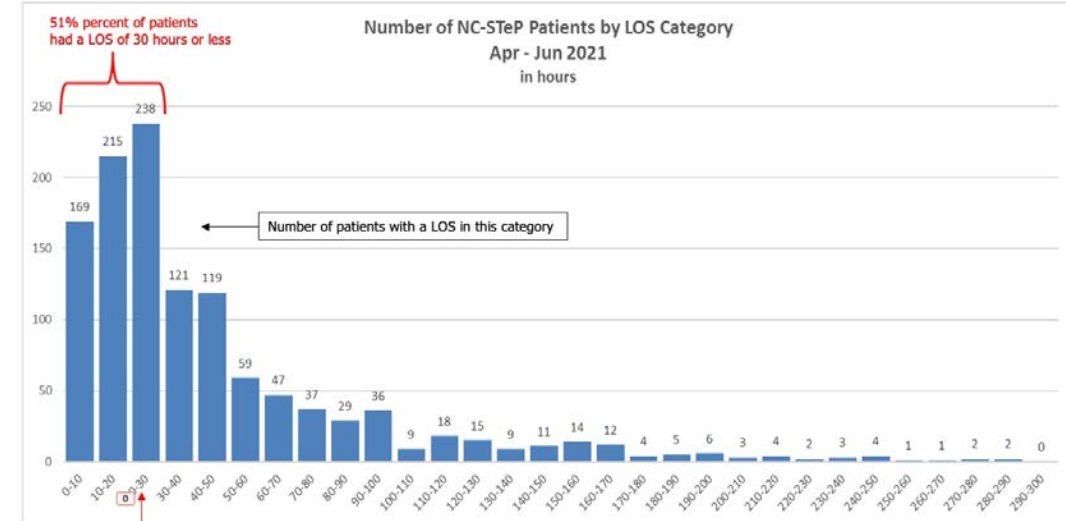
Median Length of Stay for Jul-Sep 2021 = 30 Hours

28 patients had a LOS longer than 300 hours



Median Length of Stay for Jan-Mar 2021 = 27.7 Hours

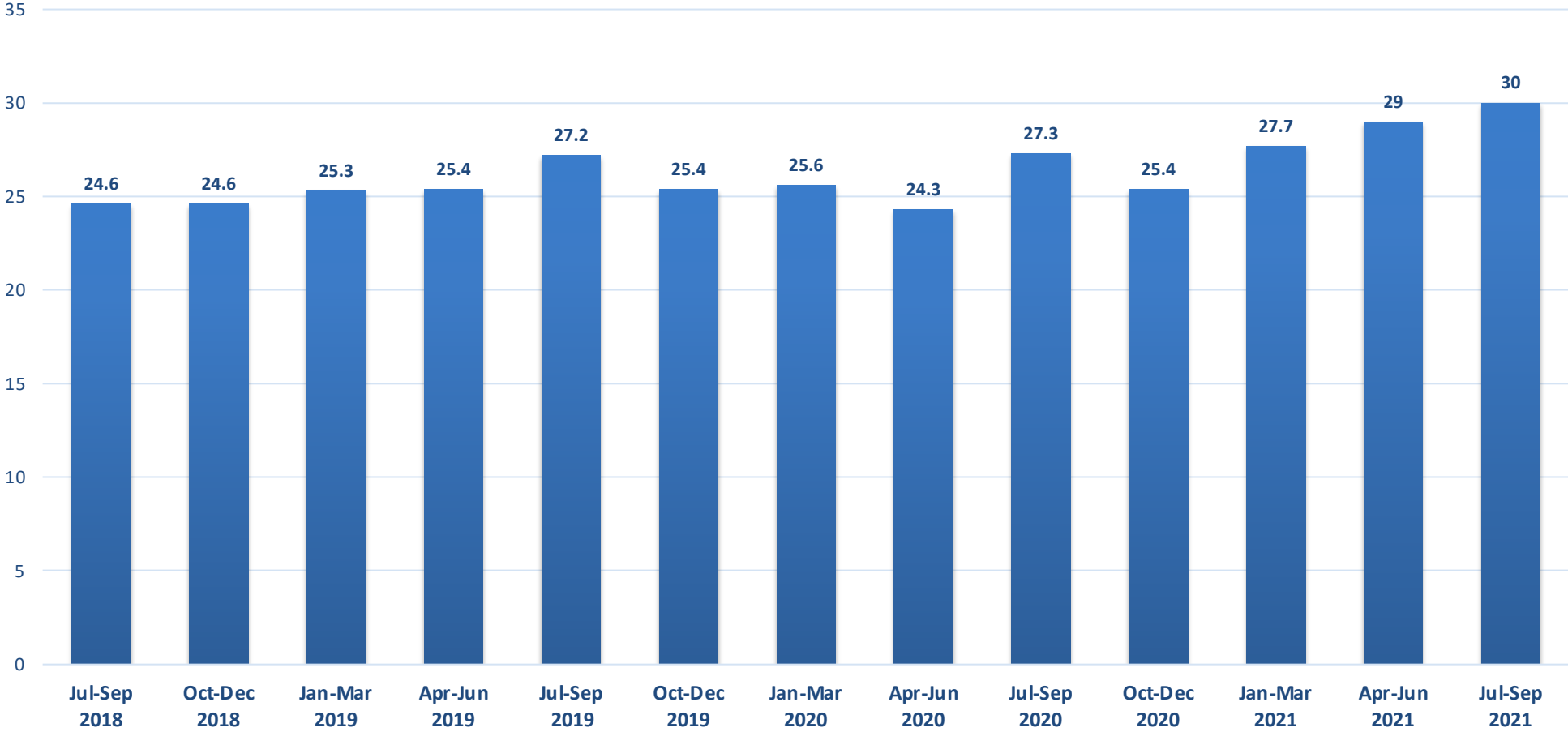
25 patients had a LOS longer than 300 hours



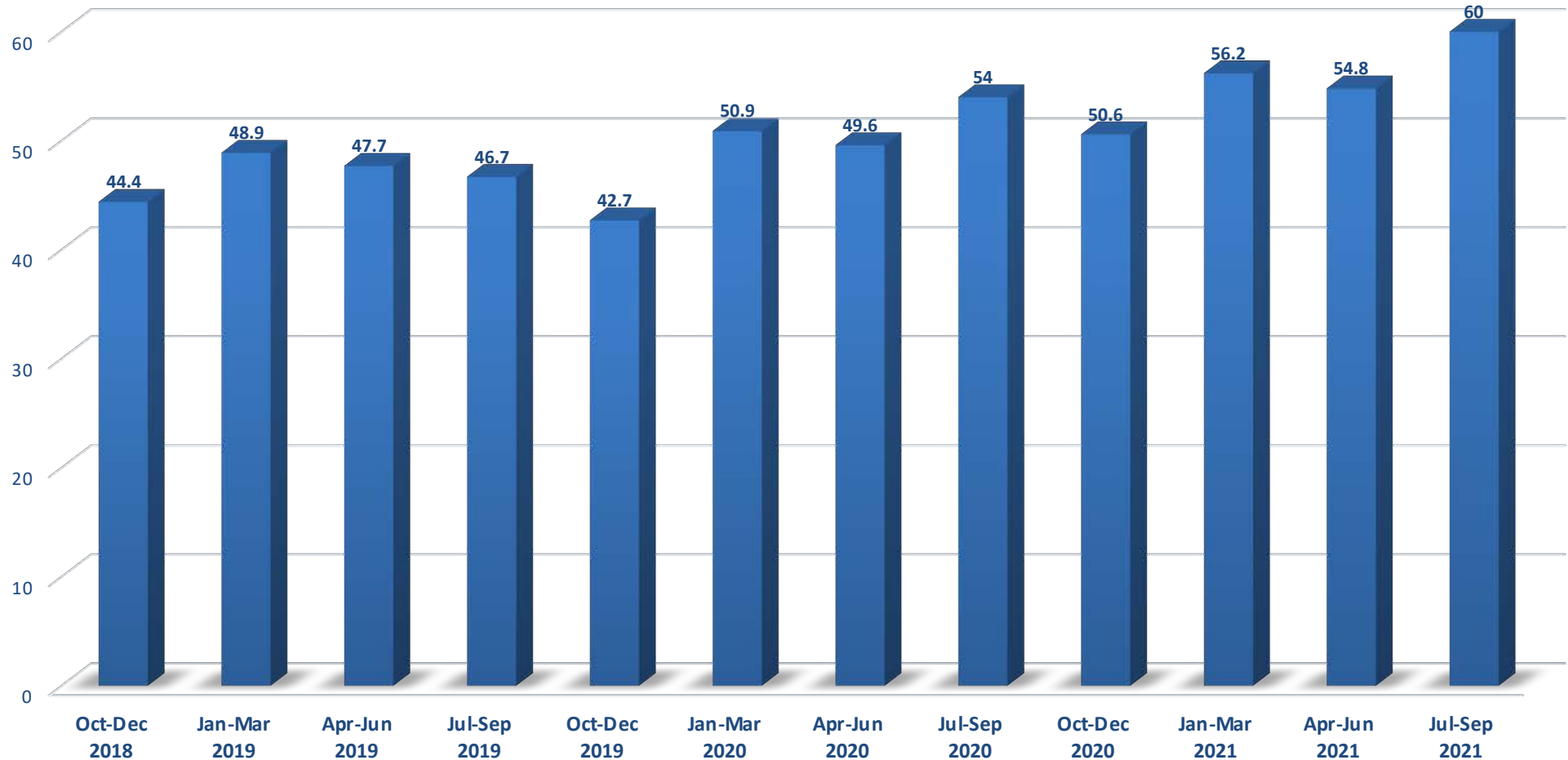
Median Length of Stay for Apr-Jun 2021 = 29 Hours

18 patients had a LOS longer than 300 hours

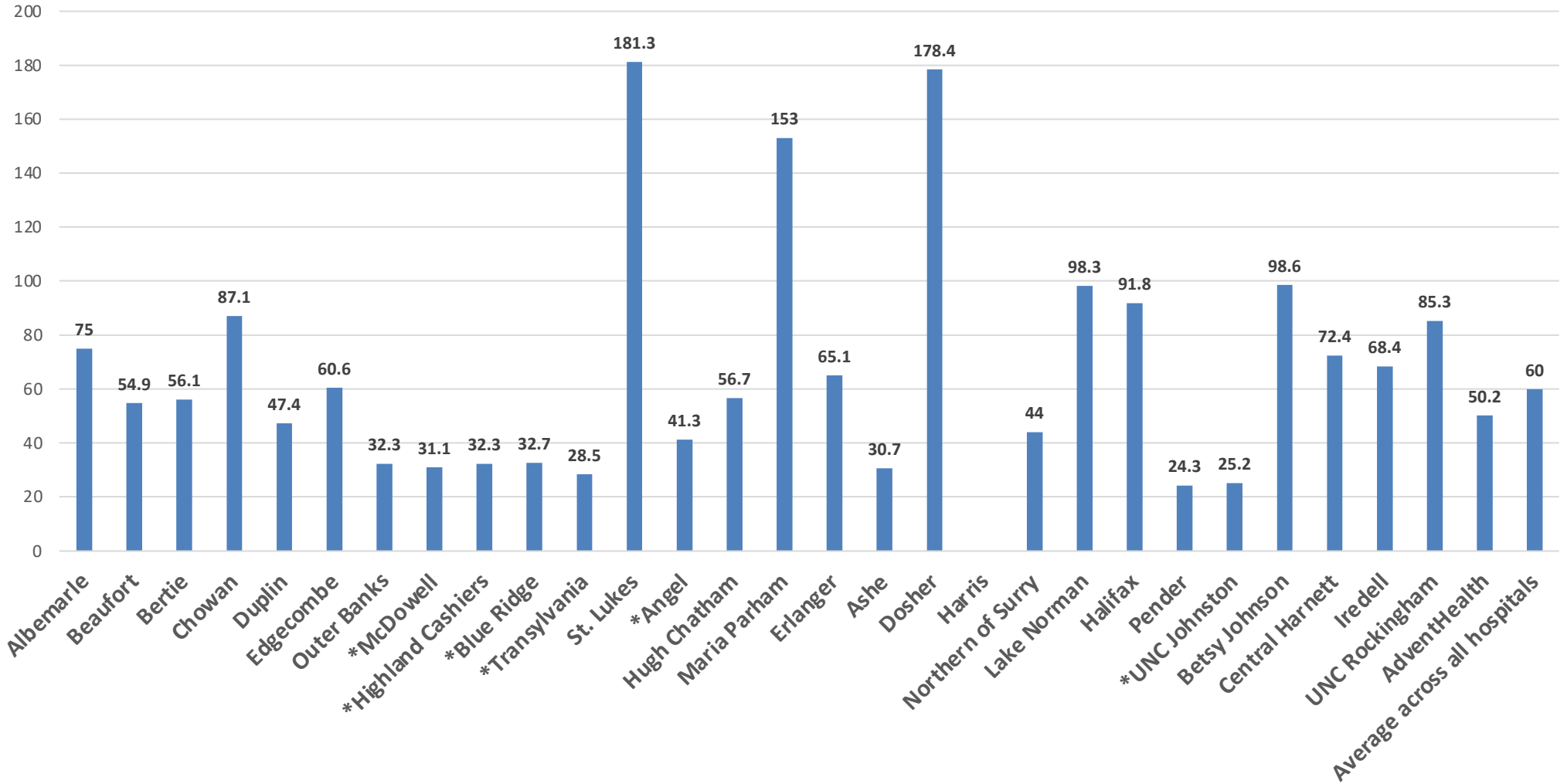
Median Length of Stay by Quarter (in hours)



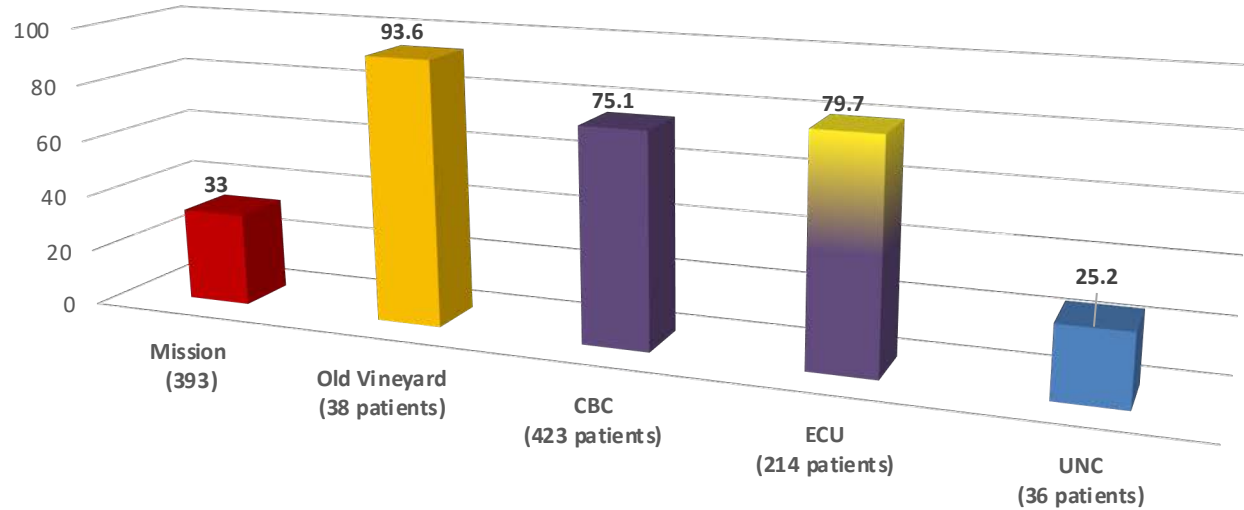
Average Length of Stay by Quarter for Hospitals Participating in NC-Step (in hours)



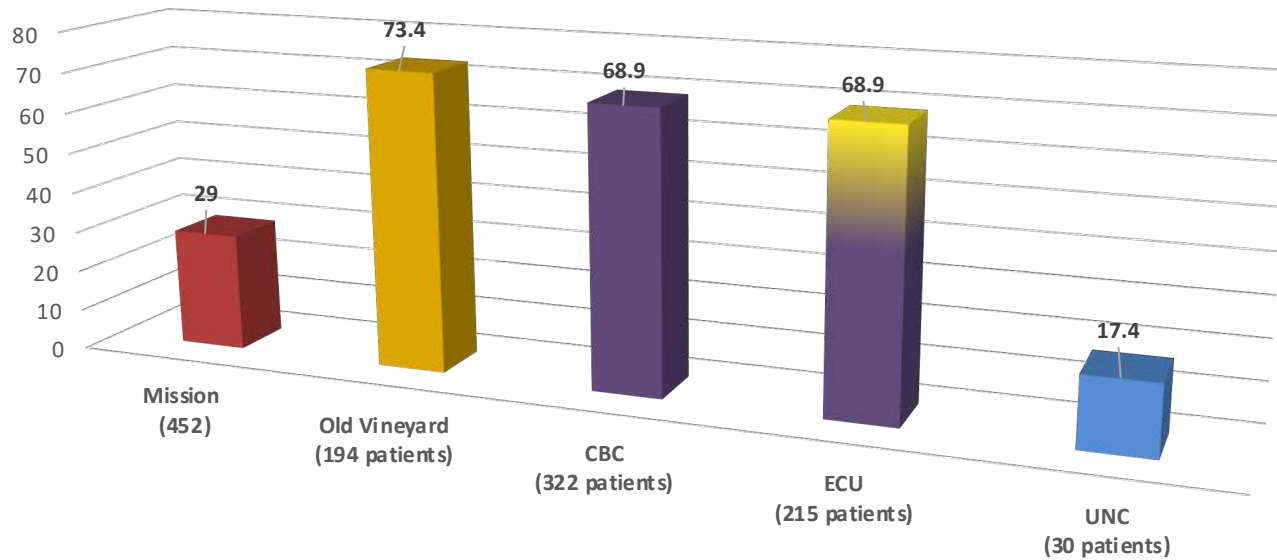
Average Length of Stay for NC-STeP Patients by Hospital July - September 2021 (in hours)



Jul-Sep 2021 (in hours)



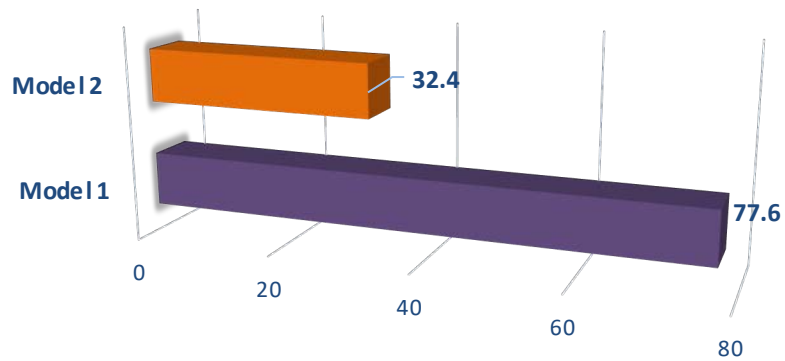
Apr-Jun 2021 (in hours)



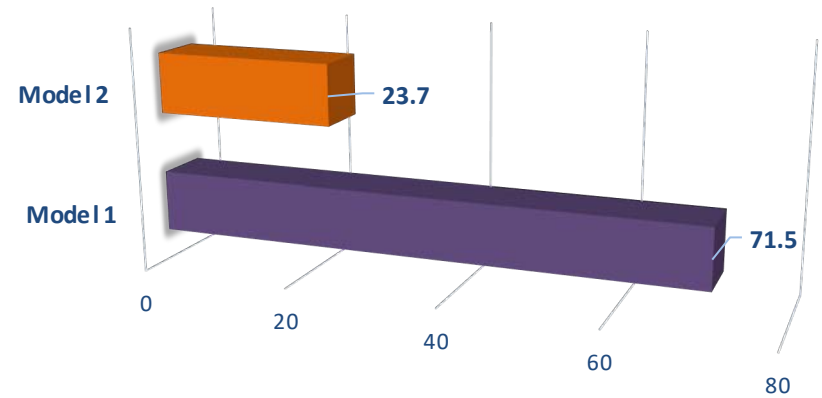
Average Length of Stay by Provider

Average LOS by Model

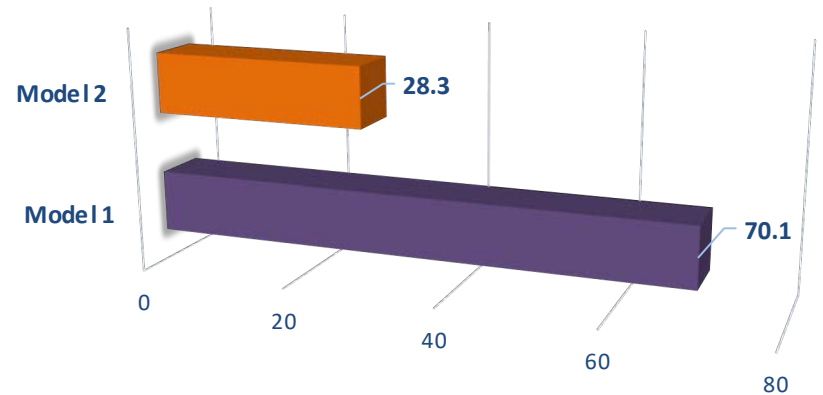
Average LOS by Model Jul-Sep 2021 (in hours)



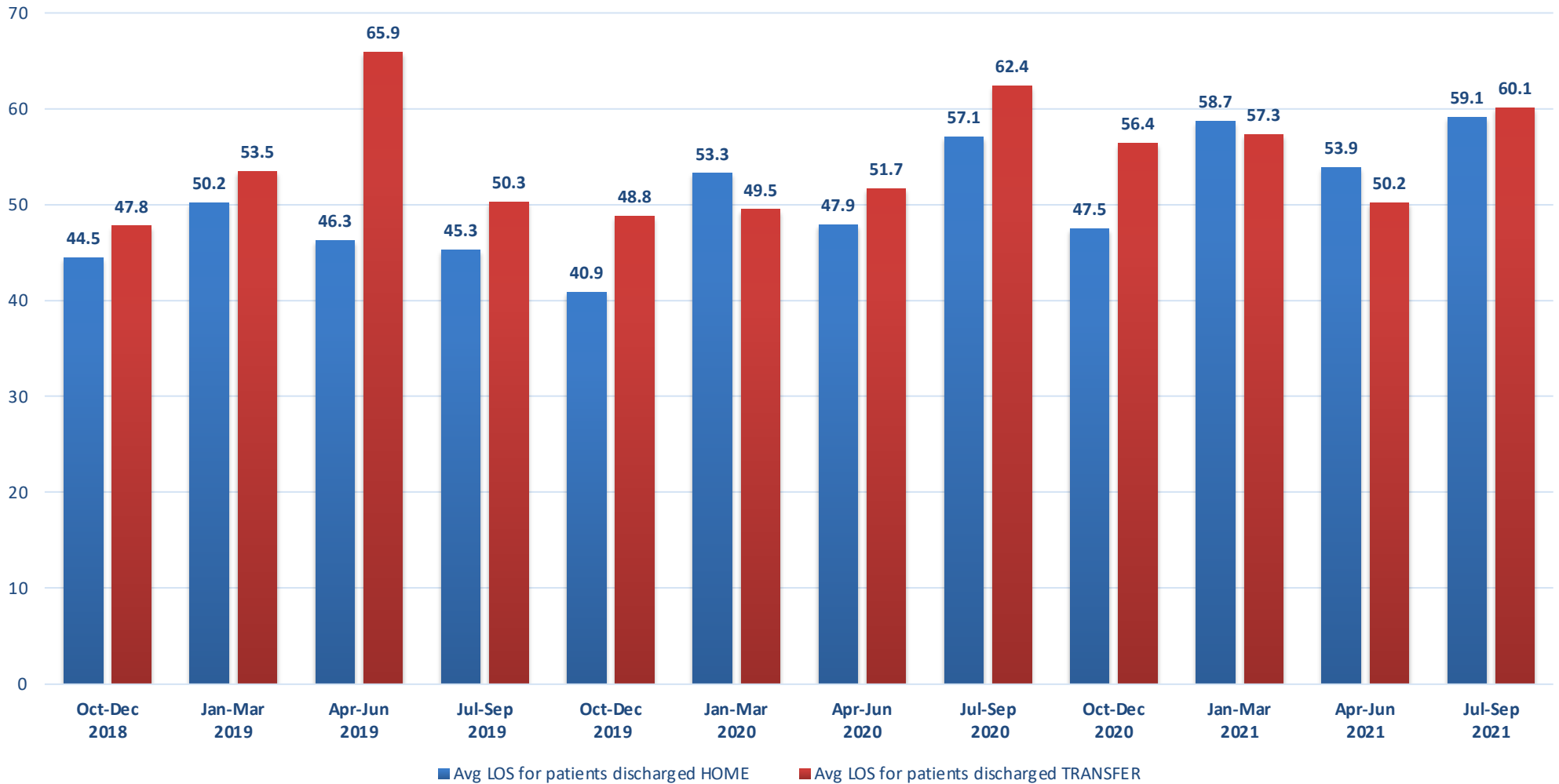
Jan-Mar 2021 (in hours)



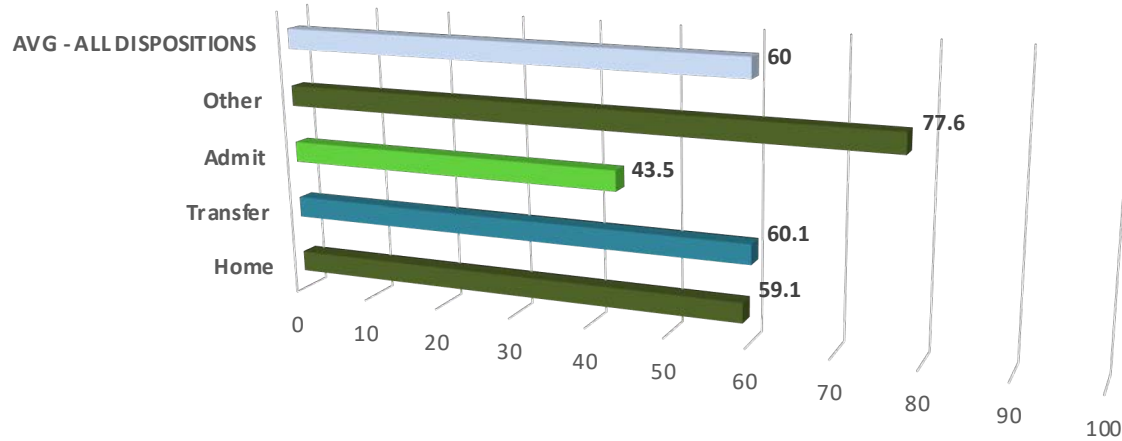
Apr-Jun 2021 (in hours)



Average Length of Stay by Quarter for Patients Discharged to Home or Transfer (in hours)

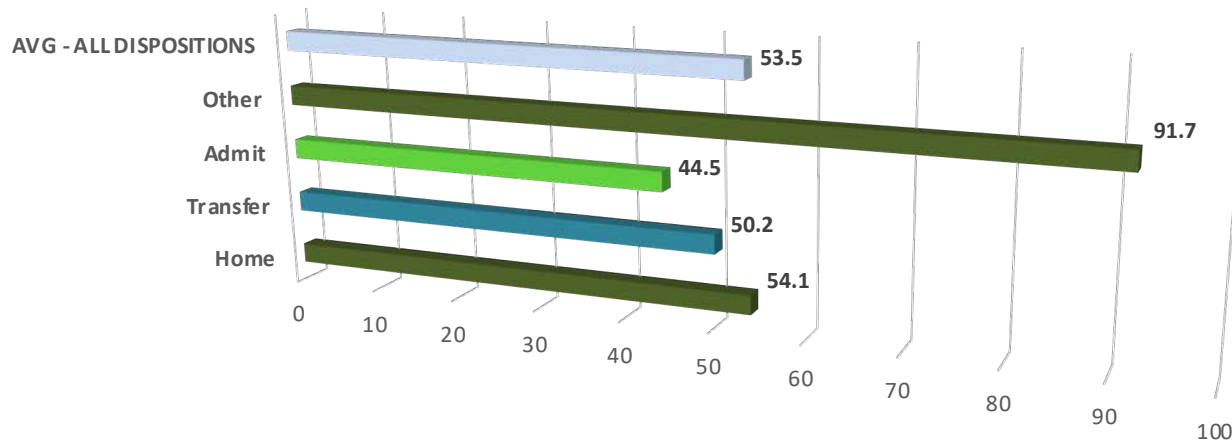


Jul-Sep 2021 (in hours)



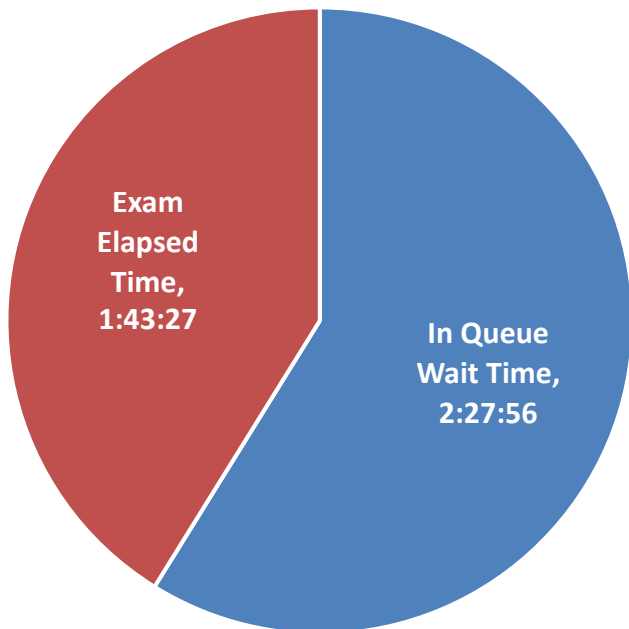
Average LOS by Discharge Disposition

Apr-Jun 2021 (in hours)

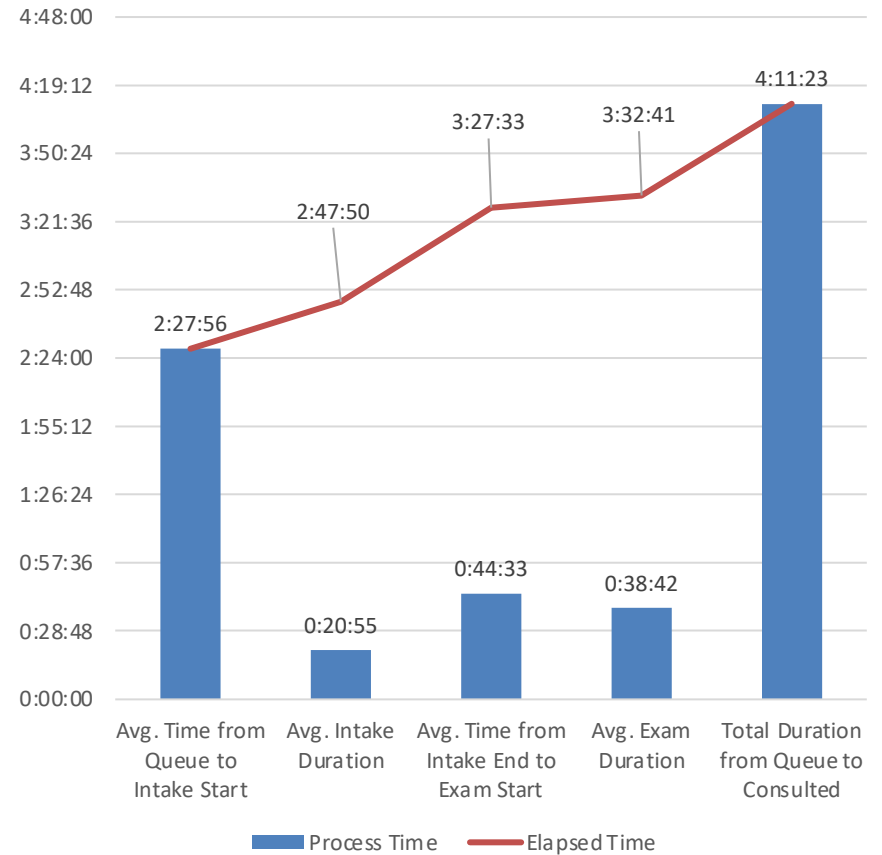


Consult Elapsed Time: July – September 2021

CBC, OV & ECU
 Average Consult Exam Elapsed Time
 In Queue to Exam Complete
 FY22-Q1 July – September 2021
 (4 hrs. 11 min.)

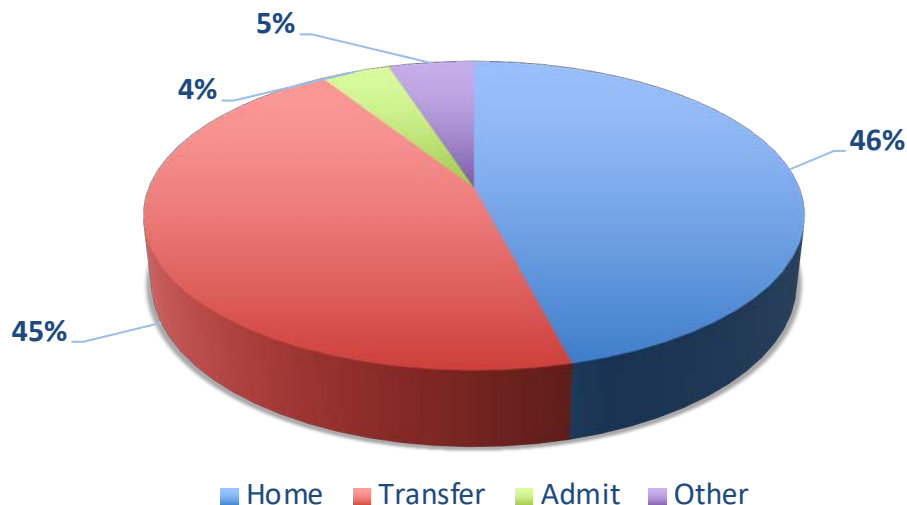


Key Processes and Elapsed Times Averages
 CBC, OV & ECU
 FY22-Q1 July - September 2021

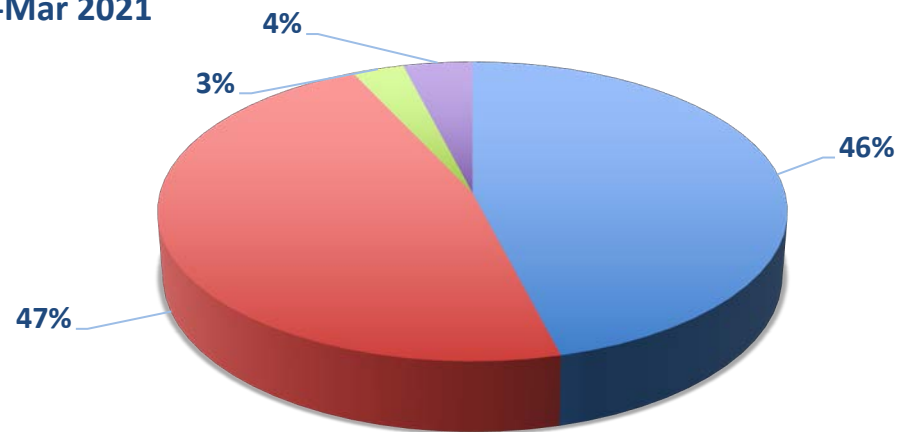


Percent of Patients by Discharge Disposition

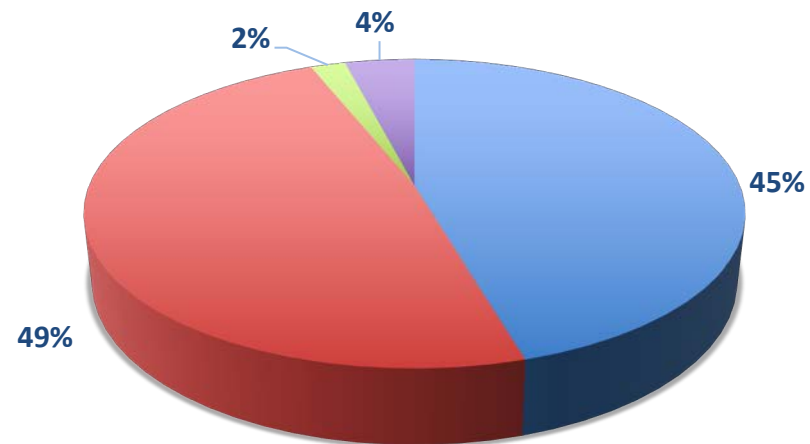
Jul-Sep 2021



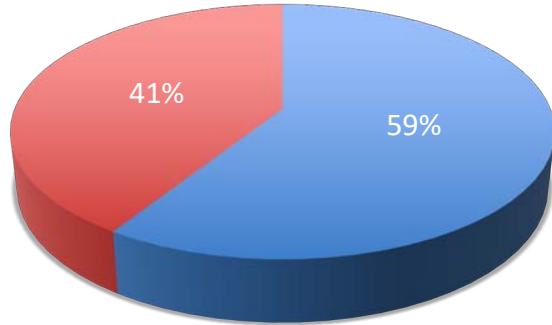
Jan-Mar 2021



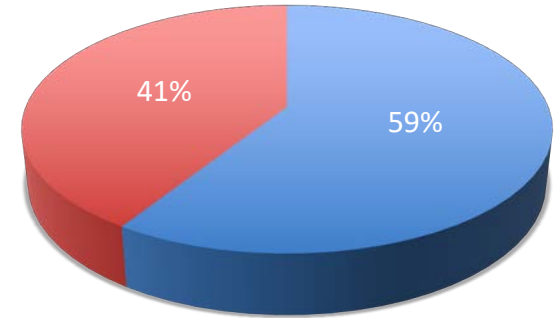
Apr-Jun 2021



Jul-Sep 2021



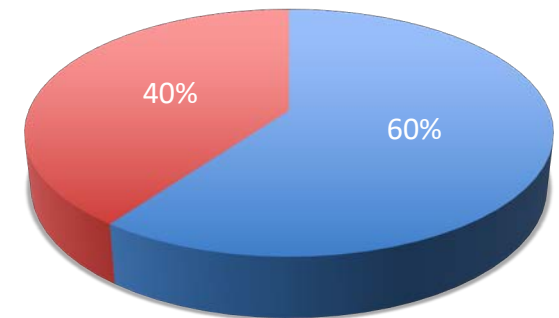
Jan-Mar 2021



**IVCs –
By Release Status**

- IVCs - percent not released
- IVCs - percent released

Apr-Jun 2021





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

Sy Atezaz Saeed¹  · Katherine Jones² · Kalyan Muppavarapu¹

Accepted: 26 October 2021

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Abstract

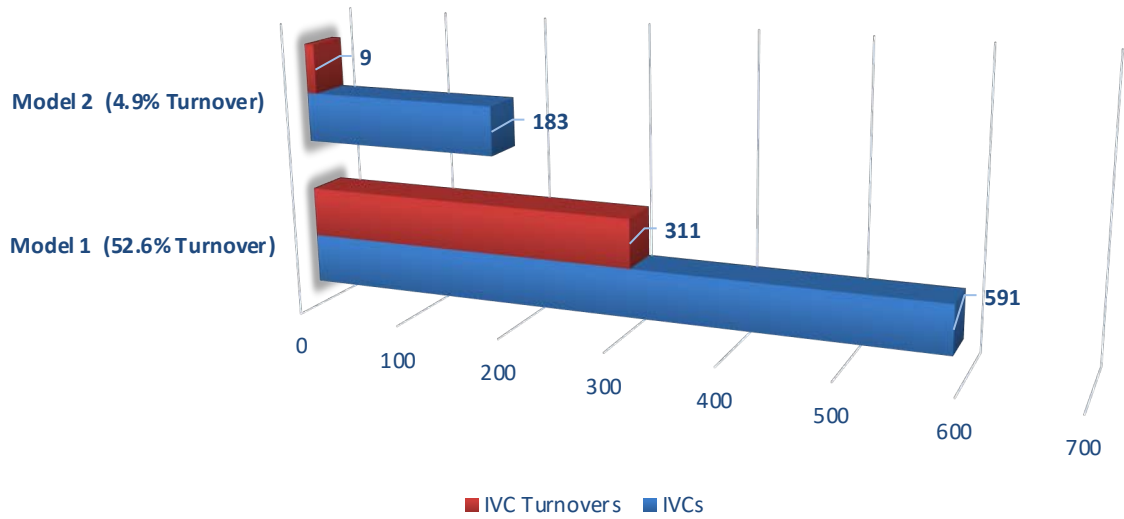
Objective To study the impact of the North Carolina Statewide Telepsychiatry Program in reducing unnecessary psychiatric hospitalizations and cost savings during a 6½ year period.

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.

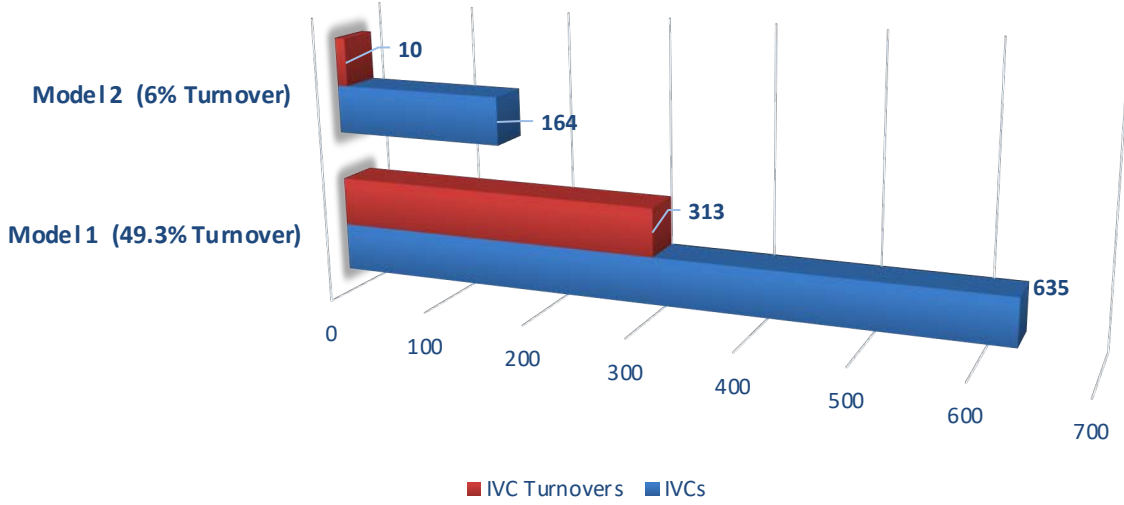
Conclusions Telepsychiatry consultation services in the emergency departments can decrease unnecessary psychiatric hospitalizations and contribute to significant cost savings to the healthcare system and society and improve the outcomes for patients and families by decreasing financial burden and stress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

Jul-Sep 2021

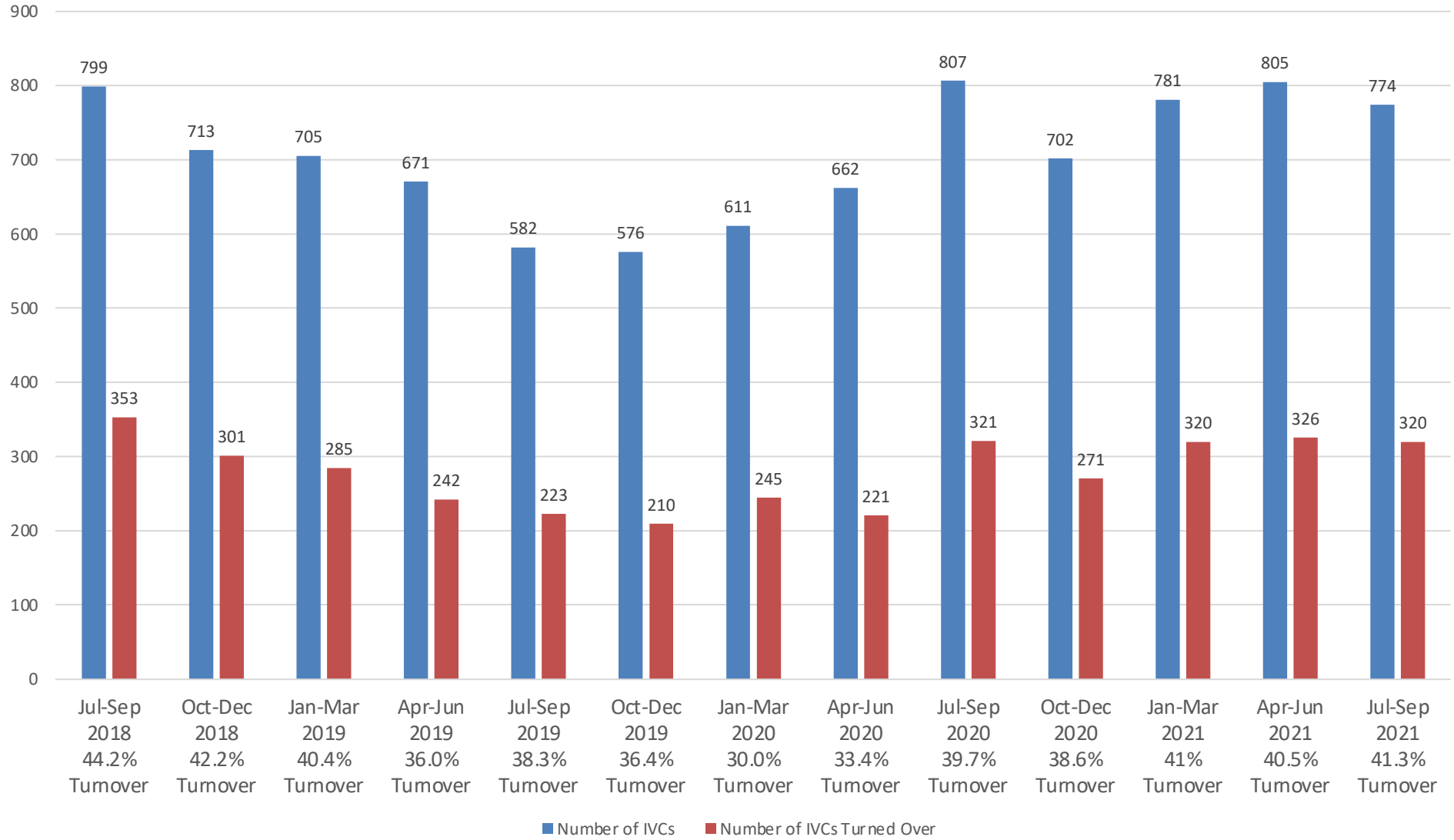


Number of IVCs and IVC Turnovers by Model

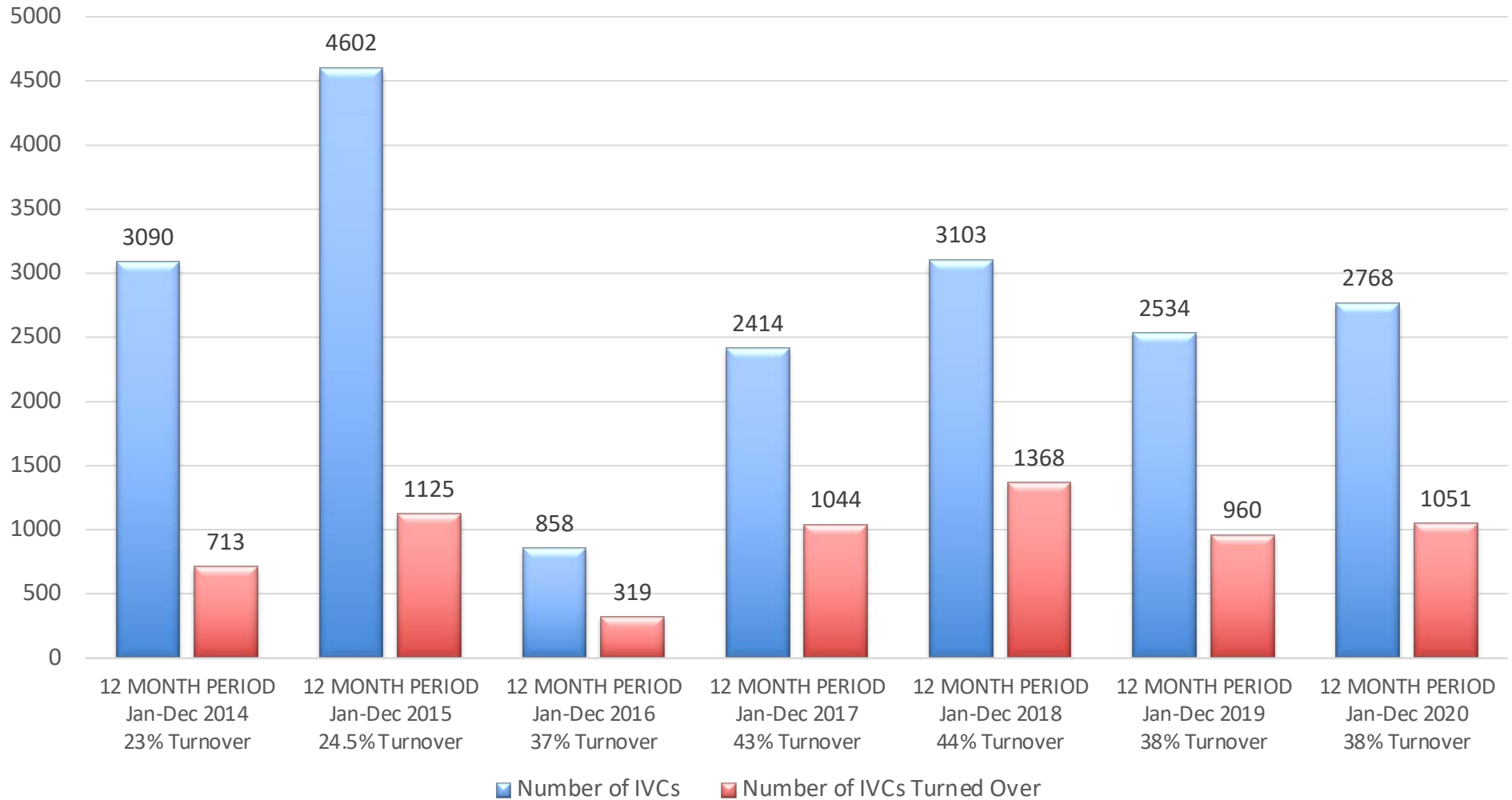
Apr-Jun 2021



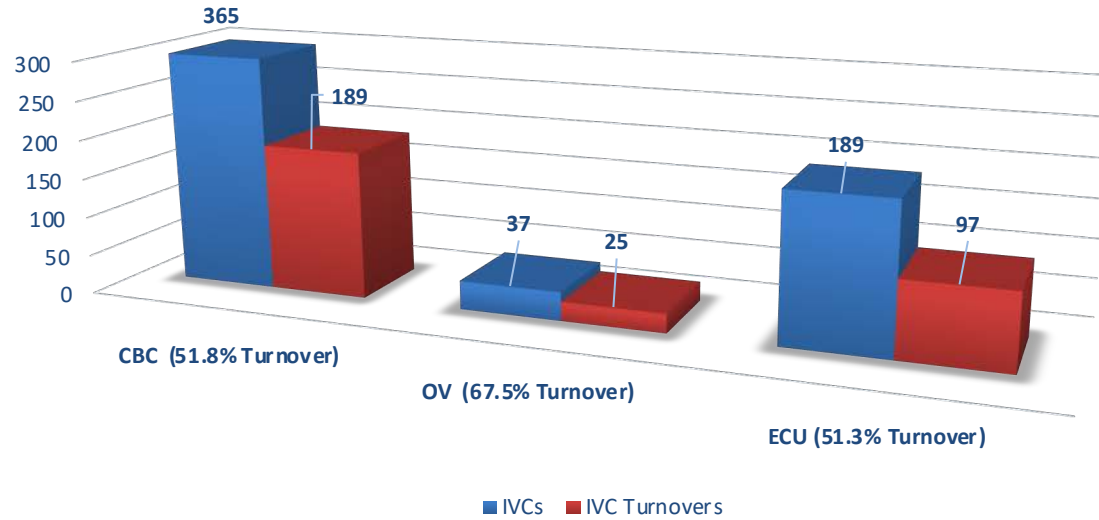
Number of IVCs and IVCs Turned Over by Quarter



Number of IVCs and IVCs Turned Over by Year

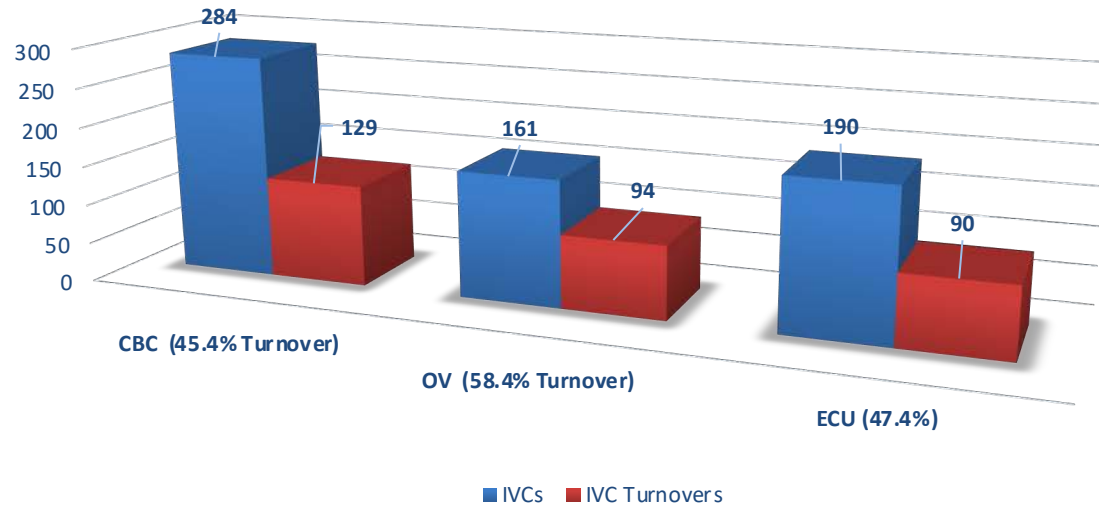


Jul-Sep 2021



Number of IVCs and IVC Turnovers by Provider

Apr-Jun 2021



Satisfaction Surveys

- Satisfaction surveys are done twice a year
- Most recent surveys conducted in September 2021
- Invitations to participate were sent via electronic mail
- For groups that use the portal (Model 1 ED staff, psychiatrists, and intake specialists) there was a link to the survey on the portal log-in page
- Surveys were completed online via Qualtrics software



Satisfaction Surveys Methodology

Satisfaction surveys were conducted in September 2021 with 9 groups

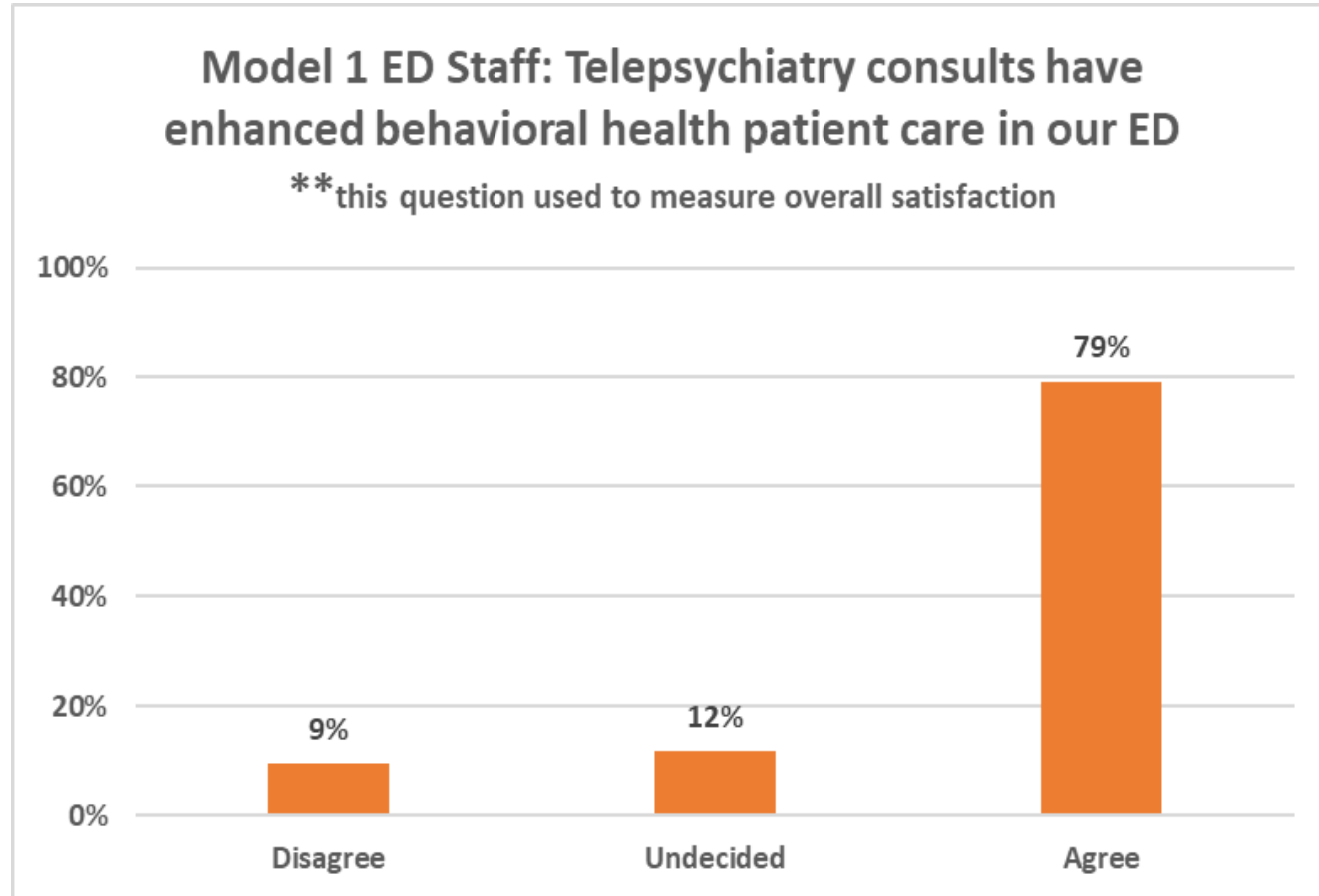
1. Model 1 Emergency Department Physicians
2. Model 1 Emergency Department Staff
3. Model 1 Provider Psychiatrists
4. Model 1 Psychiatric Intake Specialists
5. Model 1 Hospital CEOs
6. Model 2 Emergency Department Physicians
7. Model 2 Emergency Department Staff
8. Model 2 Provider Psychiatrists
9. Model 2 Hospital CEOs

Each group was given a different survey (with different questions) based on their role in the program.

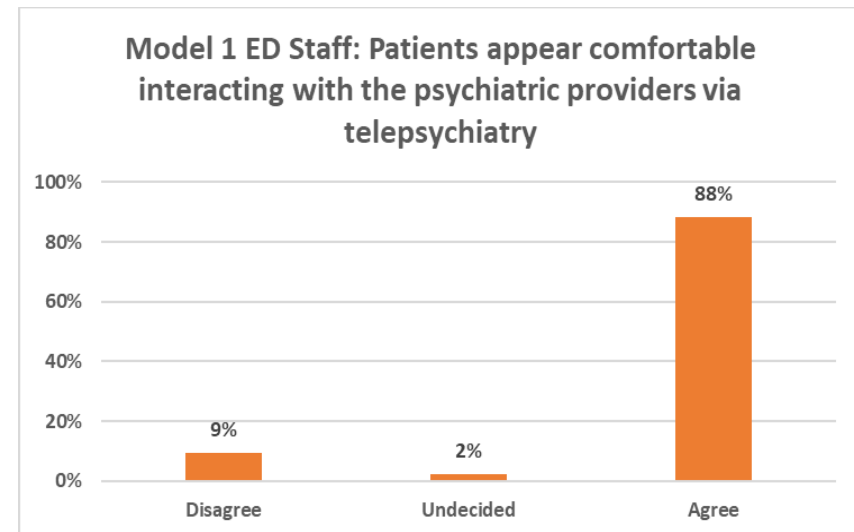
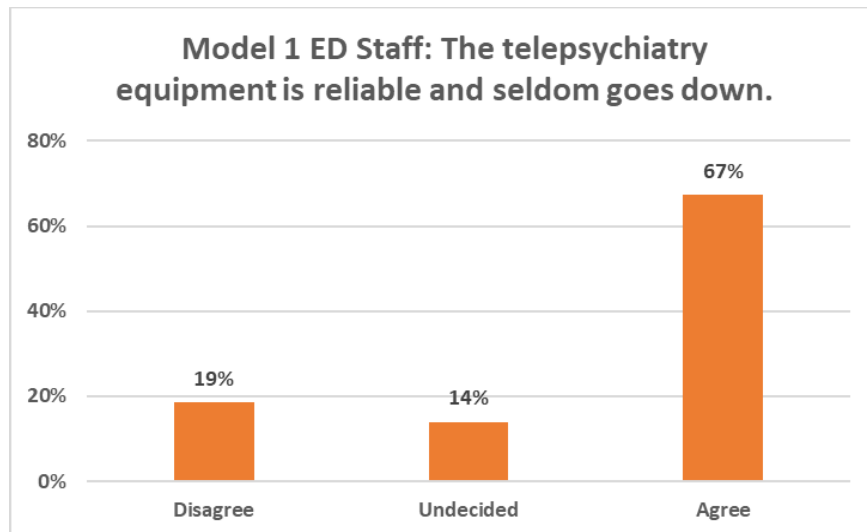
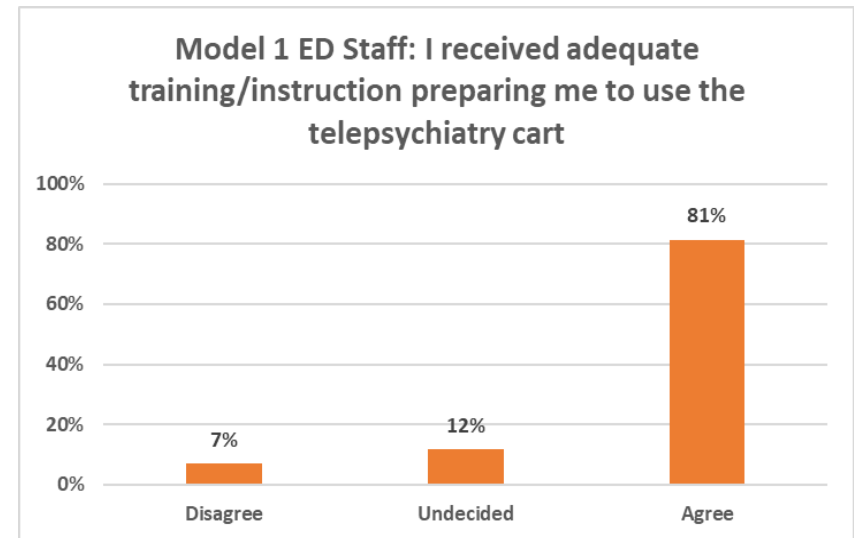
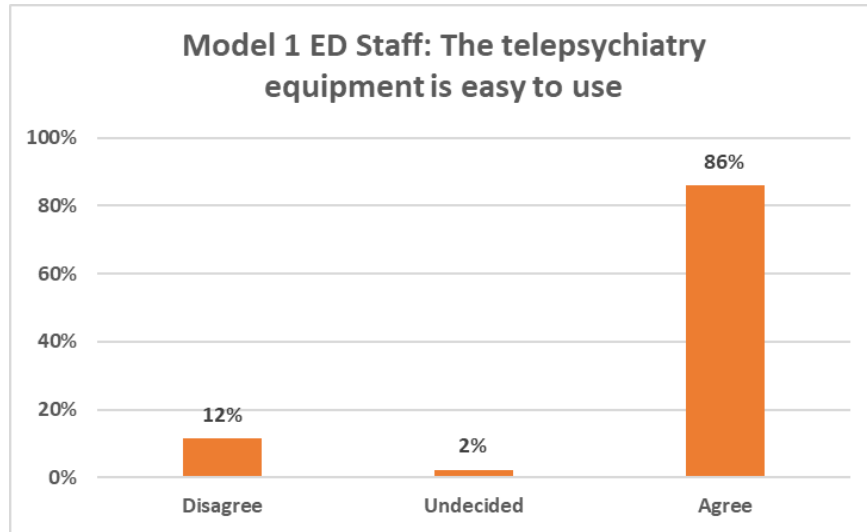
Satisfaction Surveys Methodology

- 65 individuals responded to the survey (N = 65).
- For each group, one summary question is selected for an overall “satisfaction” rate.
- **The overall satisfaction rate is 85%.**

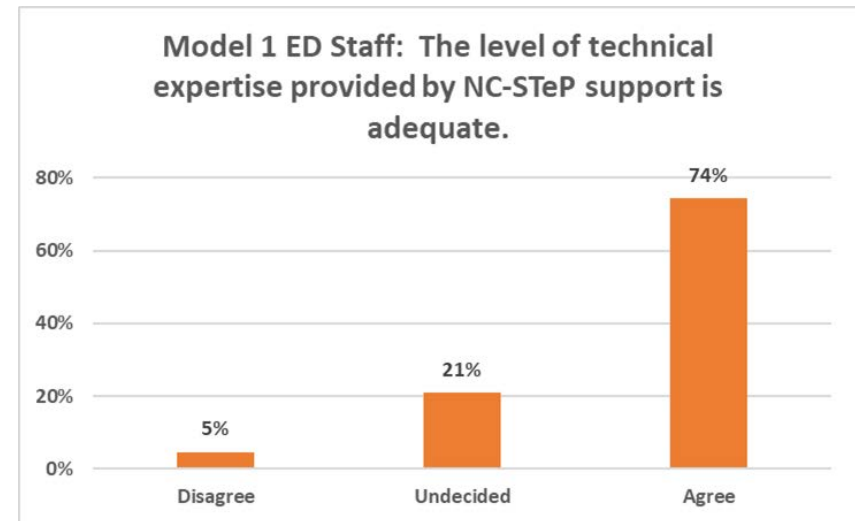
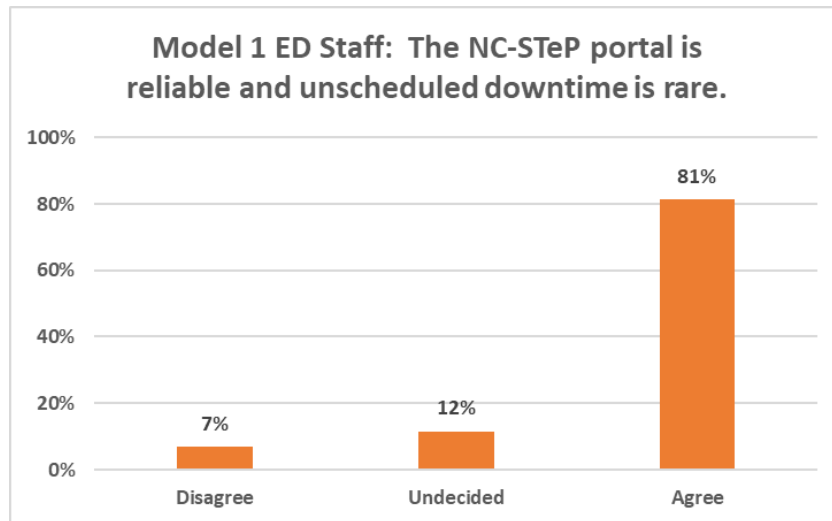
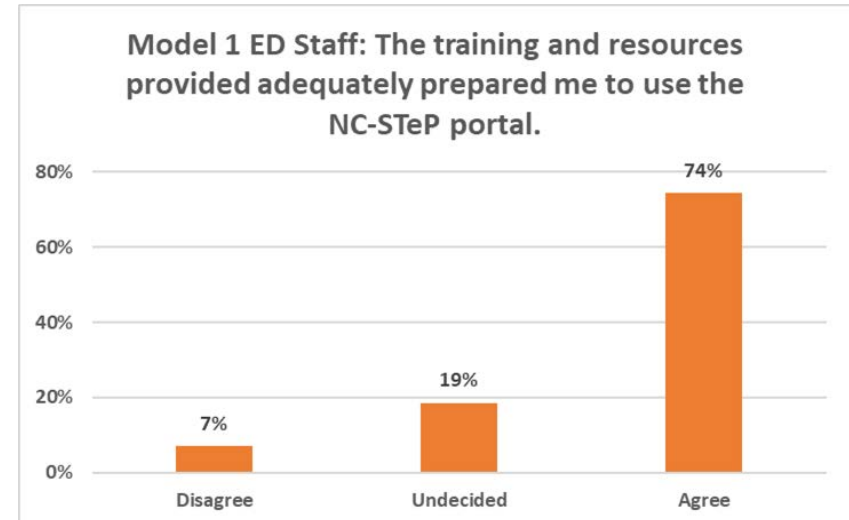
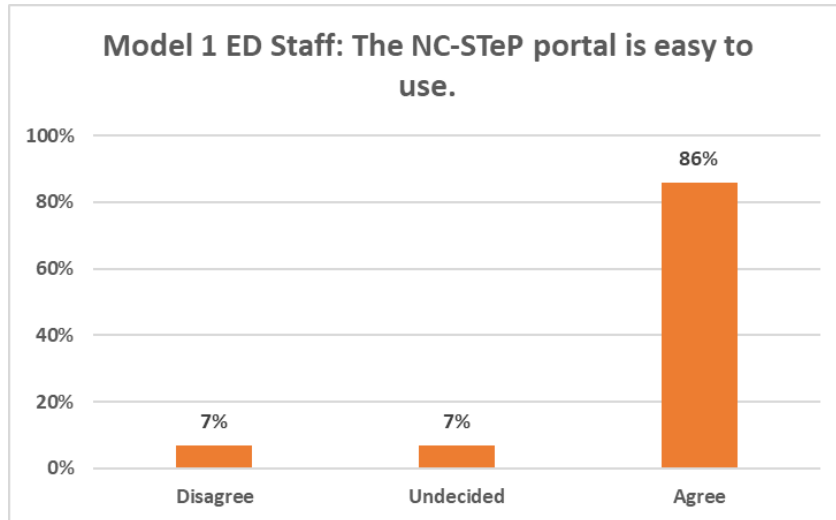
Model 1 Hospital ED Staff Results (n=43)



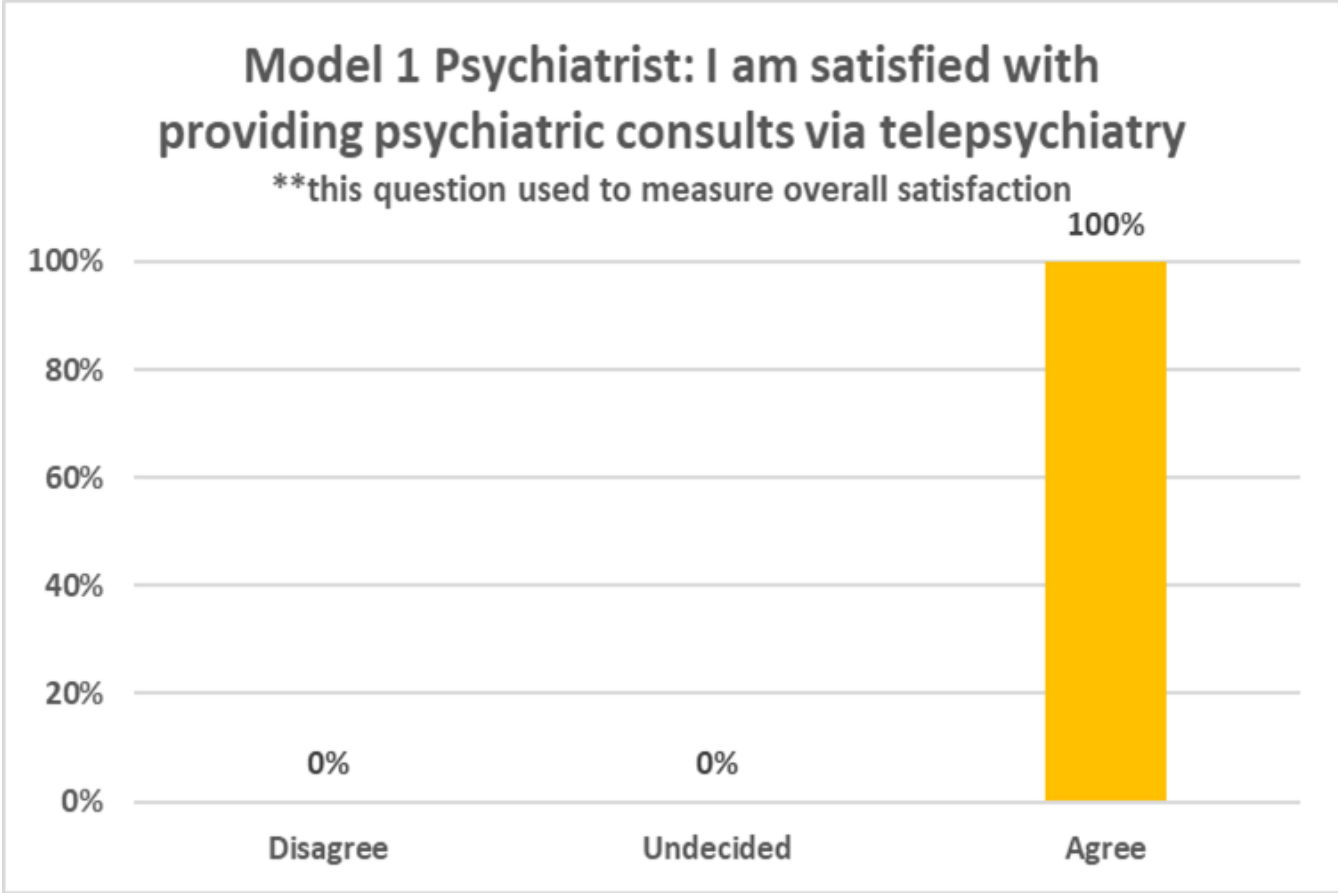
Model 1 Hospital ED Staff Results (n=43)



Model 1 Hospital ED Staff Results (n=43)

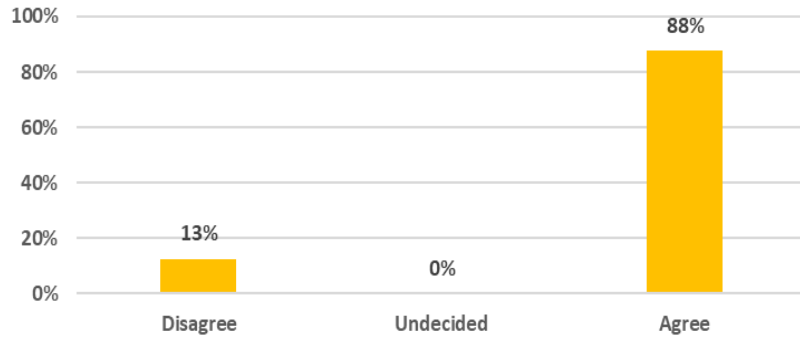


Model 1 Provider Psychiatrist Results (n= 8)

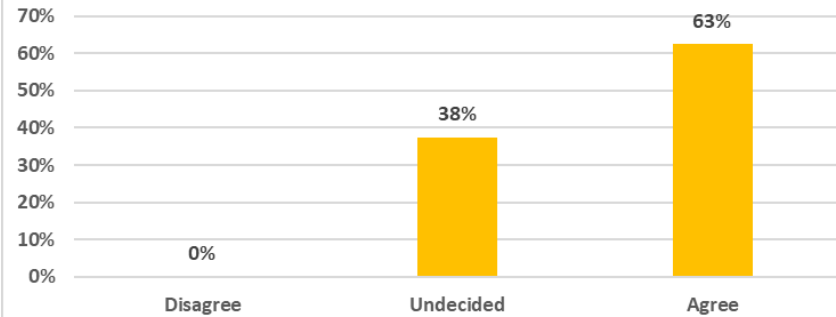


Model 1 Provider Psychiatrist Results (n= 8)

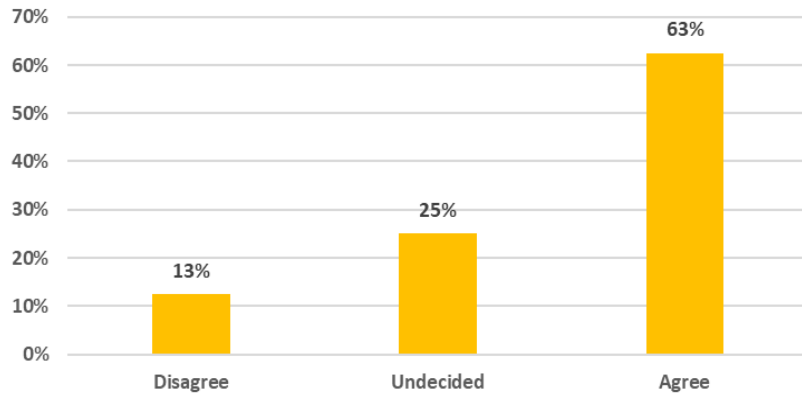
Model 1 Psychiatrist: Telepsychiatry is an effective and efficient way of assessing and treating behavioral health patients



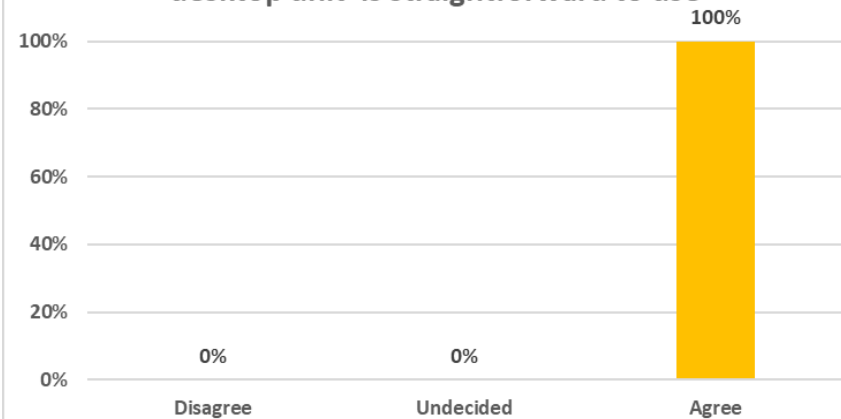
Model 1 Psychiatrist: I believe the quality of psychiatric care I provide via telepsychiatry is comparable to the quality of care I deliver face to face



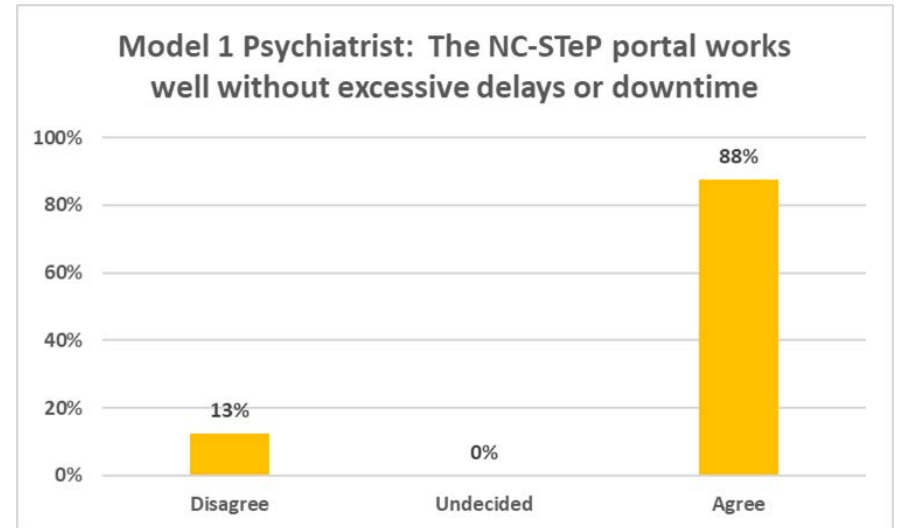
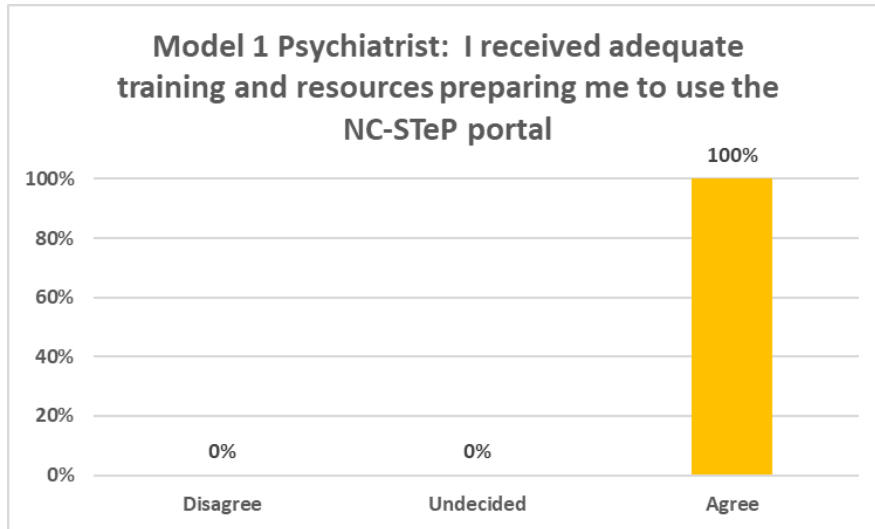
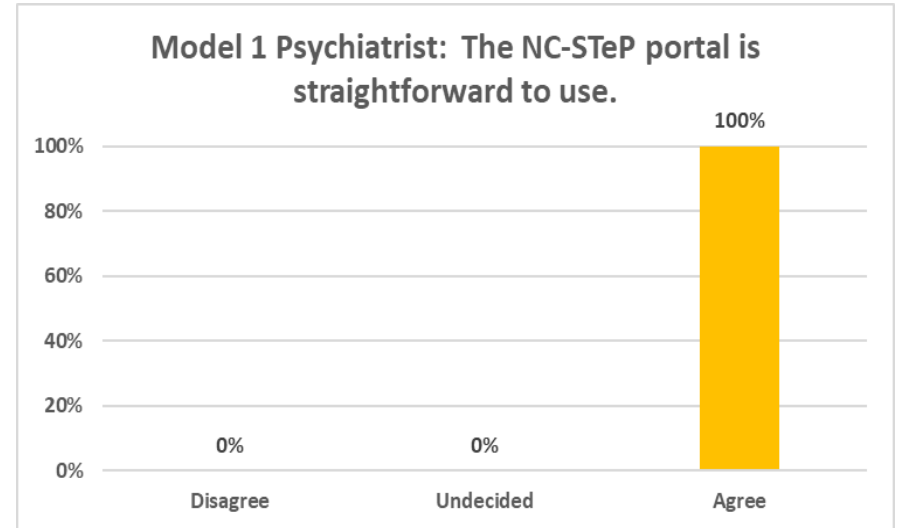
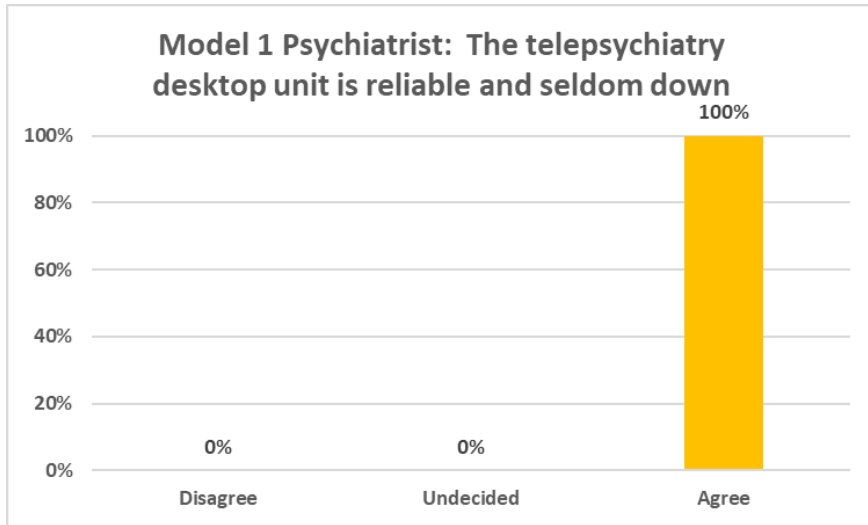
Model 1 Psychiatrist: Telepsychiatry increases my productivity and/or efficiency.



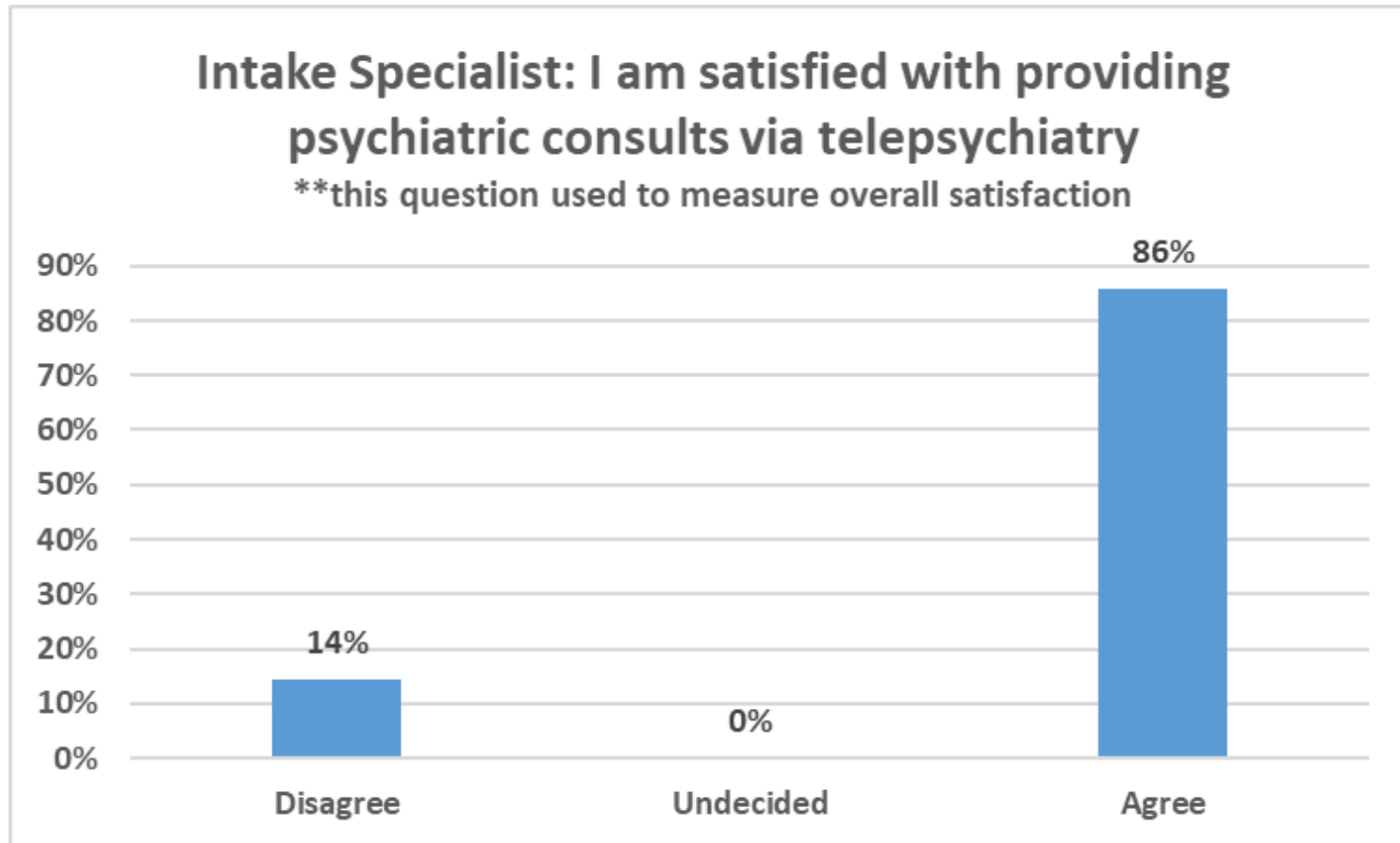
Model 1 Psychiatrist: The telepsychiatry desktop unit is straightforward to use



Model 1 Provider Psychiatrist Results (n= 8)

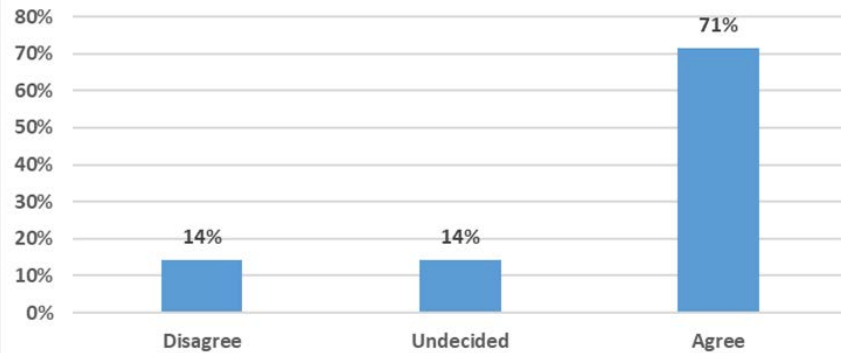


Model 1 Psychiatric Intake Specialist Results (n=7)

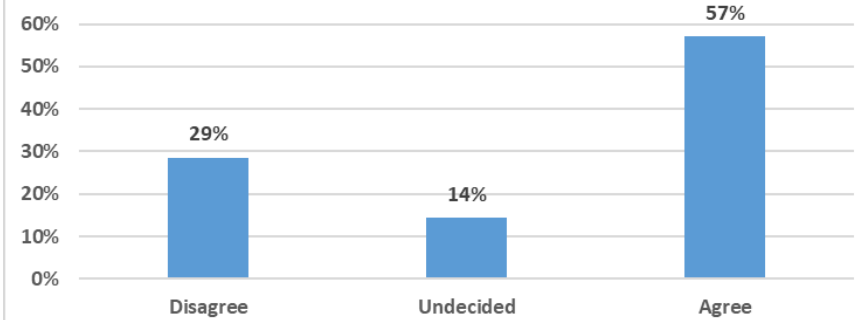


Model 1 Psychiatric Intake Specialist Results (n=7)

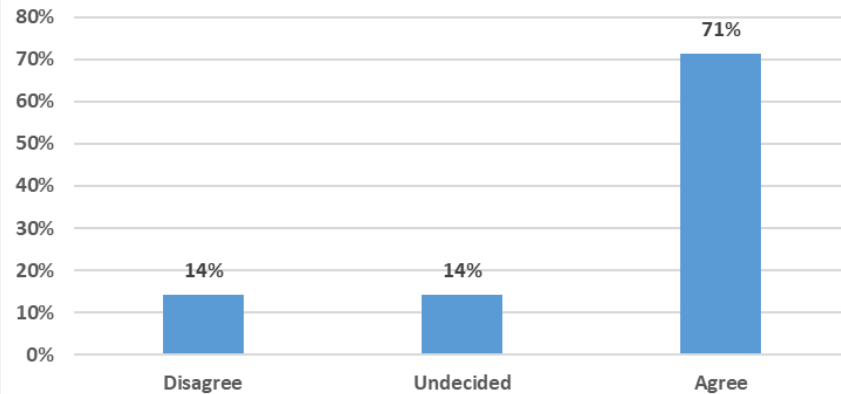
Intake Specialist: Telepsychiatry is an effective and efficient way of assessing and treating behavioral health patients



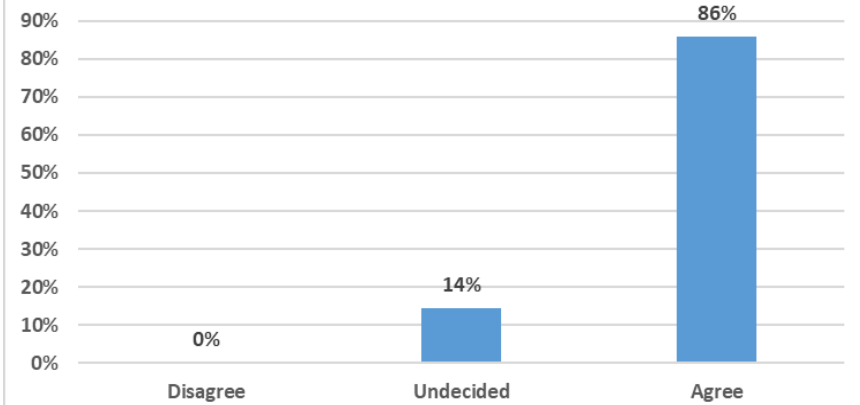
Intake Specialist: I believe the quality of psychiatric care I provide via telepsychiatry is comparable to the quality of care I deliver face to face



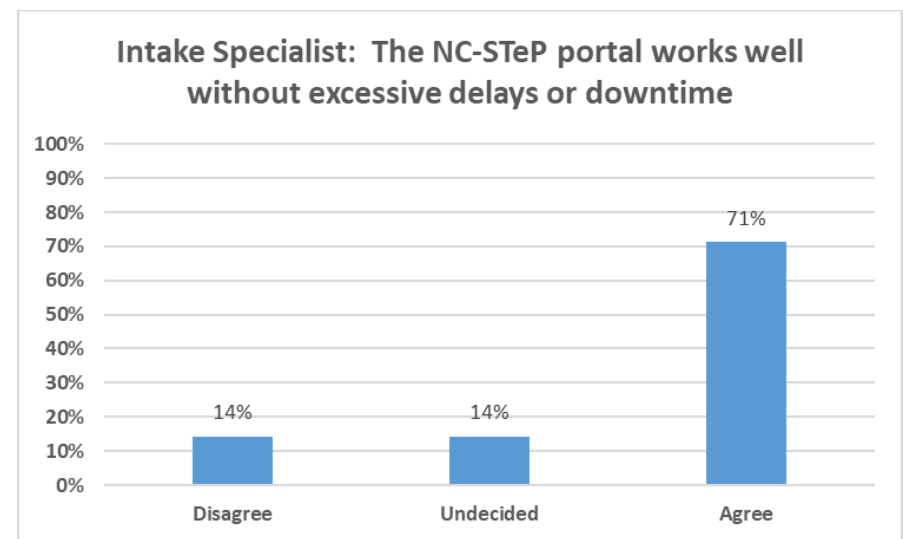
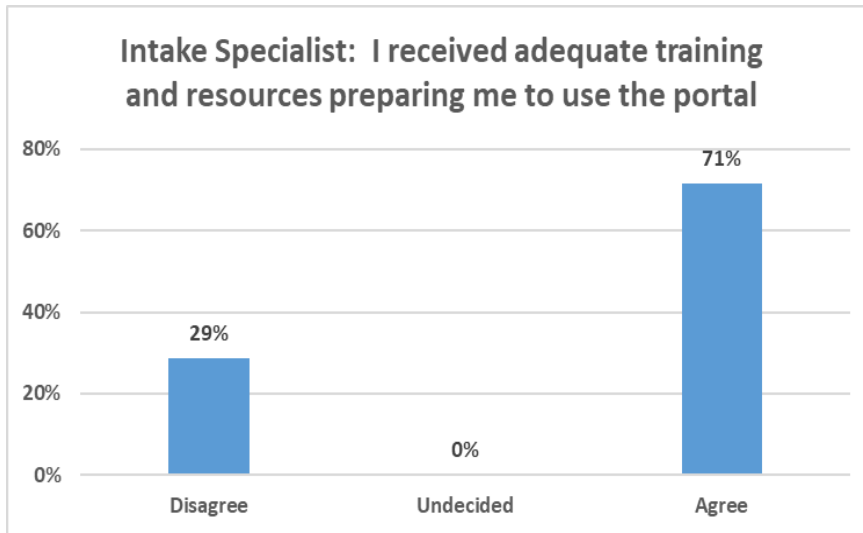
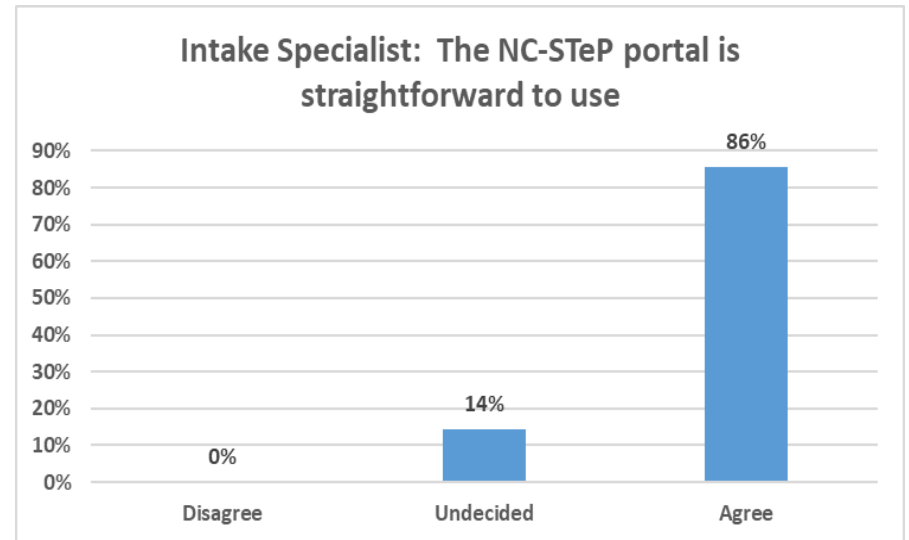
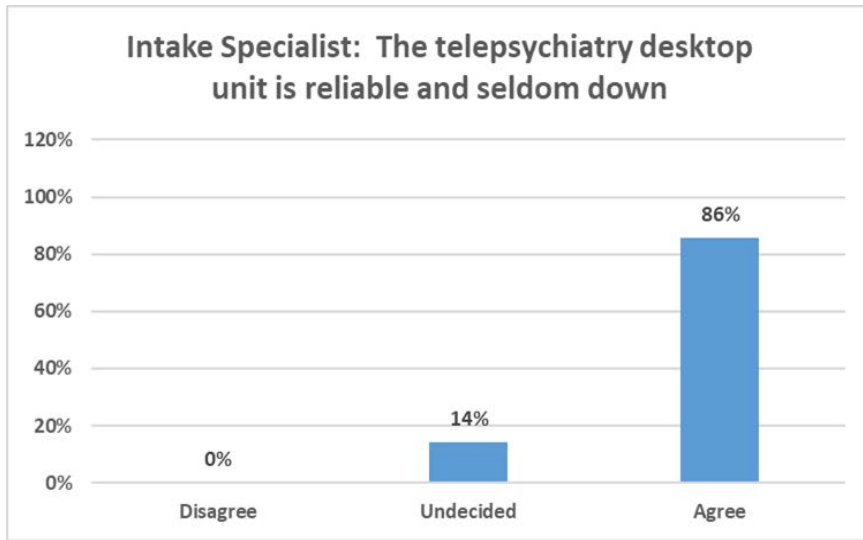
Intake Specialist: Telepsychiatry increases my productivity and/or efficiency.



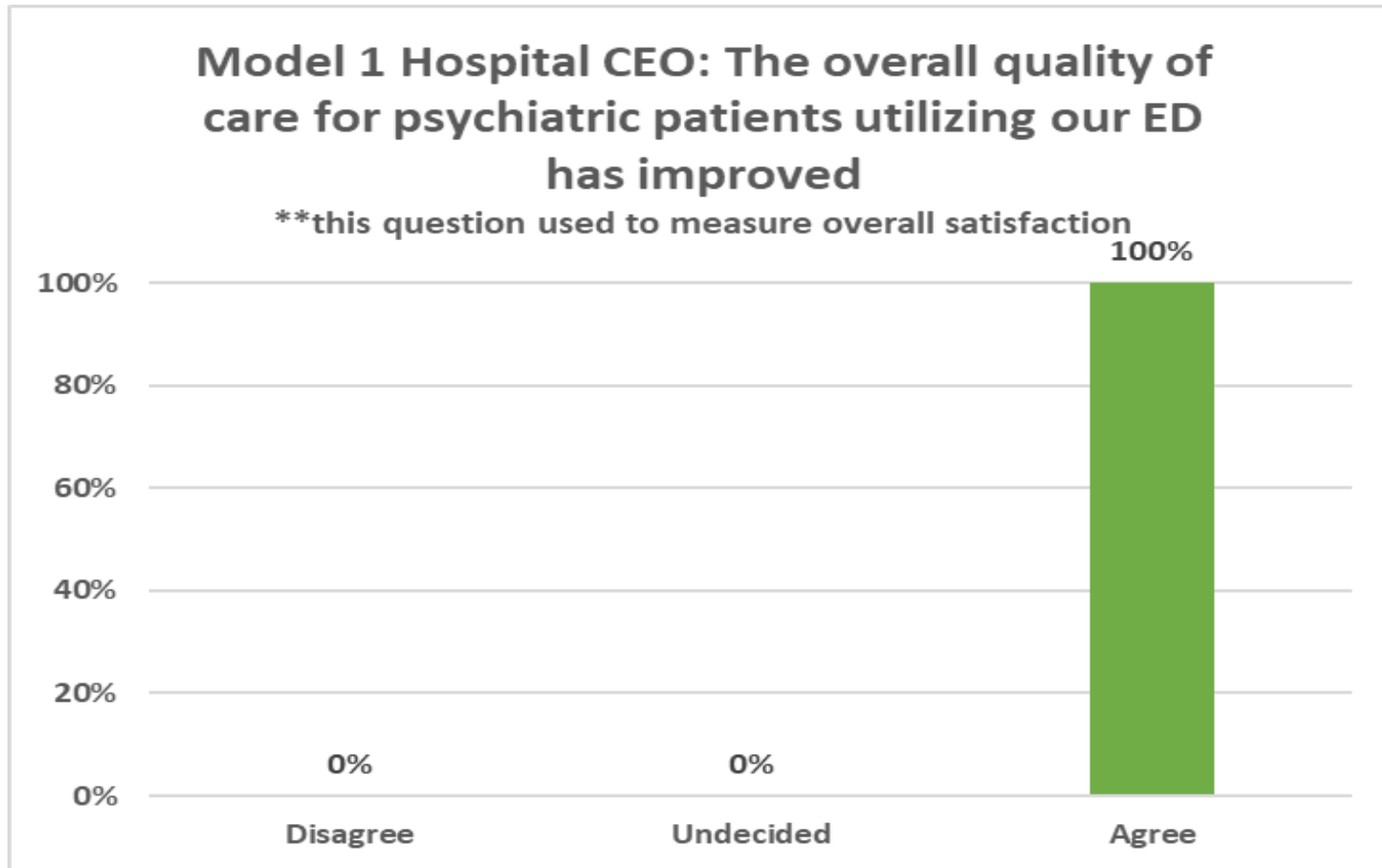
Intake Specialist: The telepsychiatry desktop unit is straightforward to use



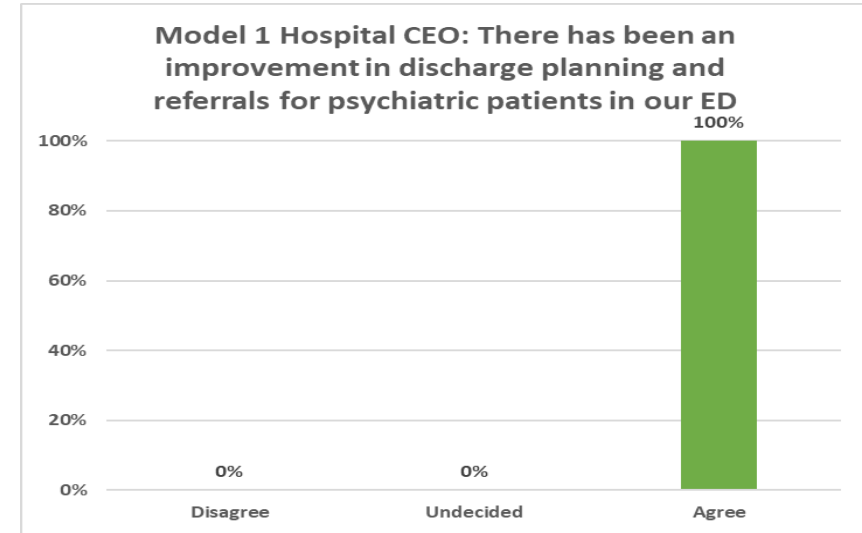
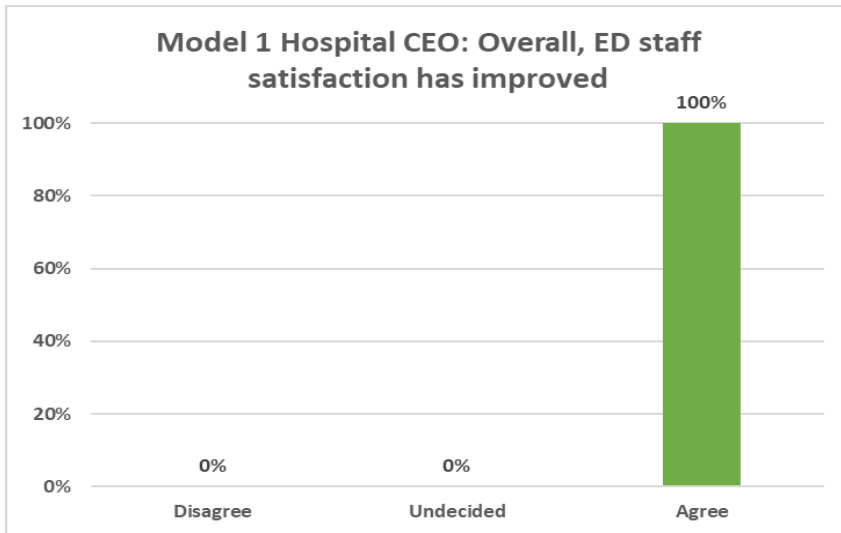
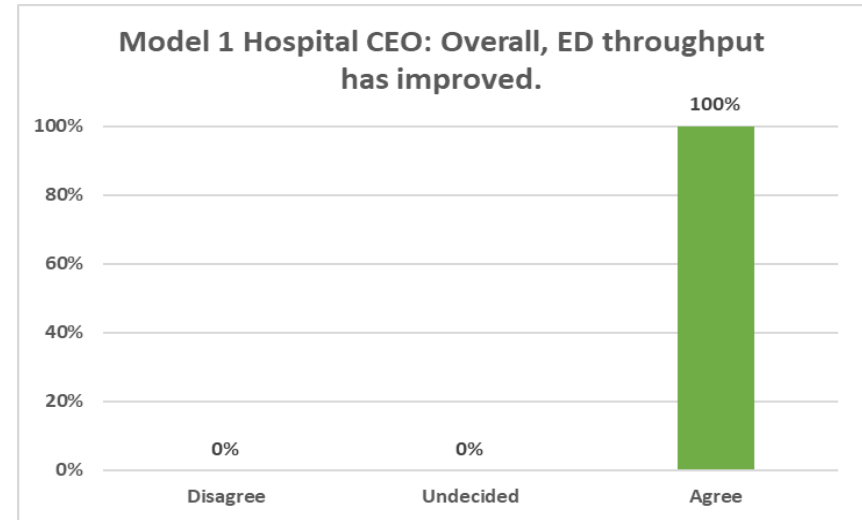
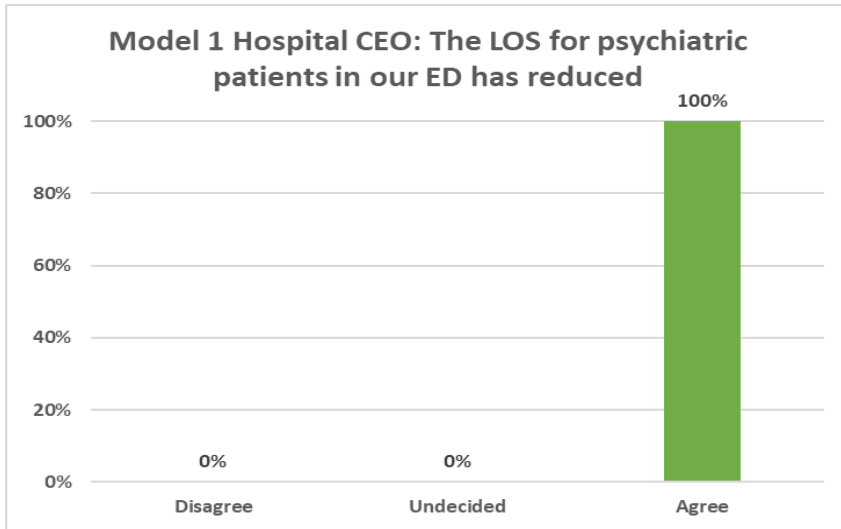
Model 1 Psychiatric Intake Specialist Results (n=7)



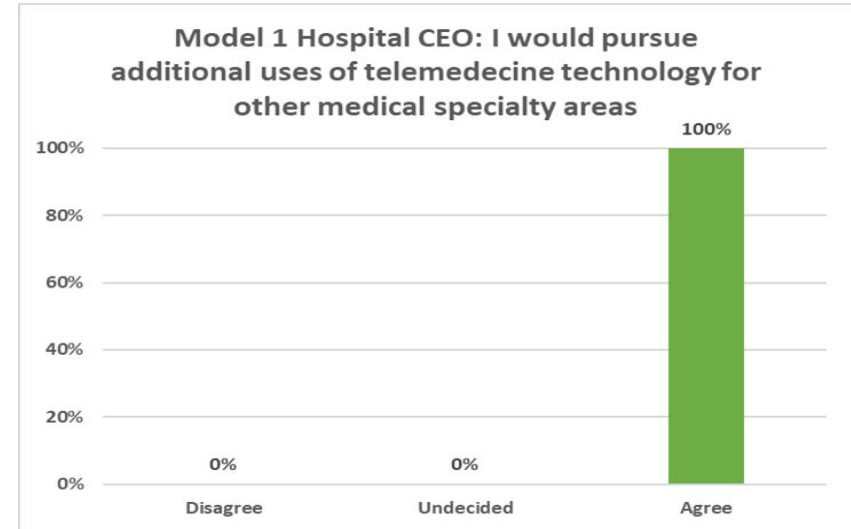
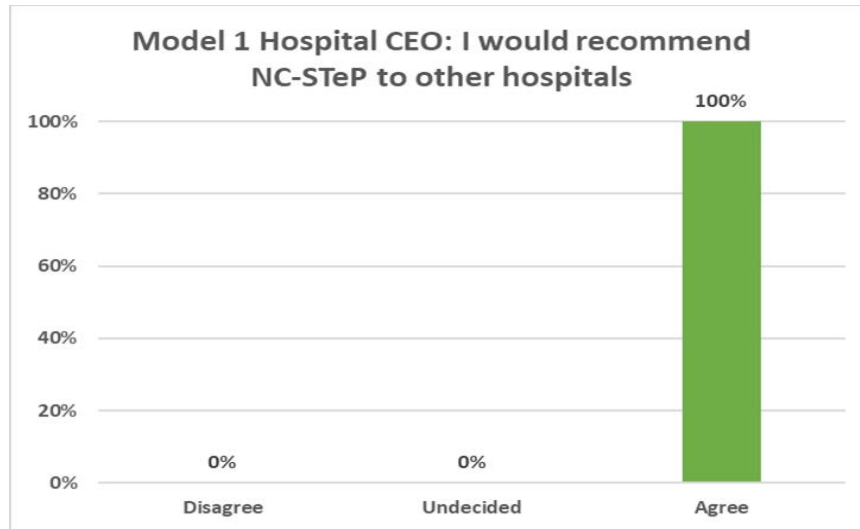
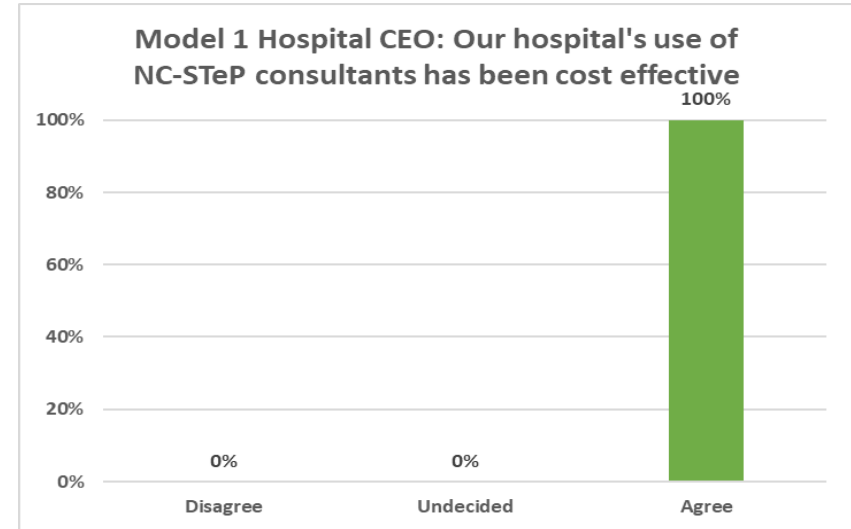
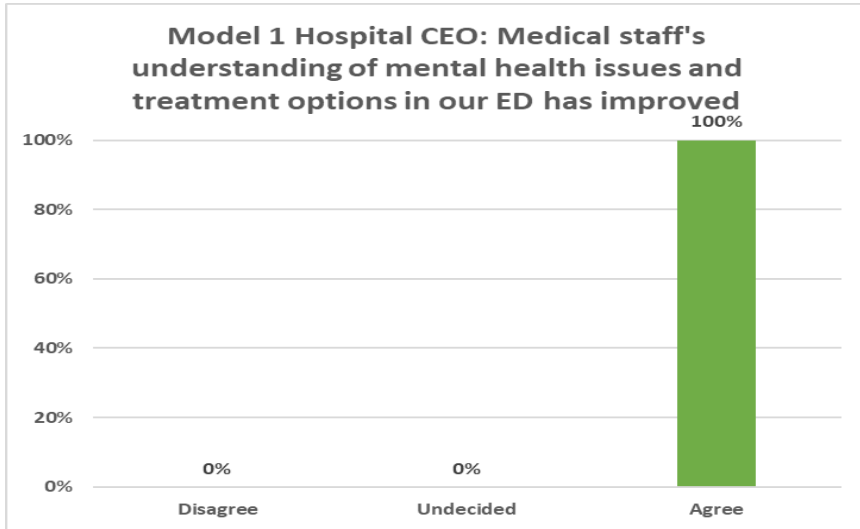
Model 1 CEO/CNO/CFO Results (n=4)



Model 1 CEO/CNO/CFO Results (n=4)

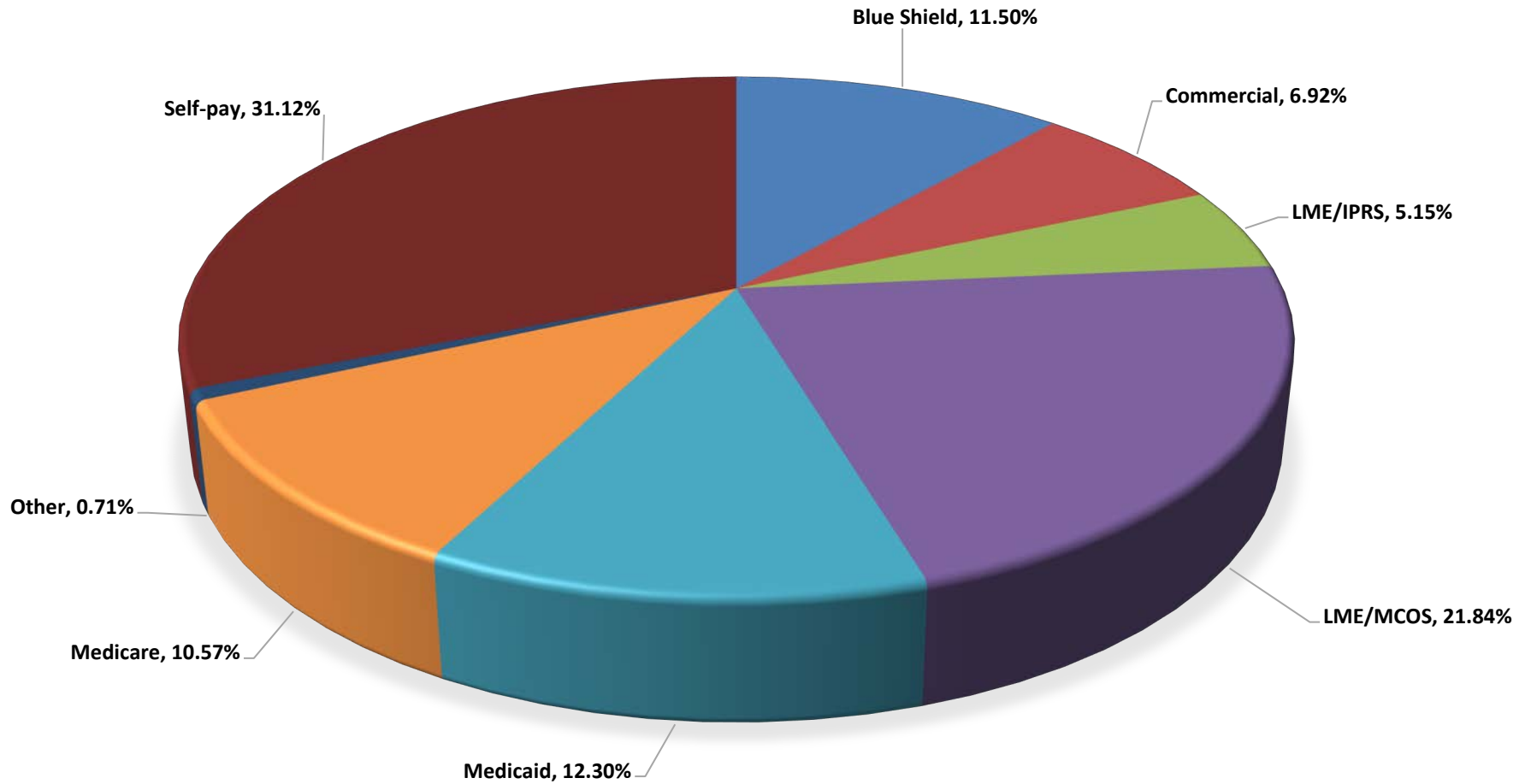


Model 1 CEO/CNO/CFO Results (n=4)



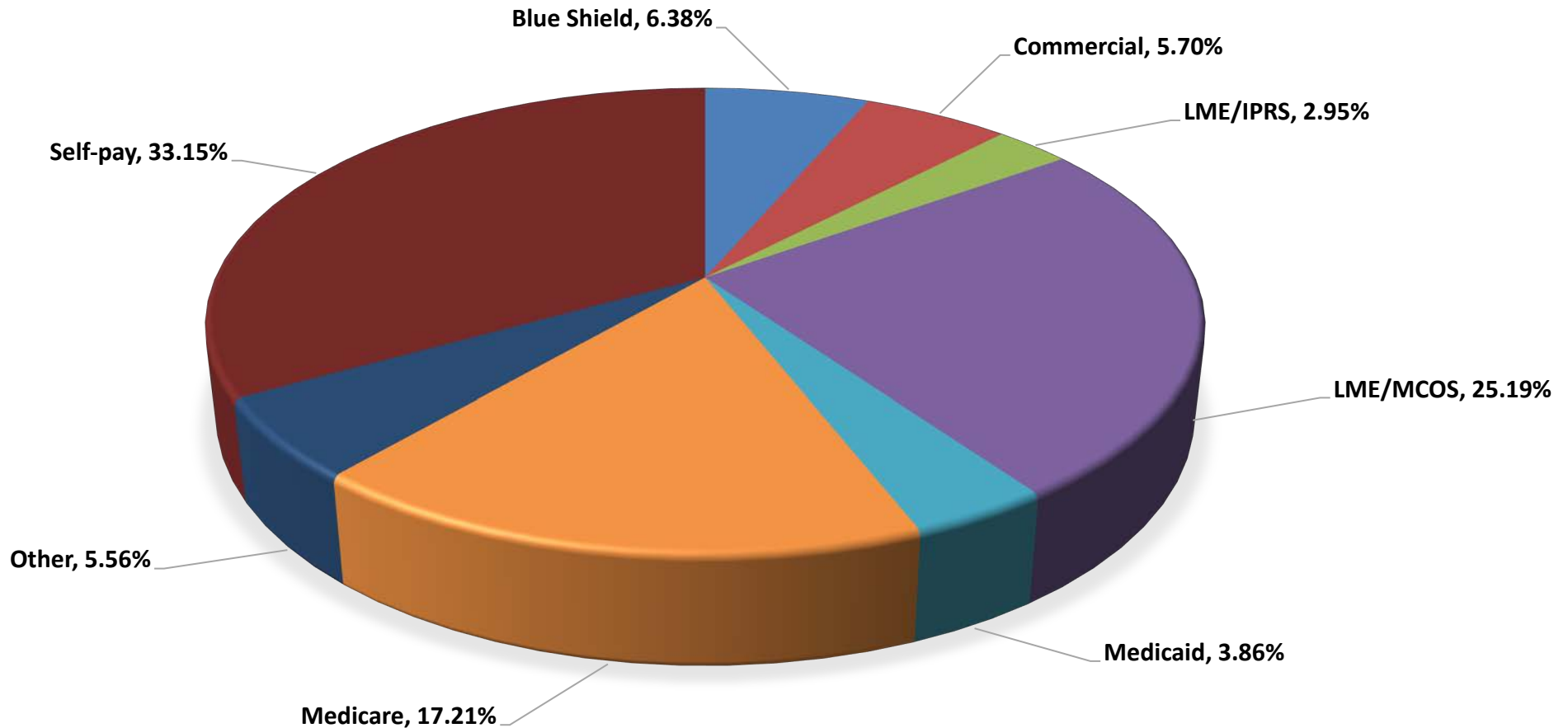
NC-STeP Charge Mix

QTD FY2022 - Quarter 1



NC-STeP Charge Mix - Project to Date

Service Dates: October 1, 2013 – September 30, 2021



Community-Based Sites as of September 30, 2021

EVALUATION CRITERIA	VALUES/MEASURES REACHED AS OF 09/30/2021
1. The number of full-time equivalent (FTE) providers supporting the program	.50 FTEs
2. The number of community-based sites contracted	16
3. Number of patient visits with medical (psychiatric) doctor	71 PTD= 1,016
4. The number return visits	851 PTD= 7,391
5. The number of patient visits with a mid-level provider	997 PTD= 8,243
6. The number of new patient visits	218 PTD= 1,918

NC-STeP Community Patient Visits

Patient Visits	Since project inception in October 2018	During Calendar Year 2018	During Calendar Year 2019	During Calendar Year 2020	During Quarter Jan-Mar 2021	During Quarter Apr- Jun 2021	During Quarter Jul- Sep 2021
With Medical Doctor	1,016	8	536	265	77	59	71
With Mid-Level Provider	8,243	7	2,006	3,217	1,015	1,001	997
Total Patient Visits	9,259	15	2,633	3,477	1,092	1,060	1,068

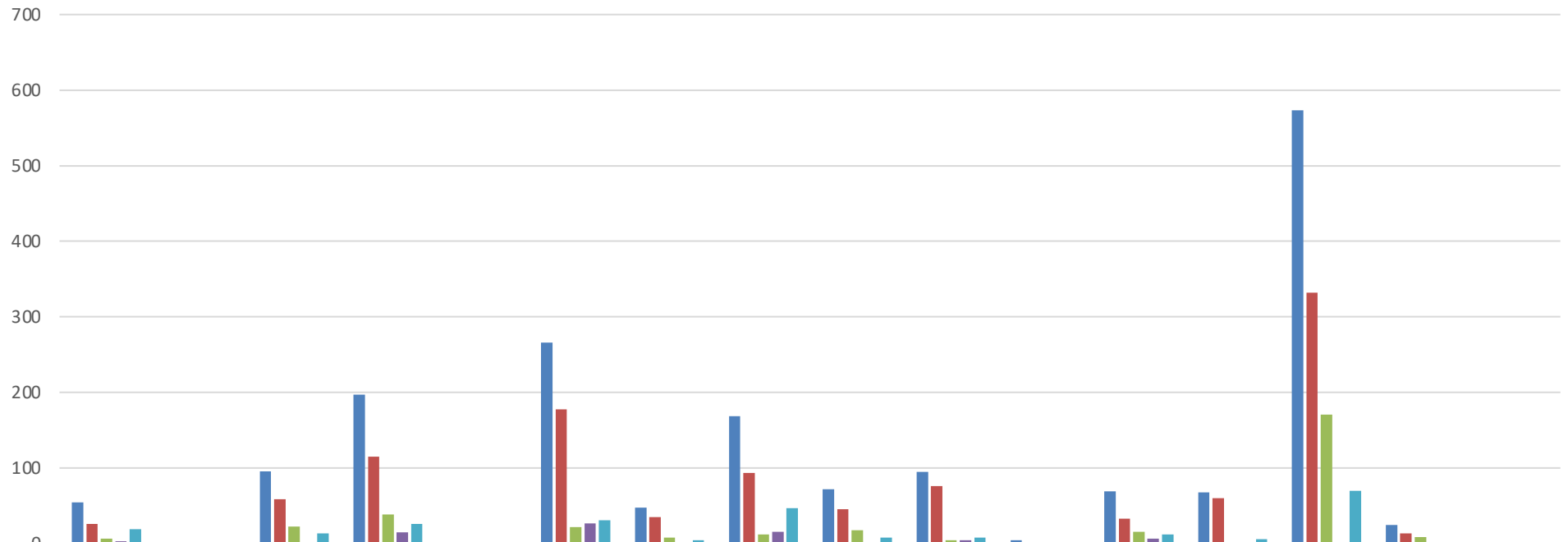
NC-STeP Community Benchmarks

Patient Visits	Goals	Values Reached	
	Total for most recent full fiscal year (July 1, 2020 - June 30, 2021)	Value Reached as of most recent previous quarter (06/30/2021)	Value reached as of this reporting quarter (09/30/2021)
With medical doctor	269	59	71
With mid-level provider	3,713	1,001	997
New patient visits	751	211	218
Return patient visits	3,208	832	851

NC-STeP Appointment by Site

Appointments, Visits Kept, Rescheduled, Cancelled, No Show

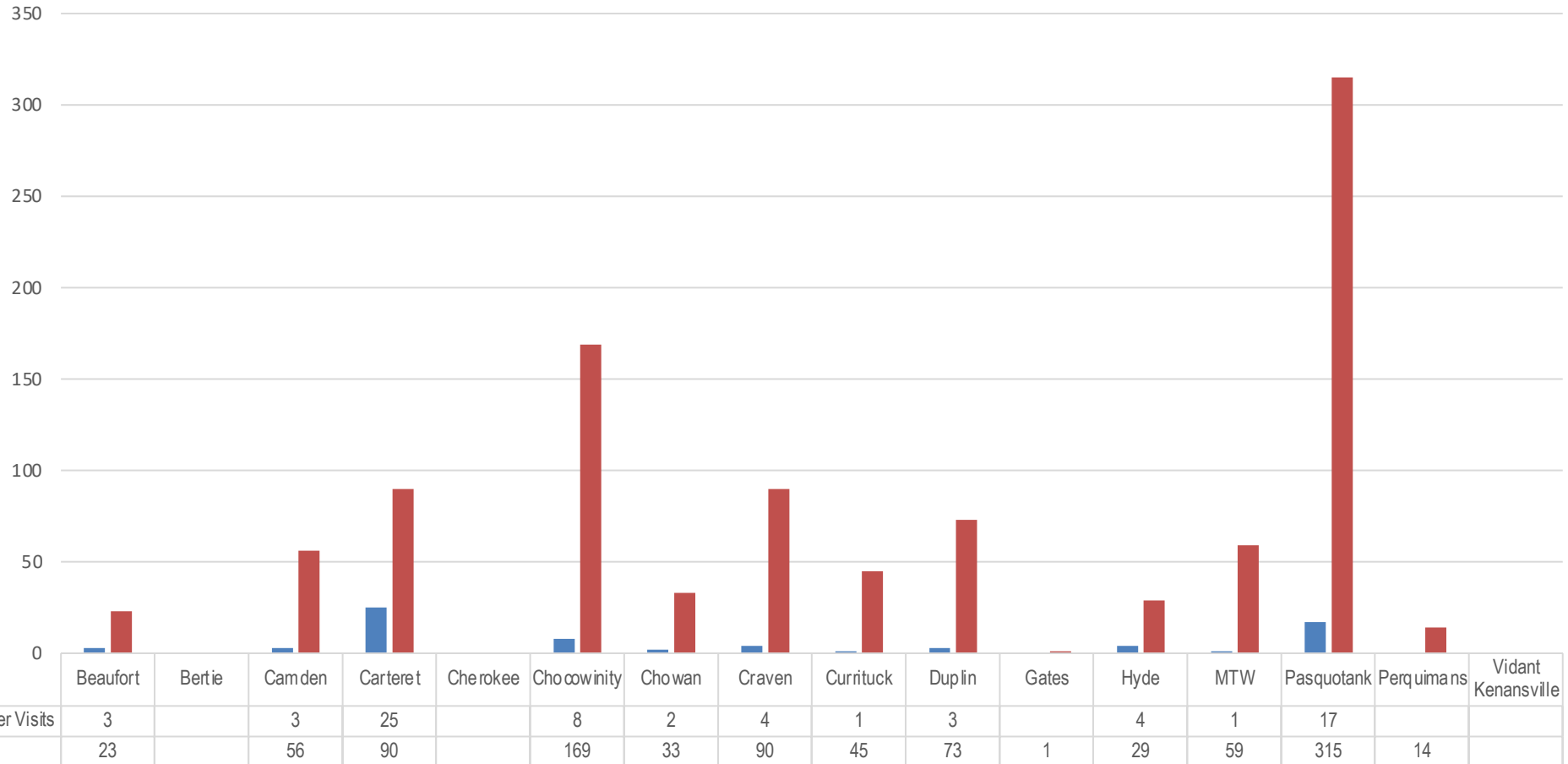
July - September 2021



	Beaufort	Bertie	Camden	Carteret	Cherokee	Chocowinity	Chowan	Craven	Currituck	Duplin	Gates	Hyde	MTW	Pasquotank	Perquimans	Vidant Kenansville
■ Total Apts	55		96	197		266	48	169	72	95	5	69	68	573	25	
■ Apts Kept	26		59	115		178	35	94	46	76	1	33	60	332	14	
■ Apts Rescheduled	7		23	39		22	8	12	18	5	2	16	2	171	9	
■ Apts Cancelled	3			15		27		16		5		7				
■ Apts No Show	19		14	26		31	5	47	8	8	2	12	6	70	2	

■ Total Apts
 ■ Apts Kept
 ■ Apts Rescheduled
 ■ Apts Cancelled
 ■ Apts No Show

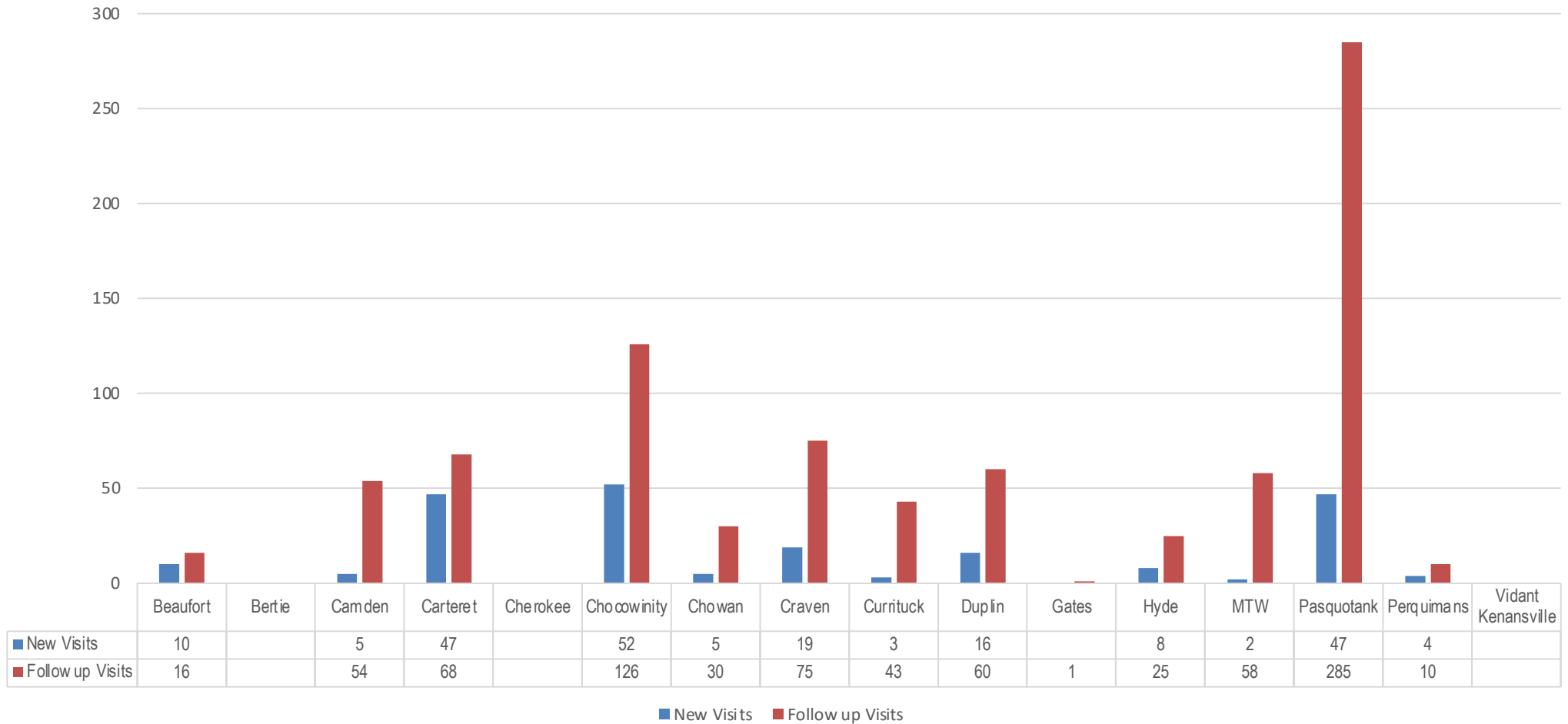
NC-STeP Community Visits by Site by provider type July - September 2021



■ Psychiatric Provider Visits ■ BH Mgr Visits



NC-STeP Community Visits by Site New and Follow Up July - September 2021



NC-STeP Status as of September 30, 2021

- 41 hospitals in the network. 40 live.
- 49,643 total psychiatry assessments since program inception
- 7,662 IVCs overturned
 - Cumulative return on investment = \$41,374,800
(savings from preventing unnecessary hospitalizations)
- Six Clinical Provider Hubs with 42 consultant providers
- Over 33% of the patients served had no insurance coverage

NC-STeP Status as of September 30, 2021

- 16 community-based sites.
- 9,259 total patient visits since program inception in October 2018.
 - 1,016 total patient visits with a psychiatrist
 - 8,243 total patient visits with a mid-level provider



East Carolina University
CENTER FOR TELEPSYCHIATRY



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Greenville, NC 27834





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NORTH CAROLINA
STATEWIDE TELEPSYCHIATRY PROGRAM

