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Identifying observation unit as best practice

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Patient throughput or also known as patient flow ensures that patients receive the care they need, when and where they need it, is one of the greatest challenges facing healthcare today. In a hospital environment characterized by increasing patient demand, constrained physical resources and a rising cost of capital, optimizing inpatient throughput is an essential operations management strategy. One of the biggest challenges is in the emergency departments due to crowding, when demand for emergency care exceeds its capacity in resources and timeliness. Crowding is associated with increased morbidity, mortality, cost and decreased patient and health-care worker satisfaction. Crowding typically involves patients being delayed care, being transferred to another facility, being monitored in nontreatment areas such as hallways and awaiting ED treatment beds or inpatient beds.

The incidence of overcrowding in the ED is on the rise with 48% of EDs within the U.S. are at or over capacity, compared with 65% of urban hospital EDs and 73% of teaching hospital Eds. The challenges of managing patient overflows are especially critical in teaching and safety net hospital. The average teaching hospital reports that 59% of their admissions originate in the ED, compared with 45% of smaller, not for profit, private hospitals (Peacock, 2016). All hospitals large and small, rural and urban face a common struggle to ensure that their patients are admitted to the most appropriate levels of care.

The ED at the hospital of my research (X) has become the primary entry point for hospital care for an increasing number of patients. Hospital X has the 7th busiest ER in the nation and the tristate region's only Level I Trauma center, providing the highest level of trauma care.

Over the next few years, with the continued aging of the U.S. population and accelerated clinical technology advances, demand for inpatient bed capacity is only projected to climb. This growth in bed capacity will also require capacity growth in hospital support areas such as procedural suites, operating rooms, and imaging. Lack of available beds and poorly executed intake, bed management, and patient placement processes result in excessive wait times and ED diversions both of which can cause physicians to admit patients elsewhere. Improving inpatient throughput can substantially decrease admission wait times and increase quality of care and satisfaction.

Many emergency departments experience critical overcrowding and heavy emergency resource demand, which hampers the delivery of high-quality medical care and compromises patient safety. (Chalfin DB, 1477). ACEP believes a “boarded patient” is defined as a patient who remains in the emergency department after the patient has been admitted or placed into observation status at the facility but has not been transferred to an inpatient or observation unit. The primary cause of overcrowding is boarding: the practice of holding patients in the emergency department after they have been admitted to the hospital, because no inpatient beds are available. This practice often results in a number of problems, including ambulance refusals, prolonged patient waiting times, and increased suffering for those who wait, lying on gurneys in emergency department corridors for hours, and even days, which affects not only their care and comfort but also the primary work of the emergency department staff taking care of emergency department patients. When EDs are overwhelmed, their ability to respond to community emergencies and disasters may also be compromised.

The rising demand for acute care is attributable to several factors, including poor access to unscheduled primary care and an aging population with complex chronic illnesses which place an increasing demand on crowded ED and hospitals in the United States (American College of Emergency Physicians, 2009). Observation (OBS) services are provided to patients with an acute clinical condition whose need for acute care hospitalization is unclear after their initial evaluation and management. Center for Medicare & Medicaid (CMS) define hospital observation as those services that are reasonable and necessary to evaluate the outpatient's condition whose need for the patient to be admitted to the hospital as an inpatient (CMS, 2011). The observation unit (OU) provides an intense, focused care management program configured for safety, quality and efficiency. Clinical oversight of the unit is co-management model provided by a Hospitalist and advanced practiced registered nurse. Evidence based practices such as multidisciplinary rounds, bedside shift report, and unit huddles are used to impact LOS, emit a reduction in cost, enhance patient throughput and therefore yield a decrease in patients leaving the emergency department prior to medical screening. Creating a dedicated area within a hospital to cohort observation patients is an essential best practice that enables safe and efficient care. As national and local trends continue to increase demand for observations services, clinicians increasingly understand the benefits of an OU. Observation units are dedicated units built to provide efficient protocol-based care to patients with well-defined diagnoses or presenting symptoms such as asthma, transient ischemic attack (TIA), and congestive heart failure (CHS). Only approximately one-third of US hospitals currently have an observation unit.

The efficiency which results from use of such units may improve bed capacity in individual hospitals and provide great national cost savings as care is delivered safely in less time with use of fewer resources. Prior to implementation of an OU, observations services at X hospital were provided for patients by holding them in the ED for extended monitoring or admitting them to an inpatient bed in a virtual observation unit throughout the hospital. The process for providing care for these patients in the ED or an inpatient unit has generated numerous issues which include overcrowding in the ED, allowing no room for emergent patients, patients were leaving without being seen, decrease in quality of care due to influx of patients and inability monitor, throughput issues on the inpatient units, and financial disparity for the ED with increased length of stay (LOS).

The purpose of this research is to identify OU as the best practice (Emergency Medicine Clinics). The data will be looked at through the hospital x's data platform Tableau. Throughout the research, any changes to make the OU as the ideal place to be will done through the patient throughput committee which oversees the changes. With an observation unit, how do multidisciplinary rounds, bedside shift reports, and unit huddles effect patient throughput. This research however has taken a twist as Covid-19 didn't let the observation unit implemented at hospital x run at full capacity at any point in time unfortunately, but the results of the units and ED observation services will be looked at.

Both the number and percentage of patients admitted to observation status in the US have increased drastically over the last decade. Whereas 3% of patients in hospitals were on observation status in 2006, 8 of patients were on observation status in 2011. In a recent review of observation stays at a large academic medical center, 25 % of adults under general medical care in the hospital were under observation. (Napolitano, 2014)

The number of patients placed on outpatient observation despite being cared for in a hospital is rising, the increase in observation visits represents a shift in labeling patients as observation status rather than inpatient status, brought about by Medicare's strict criteria of what makes a patient sick enough to get hospital admission. Because Medicare will not reimburse hospitals for inpatient charges for patients who should have been placed on observation, hospitals are prioritizing labeling and billing for observation care so that at least some payment is received for care rendered. Appropriate labeling of patients has begun to take on more urgency with the financing of recovery audit contractors (RAC) by Medicare. RAC auditors are commissioned to retrospectively find overpayments made to hospitals based on documentation found in patient charts. Cook County Hospital in Chicago in the mid-1990s saw a decline in the admission rates from the emergency room following implementation of an OU, along with an increase in bed capacity due to the efficient, protocol-driven approach that goes along with successful ED observation units. With well-structured and managed observation units, such a reduction in hospitalization rates has been shown, is reproducible, and is achievable. Inpatient reimbursements from the Centers for Medicare and Medicaid Services (CMS) and private insurers frequently are tied to the acuity of care a hospital provides. Critical to making that

determination is the case mix that a given hospital sees. Usually, the more complex patients a hospital admits, the higher the reimbursements are.

OUs also facilitate safe discharges of the patients who do not necessarily need to be admitted. As an average, the cohort of patients who are admitted as inpatients then consists of patients who are sick enough and absolutely need to be admitted. When a patient is admitted from the ED to an inpatient floor, a lot of resources are utilized. These include expenses related to transportation, housekeeping, nursing, and ancillary services. Each of these additional resources comes with an expense. The more resources that are put in motion, the greater the expense a hospital incurs. With effective OU, it is generally expected that suitable patients will get the care in a specific geographic area by the same set of providers. OUs tend to reduce unnecessary hospitalizations, redundancy of manpower utilization, and duplication of documentation—therefore reducing the expenses incurred by the hospital. The OUs operate based on minimizing the stay of the patients who can be safely discharged after a brief observation period. Decreased duration of stay also means decreased movement and unique provider contact/exposure—thus decreasing the chances for acquiring health-care-related infections. Besides, most OUs are restricted to a certain geographic area within the hospital, which helps to restrict patients to a limited area. This again may be helpful in better overall infection-control practices.

Most OUs use an evidence-based, standardized approach toward the patients seen in the ED. Several professional bodies have endorsed the use of protocol-driven care for the conditions seen in the OU. Most professional organizations that have a key role in OUs advocate this

approach, and include the ACEP, AHA, and SHM. When a COU has established itself, it likely is to use specific, expedited, protocol-driven approaches. This allows for care to be focused and standardized. This also is an opportunity to avoid redundant imaging and lab testing.

By providing more time to make decisions, OUs afford a greater diagnostic certainty. OU patients are treated as "outpatients." The operating formula is based on the Hospital Outpatient Prospective Payment System (OPPS), which is based on Ambulatory Payment Classification, or APC. Depending on what condition is being treated, the hospital reimbursement can be as little as half to a quarter of the payment for inpatient treatment. Essentially, the patient would have received very similar care, diagnostic work-up, antibiotics, imaging, lab work, and equally qualified clinicians as caretakers in both the settings.

The OU manages patients for up to 15-18 hours, after which time a disposition should be made. Care beyond this time frame may occasionally occur if it is clear that a short-term disposition is likely to occur (Stress test in the morning). The goal is to provide accelerated care while decreasing inappropriate ED discharges. Patients will first have been managed in the ED and found to need further management to determine their need for inpatient admission or discharge home. If a patient can be discharged within 4-6 hours, then placement in the OU is discouraged. Based on clinical judgment, and the best scientific evidence, patients should have at least a 70% probability of discharge within 18 hours - if managed actively. Patients will be managed in the unit using the guidelines and principles detailed in this document.

In determining the need for inpatient admission, the "2-Midnight Rule" definition of an inpatient will be used. This definition is most consistent with CPT and CMS policies. The 2-Midnight benchmark states that if a physician expects a patient's hospital care to span two midnights then the patient may be admitted as an inpatient. This timeframe starts on hospital arrival into the ED. Time in the ED and as an observation patient may count toward the first midnight. If an observation patient cannot be discharged on the second day then inpatient admission should be considered before the third day. The Physician's note should document the specific reason for admission to observation service. Generally, there should be only one specific problem that requires acute management. "Focused Goals" fall into two broad categories: • Diagnostic evaluation of critical symptom – i.e. chest pain, syncope, etc. • Short term treatment of an emergency condition – i.e. asthma, dehydration, etc. For example, a patient with asthma exacerbation who had not improved adequately after several hours of treatment in the emergency department could be placed on observation to see whether improvement occurred after up to 24 more hours of inhaled bronchodilators and systemic corticosteroids. If improvement occurred, he

could be sent home. If he failed to improve or his condition worsened, he could be admitted as an inpatient. Over time, observation status has become acceptable for almost any condition that may be managed over a short period of time in the hospital.

CHEST PAIN – POSSIBLE ACS

A. TRANSFER CRITERIA

- ACS risk is low based on Reilly chest pain criteria
- HEART score >2
- Chest discomfort is potentially due to cardiac ischemia
- No acute ischemic ECG changes, negative initial troponin (<0.04 or <0.12 if very low suspicion of ACS)
- Acceptable vital signs

B. EXCLUSION CRITERIA

- Moderate to high risk criteria by Reilly / Goldman criteria (Pain worse than usual angina or like prior MI, recent revascularization, SBP<110, rales above both bases).
- HEART score <3 or chest pain is clearly non-cardiac
- New ECG changes consistent with ischemia
- Positive troponin (>0.12) not known to be chronic
- Stress test or cardiac imaging needed - but NOT available while in the CDU
- Recent normal cardiac catheterization (no coronary stenosis)

C. POTENTIAL INTERVENTIONS

- Continue saline lock, cardiac monitor, daily aspirin, nitrates prn, and NO CAFFIENE if stress test is planned, NPO six hours before stress test.
- Serial Troponin I and ECGs at 3 and 6 hour from first ED blood draw
  - No 6-hour level needed if negative provocative test done after 3hr draw
  - 6-hour lab needed for any troponin rise between the 1st two labs (0 - 3hr)
- Repeat EKG based on symptoms or monitor alert – show to CDU / ED physician STAT
- Stress testing and cardiac Imaging - if initial and 3 hour TnI is negative:
- EHC / GMH - Stress test based on test selection algorithm If no stress test is available – admit if indicated, otherwise discharge on appropriate medications (i.e. aspirin, ntg) with short term follow up and instructions.

D. DISPOSITION

I. Home

- Acceptable VS, stable symptoms, no serious cause of symptoms identified
- Normal serial cardiac markers and EKGs
- Negative cardiac imaging for ACS – no ischemic or reversible defects identified.

II. Hospital

- Unstable VS
- Positive cardiac markers or EKGs
- Positive provocative test – ischemic or reversible perfusion defect
- CDU or personal physician discretion
- Serious alternative diagnosis, e.g. PE, aortic dissection

DEHYDRATION OR VOMITING /DIARRHEA

A. TRANSFER CRITERIA

- Acceptable VS
- Mild to moderate dehydration
- Self-limiting or treatable cause not requiring hospitalization
- Mild to moderate electrolyte abnormalities
- Evidence of dehydration – vomiting / diarrhea, high BUN/Cr ratio, orthostatic changes, poor skin turgor, high urine specific gravity, hemoconcentration, etc.

B. EXCLUSION CRITERIA

- Dehydration is not clearly present
- Unstable VS (hypotension, tachycardia, severe dehydration)
- Cardiovascular compromise
- Severe (>15%) dehydration
- Severe electrolyte abnormalities
- Associated cause not amenable to short term treatment: bowel obstruction, appendicitis, bowel ischemia, DTs, sepsis, etc.

C. POTENTIAL INTERVENTION

- IV hydration (D5LR if starvation ketosis present or for hyperemesis gravidarum)
- Serial exams, monitor intake and output, vital signs
- Antiemetic
- Advance diet as tolerated

D. DISPOSITION

I. Home

- Acceptable VS
- Resolution of symptoms, able to tolerate oral fluids
- Normal electrolytes (if done)

II. Hospital

- Unstable VS
- Associated cause found requiring hospitalization
- Inability to tolerate oral fluids despite observation protocol

Rank	Protocol Category	#	% Census	ED LOS	CDU LOS	ED+CDU LOS	% Admit
1	Chest Pain	3,614	27%	4.7	17.8	22.5	12%
2	Other	1,418	11%	5.7	15.1	20.8	18%
3	TIA	1,167	9%	4.9	17.8	22.8	15%
4	* Psych Obs	1,104	8%	4.7	20.2	22.0	0%
5	Dehydration/vomiting	780	6%	6.0	16.1	22.0	21%
6	Abd pain	714	5%	6.0	16.1	22.2	22%
7	Syncope	646	5%	5.0	18.2	23.1	11%
8	Cellulitis	355	3%	5.5	16.7	22.2	25%
9	Vertigo	335	3%	4.6	16.2	20.8	7%
10	CHF	322	2%	5.5	17.0	22.5	29%
11	Electrolyte abnormality	282	2%	5.3	15.0	20.3	13%
12	Asthma	254	2%	5.0	17.8	22.8	24%
13	Transfusion of blood/products	231	2%	4.6	15.1	19.7	10%
14	COPD exacerbation	195	1%	5.6	17.7	23.4	37%
15	(blank)	192	1%	5.1	16.3	21.4	26%
16	Back pain	188	1%	5.5	18.8	24.3	19%
17	Headache	180	1%	7.0	16.6	23.7	21%
18	Pyelonephritis	170	1%	5.6	16.9	22.6	25%
19	* HD Obs	146	1%	6.2	11.5	11.9	2%
20	GI bleed	135	1%	5.4	16.3	21.6	33%
21	Hyperglycemia	135	1%	6.1	15.7	21.9	13%
22	Renal colic	132	1%	4.8	15.5	20.4	16%
23	Pneumonia	132	1%	5.5	18.0	23.5	20%
24	Allergic rxn	83	1%	4.1	10.9	14.9	2%
25	Atrial fibrillation	72	1%	4.8	14.7	19.5	29%
26	Papilledema	64	0%	5.9	19.6	25.5	14%
27	Seizures	47	0%	4.7	17.1	21.8	21%
28	Hypertensive urgency	41	0%	6.4	16.0	22.4	15%
	Grand Total	**13,392**	**100%**	**5.2**	**16.9**	**21.9**	**15%**

This chart shows top cases seen in CDU=OU/ED, the amount of cases, LOS, and percentage admitted. The clinical benefits of observation medicine have been well established across a variety of clinical conditions. The scientific literature in support of OUs was largely first built on the concept of chest pain centers designed to effectively rule out acute coronary syndromes in low-risk patients and to provide subsequent risk stratification while avoiding costly

hospital admission (Zalenski et al., 1997). On the basis of this early data, researchers directed further clinical investigation at widening the scope of clinical entities suitable for observation evaluation. At this time, studies in peer-reviewed journals point to more than 10 distinct clinical entities with demonstrated clinical diagnostic or therapeutic equivalence to inpatient admission. Specifically, OU care has demonstrated clinical efficacy in the management of cocaine associated chest pain (Cunningham et al., 2009), acute onset atrial fibrillation (Decker et al., 2008), transient ischemic attack (Ross et al., 2007), acute decompensated heart failure (Peacock et al., 2016), and numerous other diagnoses. These indications, the reported impact on hospital-level costs, and a direct comparison of length of stay versus inpatient admission

Two additional clinical advantages of observation care are increased patient satisfaction and safety, especially when directly compared with an alternative of inpatient admission. Several studies have demonstrated higher patient satisfaction with observation care versus routine inpatient care, specifically for asthma and chest pain (Rydman, 1997). In addition to providing care that patients prefer, this aspect of observation care may also have a broader impact. As the national focus on health care quality continues to shift toward more patient-centered metrics, patient satisfaction will likely play a prominent role in informing pay for performance payments and publicly reported hospital quality data as evidenced by the effort of the Centers for Medicare & Medicaid Services to roll out the Hospital Consumer Assessment of Healthcare Providers and Systems program in conjunction with the Agency for Healthcare Research and Quality (Barr, 2006).

In addition, higher sensitivity is achieved using observation. The best example of increased sensitivity is in the diagnosis of myocardial infarction. Currently, it is very difficult to make a definitive diagnosis of acute myocardial infarction upon presentation to the ED without a

characteristic electrocardiogram. Serum cardiac biomarkers have greatly enhanced the clinician's ability to determine if a patient's chest pain represents a true heart attack, but a significant limitation of these markers is the well-known delay of many hours between the cardiac event and a positive blood test (Jaffe, Babuin, & Apple, 2006). By keeping patients in the OU and by checking serial cardiac biomarkers (i.e., every 6 hours), fewer patients with an atypical presentation for acute myocardial infarction would be discharged home from the ED. Adding provocative cardiac stress testing to this observation protocol can further increase the sensitivity for detecting clinically significant coronary artery disease.

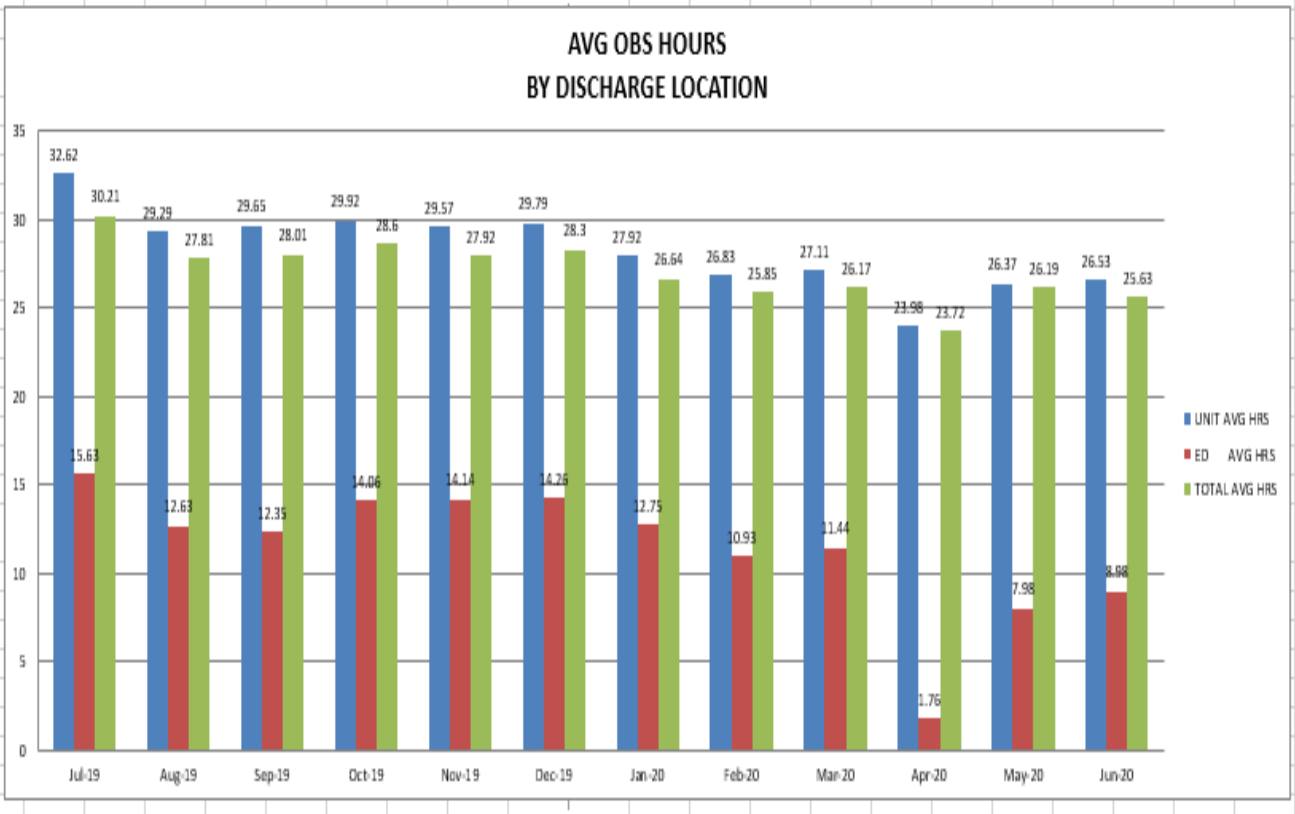
Patients managed in observation and then discharged home as an alternative to inpatient hospitalization have much less exposure to the hospital. The efficiency achieved by using observation for up to 24 hours rather than a typical short-stay admission of perhaps 2 days or more also reduces the patient's exposure to the dangers of inpatient hospitalization. These dangers include exposure to multidrug-resistant bacteria, falls, medication errors, physical deconditioning, and many others that are well documented and harm thousands of patients every year (Baker et al., 2004). The best way to treat these complications of hospitalization is to avoid them altogether, and an observation stay that keeps a patient in the hospital for a fraction of the time of a routine inpatient hospitalization is an effective strategy to minimize exposure to these risks and improve patient safety.

OBSERVATION HOURS

Jan - Jun 2020

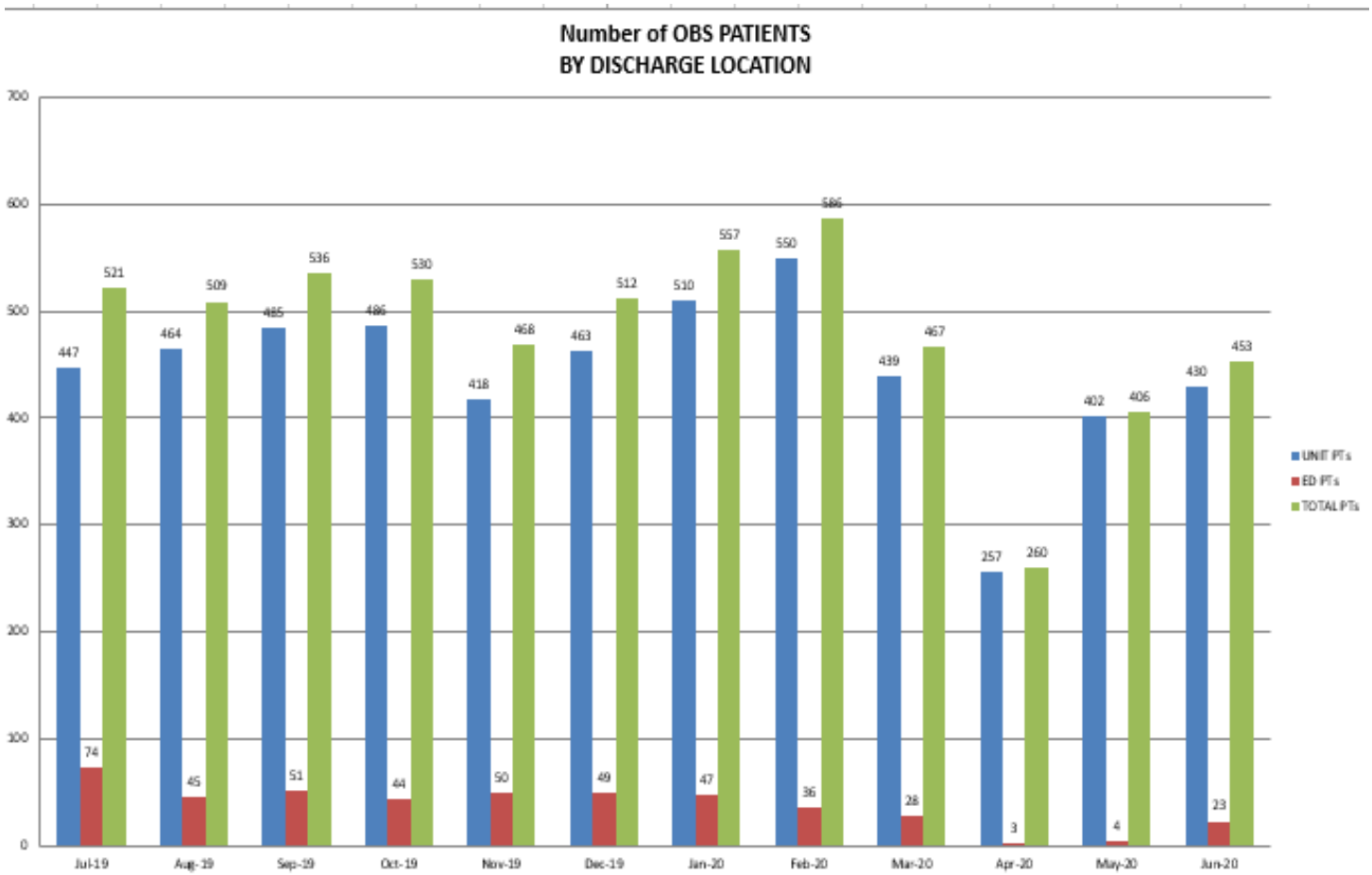
OBS HOURS

	UNIT AVG	ED AVG	TOTAL AVG
Jul-19	32.62	15.63	30.21
Aug-19	29.29	12.63	27.81
Sep-19	29.65	12.35	28.01
Oct-19	29.92	14.06	28.6
Nov-19	29.57	14.14	27.92
Dec-19	29.79	14.26	28.3
Jan-20	27.92	12.75	26.64
Feb-20	26.83	10.93	25.85
Mar-20	27.11	11.44	26.17
Apr-20	23.98	1.76	23.72
May-20	26.37	7.98	26.19
Jun-20	26.53	8.98	25.63



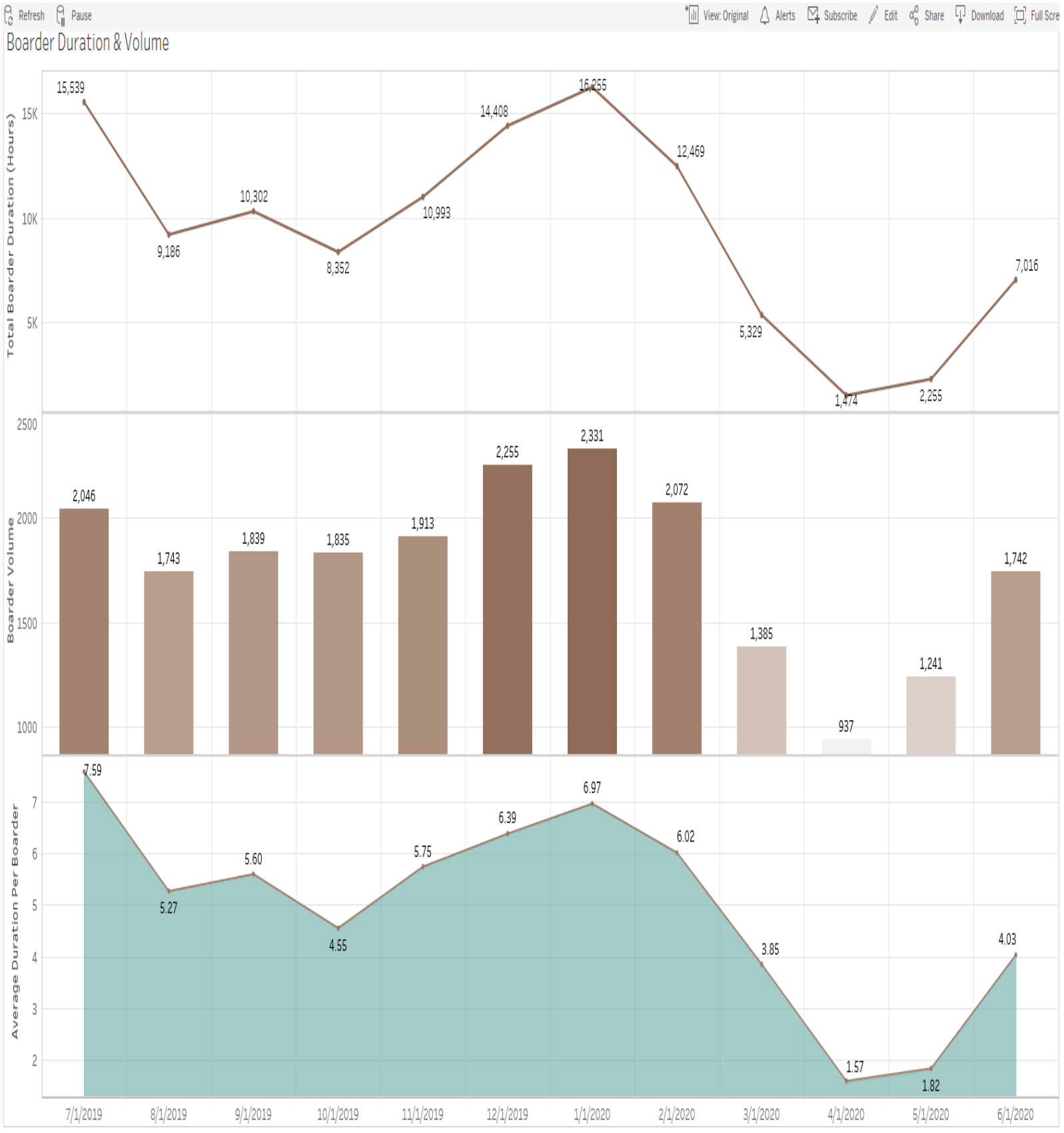
OBS PATIENTS

	UNIT PTs	ED PTs	TOTAL PTs
Jul-19	447	74	521
Aug-19	464	45	509
Sep-19	485	51	536
Oct-19	486	44	530
Nov-19	418	50	468
Dec-19	463	49	512
Jan-20	510	47	557
Feb-20	550	36	586
Mar-20	439	28	467
Apr-20	257	3	260
May-20	402	4	406
Jun-20	430	23	453



Boarder Hours

July 2019 – June 2020



The monthly average observation hours are shown for all discharge units, excluding the ED (Blue) at hospital x. Then it is shown it for the ED discharge location only (Red), and then for the combined units and ED (Green). Also, data shows the number of patients segregated by discharge units excluding the ED (Blue); ED as the discharge location (Red) and the combination (Green).

The improvement in observation hours was a direct effect of the COVID-19 emergency. As you can see April was the lowest number of OBS patients and the lowest average hours regardless of location. This is because hospital x had 40% less admissions in April due to the termination of elective surgery. Surgeries didn't start back until mid-May. The other phenomenon that occurred during the COVID-19 emergency is that ER visits declined. With a reduction in surgical admissions and a reduction in ED visits, the throughput in the hospital was improved. This correlation can be seen in the boarder hours as less patients are seen, the boarder hours is reducing.

Although more hospitals are creating such units, only approximately a third of hospitals currently have one. As new units are established, careful consideration must be made of the needs of the local patient population. The number of beds assigned should be based upon the calculated need by patients with defined diagnoses, for which pre-specified treatment algorithms can be closely followed. A physician should be selected to lead a new observation unit based on diverse factors, and the decision is best made at a local level. When a unit is established, a system of continuous quality improvement must be introduced by senior physicians and nurses, and standard metrics must be monitored regularly.

OU increases both the specificity and the sensitivity of ED patient management. The additional time for diagnostics allows for more accurate diagnoses, and for the minority of patients who need additional care as an inpatient, they are more likely to be admitted to the correct service after an observation stay than after the initial emergency evaluation. For example, a patient with vertigo and headache but an unremarkable neurological examination may be sent to the observation unit for symptom control (i.e., pain and antinausea medications) and an MRI if there is sufficient clinical concern for a central cause of vertigo as the underlying diagnosis. Although discharge to home may be clinically indicated with normal imaging, the MRI may also reveal a brain mass, such as an acoustic neuroma, which may be better managed by a neurosurgeon than a neurologist. Without the benefit of the OU stay, such a specific diagnosis would be difficult to reach in a usual emergency evaluation, and the patient may have been initially admitted to an inpatient neurology service and would have required a transfer in service after the definitive diagnosis had been made. Such changes in service after a patient has been admitted create unnecessary administrative work and additional opportunities for errors in communication via additional patient handoffs. Handoffs have been identified by the Institute of Medicine and the Joint Commission as a critical patient safety issue, and the ED is the unique setting of many handoffs to

For every patient managed in observation and sent home who would have otherwise been admitted, an inpatient bed could be filled by a patient with a more profitable DRG payment. Chest pain is the most common OU diagnosis and provides the best example of this phenomenon (Graff, 2009; Sieck, 2005). The inpatient DRG and the outpatient observation payments are similar, but the cost to manage a patient in the outpatient setting is much less. Prior studies have shown that the higher fixed costs and longer length of stay associated with inpatient care,

coupled with bundled payments, can create a loss for the hospital, whereas management of the same patient in an OU would have generated a profit (Sieck, 2005).

By managing patients expected to have a short hospital stay in the OU instead of admitting to an inpatient service, hospitals can avoid audits resulting in loss of payment. To date, the recovery audit contractor audits have resulted in billions of dollars in recovered Medicare payments, which has only increased the federal government's interest in continuing this program (Bissey, 2008). Not only are payments being recovered for admissions deemed inappropriate, a significant number of inpatient admissions are denied at the outset by payers. This denial rate may vary by hospital but can represent a significant loss of direct clinical revenue and incur new indirect costs associated with the administrative work of managing the denial. On the other hand, denials for observation evaluations are quite rare, and efficient use of observation evaluations in place of short-stay Medicare admissions was proven to reduce denial rates and to improve overall efficiency during an Oklahoma demonstration project (Oklahoma Foundation for Medical Quality, 2008).

The cost of this space, however, tends to be far less expensive than the cost of additional ED or inpatient space. The number of OU patients that a single nurse can manage is higher than that in the inpatient areas of the hospital, usually around five patients per nurse, and physician staffing tends to be minimal to care for these patients (Graff, 2009). This ratio is safe because patients in observation have been selected because they represent a low acuity population amenable to simple care algorithms with a high likelihood of being discharged home.

Variable costs include the direct resources required to care for each patient in the OU. These are relatively insignificant, as examples include the costs of charting, housekeeping, and linens for bed turnaround and other resources consumed by each patient. Opportunity costs are

the opportunities for profit lost because of the resources diverted to the OU. For example, if an ED was to simply increase the number of acute care beds instead of creating an OU, that department would have the potential to care for a higher number of acute patients at once. Because it is impossible to exactly match patient arrivals to departures (i.e., time needed for bed turnover, daily variation, etc.), the maximum occupancy rate will always be less than 100%. However, an optimal occupancy rate approaching 100% is obviously beneficial for a dedicated EDOU with fixed resources (e.g., number of beds, nursing staff).

As a result, the optimal achievable occupancy rate can be easily estimated using basic calculations. Assuming a maximum occupancy rate near 90% and an optimal length of stay between 8 and 24 hours for all OU patients, the discharge to home rate remains the elusive variable to optimize. Clearly, the ideal rate would approach 100%, as long as the unintended consequence of increasing short-stay (<24h) inpatient admissions was avoided. In addition, inpatient admission after an observation stay represents inefficient use of resources. Even in ideal clinical trial settings, however, around 20% of patients evaluated in the OU require admission, and this may represent a more realistic outcome given the clinical uncertainty surrounding observation unit patients (Nelson, 2005). A larger scale recent studies on OU use for diagnoses, such as chest pain, atrial fibrillation, transient ischemic attack, and cocaine-associated chest pain, reveals discharge rates between 80% and 100% (Bossart, 2008). Notably, one study reports lower discharge rates for patients admitted to the EDOU for congestive heart failure exacerbations (73%; Emerman, 2005). A policy article published in the Annals of Emergency Medicine by Brillman et al. (1995) suggests that units with a discharge to home rate less than 70% should question their guidelines for observation (Brillman, 1995). Several other articles refer to an industry standard near 80% (Ross & Graff, 2001).

The OU operational metrics of occupancy rate, length of stay, and discharge to home rate are intertwined, when one of these variables is significantly changed, the two others are also affected. Ultimately, the task of patient selection for observation is the critical task of the clinician, and proper patient selection will optimize these variables. Observation units can convert previously unprofitable hospital admissions into profitable observation stays while still providing patients appropriate evaluation, treatment, and risk stratification. Furthermore, moving patients to an OU frees up costly and overcrowded ED resources. Patients can be safely managed in the OU, which will create more opportunities to divert patients out of the ED and away from inpatient beds, thus acting as a mitigating force against both ED and hospital overcrowding. In this era of increasing pressure to practice high-quality medicine at lower cost without sacrificing key aspects of care such as patient access or satisfaction, the ED observation unit provides a valuable resource that helps clinicians and administrators meet these challenges.

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