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Reducing Length of Stay by Improving Timeliness and Efficiency of Care for the Behavioral Health Patient in a Suburban Emergency Room

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ABSTRACT

Background: The average length of stay for BH patients has exceeded the Joint Commission recommended guideline that boarding time not exceed 4 hours. This has posed a threat to staff safety and hamper with patient care.

Local Problem: With the closure of several treatment centers and psychiatric units, XXXX Center has experienced a 17% increase in patients over the past year. The average length of stay for behavioral health patient is 460 minutes. The aim of this project was to reduce length of stay by improving timeliness and efficiency of care for behavioral health patients in the emergency room through the use of an anxiety screening tool and standardization of medications by 45% within 90 days.

Methods: Rapid cycle quality improvement using four plan-do-study-act cycles. Each cycle included tests of change related to team engagement, patient engagement, and two processes. Data were analyzed using run charts to evaluate the impact of interventions on outcomes.

Interventions: Staff training/ team meeting, pilot shared decision-making tool, utilization of anxiety screening tool and standardized medication tool.

Results: Re-enforcing de-escalation techniques through role plays and simulations, helping patients commit to outpatient services by initiating referral appointments, and expanding the availability of anxiety and medication tools has contributed to reducing LOS from 460 minutes to 122 minutes.

Conclusions: Incorporating simulations and role play in staff training, making outpatient referral appointments, increasing screening days and the use of a standardized medication tool has decreased the length of stay for behavioral health patients.

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Background

Behavioral health (BH) patients frequently experience prolonged emergency department (ED) stays that exceed nationally recommended benchmarks. The Joint Commission advises that ED boarding time for behavioral health patients should not exceed four hours; however, many institutions struggle to meet this standard. Extended length of stay (LOS) not only delays appropriate psychiatric care but also increases safety risks for both patients and staff, contributes to ED overcrowding, and compromises overall quality of care. At the study site, prolonged LOS for behavioral health patients emerged as a critical operational and patient-safety concern.

Local Problem

The closure of several inpatient psychiatric units and community treatment centers has significantly strained emergency behavioral health services. As a result, XXXX Center experienced a 17% increase in behavioral health patient volume over the past year. This surge, coupled with increased patient acuity and limited physical space, led to substantial delays in care delivery. The average LOS for behavioral health patients rose to 460 minutes, nearly double the recommended threshold, posing risks to staff safety, impeding patient throughput, and exacerbating ED overcrowding. Additionally, psychiatric boarding carries a significant financial burden, with an estimated average cost of $2,264 per patient [1].

The behavioral health unit at XXXX Center consists of eight high-acuity beds and seven low-acuity chairs. Despite this designated space, patient flow challenges persisted. A tracer exercise revealed that over 70% of staff perceived inadequate preparedness and inconsistent medication selection as key contributors to prolonged LOS. A gap analysis of 20 patient charts demonstrated that only 35% of patients were assessed using a standardized screening tool, while 90% received anxiolytic medications without uniform criteria. Furthermore, structured team training was infrequent,

and family involvement in care was limited to approximately 20% of cases.

Available Knowledge

Previous studies indicate that structural modifications alone are insufficient to meaningfully reduce ED crowding or wait times [2]. Longer ED LOS has been consistently associated with lower patient satisfaction and increased dissatisfaction with care [3]. Behavioral health emergencies are increasingly common, yet health systems remain inadequately equipped to manage these patients efficiently [4]. Evidence underscores the importance of early identification, standardized assessment, and appropriate medication management in improving outcomes for behavioral health populations. Psychiatric patients remain in the ED more than three times longer than non-psychiatric patients, resulting in reduced bed turnover, lost revenue, and increased operational inefficiencies [5].

Rationale

The Hamilton Anxiety Rating Scale (HAM-A), first introduced in 1959, remains one of the most widely used tools for assessing anxiety severity and has served as a benchmark for newer screening instruments [6]. Its validity, reliability, and cross-cultural applicability support its use in acute care settings [7, 8]. Additionally, Shared Decision-Making (SDM) has demonstrated effectiveness in engaging patients, improving treatment adherence, and aligning care with patient preferences [9, 10]. Despite the recognized value of screening and engagement tools, routine implementation remains inconsistent in emergency settings. Standardized protocols are essential to identify patients in need of intervention and to ensure timely, evidence-based care [11]. Routine screening and standardized protocols are necessary to identify patients requiring mental health interventions and to ensure timely care delivery [12].

The aim of this quality improvement project was to reduce behavioral health patient LOS by 45% within 90 days by improving timeliness and efficiency of care through the use of an anxiety screening tool and a standardized medication protocol.

Methods

Project outcomes were evaluated using run charts to identify non-random process variation and statistically significant trends across PDSA cycles [13, 14].

This rapid-cycle quality improvement project was conducted at XXXX Center, part of the XXXX Health System in Queens, New York. The ED serves approximately 90,000 patients annually, with nearly 14,000 behavioral health encounters. The 13-bed behavioral health unit operates continuously and is staffed by emergency physicians, psychiatrists, nurse practitioners, registered nurses, patient engagement specialists, and social workers.

Four Plan-Do-Study-Act (PDSA) cycles were implemented over a 90-day period. Data were collected every three to four days, analyzed using run charts, and used to guide iterative modifications. Interventions focused on team engagement, patient engagement, anxiety screening, and standardized medication use.

Interventions

Interventions Targeted Four Core Domains

- Team Engagement: Staff training was initiated through kickoff meetings, reinforced by twice-daily huddles, simulation exercises, and role-play scenarios emphasizing de-escalation techniques.
- Patient Engagement: A shared decision-making tool empowered patients to select appropriate outpatient resources, with staff facilitating referral appointments prior to discharge.
- Screening: An anxiety screening tool was introduced and strategically relocated to increase accessibility and utilization.
- Standardized Medication Tool: A protocol emphasizing less-sedating anxiolytic options was implemented to support faster clinical reassessment and disposition.

Both tools were refined based on staff and patient feedback and integrated into the electronic medical record.

Table 1: Measurement Worksheet

	Test of change (intervention)	Process Measure	Outcome Measure	Baseline Data	Project Aggregate Data	
A. Team Engagement	Team Meetings / Staff Training	# staff trained / #staff on team	Average Likert score / total Likert possible score	10.75(41%) staff trained. 7.5 (75%) Checked Items	25(96%) Staff trained. Goal – 95% Median -62% 9.75(98%) Checked Items Goal-95% Median- 90%	To reduce length of stay by improving timeliness and efficiency of care for behavioral health patients in the emergency room. 460 →122 Min.
B. Patient Engagement	Shared Decision-Making Tool	# tools used/# patients who qualified	# of decision made / Total # of patients who used the tool	10(69%) Shared decision tool used. 7(68%) Decision made	13(87%) Goal-80% Median- 50% 11.5(85%) Goal – 80% Median – 78.5	
C. Process 1	Hamilton Anxiety Rating Screening Tool	# of patient screened / # of patient seen that day	# screen positive for anxiety / # of patient screened	13(53%) Anxiety Tool used 8.25(62%) Screen + anxiety	13.5(88%) Goal- 95% Median-69.5% 9.25(72%) Goal-95% Median-58.5%	

D. Process 2	Standardized Medication Tool	# of anxious patient screened using medication tool / # of patient seen that day	# of patient given the standardized medication /# of patients screened positive for severe anxiety	7.25(54%) Stan. Med Tool used 4.75(65%) Stan. Med Given	8.75(74%) Goal-80% Median-47.5% 7(83%) Goal- 80% Median-65%	
Balancing measure	# of readmitted patients within 7 days / # of all patients seen in the ER over 7 days 9(14.5%)					

Table 2

	PDSA cycle 1	PDSA cycle 2	PDSA cycle 3	PDSA cycle 4	
Team Building / Engagement	1. Kick off Team Meeting. 2. Staff Training via checklist.	Team meetings twice daily during PDSA run, 7 am and 4pm respectively.	Create a folder for team engagement check list in staff lounge with progress data posted on white board.	Reinforce and develop staff competency through simulation and role play exercises.	Continue Process. This process will be maintained by all team members of the Behavioral Section of the Emergency Room as well as the Director of the Emergency Room with repeated runs every 12- 15 week.
Patient Engagement	Implement shared decision making tool.	Modify patient tool by highlighting specific locations and services offered.	Modify decision aid, removing least favorable outpatient choices.	Formalize referral appointment dates for patients upon ER discharge	Continue Process. This process will be the responsibility of all clinicians, Directors of the Emergency Room, and Directors of the XXXX Center.
(Anxiety Assessment Screening Tool).	Utilize Hamilton Anxiety Rating Scale-HAM-A	Simplify anxiety screening tool.	Place anxiety screening tools in triage and ambulance bay areas.	Increase size of font on screening tool and leave tool in triage and BH treatment areas on days when study coordinator not on shift.	Continue Process. The Director of the Emergency Room and project coordinator will manage this process.
(Standardization of Medication)	Implement the Standardization of Medication Tool.	Modify standardized medication tool through adjustment of medication parameters.	Have standardized medication tool as a part of chart.	Sustaining the gain. Keep standardized medication tool as part of chart.	The process will be implemented and managed by the project coordinator, clinicians, and the Director of the Emergency Room. Performance evaluation Q 12- 15 weeks

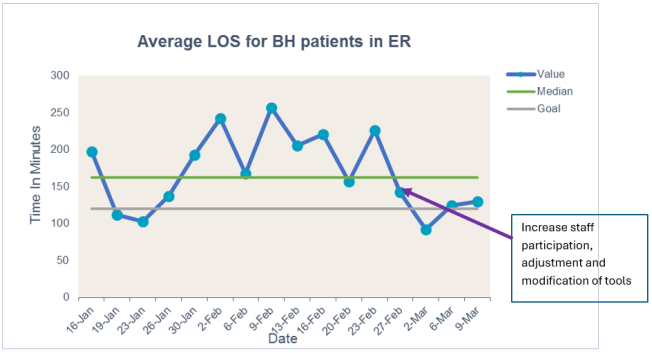

Figure 1: The Average LOS for BH Patients Varied Across the 8 Weeks Span, However with Increased Staff Participation, Adjustments and Modifications of Tools, LOS has been Consistent Around the Set Goal Over the Last 4 Weeks.

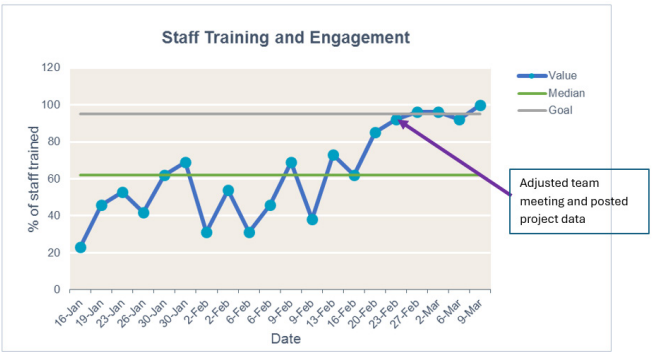

Figure 2: The Number of Staff Trained Fluctuated over the First 5 Weeks, However with Adjusting the Team Meeting and Posting the Project Data, Staff Participation Drastically Increases Over the Last 3 Weeks.

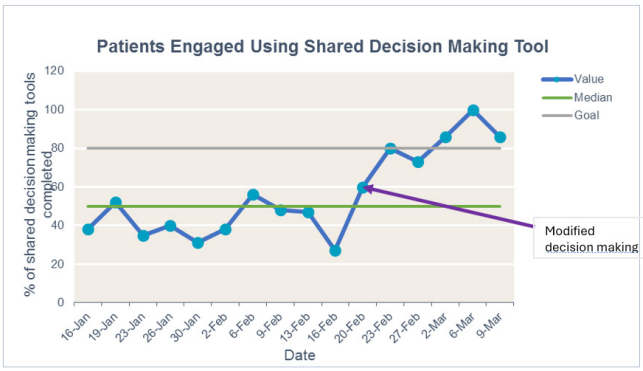

Figure 3: The Number of Patients Engaged Remained Consistently Below the Median Over the First 6 Weeks, However, by Modifying the Shared Decision-Making Tool, Familiarity with Outpatient Resources Developed; Resulting in an Upward Incline Over the Last 3 Weeks.

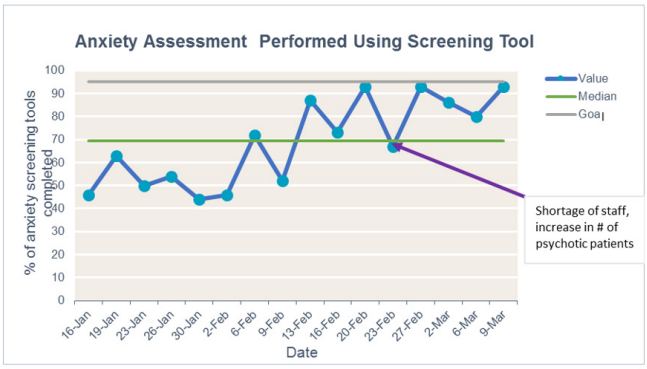

Figure 4: Utilization of the Screening Tool has Remained Consistent around the Median Over the First 5 Weeks, However, by Modifying and Relocation the Tool and Increasing Staff Training, Values were Able to Reach the Set Goal.

Results

Following implementation, the average LOS for behavioral health patients decreased from 460 minutes to 122 minutes. Staff consistently demonstrated proficiency in de-escalation techniques, with over 96% participating in simulations. Patient engagement improved substantially, with 85% of patients opting for outpatient services and 64% receiving confirmed follow-up appointments. Utilization of the anxiety screening tool increased to 86%, facilitating more appropriate medication selection and reducing sedation-related delays. Readmission rates also declined, supporting the sustainability of improvements.

Discussion and Conclusions

This project demonstrates that targeted, multidisciplinary interventions can significantly reduce LOS for behavioral health patients in the emergency department. Incorporating simulation-based training, shared decision-making, standardized screening, and medication protocols improved patient flow, staff confidence, and care efficiency. Notably, the achieved LOS surpassed the project's original goal and fell well below Joint Commission recommendations. These findings highlight the value of structured engagement, standardization, and proactive discharge planning in addressing behavioral health overcrowding in emergency settings.

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