

## The Emergency Department Boarding Crisis

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At the start of a busy night shift with a full hospital, one of my practice partners used to say, “Most of the patients that I will see tonight are already here.” He wasn’t wrong. During my residency, it was a badge of honor if we could clear the waiting room at our level I trauma center and leave the next shift with an empty board and no sign out. Now, I can’t even remember when that last happened at my busy community hospital. It’s become fairly common for me to walk into a shift and find half the beds occupied by patients that should be upstairs and a waiting room six hours deep. How did we get here?

“Each hospital can be thought of the sum of its inputs (patients coming in), throughputs (patients undergoing medical care), and outputs (patients leaving the hospital). Bottlenecks at each process flow will create backups and boarding is one of those.”

The COVID-19 pandemic brought to light the weaknesses in our system and the lack of surge capacity in almost all of our hospitals. Now that the pandemic has largely abated, why are we still boarding patients? In my opinion, the pandemic didn’t create the boarding crisis, it just stressed an already stressed system past its breaking point. The trends that created our current crisis have been in place for more than 30 years.

During the last 30 years, the percentage of our population over 65 has continually increased while the number of inpatient hospital beds has dropped year over year.<sup>1</sup> Why is this? Hospital length of stay has decreased during this time<sup>2</sup> while the number of surgeries performed in outpatient surgery centers has more than doubled.<sup>3</sup> We are in the middle of a

major shift from hospital based to outpatient based care. Orthopedic and neurosurgical procedures that once required a hospital stay are now done in ASCs at a fraction of the cost. All of this results in less required hospital beds over time. If you have any doubt, just look at the profit margins of the for profit health systems that have heavily invested in an outpatient strategy (15%) versus nonprofit hospitals that still largely bear the burdens of most inpatient care (3-5%). With payor mix also shifting from high margin commercial insurance to low margin Medicare and Medicaid, why would your hospital system invest in more beds and inpatient staff?

Another way of looking at the problem involves a process flow model. Each hospital can be thought of the sum of its inputs (patients coming in), throughputs (patients undergoing medical care), and outputs (patients leaving the hospital).<sup>4</sup> Bottlenecks at each process flow will create backups and boarding is one of those.



The input side has become increasingly stressed by complex inpatient surgeries, such as cardiac and neurosurgeries, requiring beds to be held for those post op patients. The closure of many smaller

and rural hospitals has also increased the number of transfers to larger hospitals. The convenience factor also plays a role, with the ED going from the department for medical emergencies to the department for unscheduled care, available at any time. The decline of availability of primary care physicians and the large number of uninsured has also increased the reliance of the public on the safety net we provide. This is likely to be compounded in the future by the big box stores and online entities entry into healthcare, hiring inexperienced practitioners that have no long term relationship with the patient and the likely resultant referrals to the ED for any problem even mildly complex.

On the throughput side, the patients that are admitted are older and have more complex requirements for management. As an example, I can't remember the last time I sent a patient home with a TIA. With advanced stroke care, most are admitted and receive a battery of tests, CTAs, MRI, Echo, etc. All of these take up more hospital bed days. The modern EMR has also ensured that inpatient rounds that used to take one to two hours now take all day with the documentation and order entry requirements. This leaves less time for actual medical care to take place. Cost cutting has also ensured that nothing really gets done on most weekends, further extending hospital bed days.

The output side has also become more complicated. The number of medically complex patients is increasing, while the number of extended care facility beds to house them at discharge is decreasing.<sup>5</sup> This leads to multiple hospital bed days waiting for a bed at the ECF. If the medically complex patient is going home, they may need home oxygen, home healthcare aides, PICC line nurses, and a host of other resources that take time

to set in place.

While the winds of change appear to be bringing in smog and pollution, there are solutions.

The first solution is to focus first on what you can control, which is to make your department as efficient as possible. This starts with evaluating the real estate and resources you have in your department and maximizing them. Can you relocate patient care areas, laboratory, and radiology so that patients and workers move efficiently between those areas? Can you find a way to do it without a construction plan? By applying LEAN theory, we can save time and add value by eliminating wasteful steps that we and our patients go through. Triage can be made more efficient by a pull to full model, eliminating triage when the department has beds, adopting a split flow model where less acute patients are moved to a fast track area or placing a physician in triage to disposition patients from the waiting room and start workups.<sup>6</sup> All of these strategies can either add or subtract value depending on the volume and acuity mix of your department. Adopting agreed upon clinical pathways for patients with COPD/asthma, diabetes, and CHF can also provide efficient care. These pathways can also be adopted by your observation unit along with expanded criteria for observation.

Outside of the ED, engage other departments as stakeholders in reducing boarding. You may be able to send more patients home if they have guaranteed follow up with specialty clinics, such as CHF and COPD clinics, oncology, and cardiology. Discover your hospital's partnership with community health workers. You may be able to send additional patients home safely that would otherwise have social barriers necessitating admission. Remote

patient monitoring, either through your department or the hospital, also has potential to safely monitor patients that would otherwise be admitted.

We can also do more for the patients that are boarding in our ED.

Eliminate the geographic divisions in the hospital by mandating that boarders be seen by all services, such as cardiology, intensive care, PT/OT, speech therapy, social work, and case management.<sup>7</sup> If you wait until they get upstairs, you are losing valuable time. Even better, mandate that the boarders be seen first by these services. Perhaps that patient in the ED with an ICU status can be downgraded by the intensivist in the morning and go to the floor. Maybe case management will find placement for that patient by 10:00am, right before the bus drops off in your waiting room.

With the low hanging fruit out of the way, we can consider more enlightened strategies that involve the blessing of the administration, which is frequently harder than any cardiac arrest or trauma that you are called to care for. Ask administration to send floor nurses to care for the boarders. If not, ask if then the budget can be shifted from the inpatient side to the ED for inpatient care occurring in the ED. The inpatient manager may be more willing to help out if a sizable portion of their budget is now threatened. Encourage your system to implement a hospital capacity command center along with a critical capacity plan that involves moving outpatient surgeries, calling in extra staff, and opening up other areas such as PACU to inpatient care. Involve your transfer center in the plan to load level your system by legally diverting transfers to smaller hospitals in your system that match the patient's needs. Consider transferring patients that are likely to be boarding in your ED to one of your

smaller hospitals if their needs can be met there. For the highly enlightened administrator, ask that boarders be transferred upstairs to hallway beds. If you have this level of enlightenment present at your hospital system, you are probably not reading this article.

Change has been and will always be one constant within our field. As emergency physicians, we interact with and therefore have the best perspective on how all of the different pieces of healthcare work together. This puts us in an excellent position to be leaders in enacting positive change for our patients. Want to learn more and get involved? Join the AAEM Operations Management Section.

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#### **References**

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1. Song Z, Ferris TG. Baby Boomers and Beds: a Demographic Challenge for the Ages. *J Gen Intern Med*. 2018 Mar;33(3):367-369. doi: 10.1007/s11606-017-4257-x. Epub 2017 Dec 22. PMID: 29273896; PMCID: PMC5834972.

2. Centers For Disease Control. (n.d.). Table 82. hospital admission, average length of stay ... - cdc. Hospital admission, average length of stay, outpatient visits, and outpatient surgery, by type of ownership and size of hospital: United States, selected years 1975–2015. <https://www.cdc.gov/nchs/data/hus/2017/082.pdf>

3. Munnich EL, Richards MR. Long-run growth of ambulatory surgery centers 1990-2015 and Medicare payment policy. *Health Serv Res*. 2022 Feb;57(1):66-71. doi: 10.1111/1475-6773.13707. Epub 2021 Jul 27. PMID: 34318499; PMCID: PMC8763276.

4. Kenny JF, Chang BC, Hemmert KC. Factors Affecting Emergency Department Crowding. *Emerg Med Clin North Am*. 2020 Aug;38(3):573-587. doi: 10.1016/j.emc.2020.04.001. Epub 2020 Jun 8. PMID: 32616280.

5. Miller KEM, Chatterjee P, Werner RM. Trends in Supply of Nursing Home Beds, 2011-2019. *JAMA Netw Open*. 2023 Mar 1;6(3):e230640. doi:10.1001/jamanetworkopen.2023.0640. Erratum in: *JAMA Netw Open*. 2023 Apr 3;6(4):e2311154. PMID: 36857055; PMCID: PMC9978943.

6. Berg E, Weightman AT, Druga DA. Emergency Department Operations II: Patient Flow. *Emerg Med Clin North Am*. 2020 May;38(2):323-337. doi:10.1016/j.emc.2020.01.002. PMID: 32336328.

7. Artenstein AW, Rathlev NK, Neal D, Townsend V, Vemula M, Goldlust S, Schmidt J, Visintainer P. Decreasing Emergency Department Walkout Rate and Boarding Hours by Improving Inpatient Length of Stay. *West J Emerg Med*. 2017 Oct;18(6):982-992. doi: 10.5811/westjem.2017.7.34663. Epub 2017 Sep 18. PMID: 29085527; PMCID: PMC5654890.