

Geriatric Emergency Department Case Study





Tufts Medical Center GED Case Study

Tufts Medical Center is a world-renowned, 415-bed academic medical center in Boston that cares for some of the sickest patients in the region; it is also a Level I trauma center and stroke center and one of the largest heart transplant centers in New England. Tufts Medical Center is the principal teaching hospital for Tufts University School of Medicine. As a leading research institution, Tufts Medical Center is one of the top 10% of all recipients of NIH funding across the country.

Located in the heart of Boston's Chinatown neighborhood, Tufts Medical Center serves a diverse population. Between 15 and 20% of patients speak Cantonese or Mandarin and roughly 11% of Emergency Department patients seen are 65 or older. In 2018, Tufts Medical Center was the first hospital in New England to become a Level 1 Geriatric Emergency Department (GED).

The Geriatric Emergency Department at Tufts Medical Center provides a focused assessment of patients 75 and older, offering necessary interventions to address any identified risks. Utilizing a comprehensive, multi-disciplinary approach, in collaboration with several non-ED care partners (including Psychiatry, Physical Therapy, Trauma, and Palliative Care), this program focuses the greatest resources to assess those patients who will be discharged. Our goal is to make sure that all available resources are brought to bear for such a vulnerable population.

In 2021, Tufts Medicine health system implemented Epic as its new universal electronic medical record (EMR), migrating 4 million patient records from 42 integrated third-party applications into one integrated system. Tufts Medicine launched the first-ever entirely cloud-based electronic health record. The launch of Epic coincided with the GED reaccreditation cycle which provided a silver lining that fostered a reevaluation and strengthened many aspects of the program.

The Challenge

Tufts Medical Center tackled the challenge of successfully integrating the launch of Epic into the vital GED program, while learning how to optimize the capabilities in Epic to enhance our care and services to our patient community

The Goal

The GED interdisciplinary steering committee aimed to use the launch of the Epic electronic health record throughout the Tufts Medicine system to improve the delivery of care for the unique and vulnerable population. Specifically, the team focused on several initiatives to achieve this goal:

- Improve the identification of the target patient population of age 75 and older.
- Notify clinical stakeholders of each target patient coming through our doors (physician, nursing, pharmacy, case management, social work and physical therapy).
- Improve the discharge process for patients who screen positive for assessments indicating risk by enhancing the content and delivery of discharge education, including all new onboarding RNs. (With the increased staff turnover seen in our hospital, like many others during the pandemic, GED training became an even more vital component of the onboarding process).
- Improve the patient call-back system and documentation for follow-up on all discharged target patients.
- Improve access to healthcare proxy information for clinical stakeholders.
- Create templated workflows to standardize geriatric screenings.
- Create systems to measure and report performance results of geriatric screening.

The Execution

The key driver behind our successful execution was teamwork and engagement with colleagues across many disciplines throughout the Medical Center. First formed in 2017, the steering committee, was essential to achieve the initial accreditation in 2018 and the reaccreditation in 2022. The committee, meeting monthly, included key geriatric stakeholders such as hospital geriatricians, trauma service representatives, psychiatry professionals, palliative care experts and others. The committee spurred critical changes and improvements within the Emergency Department and throughout Tufts Medical Center and the Tufts Medicine system.

Additionally, the team has also utilized some fun approaches to boost completion rates, including contests for the most creative patient-drawn clock in the mini-cognition test, and small gifts for individual nurses completing the greatest number of mini-cognition screenings.

These improvements were developed on a parallel track with the Epic implementation so that the institution could best leverage its new electronic health record. In addition to enhancing patient care and outcomes, these changes have also shifted the mindset throughout Tufts Medical Center in caring for patients age 75 and older, updating trauma protocols, and extending to patient care for individuals with certain disabilities and/or younger than age 75 but facing similar health challenges.

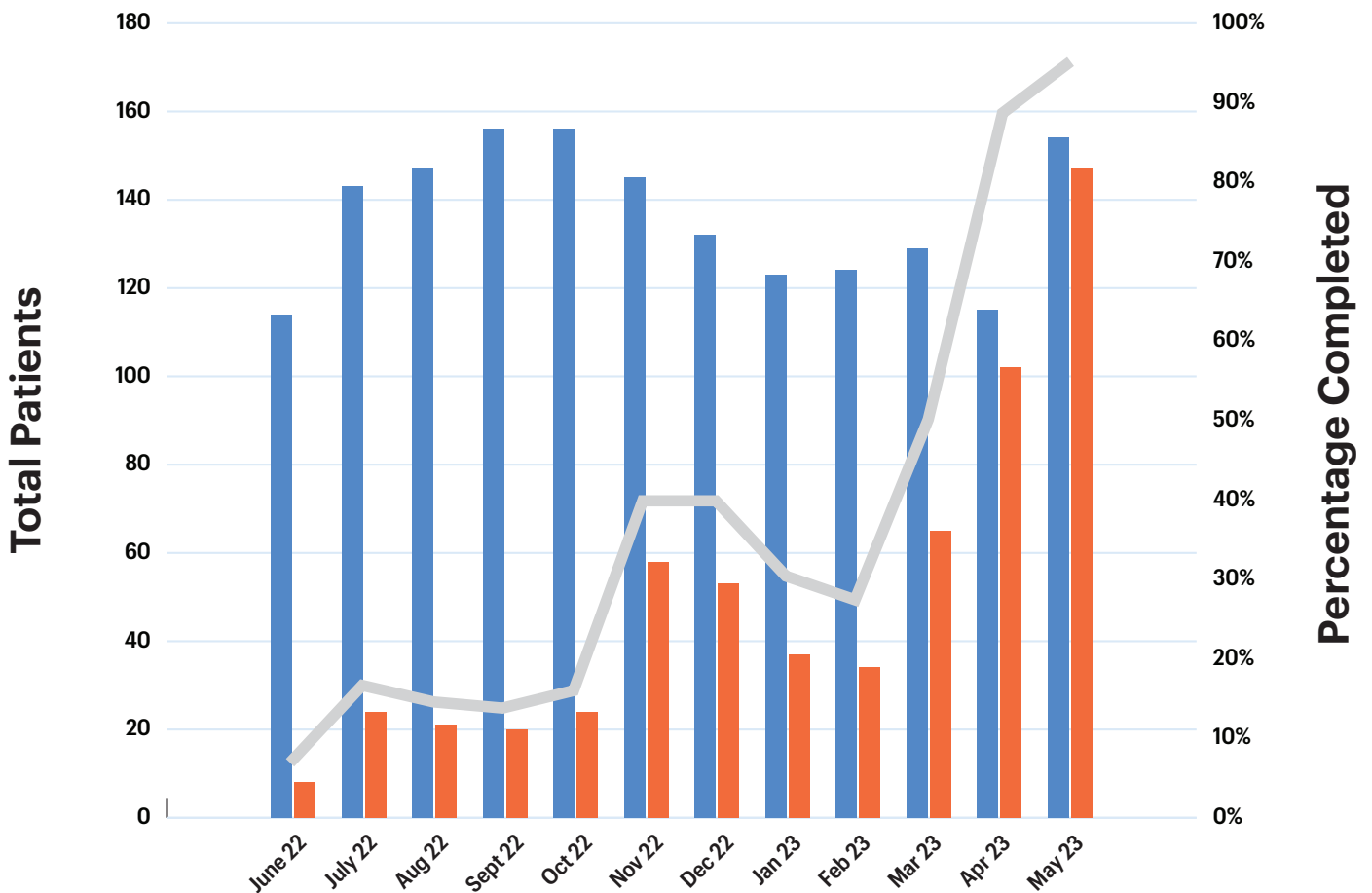
Some of these improvements included:

Geriatric assessments embedded in the system wide EMR.

Each of the four emergency departments across Tufts Medicine have incorporated geriatric screening in their practice. Similarly, GED practices are now being applied to patient care throughout Tufts Medical Center. To reinforce mandatory practices, the EMR provides highlighted reminders, and a hard

stop preventing patient discharges until the physician delirium assessment (B-CAM) is completed. This improvement resulted in a surge in the completion rate from roughly 40% to over 90% in just one month. Although this screening identifies very few cases of delirium, which in older adults is associated with increased mortality and length of stay, it is not something that we would want to miss, particularly in a patient being discharged.

bCAM Performance — Discharge



	June 22	July 22	Aug 22	Sept 22	Oct 22	Nov 22	Dec 22	Jan 23	Feb 23	March 23	April 23	May 23
Total Geri Discharges	114	143	147	156	156	145	132	123	124	129	115	154
bCam Performed	8	24	21	20	24	58	53	37	34	65	102	147
bCam Performed %	7%	17%	14%	13%	15%	40%	40%	30%	27%	50%	89%	95%

The EMR also has the capability to generate quality dashboard reports for this population to help make more robust quality improvements and sharing them with our team easier. Clinicians can review running tallies of many metrics over a rolling 30-day time horizon (rather than by calendar month), and drill down on each metric to review patient charts and the individual

caregivers, which permits more detailed review and better constructive feedback. Access to this data supports our efforts to incorporate geriatric cases in the monthly department-wide educational conferences, and enhances department-wide education initiatives, such as the "Geriatric Wisdom" newsletter.

Geriatric ED Dashboard:		DISCHARGED Patients through April 2023														
		(Month/Year)														
(Metric)	(Average/Count)	2022	2022	2022	2022	2022	2022	2022	2022	2023	2023	2023	2023	2023	12-Month running Total & % Avg	
		May	June	July	August	September	October	November	December	January	February	March	April	May		
All Patients	Total Patients	3841	3768	3851	3716	3882	4145	4041	3994	3873	3556	3953	3229	4118	46126	
All Patients	Total Geriatric Patients (75+)	321	295	337	342	359	370	339	356	334	325	343	332	378	4110	
All Patients	Total Geri Hospitalizations	182	160	168	175	182	195	174	198	193	189	204	208	179	2225	
All Patients	% Geri Hospitalizations	57%	54%	50%	51%	51%	53%	51%	56%	58%	58%	59%	63%	47%	54.3%	
Discharge Only	Total Geri D/C	113	114	143	147	156	156	145	132	123	124	129	115	154	1638	
All Patients	Total Geri Returns (# of MRNS)	56	61	82	70	76	89	76	69	35	35	73	60	48	774	
All Patients	Ger Returns Hosp. (# of MRNS)	25	32	37	35	44	46	34	34	19	32	28	15	22	378	
All Patients	% of Returns Hospitalized	45%	52%	45%	50%	58%	52%	45%	49%	54%	91%	38%	25%	46%	50.5%	
All Non-Hosp.	Total # of ED Callbacks	81	82	118	113	109	118	N/A	116	92	98	100	86	100	1132	
All Non-Hosp.	Callback %	70%	80%	81%	80%	71%	80%	N/A	78%	84%	82%	80%	90%	77%	80.2%	
All Patients	Avg. Geri Arrival to Triage (mins)	14.0	10.0	10.0	14.0	13.0	13.0	13.0	14.0	15.0	11.4	10.0	9.4	10.8	12.0	
Discharge Only	# of Geri Patients > 8 Hours	15	22	28	21	29	27	30	22	27	17	15	12	23	273	
Discharge Only	% Geri Patients > 8 Hours	13%	19%	20%	14%	19%	17%	20.7%	16.7%	22.0%	13.7%	11.6%	10.4%	14.9%	16.6%	
Discharge Only	B-CAM Performed	15	8	24	21	20	24	58	53	37	34	65	102	147	593	
Discharge Only	B-CAM Performed %	13%	7%	17%	14%	13%	15%	40%	40%	30%	27%	50%	88%	94%	36.3%	
Discharge Only	B-CAM Unable to Perform	0	0	3	1	4	0	3	2	3	3	3	3	3	28	
Discharge Only	B-CAM Normal	15	8	20	20	16	23	54	51	34	34	62	120	144	586	
Discharge Only	B-CAM Abnormal	0	0	1	0	0	1	2	0	0	0	0	1	0	5	
Discharge Only	Case MGR ISAR	0	0	0	0	0	0	0	20	29	36	35	49	45	46	270
Discharge Only	Case MGR ISAR %	0%	0%	0%	0%	0%	0%	21%	22%	29%	28%	38%	39%	30%	17.3%	
Discharge Only	Case MGR ISAR Negative	0	0	0	0	0	0	6	4	12	5	25	24	12	88	
Discharge Only	Case MGR ISAR Positive	0	0	0	0	0	0	18	16	14	28	19	29	34	158	
Discharge Only	Case MGR KATZ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40	56	96	
Discharge Only	Case MGR KATZ %												35%	36%	7.1%	
Discharge Only	Case MGR KATZ Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	30	34	64	
Discharge Only	Case MGR KATZ Moderate	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6	15	21	
Discharge Only	Case MGR KATZ High	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4	7	11	
Discharge Only	Nurse FALL	36	27	27	20	26	21	48	26	28	22	50	64	72	431	
Discharge Only	Nurse FALL Not Performed	77	87	116	127	130	135	97	106	95	102	79	51	82	1207	
Discharge Only	Nurse FALL%	32%	24%	19%	14%	17%	13%	33%	20%	23%	18%	39%	56%	47%	26.7%	
Discharge Only	Nurse FALL Unable to Perform	1	3	4	2	4	6	4	4	9	7	5	5	12	65	
Discharge Only	Nurse FALL Normal	22	17	12	17	16	10	34	21	14	14	27	39	45	266	
Discharge Only	Nurse FALL At Risk	10	5	10	1	4	2	7	1	5	0	13	17	11	76	
Discharge Only	Nurse FALL High Risk	3	2	1	0	2	3	3	0	0	1	5	3	4	24	
Discharge Only	Nurse ISAR	64	57	75	60	76	71	51	29	22	22	33	40	45	581	
Discharge Only	Nurse ISAR %	57%	50%	52%	41%	49%	46%	35%	22%	18%	18%	26%	35%	29%	35.0%	
Discharge Only	Nurse ISAR Unable to Perform	0	0	0	0	0	0	0	1	2	0	0	1	1	5	
Discharge Only	Nurse ISAR Negative	25	28	29	17	25	27	29	8	11	10	13	21	18	0	
Discharge Only	Nurse ISAR Positive	17	21	40	30	38	28	15	11	3	6	20	18	25	272	
Discharge Only	Nurse MINI COG	24	23	23	18	17	13	41	17	17	14	41	50	46	320	
Discharge Only	Nurse MINI COG %	21%	20%	16%	12%	11%	8%	28%	13%	14%	11%	32%	43%	30%	19.9%	
Discharge Only	Nurse MINI COG Unable to Perform	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Discharge Only	Nurse MINI COG Normal	21	20	18	18	16	10	39	14	16	14	35	43	43	34	
Discharge Only	Nurse MINI COG Abnormal	3	3	5	0	1	3	2	3	1	0	6	7	3	34	
Discharge Only	Pharmacy Med. Reconciliation	Discharged Data not Immediately Available												15	11	26
Discharge Only	Pharmacy Med. Rec. %	Discharged Data not Immediately Available												13%	7%	10.1%
Discharge Only	EASI Screen	33	19	39	38	19	23	31	27	21	16	23	24	15	295	
Discharge Only	EASI Attempted %	29%	17%	27%	26%	12%	15%	21%	20%	17%	13%	18%	21%	10%	18.1%	
Discharge Only	EASI Completed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	
Discharge Only	EASI Negative	15	5	19	19	11	14	21	13	15	9	18	20	11	175	
Discharge Only	EASI Positive	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
Discharge Only	EASI Unable to Perform	1	0	0	0	0	0	0	3	1	0	4	1	4	13	
Discharge Only	Health Care Proxy	36	20	37	41	24	19	29	25	26	15	25	27	19	307	
Discharge Only	Health Care Proxy Completed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	
Discharge Only	HCP Completed %	32%	18%	26%	28%	15%	12%	20%	19%	21%	12%	19%	23%	12%	18.9%	

Patient call-backs better enabled and embedded in EMR care plans

With the launch of Epic, the care team has gained more capabilities to document and follow up with geriatric patients via phone call, typically by a nurse, after discharge.

Below is one real patient example documented by our follow-up RN:

PATIENT: 79 yr. old male presented to ED s/p fall (2nd time in May). Pt s/p CVA 2021-diff ambulating-uses cane. Pt lives alone in 1st floor of 2 story home. Bathroom on 2nd floor. Pt reports he needs more help. PCA only 1.5 hrs. twice/wk. I reached out to ED case manager P.S. She was able to secure home PT services for pt. She also reached out to ED SW K.D. She contacted pt.'s SW-message left to see if PCA hours could be increased. (ED f/u RN spoke to pt on 5/31-VNA services started 6/3).

Enhanced social work care plans

The Emergency Department social work team develops, manages and communicates care plans for complex elder patients ages 70 and older who are identified to be vulnerable in the community. These plans help guide the multidisciplinary Emergency Department team with patient care, and improve the quality of future Emergency Department care. The team established a dual EASI and HCP screening for patients 75 and older, which is now embedded in the EMR. (See data in above dashboard.)

The Elder Abuse Screening Index (EASI) to identify suspected elder mistreatment and/or self-neglect. It is also mandatory to confirm that a pre-existing Health Care Proxy (HCP) is valid, and part of the patient's medical record.

Coupled with the launch of the new EMR, the GED has significantly strengthened Social

Work Services' connections with community liaisons to identify the needs of geriatric patients, increase their community supports, and enhance continuity of care and well-being. These efforts have facilitated faster progression of care by identifying potential clinical and social barriers to discharge — both in the Emergency Department and early in a patient's admission — and better communication with the entire multidisciplinary team, the Social Worker, and Case Manager to resolve barriers or problems in a timely manner and reduce length of stay. This did not require additional staffing.

Enhancements to ED length of stay management

With the goal of improving patient experience, the team again leveraged the EMR to help minimize length of stay in the Emergency Department, by implementing patients' age as an independent criterion for assigning inpatient beds (based on data from the QI review process), and patients aged 75 and older are prioritized for admission. We closely track the number of patients spending more than 8 hours in the ED (for all reasons, but those are most commonly the patients being admitted), and in the last month studied that was fewer than 15% of the GED population (typically 50-60% of the patients age 75+ in our ED get admitted). This is also in a patient's best interest, because delirium and other complications often ensue from prolonged Emergency Department stays.

Hurdles

While the new capabilities of the EMR have enabled many enhancements to the GED and patient care, there were difficulties advancing work during and post the launch. The dashboard was not ready until several months after Epic's go-live date, leaving the team somewhat data-blind for a period of time.

Though unrelated to the launch of Epic, the COVID-19 pandemic created several negative impacts on staffing related to the GED, including a reduction of case management hours from 16 to 8 hours per day, a reduction of on-site social work hours, and turnover of nursing staff.

The Team

- Chairman and Chief of the Department of Emergency Medicine, Assistant Professor of Emergency Medicine, Tufts University School of Medicine
- Associate Chairman of the Department of Emergency Medicine, Assistant Professor of Emergency Medicine, Tufts University School of Medicine
- Director Geriatric Emergency Department and Assistant Professor of Emergency Medicine, Tufts University School of Medicine
- Associate Director Geriatric Emergency Department, Assistant Professor of Emergency Medicine, Tufts University School of Medicine
- Clinical Nursing Director
- Clinical Instructor, Emergency Department
- Clinical Social Worker, Emergency Department
- Follow up Nurse, Emergency Department
- Administrative Assistant, Emergency Department
- Case Management

Metrics

- Assessment of delirium, risk of fall, need for assistance with activities of daily living (ADLs), seniors at risk (ISAR), risk of harm by those close to them (EASI), general cognition, and medication reconciliation.

- Number of older adults admitted to hospital with admitting diagnosis and chief complaint — TMC ED Geriatric Hospitalization for January 2022. The columns display arrival date/time, age, outcome, complaint, and diagnosis.
- Number of older adults discharged home, SNF, NH with ED diagnosis and chief complaint — TMC ED Geriatric Hospitalization for January 2022. The columns display arrival date/time, age, outcome, complaint, and diagnosis.
- Number of older adults with a repeat ED visits within 30 days (prior to Epic within the same calendar month).
- Number of older adults with repeat ED admissions who require hospitalization.
- Number of older adults staying >8 hours in the ED, as well as duration from arrival to placement in a treatment bed.

Where to Start

For organizations looking to establish a GED, we strongly recommend the formation of a multidisciplinary steering committee to not only help develop a needs-gap analysis to achieve the accreditation, but also to engender support and enthusiasm from leadership and other key clinical stakeholders. These steps allow an organization to work within current staffing abilities and without incurring significant additional costs.

Leveraging the new EMR to enhance and improve our GED was crucial and we recommend interested organizations either try to incorporate their workflows into the building of a new EMR and/or upgrades to an existing EMR.

Key Takeaways

Engagement with clinical stakeholders throughout the institution is the most important element of success, but some hardwired requirements within the new EMR have enabled significant improvements in assessment completion rates, enhanced patient experience and reduced length of ED stay, and the ability to scale GED concepts and practices throughout all of the organizations in the Tufts Medicine health system without increasing GED staffing.

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