URGENT MATTERS:
Improving Safety in Massachusetts Emergency Departments

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AN EXPERT PANEL REPORT

Safety risks exist in all medical care settings, but emergency medicine professionals face particular challenges as they strive to deliver the safest, highest quality care to their patients.

Massachusetts emergency departments rank high in a national review of ED quality and safety. Yet many frontline staff express concerns that the environment is not as safe as it needs to be for patients or staff. In response to these concerns from their members, leaders of the Massachusetts College of Emergency Physicians (MACEP) reached out to the Betsy Lehman Center to help facilitate work to improve safety in emergency departments across the state. The Massachusetts Emergency Nurses Association (MENA) and the Massachusetts Association of Physician Assistants (MAPA) joined as partners in the effort.

Through this collaboration, the Betsy Lehman Center convened an expert panel to identify key risks to safety in emergency departments, recommend practical steps for mitigating these risks, and develop a toolkit to support implementation of the recommendations.

Recognizing the broad range of safety issues facing emergency medicine clinicians and staff, the expert panel focused on interventions that could be executed from "within the four walls" of the emergency department in three key areas: (1) **crowding**; (2) **cognitive overload**; and (3) **care coordination**.

CHALLENGES TO SAFETY IN EMERGENCY MEDICINE

Almost 20 percent of adults in the United States visit an Emergency Department (ED) at least once a year, accounting for 145 million visits in 2016. By some estimates, nearly half (47.7 percent) of all hospital-based medical care is delivered in the ED and half of inpatient admissions come through the ED.

In Massachusetts:

- There were 3,144,308 patients visits to the emergency department in the most recent year for which data are available.
- Average volume of patient visits to EDs in the state ranges from under 50 patient visits per day in small community hospitals to over 300 per day in large, urban hospitals.
- The total number of visits to the emergency department per 1,000 residents declined by 6 percent between 2012 and 2017.
- Complexity of patients being seen in the ED is on the rise. For example, visits by patients with behavioral health conditions, increased 14 percent from 2012 to 2017.
- 23 percent of all medical visits to the ED in Massachusetts in 2016 resulted in an inpatient admission, long observation stay, or transfer.

A key challenge and risk to patient safety is crowding in EDs. Over 90 percent of EDs in the United States report that they experience routinely crowded conditions, and Massachusetts EDs are no exception.The primary driver of crowding is a lack of inpatient and outpatient capacity — there are too few inpatient beds to admit patients from the ED, and too few outpatient resources to meet the needs of lower acuity patients.

Crowding, in turn, impacts quality of care and patient outcomes, sometimes in profound ways. Patients in crowded EDs wait longer to be seen and are at heightened risk of leaving without treatment or having their condition worsen. Crowding has even been tied to costly downstream effects, such as increased inpatient length of stay and risk of death. It also contributes to stress, compassion-fatigue and burnout among ED staff and raises the risk of workplace violence.
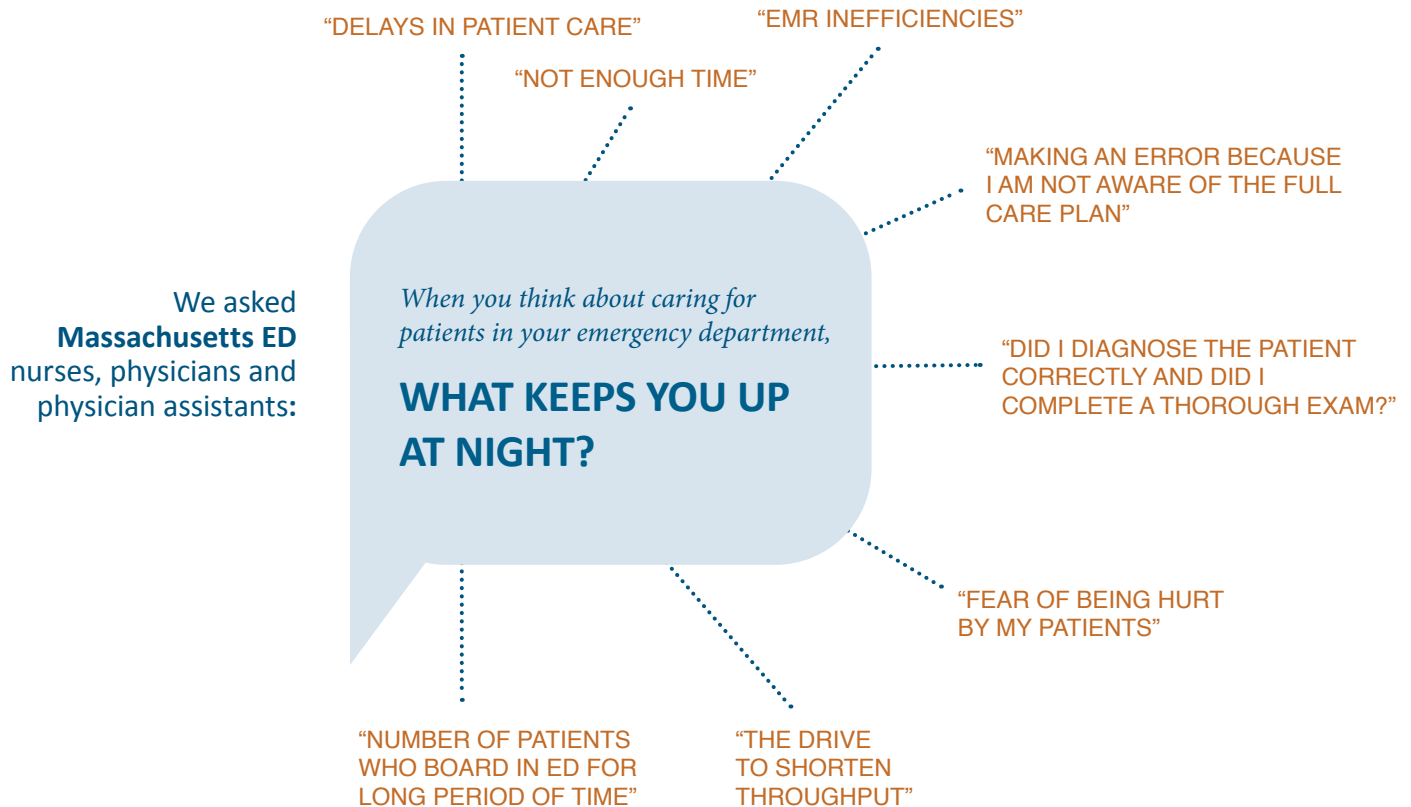
Patient volume in the ED is unpredictable, and decisions must be made under significant time pressure, frequently with limited information, limited resources, and in the context of increasing patient complexity. Emergency department caregivers must contend with frequent interruptions, electronic medical records systems that disrupt clinical workflow, a staffing mix that varies day-to-day, and a need to task-switch in order to keep pace with patients' needs.

In this context, it is not surprising that adverse events occur. Studies estimate that:

- As many as six percent of all patients seen in an emergency department experience an adverse event.
- Most common errors are related to patient management, diagnosis and medications.
- Of the adverse events that occur in the ED, between 53 and 83 percent are likely preventable, compared to 21 to 51 percent for all hospital-based events.

In addition, it is worth noting that emergency physicians rank in the top-five list of most burnt-out clinical specialists, with 48 percent reporting that they feel burned-out in a recent survey. The same is true for emergency nurses, with 82 percent in one study reporting mid-to-high levels of burnout, causing many to consider leaving the profession. Since clinician burnout may contribute to adverse events as well as be exacerbated by them, care for the wellbeing of emergency medicine clinicians is an emerging priority.

We asked **Massachusetts ED** nurses, physicians and physician assistants**:**

When you think about caring for patients in your emergency department,

WHAT KEEPS YOU UP AT NIGHT?

"DELAYS IN PATIENT CARE"

"NOT ENOUGH TIME"

"EMR INEFFICIENCIES"

"MAKING AN ERROR BECAUSE I AM NOT AWARE OF THE FULL CARE PLAN"

"DID I DIAGNOSE THE PATIENT CORRECTLY AND DID I COMPLETE A THOROUGH EXAM?"

"FEAR OF BEING HURT BY MY PATIENTS"

"NUMBER OF PATIENTS WHO BOARD IN ED FOR LONG PERIOD OF TIME"

"THE DRIVE TO SHORTEN THROUGHPUT"

EXPERT PANEL ON IMPROVING SAFETY IN EMERGENCY MEDICINE

The 14 members of the expert panel represent a wide variety of perspectives and roles in and around the emergency department, including patients, physicians, pharmacists, nurses, physician assistants, emergency medicine technicians and administrators. Guided by a small steering committee of health care leaders in Massachusetts, the panel met monthly from July 2018 through June 2019 to develop its findings and recommendations. The panel's work was informed by surveys about safety risks in the ED setting sent to members of MACEP, MENA and MAPA, ensuring the inclusion of as many voices from the frontline ED provider community as possible. In addition, many Massachusetts hospitals contributed their own proven strategies for mitigating safety risks in the ED to the toolkit.

KEY PANEL FINDINGS AND RECOMMENDATIONS

The Expert Panel identified three overarching patient safety challenges in Massachusetts EDs. All three affect the emergency department in unique ways, though they are not unique to the field of emergency medicine. Similarly, robust solutions to the problems are cross-cutting and cannot always be fully addressed within the emergency department. That said, the panel strived to identify recommendations and strategies that may be implemented by the ED without significant investment of time and resources by other hospital departments.

"The daily challenges that we face in the ED—the crowding, the time pressure, the unpredictable flow of patients—pushes us as a discipline to be flexible, creative and innovative. That's just one thing that's exciting about working in emergency medicine."

- Emergency nurse, MENA member

"The volume of older, sicker, more complicated patients is increasing and we know that the numbers of these patients will be going up significantly over the next decade."
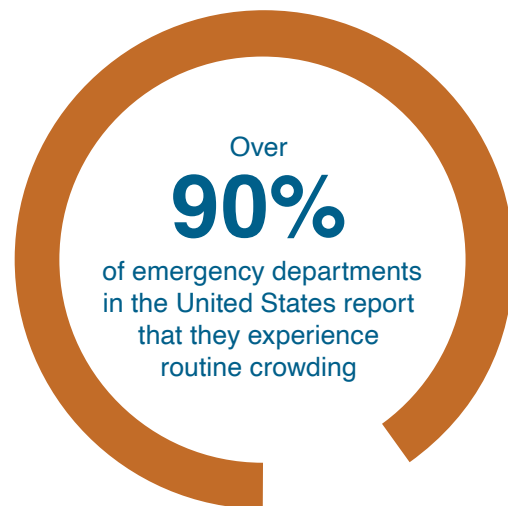
- Emergency physician, MACEP member

I. CROWDING

Crowding is the condition that "occurs when the identified need for emergency services exceeds available resources for patient care in the emergency department, hospital, or both" and is a common and persistent experience in Massachusetts emergency departments. Crowding contributes to various patient safety risks, including delayed triage and treatment, patients leaving without being seen, medication-related errors, communication errors between units, failure to rescue or reassess, patient falls, and intentional injuries.

Opportunities to reduce crowding:

- Optimize patient flow within the ED to reduce crowding;
- Implement resource and personnel management policies to mitigate risks during times of peak crowding; and
- Explore alternatives to traditional inpatient admissions.

Over
90%
of emergency departments in the United States report that they experience routine crowding

SOURCE: American College of Emergency Physicians, 2016.

"Emergency medicine is a team discipline, so the solutions must be multidisciplinary, too."

- Emergency nurse, MENA member

II. COGNITIVE OVERLOAD

Cognitive overload is a challenge that many emergency medicine professionals experience as they manage patients while sorting through an overwhelming amount of information from patients, colleagues, and the electronic health record system. Compounding the challenge is that members of the clinical team experience frequent interruptions that cause them to task-switch, increasing the risk that an error will occur. Cognitive overload contributes to numerous patient safety risks, including missed or delayed diagnosis and treatment, medication errors and inappropriate or unnecessary treatment or procedures.

Opportunities to reduce cognitive overload:

- Adopt strategies to limit interruptions, especially during the execution of complex and critical tasks by differentiating between high- and low-acuity messages;

- Support all members of the care team to practice at the top of his/her license by rebalancing tasks, eliminating extraneous tasks or realigning tasks to appropriate personnel resources, including non-clinical team members;

- Adopt and actively promote the use of cognitive job aids to reduce the amount of working memory necessary for common tasks;

- Optimize use of the electronic health records (EHR) system to reduce cognitive burden posed by EHR system;

- Adopt a team-based approach that focuses on situational awareness and shared responsibility for patient safety; and

- Support clinical staff in engaging in self-care as a way to improve a provider's ability to manage their cognitive load.

III. POST-ED CARE COORDINATION

Post-ED care coordination is essential for patients, but often difficult for busy EDs to manage given the time needed to provide effective discharge instructions and establish a follow-up plan. Care coordination is especially important for vulnerable patient populations such as the frail elderly, medically or socially complex patients, and pediatric patients. Patients leaving the ED for home or another community setting with an inadequate follow-up plan are at risk of missing critical medical appointments, taking medications incorrectly, having their condition worsen, or revisiting the ED.

Opportunities to improve post-ED care coordination:

- Review new and changed medications prior to discharge to ensure that patients will be taking the appropriate medications upon discharge;

- Develop a standardized discharge process for patients who are being discharged to home or another community setting;

- Take steps to ensure that patients and their caregivers receive effective education, including education at the appropriate reading level and language, as part of the discharge process;

- Identify patients who may have social or medical needs that impede their ability to access follow-up care;

- Develop a process to reach patients who have been discharged recently to ensure that if they have any questions about their ED stay or follow-up care, a clinician at the hospital can help them get the answers;

- Develop a process to follow-up on results that are pending at discharge (e.g. follow up nurses) to ensure that results are reviewed and communicated to the patient; and

- Utilize existing digital tools to help ensure that information about the patient's ED visit is documented in a timely fashion and available for the follow-up provider.

In conjunction with this report, the Expert Panel is releasing a set of strategies that track to each of its recommendations. Illustrative case studies and tools are also included to help emergency medicine teams implement the strategies.

For more information, please visit **BetsyLehmanCenterMA.gov/EDsafety**

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