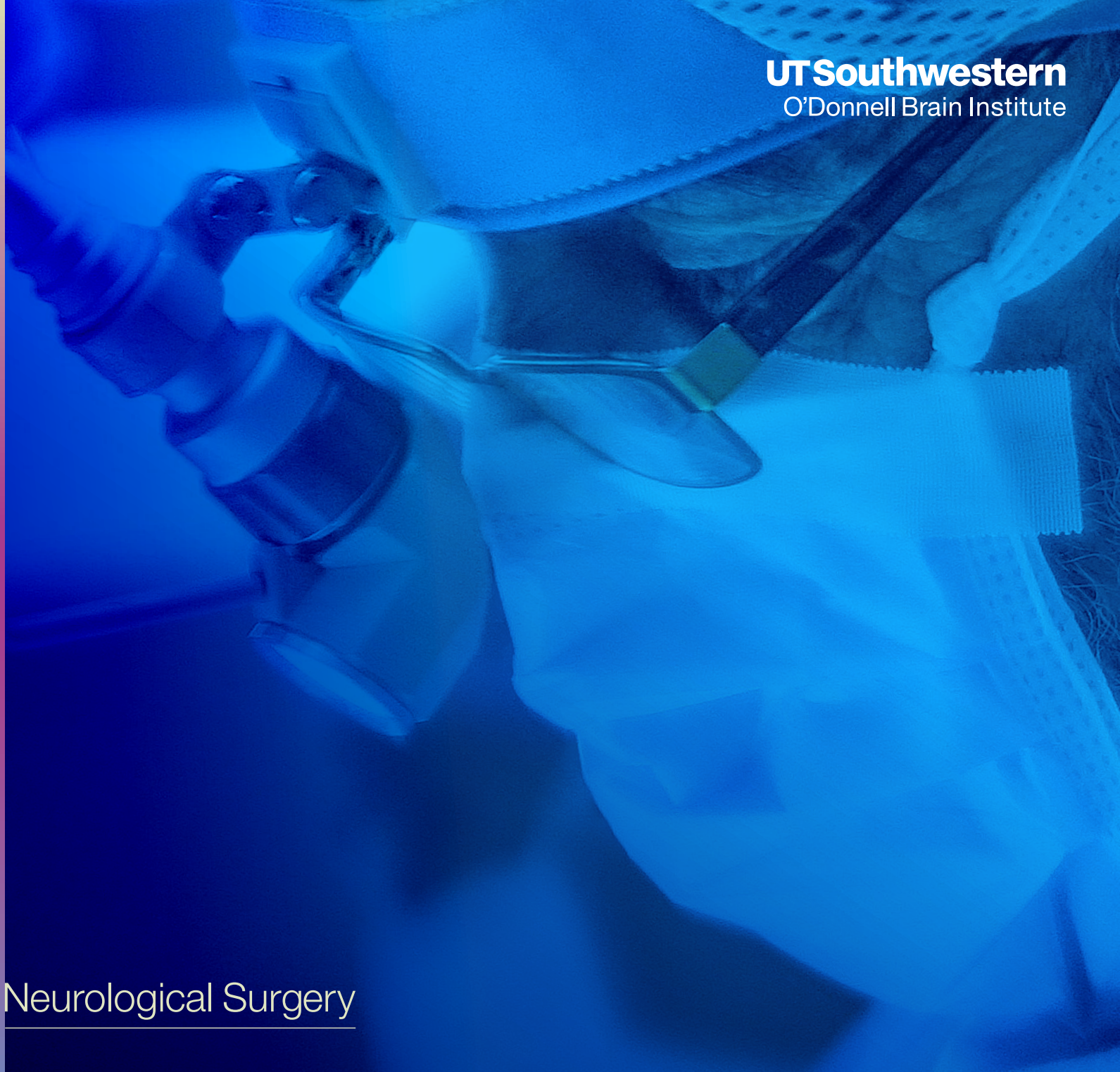

UT Southwestern
O'Donnell Brain Institute

Neurological Surgery

2025 Quality Outcomes Report

UT Southwestern Neurosurgery is a leading hub for innovation and high-quality neurosurgical care, education, and research.

BEST HOSPITALS
U.S.News & WORLD REPORT
NEUROLOGY & NEUROSURGERY
2024-2025

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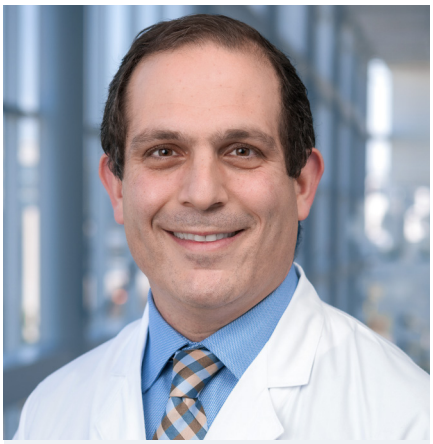
Message from the Neurosurgery Chair



Nader Pouratian, M.D., Ph.D., FCNS

At UT Southwestern, the Department of Neurological Surgery is committed to optimizing patient care and outcomes, both within and outside the operating room. We bring together patient-centered, multidisciplinary teams to focus on every step of our patients' journeys. By improving communication, both with patients and among ourselves, we've been able to enhance the patient experience, improve outcomes, increase discharge efficiency, and significantly reduce mortality, all while upholding the highest standards of technical excellence.

Over the past two years, substantial improvements in discharge processes have contributed directly to greater efficiency. These efforts, including a strong focus on creating evidence-based protocols, streamlining care, and reducing unnecessary delays, have led to a measurable decrease in length of stay (LOS) across our service. Additionally, our initiatives aimed at improving patient safety and care coordination have played a key role in significantly reducing mortality rates.

Our department's commitment to growing the Neurosurgery Quality Council and Quality Committee has further strengthened these efforts. This year, we've expanded our Quality Council to include physicians, nurse managers, care coordinators, physical therapists, social workers, advanced practice providers, and administrative staff. Together, they are the driving force behind our quality projects and they have delivered tangible results that improve patient outcomes and their experience overall.

These continued improvements highlight the success of our collaborative, patient-centered approach to care. Our ongoing commitment to refining processes and focusing on patient safety and satisfaction ensures that we are providing unparalleled health care that is aligned with the evolving needs of our patients.

Thank you for your continued support.

Sincerely,

Nader Pouratian, M.D., Ph.D., FCNS

Chair and Professor, UT Southwestern Department of Neurological Surgery
Lois C.A. and Darwin E. Smith Distinguished Chair in Neurological Surgery
Director, Neurosurgical Brain Mapping and Restoration Laboratory

Neurosurgery Quality Council

Bradley Weprin, M.D., M.H.C.M., *Professor, Departments of Neurological Surgery, Pediatrics, and Radiation Oncology*

As neurosurgeons and leaders within our health systems, we hold a profound responsibility to shape and elevate the quality of care we deliver. Our purpose goes beyond clinical expertise; it's about ensuring every patient's experience is safe, timely, effective, and centered on individual needs. We strive to do the right thing at the right time for the right patient, aiming for the best outcomes each time. Our Quality Council exists to champion this commitment, guiding us in the pursuit of excellence that aligns with the values of UT Southwestern. Together, we seek not only to meet the demands of today but to anticipate the future needs of neurosurgical care. By fostering a culture of innovation, collaboration, and accountability, we create a path toward meaningful, lasting impact — one that ensures we're delivering the best care possible now and preparing for the advancements of tomorrow.

Ankur Patel, M.D., *Assistant Professor, Department of Neurological Surgery*

The multidisciplinary, comprehensive quality program within the UT Southwestern Department of Neurological Surgery was developed with the goal of continually improving upon the exceptional care patients with neurological disorders receive at our institution. Through transparency of data and open communication, the program is able to efficiently initiate systematic changes that truly impact our patient outcomes and experience. This includes shortening the in-hospital length of stay, decreasing readmissions, and reducing complications. Moreover, the program facilitates the incorporation of new treatments in a safe and efficient manner. Overall, we feel this allows patients to quickly get back to the most important parts of their lives.

Ashley Boothe, M.S., APRN, AGACNP-BC, FNP-C, *Advanced Practice Provider, Department of Neurological Surgery*

It is a privilege to serve as an advanced practice provider with the Department of Neurosurgery at UT Southwestern. The Neurosurgery Department encompasses the ideology of delivering high-quality, patient-centered, evidenced-based care. The Neurosurgery Quality Council ensures that exceptional care is delivered to all patients while incorporating the multidisciplinary team in a transparent approach to ensure the best outcomes for our patients. The Quality Council includes all members of the allied health team to achieve this goal. Serving on the Quality Council is an important and valuable opportunity to make an impact on patient care at UT Southwestern. High-quality care directly impacts patient outcomes, overall well-being, safety, and patient satisfaction. High-quality care decreases complications, errors, and adverse events, which is vital to keeping our patients safe. The entire team improves when there is a culture that values quality. Improved morale and job satisfaction can lead to better teamwork and less chance of burnout. The Neurosurgery Quality Council creates an environment that is safe, effective, and focuses on our patient's needs.

Lisa Wilkins, B.S., B.S.N., RN, AGNP-C, CCRN, RNFA, *Lead Advanced Practice Provider, Department of Neurological Surgery*

As an advanced practice provider, I have the pleasure of caring for our patients before and after their neurological surgery. Our Quality Council encourages ongoing evaluation at each phase of the patient's experience, from admission to discharge. Focusing on care from the patient's perspective ensures each step through the hospital stay is safe, meaningful, kind, and positive. This constant evaluation ensures our ability to quickly implement improvements to benefit our patients.

Raneem Tohaibeche, M.S., *Project Manager, Department of Neurological Surgery*

As the Project Manager for the Neurosurgery Quality Program, I have seen significant growth and progress over the past two years in enhancing patient care and safety. Through consistent, daily review and analysis of data, we have been able to refine our processes, resulting in improved discharge efficiency, reduced length of stay (LOS), and lower mortality rates. Increased transparency, along with more effective planning and discussions around projects, has also contributed to our success. These efforts have directly translated into better patient outcomes and more efficient operations, reflecting the continued impact of our commitment to quality improvement in Neurological Surgery.

Neurological Surgery Team

Faculty

Venkatesh Aiyagari, M.D., Professor

Mazin Al Tamimi, M.D., Associate Professor

Salah Aoun, M.D., Assistant Professor

Sam Barnett, M.D., Professor

Bruno Braga, M.D., Associate Professor

Elias Elias, M.D., Assistant Professor

Frederick Hitti, M.D., Ph.D., Assistant Professor

Bradley Lega, M.D., Associate Professor

Christopher Madden, M.D., Professor

Panagiotis Mastorakos, M.D., Ph.D., Assistant Professor

Kevin Morrill, M.D., Professor

Rafael de Oliveira Sillero, M.D., Assistant Professor

Ankur Patel, M.D., Assistant Professor

Toral Patel, M.D., Associate Professor

Nader Pouratian, M.D., Ph.D., FCNS, Chair and Professor

Angela Price, M.D., Associate Professor

Matthew Sun, M.D., Assistant Professor

Dale Swift, M.D., Professor

Alex Valadka, M.D., Professor

Babu Welch, M.D., Professor

Bradley Weprin, M.D., M.H.C.M., Professor

Jonathan White, M.D., Professor

Brett Whittemore, M.D., Assistant Professor

Advanced Practice Providers

Ashley Boothe, M.S., APRN, AGACNP-BC, FNP-C, RNFA

Brandi Ciufi, M.S., APRN, AGACNP-BC

Calli Fanous, M.S.N., APRN, ACNP-BC

Sean Faulkner, M.S.N., APRN, AGACNP-BC

Cassie Joly, AGACNP-BC

Micheal Levy, M.S.N., APRN, ACNP-BC, CNRN

John Norman, PA-C

Caitlin Remaklus, M.S.N., APRN, AGACNP-BC

Lisa Wilkins, B.S., B.S.N., RN, AGNP-C, CCRN, RNFA

Director of Neuroscience Services

Byron Carlisle, M.S.N., RN, CCRN-K, SCRN

Nurse Managers

Alexa Collins, M.B.A., B.S.N., RN, SCRN

Nikarlo Rogers, M.H.A., B.S.N., RN

Donald Stout, B.S.N., RN, RT(R)

Clinic Practice Manager

Susan Ritter, B.S.N., RN

Neurological Surgery Department Administrator

Nicolas Carmona III, M.H.A.

Key Achievements – FY24 Highlights

1. Yearly Length of Stay (LOS) Index

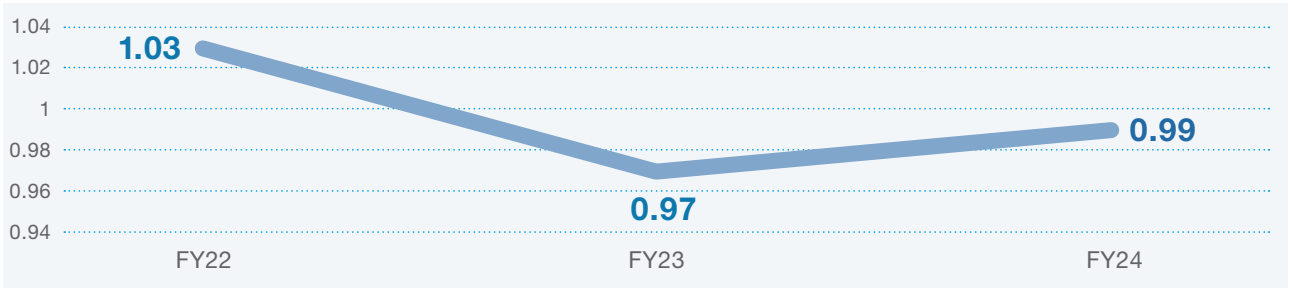
FY24: 0.99

Target ≤ 0.90

Trend: Improvement over three fiscal years

Achievements:

While we narrowly missed the target for FY24, **July (0.64)**, **August (0.75)**, and **September (0.82)** all met the goal.

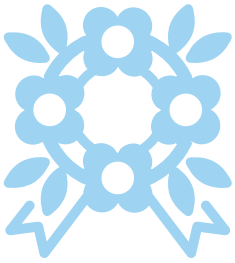


2. Mortality Index

FY24: 0.45

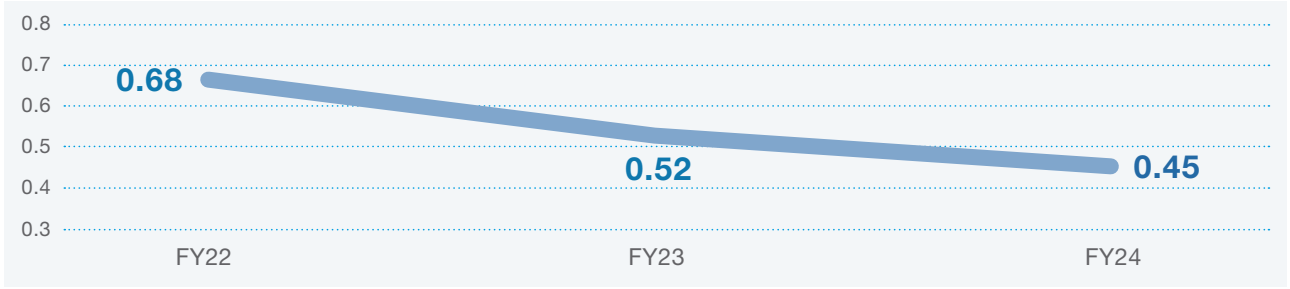
Target ≤ 0.90

Trend: Improved from previous years



Achievements:

Exceeded the target with one of the lowest mortality rates recorded.



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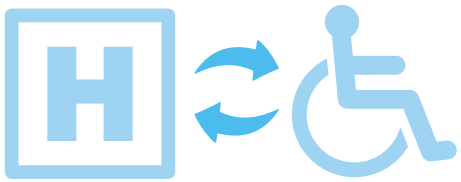
3. Unplanned Readmission Rate

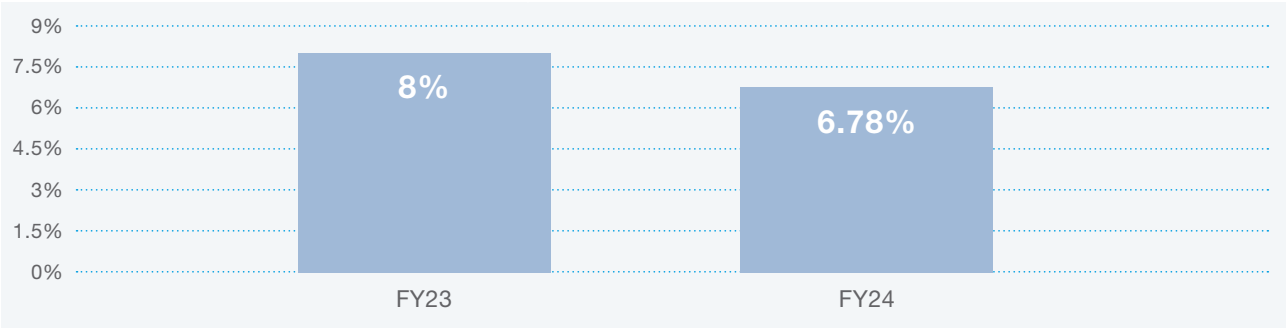
FY24 Rate: 6.78%

Target ≤ 8%

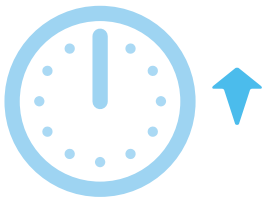


Achievements:

Met the goal with a significant reduction from FY23's 8%.



4. Discharge Efficiency

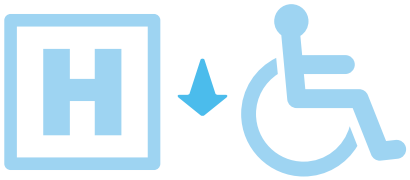


Increased

number of patients discharged by noon. Increased orders placed by 10 a.m.

37% Increase

34.8% of patients discharged by noon in September 2024, as compared to August 2023.



Reduced

time from order to discharge

44 minutes faster

for discharges in December 2024, with an average time of 2 hours, 58 minutes vs. 3 hours, 42 minutes in August 2023.

Strong

team collaboration

Discharge Planning and Efficiency in FY24

Neurological Surgery Discharge Improvement Plan

Early planning: Establish and communicate discharge plan from Day 1.

Daily team updates: Discuss discharge date during rounds to ensure alignment.

Standardized process: Implement consistent discharge protocols across units.

Ongoing analysis:

- Weekly discharge metrics shared with team leaders
- Monthly deep-dive review of unit-specific data

Patient education: Inform patients about the discharge process early and set clear expectations.

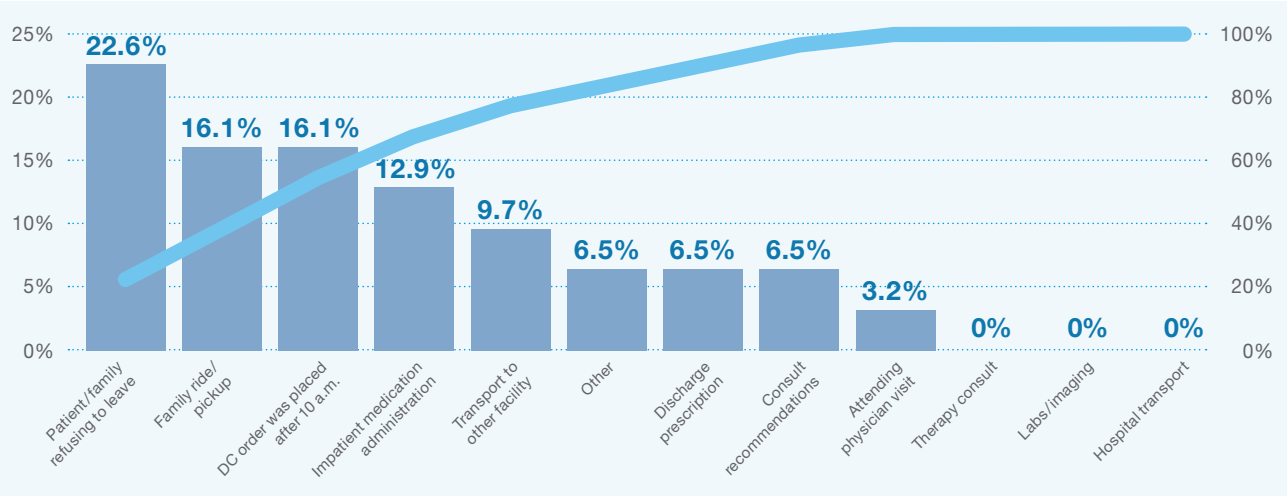
Discharge Unit Tracker: Two-Week Analysis

We conducted a two-week analysis across three units (9 Orange, Neuro ICU, and 8 ASU & EMU) to identify the reasons behind patient discharge delays past noon.

Key findings from the Pareto chart analysis:

- 22.6% of delays were due to patient or family refusal to leave.
- 16% were caused by patient pickup delays.
- 16% were due to delays in placing discharge orders.
- 12.9% were related to inpatient medication administration delays

Primary Reasons for Delayed Neurosurgery Patient Discharge: A Two-Week Analysis Across Three Units



Based on these insights, we initiated targeted projects to address and reduce these common causes of discharge delays. See the graph on Page 8 for a detailed breakdown.

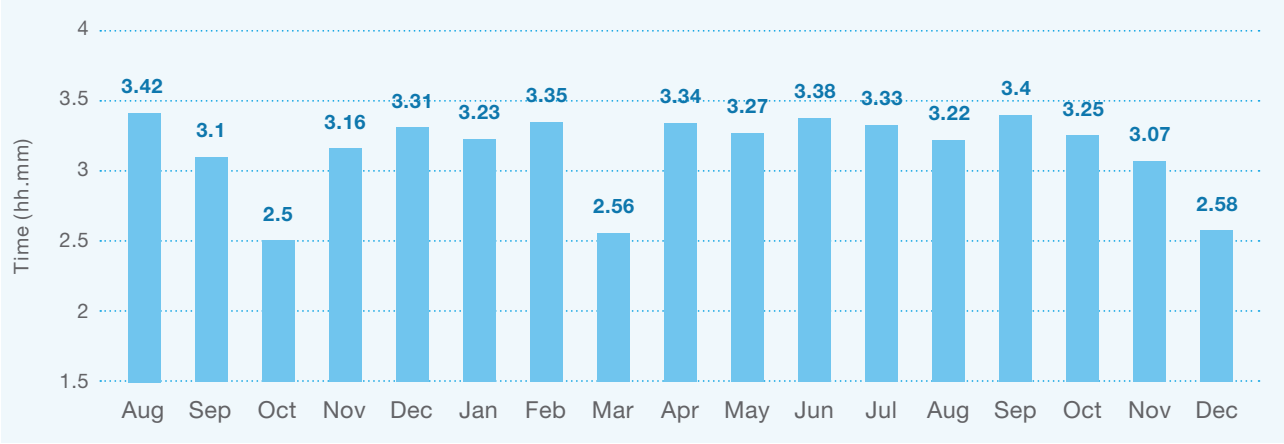
Continued

FY24 Discharge Goals

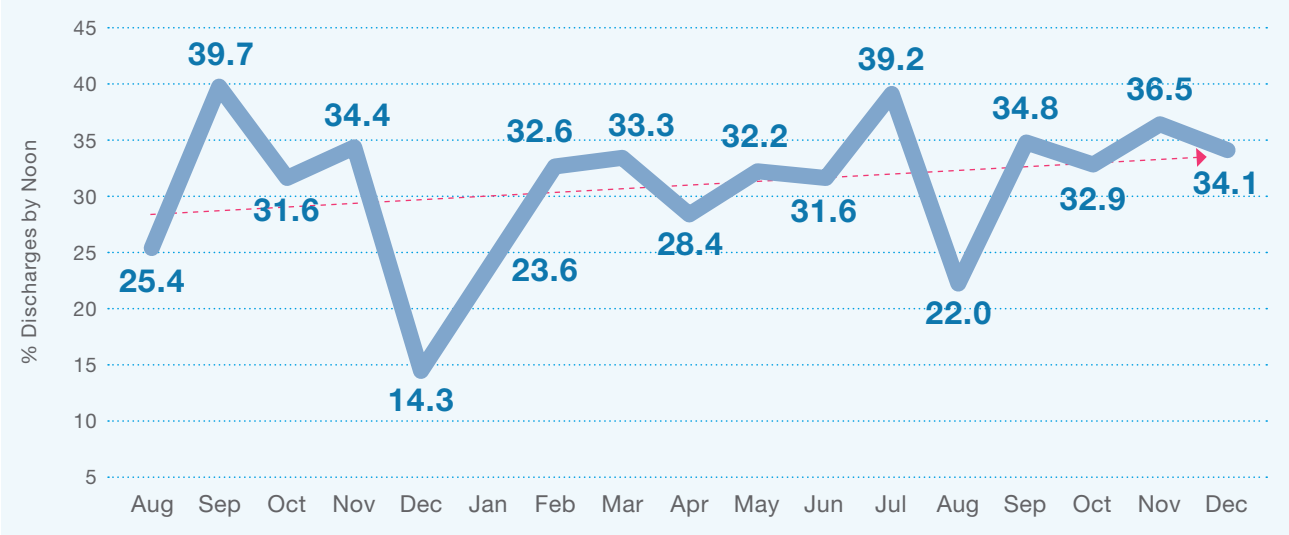
- **Discharge patients by noon:** Aim for timely discharges across all units.
- **50% of discharge orders by 10 a.m.:** Ensure at least half of discharge orders are placed early by providers.
- **50% of patients discharged by noon:** Achieve at least 50% of discharges before noon.
- **Early education and awareness:** Educate patients and staff about the discharge process starting from Day 1.

Neurosurgery Patients Average Order to Discharge Time

(August 2023–December 2024)



Percent Discharge by Noon (August 2023–December 2024)



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A Year in Review: Data Capture and Results Analysis

Year	Month	Total Cases	Average Order to Discharge Time	Median Order to Discharge Time	Average LOS	Discharge by Noon
2023	August	126	3:42	3:22	4.18	25.4%
	September	116	3:10	2:47	4.45	39.7%
	October	114	2:50	2:37	4.53	31.6%
	November	131	3:16	2:40	4.72	34.4%
	December	172	3:31	3:23	5.39	14.3%
2024	January	144	3:23	2:54	5.61	23.6%
	February	138	3:35	3:00	4.30	32.6%
	March	135	2:56	2:23	4.29	33.3%
	April	141	3:34	3:07	5.42	28.4%
	May	143	3:27	3:03	5.25	32.2%
	June	155	3:38	2:42	5.04	31.6%
	July	143	3.33	3:17	3.73	39.2%
	August	150	3:22	2:55	4.10	22.0%
	September	141	3:40	3:11	3.98	34.8%
	October	158	3:25	2:57	4.18	32.9%
	November	137	3:07	2:48	3.55	36.5%
	December	123	2:58	2:44	3.98	34.1%

Results and Conclusions

Average order to discharge time:

- Improved to 2 hours, 58 minutes in December 2024, indicating faster discharge processing.
- Stayed consistently around three hours or less for several months, reflecting sustained efficiency.

Median order to discharge time:

- Reached its best at 2 hours, 23 minutes in March 2024, showing quicker discharge order completion.

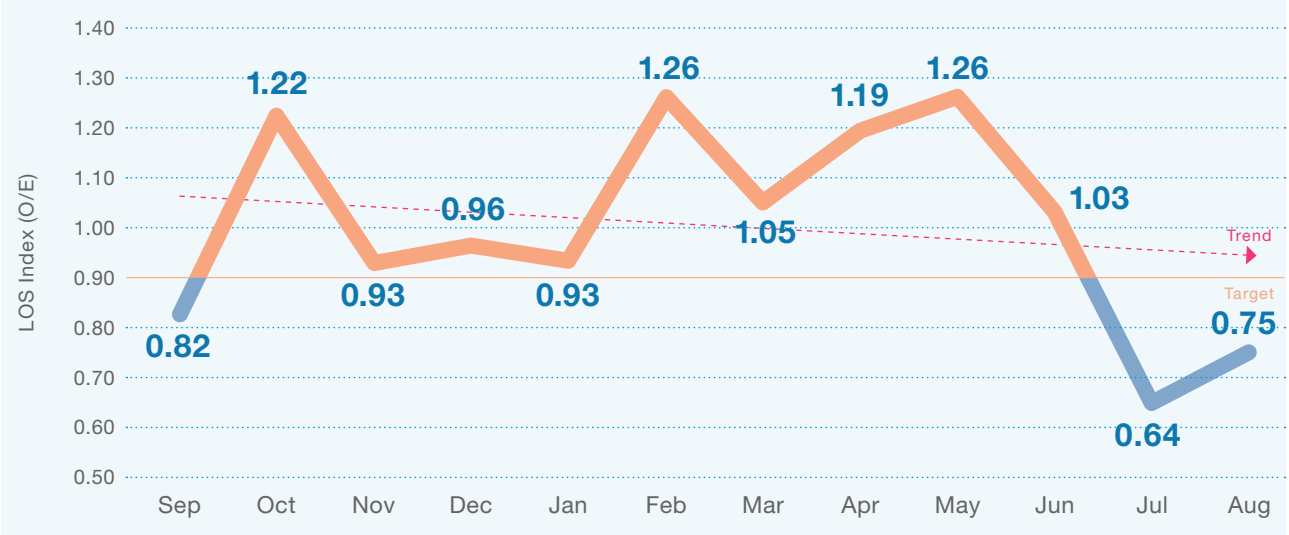
Discharge by noon:

- By September 2024, the end of FY24, our % discharge by noon was at 34.8%

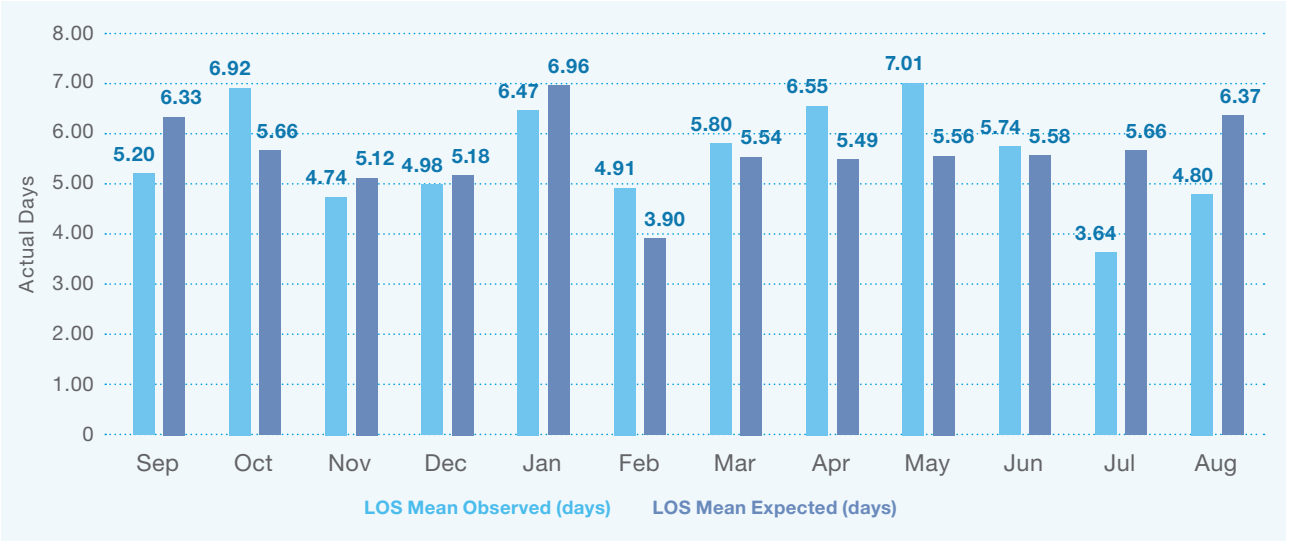
Overall, discharge times have consistently improved, both in terms of average and median times, with notable progress in timely discharges. By the end of the fiscal year, 34.8% of patients were discharged by noon in September 2024, compared with 25.4% in August 2023, when we began.

Length of Stay

Monthly Length of Stay Index (September 2023–August 2024)

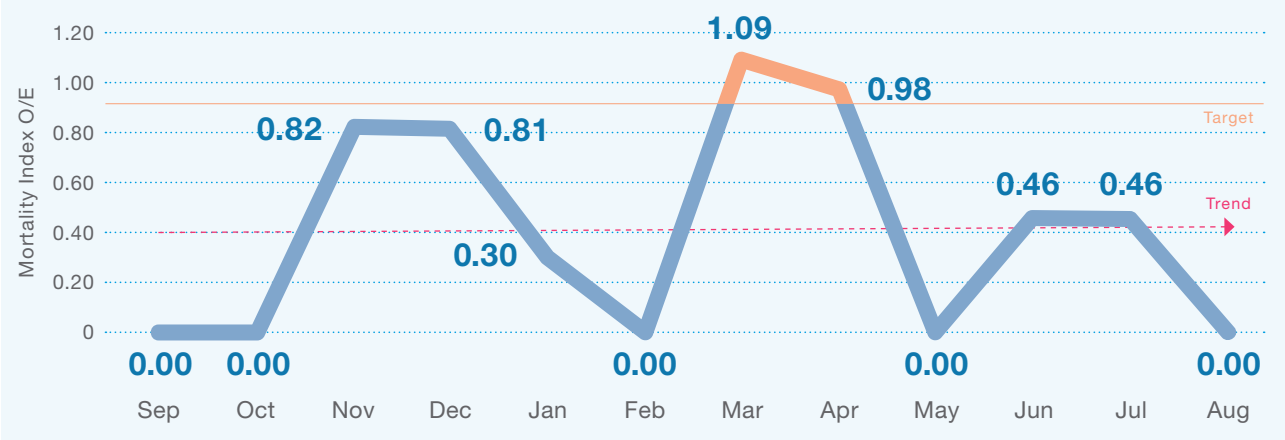


Monthly Length of Stay Observed & Expected (September 2023–August 2024)

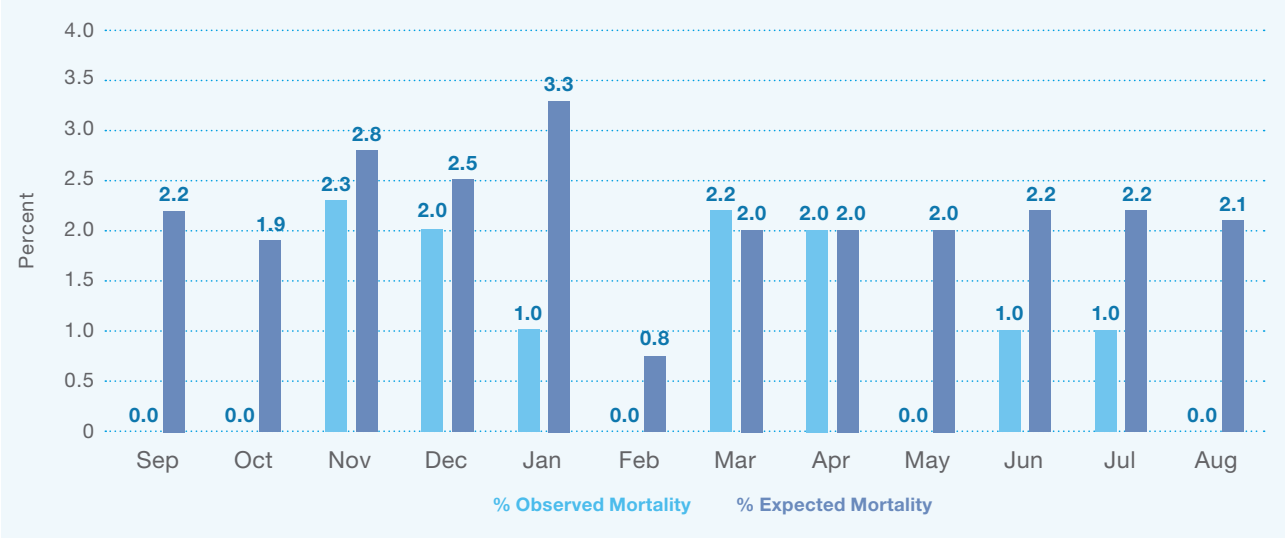


Mortality

Monthly Mortality Index (September 2023–August 2024)

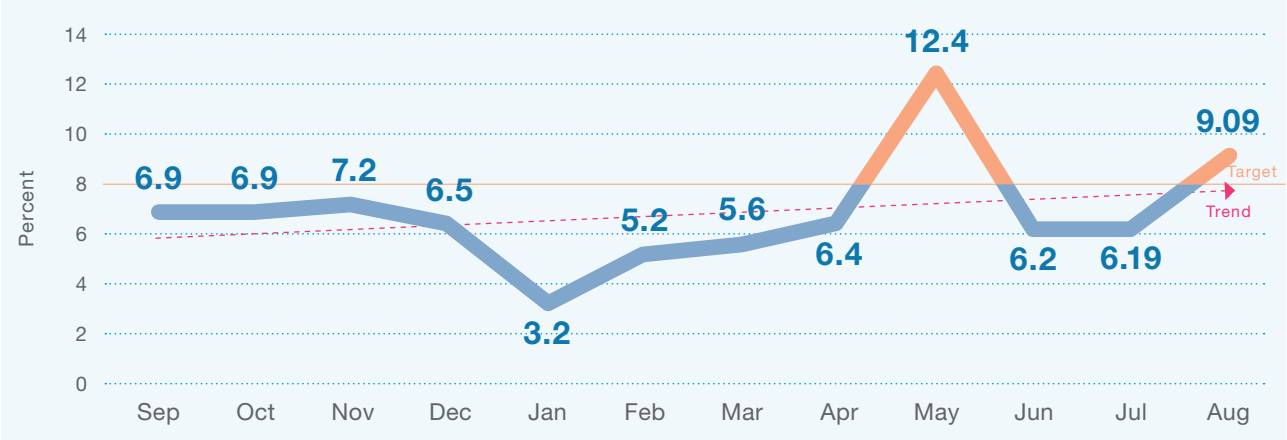


Monthly Mortality Observed & Expected (September 2023–August 2024)

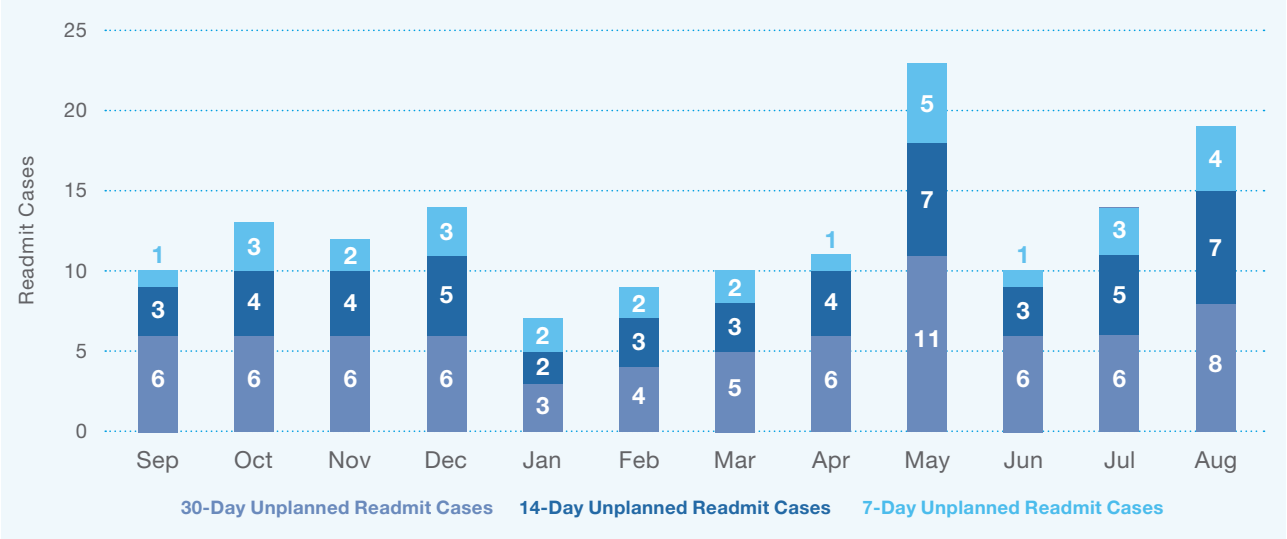


Unplanned Readmission

Unplanned Readmit Rate (Per 30-Day Period, September 2023–August 2024)



Unplanned Readmission (Per 30-Day, 14-Day & 7-Day Periods, September 2023–August 2024)



Neurological Surgery Committees

Monthly Quality Committee Meeting

The Department of Neurological Surgery holds a multidisciplinary Quality Committee meeting each month. This group includes physicians, advanced practice providers, nurses, therapists, and care coordinators, all working to improve patient care. The committee focuses on key quality initiatives, communication strategies, and continuous improvement to ensure the delivery of exceptional care. These meetings began in summer 2023 and have been ongoing.

Biannual Physician-Nursing Collaboration Meetings

Twice a year, physician leaders meet with nursing teams across our inpatient units to express gratitude for their contributions and discuss departmental goals. These biannual meetings cover key accomplishments and future objectives, and provide a platform for nurses to raise any issues they are facing. The feedback helps us develop projects to address and resolve those challenges.

Neurosurgery Quality Council Meetings

This council meets regularly to discuss quality initiatives, guide strategic efforts, and ensure that our quality improvement goals align with our commitment to delivering exceptional patient care.

Physician Metrics and Improvement Meeting

Our physicians come together for a dedicated meeting focused on reviewing and improving key inpatient quality metrics. These meeting addresses topics such as the use of Epic tools, coding templates, and strategies to enhance patient outcomes. It provides a collaborative platform for discussing data-driven improvements and refining workflows to ensure optimal care delivery.

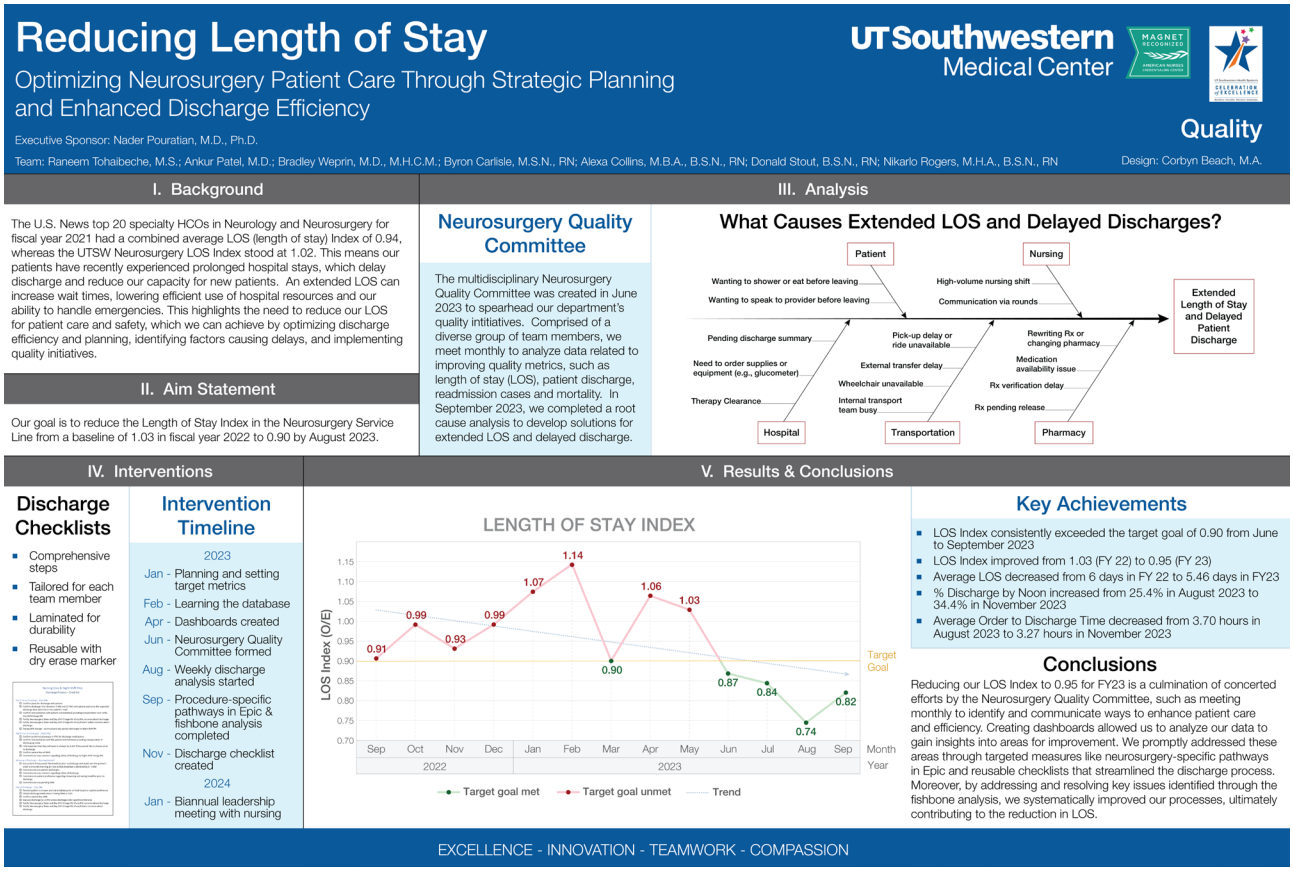
The Department of Neurological Surgery Committee

UT Southwestern
O'Donnell Brain Institute

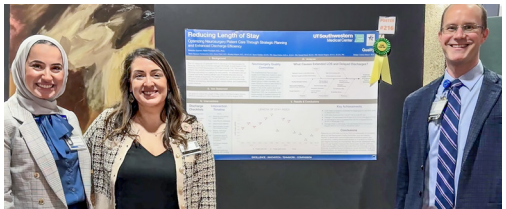
Celebration of Excellence

The UT Southwestern Health System Celebration of Excellence is an annual hospital-wide symposium held in April. Teams across the organization present their innovations and improvement efforts. This year, the Department of Neurological Surgery participated for the first time, showcasing our quality improvement work and earning a "Par for Excellence" ribbon. Our involvement underscored our dedication to advancing neurosurgery and supporting the hospital's mission of excellence.

Our poster focused on Reducing Length of Stay by enhancing discharge efficiency and optimizing neurosurgery patient care through strategic planning. This approach highlighted the impact of targeted interventions that improved patient outcomes and resource management and contributed to higher-quality care within the Department of Neurological Surgery.



This year, our Department of Neurological Surgery participated for the first time, showcasing our quality improvement work.



Unit Achievements

8 Orange – The Acute Stroke Unit (ASU)

The 8 Orange ASU has earned the Beacon Award for Excellence at the Gold Level, recognizing the unit's commitment to high-quality patient care and a positive work environment.

This award from the American Association of Critical-Care Nurses highlights the consistent use of evidence-based practices and strong unit culture, leading to improved patient outcomes that surpass national benchmarks. Notably, this unit is the first Neuro Progressive Care and Acute Stroke Unit in the nation to achieve this prestigious gold-level recognition.

Continued

8 Orange – The Epilepsy Monitoring Unit (EMU)

The EMU has developed a patient orientation video to enhance understanding of the admission process for patients with epilepsy and seizure disorders. This initiative aims to improve communication, standardize education, and enhance patient satisfaction while reducing errors. Additionally, pre-admission calls from the epilepsy program will further reinforce information provided in the video. Future evaluations will assess the impact of these changes on patient outcomes and overall satisfaction.

Continued

9 Orange

Jessica Chorostecki
D.N.P., B.S.N., RN, AGACNP

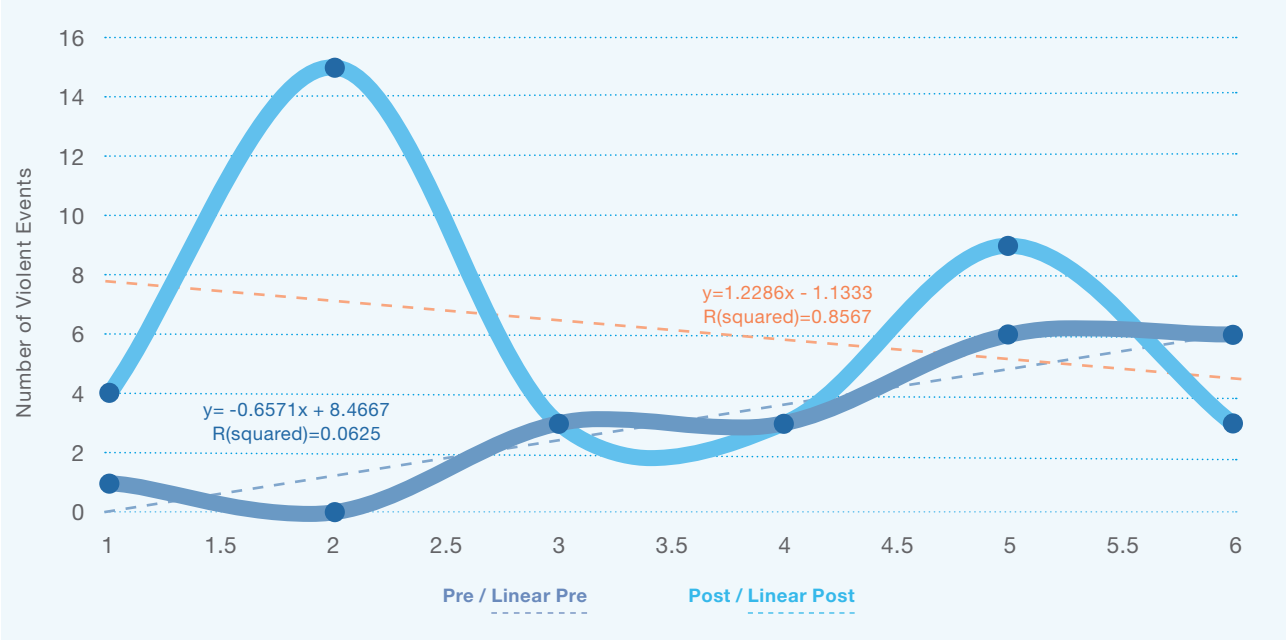
Improving nursing communication to encourage safety and reduce Type II violent events in an inpatient setting (INCEnTIIVE)

The INCEnTIIVE project, led by Jessica Chorostecki, D.N.P., B.S.N., RN, AGACNP, implemented a Potentially Violent Patient Handoff (PVPH) tool to improve nurse communication and safety in a medical-surgical unit. This tool was designed to enhance nurse-to-nurse handoffs specifically concerning patients with the potential for violent behavior. Over a six-month period, the team tracked outcomes related to nurse confidence, sense of safety, and teamwork.

The results showed that the PVPH tool led to significant improvements: Nurses reported increased confidence, greater support, and enhanced feelings of safety and collaboration. Additionally, while initial reporting of violent incidents rose (indicating improved awareness and communication), it later declined, suggesting a possible reduction in violent events. Chorostecki's project highlights the effectiveness of structured communication tools in creating safer and more supportive work environments for health care providers managing high-risk patient interactions.

Monthly Number of Violent Events Reported on the Neurology/Neurosurgery Unit

(For Six Months Pre- and Six Months Post-Intervention with Linear Regression)



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Neuro ICU

The Neurosciences Intensive Care Unit (NSICU) at UT Southwestern is Magnet™ recognized, is designated as a Comprehensive Stroke Center by The Joint Commission, and is a recipient of Beacon Award for Excellence at the Gold Level. The unit has long been at the forefront of medical innovation, with renowned providers, ongoing research, and the application of emerging technologies. As the first unit in the nation to fully integrate pupillometry into its electronic medical records (EMR), the NSICU is uniquely positioned to deliver world-class patient care while advancing our research with precision.

It is widely recognized by experts in the field that the era of subjective assessments of pupil reaction using a penlight is over. By incorporating pupillometry in every ICU room, the NSICU has significantly enhanced the quality of care and patient outcomes through increased efficiency, precise pupil measurements, and enhancements to staff satisfaction by effectively giving them back valuable time to spend with the patient. The user-friendly nature of pupillometry and integration with our EMR enables our patient care technicians (PCTs) to conduct these tests, alleviating the workload from our nursing staff. With these advancements, the NSICU at UT Southwestern exemplifies the future of medicine today.

Other Quality Improvement Projects

Prepare for Discharge Tomorrow order

Our department is in the process of developing the "Prepare for Discharge Tomorrow" order within Epic. This upcoming feature will serve as a proactive notification system, allowing orders to be placed 24 hours before a patient's anticipated discharge. Once implemented, this system will support efficient discharge planning, with the goal of targeting a discharge time of noon. By integrating this order into our workflow, we aim to enhance interdisciplinary coordination, streamline processes, and improve patient care by reducing delays.

Get Well platform

Our department is planning to collaborate with the **Get Well platform** to enhance our discharge process by integrating tailored prompts and questionnaires. This initiative will ensure that patients receive timely education and reminders about their discharge plan, thereby improving preparedness and reducing delays. Through personalized content and interactive tools, we aim to engage patients early in their hospital stay, address potential barriers proactively, and streamline communication between care teams and patients, ultimately enhancing the overall discharge experience.

Sources Cited

Vizient

Vizient Inc., the country's largest member-owned health care services company, provides innovative, data-driven solutions, expertise, and collaborative opportunities that lead to improved patient outcomes and lower costs.

UTSW Balance Score Card

The UTSW Balance Score Card is prepared by the health system's Quality & Operational Excellence team to show hospital-wide data.

Epic

Epic Systems Corp. is an American privately held health care software company. Through Epic reporting, we are able to access certain metrics.

Previous Fiscal Year Data

FY2023 Data Summary (September 2022–August 2023)

Discharge Month	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total/ Avg
Cases	86	89	70	80	73	80	70	96	113	83	107	85	1,032
Mean LOS - Observed	4.00	5.36	5.94	6.09	4.99	7.05	5.60	4.74	6.31	5.39	5.27	4.82	5.46
Mean LOS - Expected	4.39	5.24	6.33	6.08	4.56	6.17	6.05	4.45	6.08	6.11	6.13	6.08	5.64
LOS Index (O/E)	0.91	1.02	0.94	1.00	1.09	1.14	0.93	1.07	1.04	0.88	0.86	0.79	0.97
Deaths	1	1	2	0	0	2	2	1	0	2	0	0	11
Mortality (%) - Observed	1.16	1.12	2.86	0.00	0.00	2.50	2.86	1.04	0.00	2.41	0.00	0.00	1.07
Mortality (%) - Expected	1.36	1.85	2.43	1.65	2.51	2.10	3.31	1.61	2.19	2.87	2.13	1.22	2.07
Mortality Index (O/E)	0.86	0.61	1.18	0.00	0.00	1.19	0.86	0.65	0.00	0.84	0.00	0.00	0.51
Case Mix Index (CMI)	2.99	3.47	3.74	4.39	3.21	3.59	3.73	3.34	3.88	3.53	3.65	3.47	3.58

FY2022 Data Summary (September 2021–August 2022)

Discharge Month	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total/ Avg
Cases	106	83	91	81	76	73	81	92	78	71	87	82	1,001
Mean LOS - Observed	6.40	6.06	5.05	6.79	10.39	5.30	5.53	4.70	5.65	5.97	5.15	5.37	6.00
Mean LOS - Expected	6.54	5.64	5.74	6.03	8.77	4.78	5.34	4.82	5.90	6.74	5.06	4.94	5.84
LOS Index (O/E)	0.98	1.08	0.88	1.13	1.19	1.11	1.04	0.98	0.96	0.89	1.02	1.09	1.03
Deaths	3	1	3	1	4	0	1	2	0	1	1	1	18
Mortality (%) - Observed	2.83	1.20	3.30	1.23	5.26	0.00	1.23	2.17	0.00	1.41	1.15	1.22	1.80
Mortality (%) - Expected	2.88	1.95	3.10	2.06	6.37	1.47	2.06	1.70	1.97	4.19	2.64	1.52	2.63
Mortality Index (O/E)	0.98	0.62	1.07	0.60	0.83	0.00	0.60	1.28	0.00	0.34	0.44	0.80	0.68
Case Mix Index (CMI)	3.88	4.06	3.90	4.14	5.18	3.39	3.47	3.59	3.76	3.95	3.80	3.31	3.86