



EM CASES SUMMARY

Episode 129 ED Overcrowding & Access Block

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CAUSES OF ED OVERCROWDING

Access block is the main cause of ED overcrowding

The problem isn't so much a problem of ED crowding, but rather a matter of hospital crowding and access block. Access block is the inability to get the care that is needed in a timely fashion as a result of the inability to transfer a patient out of the ED to an inpatient bed once their ED treatment has been completed. Our system has limited resources.

Paradoxical misallocation of resources and reverse triage

A study of 25 Canadian hospitals showed that, on average, hospitals leave high-acuity patients in hallway non-care locations for an average of 46,000 hours per site per year (i.e. 46,000 hours of emergency access block), during which many bad outcomes occur. We tend to prioritize lower efficiency care for stable patients at the back end who have lower need (illness severity) and less potential for health benefit. When

undiagnosed, unstabilized patients arrive with acute pain (and occult critical illness), we often leave them in ED hallways with no access care.

Although 2017 data show that ED access gaps (high acuity arrivals blocked in waiting areas) averaged 46,000 hours per ED per year, it also showed that this reflects only 1-2% of inpatient capacity at the corresponding hospitals—equivalent to a 1.5 hour inpatient LOS reduction or care reallocation at a hospital with 30,000 separations per year. The evidence suggests that, if access block is viewed as a whole hospital problem rather than being focused in the ED, solutions are achievable and relatively modest hospital-level improvement is necessary.

Reverse triage is the concept that the hospital should be discharging patients with the lowest care needs.

ED input factors in ED overcrowding and access block

Sources of the increasing number of patients seeking care in EDs include an aging population, increasing complexity of medical issues and access blocks throughout the health care system. These include inability to access primary care in timely manner, inability to access specialist care in a timely manner, inability to access imaging studies and inability to access home care. Access to appropriate care outside of the ED has been identified as major contributors to ED overcrowding in multiple studies.

“Wrong care – Wrong place – Wrong provider – Wrong time.”

When doors to the “right care” are closed, patients divert to the ED. Studies suggest that 58% to 80% of ED patients go to EDs because they were the only place they could access care when they needed it.

It is a myth that ED overcrowding is caused by high numbers of low acuity patients presenting to the ED.

Repeat emergency visits account for a large proportion of ED visits, up to 30% in one review of studies. Adequate follow up resources are likely to diminish this number more than any attempts at preventing initial ED visits.

Emergency triage telephone services have not been shown to improve ED overcrowding, yet resources in many countries are wasted on call-in telephone services.

ED throughput factors in ED overcrowding and access block

The most common bottleneck in the ED is the nurse-staffed stretcher, which are often occupied by admitted inpatients in the ED.

Overtesting contributes to overcrowding. The more crowded it gets, the less time we spend with each patient and the more likely we are to order tests to make up for a poor history and physical, which leads to longer lengths of stay, backed up lab and radiology departments. While patients may say they have come to the ED for a test, a thorough history and physical with clear a explanation of your assessment often is more effective in satisfying the patient than rushing through your assessment and ordering a test that is not necessary and may lead to iatrogenic harm. EM physicians who order more tests compared to their peers are less efficient in terms of the number of patients assessed and treated per shift, with the strongest association being CT ordering, without a difference in patient outcomes.

Over-care contributes to ED overcrowding. Over-care examples include:

- Ordering IV medication or fluids when oral medications/fluids would be adequate
- Keeping patients overnight in the ED for convenience only
- Placing patients on cardiac monitors when they are not indicated

Delays to consultation decisions occur when trainees serially assess patients without the authority to make disposition decisions, or batch patients, before the senior trainee or attending physician makes the disposition decision.

Output factors that contribute to ED overcrowding and access block

Accountability failure and the lack of an accountability framework: The root cause of access block

Limited capacity, efficiency, and poor integration between hospital and community contribute to access block, but the main cause is *accountability failure*. This arises because hospital departments/programs are not expected to provide the *right care in the right place*, nor to have contingency plans for demand variability, nor to have queue management strategies for their waiting patients.

Addressing program demand by closing the door: The default solution to rising program demand is to close the front door, but this blocks access to sick patients, shifts care to programs incapable of providing it, and displaces the consequences of access failure to other parts of the system. When the consequences of failure in one program are expressed in another, actual solutions are unnecessary. Leaders capable of addressing root causes are protected from having to do so while those in impacted areas are incapable of doing so—a recipe for perpetual dysfunction. Displacing care to less effective more expensive locations compromises appropriateness and outcomes, but the rewards

for blocking access are profound. Workload is controlled, waiting patients out of sight and out of mind, staff stress reduced, budgetary challenges mitigated, and the program protected from evolutionary stressors that would otherwise mandate innovation.

Variability is a major cause of access block. Natural variability (e.g. disease outbreaks) and scheduled variability (e.g., surgical admissions clustered early in the week) generate large fluctuations in bed demand. Variable hospital lengths of stay by provider, seasonal bed closures, staffing crises, plummeting discharge rates and diminished consultant availability on weekends, and lack of palliative or long-term care intake outside bankers hours mean that system capacity is extremely variable and unmatched to patient need.

SOLUTIONS TO ED OVERCROWDING

Systems solutions: Incentive program solutions to ED overcrowding and access block

Case example: Ontario's Pay for Results Program

Ontario's Pay for Results Program provides financial incentives to achieve goals in health care, and in particular to improve ED flow metrics, that includes 6 time intervals during an ED visit. Results are published publicly, and hospitals compete for a score that in turn determines that hospital's financial share of monies allocated for the program, which roughly equals 5% of an average ED budget. This has resulted in improved ED throughput times overall.

Case example: British Columbia and Alberta "No Patient Left Behind" Overcapacity Plan

High acuity patients had to be allowed into care locations immediately. If one was not available immediately, the most stable admitted patient in

the ED waiting for a bed in hospital, would be displaced to the appropriate inpatient unit, on a no-refusal basis within 15 minutes. Criteria included $\geq 110\%$ ED occupied and $\geq 1/3$ of ED stretchers occupied by admitted patients or those waiting for a disposition from an inpatient service. This resulted in dramatic reductions in ED length of stay and 50% reduction in the number of ED patients waiting for an inpatient bed, as well as improved access for ED patients.

Implement an accountability framework and set benchmarks

The system's core accountability is patient care. The best outcomes happen when the right care is provided in the right place by the right provider. An *accountability framework* would formalize *accountability zones*. Orthopedic programs would fix bones and OB programs deliver babies. *Grey zone* accountabilities are best defined by the programs at the margins (i.e. local policies), and there is always a identifiable 'most responsible' program.

Each department/unit/program will have unique solutions that require innovative thinking and implementation. EM leaders need to communicate effectively with leaders in other departments/programs that without an accountability framework, the system is not going to improve. EDs should be exemplary for the rest of the hospital in practicing accountability for ED overcrowding.

Hospital departments/programs must develop service delivery plans to rationally allocate people and resources for patients in their accountability zone. To avoid compromising patient care during high demand periods, programs require queue management contingencies and demand-capacity matching strategies. They should involve performance measurements such as consult turnaround times, boarding time and throughput time expectations. Morale in departments/programs who do implement innovative ways to achieve performance measurements and be accountable is likely to improve.

Hospital solutions to ED overcrowding and access block

- Twice daily multi-unit bed meeting
- Accountable care unit strategy
- **Smooth scheduled variability:** Variability is a huge cause of access block as explained above. Litvak and others have shown that smoothing variability and matching demand to capacity are essential, effective, underutilized strategies that would more than address care gaps.

Manage demand and capacity: Day-ahead demand-capacity matching is an underused strategy to assure right care right place. Based on historical data, all programs know approximately what their patient demand will be tomorrow and this week. Programs also know what their bed and staff capacity is, and can predict demand-capacity mismatches with reasonable accuracy. This allows them to plan for tomorrow, to proactively activate surge or bed expansion strategies, and to NOT claim surprise when the ED calls about tomorrow's first incoming patient requiring admission.

ED solutions to ED overcrowding and access block

Throughput efficiency requires an ED culture in which throughput is valued. Every person working in the ED, including the porters, desk clerks and consultants, needs to value throughput as one of their principle aims. This culture requires a solid "anchor", which in most EDs will be the EM physician. To develop this culture requires the ED physicians to behave with a high degree of professionalism including being punctual, respectful of patients, colleagues and co-workers.

- Keep triage brief and triage nurse tasks to a minimum
- Improve EMS coordination
- Employ a dedicated 24hr ED flow coordinator

- Schedule all ED staff according to demand with surge plans built into the schedule. Physician and nursing shifts should overlap adequately so that while one is winding down near the end of their shift, another is assessing new patients.
- Maximize care for patients who do not require a nurse-staffed stretcher with ED rapid assessment zones and fast-track zones
- Make stretchers available at triage to complete an initial assessment of higher acuity patients who cannot immediately access a stretcher inside the ED
- Implement a surge plan for triage as well as in-department patients
- Use evidence based nurse-initiated protocols/medical directives for common tests
- Use safe nurse initiated discharge protocols for patients who are waiting for test results
- Record and feedback metrics for time from consultation request to consultant admission or discharge orders completed, with incentives for shorter times if necessary and time limits on disposition decisions
- For all consultations, a senior resident or staff consultant complete an initial rapid assessment, decide on disposition and complete admission orders before junior trainees assess the patient
- Cardiac monitors should be reserved for patients who fulfill evidence based criteria and patients who no longer require cardiac monitoring should be removed immediately (with oversight and accountability by the ED flow coordinator) Ottawa Chest Pain Cardiac Monitoring Rule
- Scribes, physician assistants, ED critical care paramedics and ED nurse practitioners may improve ED flow and may improve physician morale.

Lean Thinking is an approach developed by Toyota that has been adapted to EDs. It involves continuous quality improvement that identifies and implements the shortest routes or least number of steps

required for ED tasks to be completed, while eliminating resource/time waste. While formal implementation of Lean Thinking in EDs has not seen much success, working to simplifying processes, reducing steps required and removing tasks that do not add value are important considerations to improve ED efficiency.

EMR development and implementation. Optimize physician involvement/engagement in development and implementation of Electronic Medical Records (EMR), physician order entry and documentation so that they are customized for that particular ED. Ensure computer hardware fits the needs of the physicians (location and number of computers, single sign-on etc).

Individual solutions to ED overcrowding and access block: Do's and Don'ts

Do...

- Develop a strong sense of your mandate as an emergency physician. Do what you should do and not what should be done elsewhere in the system. The ED is a place for diagnosis of acute illness, not screening.
- Demonstrate professional behavior; be consistently punctual, reliable, ethical and respectful; demonstrate care that addresses both good medicine and good flow management.
- Take the time to do a good clinical assessment and provide clear, compassionate communication; consider further investigations or referral only if they clearly add to emergency management; review patient expectations, ask, discuss and explain.
- Keep patient flow and situational awareness in mind constantly during a shift; monitor flow and choreograph constantly, reviewing flow sensitive decision points before picking up the next non-critical patient.

- Make uncomfortable/difficult decisions promptly rather than delaying or avoiding them; develop your “higher gear” prn.
- Use space and resources efficiently: On their own ‘more’ or ‘invasive’ is not ‘better’, choose every intervention only after a risk/benefit analysis.
- Delegate non-ED physician tasks to nurses, porters, consultants etc. Spending 30 minutes on a tendon laceration repair when there is a plastic surgeon on call or the repair can be delayed while there are 30 patients waiting to be seen, is not an efficient use of your time.
- Complete reassessments in a timely manner before picking up new patients; given two patients with equal acuity, attend to the patient who is likely to be moved through the ED faster, so that the bed they are occupying can be freed up for another patient.
- Use the **4 principles of diagnostic decision analysis reviewed in Episode 62** adapted from the landmark paper ‘Pathways through uncertainty’

1. Patients do not have disease, only a probability of disease
2. Diagnostic tests are merely revisions of probabilities
3. Test interpretation should precede test ordering
4. If the revisions in probabilities caused by a diagnostic test do not entail a change in subsequent management, use of the test should be reconsidered

Do not...

- Do not place patients on cardiac monitors who do not require them, and take patients off cardiac monitors as soon as they fulfill criteria to do so.
- Do not use IV medications or fluids when oral medications/oral rehydration strategies are likely to be equally effective.
- Do not place a urinary catheter in patients who do not have a specific indication for them.

- Do not order tests that can safely wait for an outpatient setting.
- Do not order “routine blood work” when it is not clearly indicated. There is nothing routine about “routine blood work”. All tests should have a specific indication in mind when ordering them or be part of evidence-based nurse initiated or physician initiated protocols/medical directives.

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