Crowding, Boarding, and Patient Throughput in the Emergency Department

Position Statement

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Crowding, Boarding, and Patient Throughput in the Emergency Department

Description

Crowding, boarding, and patient throughput delays are daily problems in emergency departments (EDs) worldwide and are especially problematic when facing increasing needs of patients in the ED (Centers for Disease Control and Prevention [CDC], n.d.; Savioli et al., 2022). ED crowding occurs when the need for services exceeds the department's available resources for timely patient care (American College of Emergency Physicians [ACEP], 2024; Canadian Association of Emergency Physicians [CAEP] Advocacy and Public Affairs Committee, 2023; Emergency Nurses Association [ENA], 2021; International Federation for Emergency Medicine [IFEM], 2022; Pearce et al., 2023).

According to ACEP, boarding in the ED is a result of dangerous health system overload that puts patients in a holding pattern as they wait for an inpatient bed or transfer after their initial care (2024; Janke et al., 2022). Patient throughput refers to the resources, care, and decision-making involved in moving patients through a healthcare facility including admission via the ED (ACEP, 2024). Nurses are the largest healthcare professional group in hospitals, and they oversee and direct throughput processes and patient care delivery in the ED in collaboration with physicians and hospital administration (Benjamin, 2024).

While definitions vary, especially for the term boarding, the Emergency Medical Treatment and Labor Act (EMTALA) law provides a relevant starting place for clarity in decision-to-admit and patient boarding definitions: ED's bear a responsibility to provide medical screening and to stabilize or transfer those patients with medical emergencies (ACEP, 2024; EMTALA, 1986). Hence, boarding cannot begin until an ED has completed their responsibilities according to EMTALA. The definition of decision-to-admit is then based on the point after a patient has received all the following: (a) emergency stabilization, (b) completion and review of diagnostic studies, and (c) a provider-to-provider handoff has occurred or a transfer order has been placed (Imhoff et al., 2022).

EDs experience a large, sometimes overwhelming, demand for services. In the U.S., of nearly 140 million patient ED visits each year, over 40 million visits are injury related, and more than 18 million visits result in admission into the hospital setting (CDC, n.d.). Decision-to-admit time in an ED is crucial to ensuring the patient receives necessary care, minimizing delays in treatment and potential complications (Imhoff et al., 2022). Considering these rates of ED use, it is imperative that hospitals and EDs provide optimal care to all, improve efficiency, and support hospital-wide care guidelines to address the needs of patients as well as the staff providing their care (CDC, n.d.,)

Solutions for decreasing boarding nearly always require improving patient flow throughout the hospital, rather than within an isolated unit. Such solutions necessitate a systems-level understanding of variations of capacity, demand, and the specific consequences of misalignment of these variables (Loke et al., 2023). Addressing ED crowding and reducing the need for boarding is essential for improving patient outcomes and enhancing the efficiency of healthcare systems. Rigorous and consistent metrics are fundamental to identifying and addressing clinical process problems and evaluating process improvements (ACEP, 2024; CAEP Advocacy and Public Affairs Committee, 2023). When problem areas are identified, solutions can be implemented. Decision-to-admit time in an ED is a crucial metric that reflects the delivery of necessary care, delays in treatment, and potential complications (Imhoff et al., 2022).

Addressing ED overcrowding and reducing the need for boarding is essential for improving patient outcomes and enhancing the efficiency of healthcare systems. Emergency nurses can initiate and drive

hospital-wide change to mitigate ED crowding and boarding, but commitment from hospital administrators to solving the problem is requisite (Imhoff et al., 2022). Strategies such as improving inpatient bed availability, expanding hospital capacity, and enhancing care coordination can help alleviate the negative consequences of boarding (CAEP Advocacy and Public Affair Committee, 2023; IFEM, 2022; Pearce et al., 2023; Rader et al., 2023; Sartini et al., 2022). Every ED, hospital, county, and region presents a different set of variables that contribute to ED crowding and boarding. There is no one-size-fits-all solution, and all solutions must be data-driven, problem-oriented, and unique to each hospital and hospital system to be successful.

ENA Position

It is the position of the Emergency Nurses Association that

1. Crowding, boarding, and patient throughput delays are associated with poor patient outcomes, negative effects on emergency staff, and disruption of communities' overall emergency services.

2. It is essential that patients receive emergent stabilization, diagnostic studies are completed and reviewed, and an admission or transfer order is placed or a handoff from one provider to another has occurred. to determine the decision-to-admit metric for quality improvement.

3. Patient boarding be addressed as a collaborative effort across the healthcare system, inclusive of multidisciplinary teams from the ED and inpatient areas.

4. Consistent definitions, data, and measurements using rigorous metrics are key to both understanding and conveying the factors that cause ED crowding, boarding, and/or throughput delay and are used as the basis for evaluating quality care.

5. Further research is required to identify industry best practices and benchmarks for calculating labor productivity and ED workload when crowding, boarding, and/or throughput delays occur.

Background

ED crowding is a global public healthcare crisis (IFEM, 2022; Pearce et al., 2023; Sartini et al., 2022). Crowding is highly concentrated in hospital Eds, where patients board for hours to days awaiting an inpatient bed or facility transfer (Muir et al., 2024; Sartini et al., 2022).

Negative Outcomes from Boarding and Crowding

Crowding in the ED is associated with deleterious patient outcomes including higher odds of mortality; increased medical errors; delayed or missed provider orders; prolonged time to surgery, analgesia, imaging, and antibiotics; poorer outcomes for patients with cardiac conditions, stroke, and sepsis; decreased patient satisfaction; and increased rates of patients leaving without being seen (CAEP Advocacy and Public Affair Committee, 2023; IFEM, 2022; Pearce et al., 2023; Rader et al., 2023; Sartini et al., 2022).

Crowding has also been implicated in negative nursing outcomes, including increased nursing workload, burnout, and staff turnover (Muir et al., 2024; Pearce et al., 2023). According to Muir et al. (2024), hospitals with unfavorable work environments for nurses experience higher left without being seen rates and prolonged ED lengths of stay.

The impact of ED crowding extends to the emergency medical services (EMS) system, increasing ambulance diversion and patient offload delay, which may occur when EDs are closed to ambulance traffic or when EMS personnel must wait to hand off care to ED personnel until ED beds are available

(Imhoff et al., 2022; Kuhner et al., 2024; Loke et al., 2023; Musselwhite et al., 2024). Leaders are challenged to address ED staffing to provide safe care with the added complexity of crowding, patient boarding, and throughput delays. There has been little research on standardized methodologies that hospital leadership may use to account for these additional labor hours (ENA, 2021).

According to 2022 data from Emergency Department Benchmarking Alliance (EDBA), the median boarding time across all EDs rose from 119 minutes to approximately 192 minutes in 2019 (Richey et al., 2025). The delayed process of moving ED patients to inpatient units is crippling ED operations (Augustine, 2023). In 2020, the EDBA held their fourth summit to review, update, and clarify definitions to ensure shared language and add key definitions and metrics for ED operations (Yiadom et al., 2020).

According to Imhoff et al. (2022), their quality improvement project showed the length of stay for admitted patients exceeded the 2020 EDBA 50% benchmark by 72 minutes for similarly sized EDs (institution 473 minutes, EDBA benchmark 401 minutes). Furthermore, boarding time exceeded the EDBA 50% benchmark by 44 minutes (institution 202 minutes, EDBA benchmark 158 minutes) (Imhoff et al., 2022). Crowding has negative effects on patient care, patient satisfaction, and the well-being of the healthcare teams (Imhoff et al., 2022).

Similarly, in Canada, the median boarding time has risen across many provinces. The Canadian Agency for Drugs and Technology in Health (CADTH) reported in November of 2023 that median wait times in 2022–2023 for an inpatient bed for admitted patients in Alberta, Ontario, and Yukon were up from levels in 2010–2011 (Canadian Institute for Health Information [CIHI], 2023). There were greater increases in urban EDs (2022–2023: Alberta: 3.6 hours; Ontario: 7 hours; Yukon: 3.7 hours) than in rural or remote EDs (2022–2023: Alberta: 0.1 hours; Ontario: 1.9 hours; Yukon: 0.1 hours) (CADTH, 2023; CIHI, 2023). CADTH further reported there was a greater than 100% increase in the proportion of ED patients who were not seen or left the ED between 2020–2021 and 2022–2023 in Alberta (2020–2021: 3.95%; 2022–2023: 8.72%) and Ontario (2020–2021: 3.28%; 2022–2023: 6.64%). There was a 45% increase in Yukon (2020–2021: 3.76%; 2022–2023: 5.44%) (CADTH, 2023; CIHI, 2023).

Moving Toward Potential Solutions

The National Quality Forum (NQF) included in their definition of boarding the stipulation that the decision-to-admit must be initiated by a physician (2012). In 2012, The Joint Commission's "Patient Flow Standard" suggested that patient boarding not exceed four hours from decision to admit (TJC, 2012). The Centers for Medicare and Medicaid Services (CMS) includes, as part of its quality measures for timely and effective care, a requirement for emergency departments to track and report the average (median) admit decision time until the patient departs from the emergency department. Shorter times are associated with reduced adverse patient outcomes, delays in medication administration, ED overcrowding, and overall improves quality of care (CMS, n.d.).

Foundational research by Asplin et al. (2003) developed a conceptual model known as Patient Input-Throughput-Output to illustrate: (a) the arrival of patients at an ED for care – input, (b) the care patients receive within the ED - throughput, and (c) patients leaving the ED to home or other care environments - output. The Patient Input-Throughput-Output model remains relevant in research and is used to serve as both a description of sources of ED crowding as well as the course of treatment that patients take through the ED in receipt of their care (ENA, 2021). This throughput model makes it possible to conceive how one source of ED crowding affects another; how the consumption of ED personnel, geographic, and equipment resources are required to meet sources of crowding; and why resolutions for ED crowding require a hospital-wide systems approach (ENA, 2021; Loke et al., 2023). EDs have no control or influence over their hospital inpatient units' capability to accept patients, yet EDs accrue the burden when existing patient admissions are blocked (ENA, 2021).

According to the Agency for Healthcare Research and Quality (AHRQ) Summit to Address ED Boarding Report (2025), solutions could involve centralized, standardized resource tracking that includes consideration of public-facing data (AHRQ, 2025). It is important that patient boarding be addressed as a collaborative effort inclusive of multidisciplinary teams from the ED and inpatient areas (Loke et al., 2023). There is also a need to look at the community factors that are contributing to delay in discharging patients. Lack of primary care providers, social determinants of health, and vulnerable populations require a systematic approach from diverse stakeholders. More research and stakeholder engagement surrounding nursing is needed to determine how to optimize the staffing and organization of nursing care in EDs and inpatient units to reduce hospital crowding. Further research is required to identify hospital best practices and benchmarks for safely allocating nursing services, including ED nurse workload, when crowding, boarding, and throughput delays occur.

Resources

American College of Emergency Physicians. (2024). *Policy solutions to emergency department boarding*. https://www.acep.org/contentassets/f31712d47ec74b9aad129978f60dd575/acep-boarding-policy-solutions.pdf

Agency for Healthcare Research and Quality. (2025). *AHRQ summit to address emergency department boarding* [Technical report]. https://www.ahrq.gov/sites/default/files/wysiwyg/topics/ed-boarding-summit-report.pdf

Canadian Association of Emergency Physicians Advocacy and Public Affairs Committee. (2023). *Regarding ED closures and crowding across Canada* [Official statement]. https://caep.ca/wp-content/uploads/2023/09/Crowding_Closures_Statement_Sept5.pdf

International Federation for Emergency Medicine. (2022). *Over-crowded emergency departments* [Position statement]. https://assets.nationbuilder.com/ifem/pages/546/attachments/original/1670806966/IFEM_Position_Statement_on_Emergency_Department_Overcrowding_December_2022.pdf

References

Agency for Healthcare Research and Quality. (2025). *AHRQ summit to address emergency department boarding* [Technical report]. https://www.ahrq.gov/sites/default/files/wysiwyg/topics/ed-boarding-summit-report.pdf

American College of Emergency Physicians. (2024). *Policy solutions to emergency department boarding*. https://www.acep.org/contentassets/f31712d47ec74b9aad129978f60dd575/acep-boarding-policy-solutions.pdf

Asplin, B. R., Magid, D. J., Rhodes, K. V., Solberg, L. I., Lurie, N., & Camargo, C. A. (2003). A conceptual model of emergency department crowding. *Annals of Emergency Medicine*, *42*(2), 173–180. https://doi.org/10.1067/mem.2003.302

Augustine, J. (2023). A first look at emergency department data for 2022. *ACEP Now*, *42*(6). https://www.acepnow.com/article/a-first-look-at-emergency-department-data-for-2022/

Benjamin, E. (2024). The work of patient flow management: A grounded theory study of emergency nurses. *International Emergency Nursing*, *74*, Article 101457. https://doi.org/10.1016/j.ienj.2024.101457

Canadian Association of Emergency Physicians Advocacy and Public Affairs Committee. (2023). *Regarding ED closures and crowding across Canada* [Official statement]. https://caep.ca/wp-content/uploads/2023/09/Crowding_Closures_Statement_Sept5.pdf

Canadian Agency for Drugs and Technology. (2023). *Emergency department overcrowding in Canada* [Report No. OP0553GUI]. National Library of Medicine. https://www.ncbi.nlm.nih.gov/books/NBK599980/

Canadian Institute for Health Information. (2023). *NACRS emergency department visits and lengths of stay*. https://www.cihi.ca/en/nacrs-emergency-department-visits-and-lengths-of-stay

Centers for Disease Control and Prevention. (n.d.). *Emergency department visits*. National Center for Health

Statistics. https://www.cdc.gov/nchs/fastats/emergency-department.htm

Emergency Medical Treatment and Labor Act, 42 U.S. Code § 1395dd. (1986). https://www.govinfo.gov/content/pkg/USCODE-1994-title42/html/USCODE-1994-title42-chap6-subchapXVIII_2-partC-sec1395dd.htm

Emergency Nurses Association. (2021). *Staffing and productivity in the emergency department* [Position statement]. https://enau.ena.org/AssetListing/StaffingandProductivityintheEmergencyDepartment PositionStatement/Staffing-and-Productivity-in-the-Emergency-Department-Position-Statement-9518

Imhoff, B., Marshall, K., Nazir, N., Pal, A., & Parkhurst, M. (2022). Reducing time to admission in emergency department patients: A cross-functional quality improvement project. *BMJ Open Quality*. *11*, Article e001987, 1–6. https://doi:10.1136/bmjoq-2022-001987

International Federation for Emergency Medicine. (2022). *Over-crowded emergency departments* [Position statement]. https://assets.nationbuilder.com/ifem/pages/546/attachments/original/1670806966/IFEM_Position_Statement_on_Emergency_Department_Overcrowding_December_2022.pdf?1670806966

Janke, A., Melnick, E., & Venkatesh, A. (2022). Hospital occupancy and emergency department boarding during the COVID-19 pandemic. *JAMA Network Open*, *5*(9), Article e2233964. https://doi.org/10.1001/jamanetworkopen.2022.33964

The Joint Commission. (2012). Patient flow through the emergency department. *R³ Repor*t, (4). https://www.jointcommission.org/-/media/tjc/documents/standards/r3-reports/r3_report_issue_4.pdf

Kuhner, C., Su, J., Quinn, E., Wolin, J., Kimbrell, J., Friedman, M. S., Lobel, D., Dickman, E., & Eng, D. (2024). The effect of paramedics in emergency department triage on ambulance patient offload times: A retrospective study. *International Journal of Paramedicine*, (6),18–28. https://doi.org/10.56068/VAPF4488

Loke, D., Green, K., Wessling, E., Stulpin, E., & Fant, A. (2023). Clinicians' insights on emergency department boarding: An explanatory mixed methods study evaluating patient care and clinician well-being. *The Joint Commission Journal on Quality and Patient Safety*. *49*(12), 663–670. https://doi.org/10.1016/j.jcjq.2023.06.017

Muir, K., McHugh, M., Merchant, R., & Lasater, L. (2024). Left without being seen: Nurse work environment and timely outcomes in New York and Illinois emergency departments. *Journal of Emergency Nursing*, *50*(5), 660–669. https://doi.org/10.1016/j.jen.2023.11.010

Musselwhite, M., Warby, R., & Thomas, J. (2024, February 24). *EMS emergency department diversion*. StatPearls Publishing. https://www.ncbi.nlm.nih.gov/books/NBK603736

National Quality Forum. (2012). *Regionalized emergency medical care services: Emergency department crowding and boarding, healthcare system preparedness and surge capacity* [Report]. https://www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=72643

Pearce, S., Marchand, T., Shannon, T., Ganshorn, H., & Lang, E. (2023). Emergency department crowding: An overview of reviews describing measures, causes, and harms. *Internal and Emergency Medicine Journal*, *18*(4), 1137–1158. https://doi.org/10.1007/S11739-023-03239-2

Rader, T., & Ritchie, L. (2023). *Emergency department overcrowding in Canada: Multistakeholder dialogue* [Report No. OP0553]. Canadian Agency for Drugs and Technologies in Health. https://www.ncbi.nlm.nih.gov/books/NBK598221/

Richey, D., Schmitz, G., Jarou, Z., Napoli, A., Pilgrim, R., Pines, J., Augustine, J., Gibbons, M., Jouriles, N., & Fifth EDBA Summit Participants. (2025). Findings from the Fifth Emergency Department Benchmarking Alliance Summit. *Journal of the American College of Emergency Physicians Open*, *6*(4), Article 100172. https://doi.org/10.1016/j.acepjo.2025.100172

Sartini, M., Carbone, A., Demartini, A., Giribone, L., Oliva, M., Spagnolo, A. M., Cremonesi, P., Canale, F., & Cristina, M. L. (2022). Overcrowding in emergency department: Causes, consequences, and solutions—A narrative review. *Healthcare*, *10*(9), Article 1625. https://doi.org/10.3390/healthcare10091625

Savioli, G., Ceresa, I. F., Gri, N., Piccini, G. B., Longhitano, Y., Zanza, C., Piccioni, A., Esposito, C., Ricevuti, G., & Bressan, M. A. (2022). Emergency department overcrowding: Understanding the factors to find corresponding solutions. *Journal of Personalized Medicine*, *12*(2), Article 279. https://doi.org/10.3390/jpm12020279

U.S. Centers for Medicare and Medicaid Services. (n.d.). *Timely and effective care*. https://data.cms.gov/provider-data/topics/hospitals/timely-effective-care

Yiadom, M. Y. A. B., Napoli, A., Granovsky, M., Parker, R. B., Pilgrim, R., Pines, J. M., Schuur, J., Augustine, J., Jouriles, N., & Welch, S. (2020). Managing and measuring emergency department care: Results of the fourth

Emergency Department Benchmarking Summitt. *Academic Emergency Medicine*, *27*(7), 537–648. https://doi.org/10.1111/acem.13978