NYC HEALTH + HOSPITALS

New York City Council Hearing

Safety of New York City Emergency Departments

Committee on Hospitals

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New York City Health + Hospitals

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Good morning Chairperson Rivera and members of the Committee on Hospitals. I am Dr. Eric Wei, Chief Quality Officer at NYC Health + Hospitals (Health + Hospitals). I am joined by Dr. Natalia Cineas, Chief Nursing Executive at Health + Hospitals. Thank you for the opportunity to testify before you today on the safety of Health + Hospitals emergency departments.

Health + Hospitals has full-service emergency departments (ED) staffed by experienced and caring physicians, nurses, social workers and other health care professionals. Our EDs are busy, with over 1 million visits in 2019. In fact, two of Health + Hospitals facilities – NYC Health + Hospitals/Lincoln and NYC Health + Hospitals/Kings County – are among the top 14 busiest EDs in the country.[1]

Health + Hospitals operates five Level I Trauma Centers – NYC Health + Hospitals/Bellevue, Elmhurst, Jacobi, Kings County, and Lincoln, which means these facilities are capable of providing total care for every aspect of injury – from prevention through rehabilitation. We also operate seven adult, and one child & adolescent comprehensive psychiatric emergency programs (CPEPs), which include psychiatric emergency rooms, extended observation beds, mobile crisis intervention services, and access to crisis beds. Last year, there were more than 66,000 adult and 3,300 child/adolescent visits to Health + Hospitals psychiatric emergency rooms.

Our EDs experience many of the same challenges – overcrowding, wait times, staffing – that many of the large health systems in New York City face, which can lead to an unsafe environment in our EDs. As such, a top priority of Health + Hospitals is developing and maintaining a "Culture of Safety" for our patients and staff in order to minimize adverse events, and learn from opportunities for improvement in our EDs.

[1] https://www.beckershospitalreview.com/rankings-and-ratings/hospitals-with-the-most-er-visits-2019.html

Implementing a "Culture of Safety"

We have proactively implemented initiatives to measure and mitigate risks of adverse events for our patients including:

- Patient identification: leveraging our new electronic medical record (Epic) and barcode scanning to ensure correct patient identification.
- Debriefing: holding short discussions after significant events to reinforce what went well to hardwire for next time and identify opportunities for improvement and what to do differently next time.
- Managing agitated patients: having standard screening, prevention, de-escalation, and behavioral response teams throughout the system.
- RL Datix incident reporting system: moving from paper to electronic incident reporting system to encourage increased reporting of good catches and other opportunities for improvement.
- QAPI/RCAs: optimizing our formal quality assurance, performance improvement, patient safety, and risk management processes to continuous learn and improve our system.
- Enterprise-wide shared electronic medical record (EPIC): allows patients' medical records to move with them seamlessly throughout the system, which gives staff a full picture of the patients' health without having to unnecessarily repeat tests.
- DnA: embarked on a new data and analytics strategy in 2019 to improve data literacy, quality, and access in order to make data informed decision.

Likewise, we have implemented initiatives to support providers after difficult experiences and to improve staff wellness and engagement so they are able to give their best to patients. Our 18 Helping Healers Heal (H3) teams across the system

have trained over 1,000 peer support champions who have provided over 600 1:1 and group debriefs surrounding emotionally and psychologically traumatizing events. This is to ensure that our staff are supported through these events and connected to additional resources as needed so they can best care of themselves and our patients. We are implementing the Institute for Healthcare Improvement (IHI) Joy in Work Framework, which connects staff back to their "why" in working in healthcare. We believe that engaged, happy, supported, and joyous staff will provide the highest quality and safest care with the best patient experience.

Addressing wait times/overcrowding

As mentioned before, overcrowding and wait times can lead to an unsafe environment in the ED. There are several factors that contribute to increased wait times/overcrowding, including patient demand, and the historical difficulty in getting primary care or express care services at Health + Hospitals. It is important to note that if you have a very serious injury there is no wait time in the ED – the most urgent patients are always triaged and they don't wait. For less urgent visits, a sprained ankle, a bad cold – there can be a wait if the ED is busy. With new hiring of nurses and physicians, improved workflows, and investments in express care and primary care, Health + Hospitals has made great progress in reducing wait times and improving the patient flow through our EDs.

- **Nurse staffing**: In the past two years, we have taken some great steps to address these nurse staffing challenges. During this same period, we've hired over 600 new nurses, and in December, Health + Hospitals reached a 4-year contract agreement with the New York State Nurses Association (NYSNA), which represents more than 8,500 nurses across Health + Hospitals to pay fair wages, ensure safe staffing, and improve recruitment and retention of our

nurses. Health + Hospitals has also agreed to collaboratively address nurse-to-patient staffing ratios with NYSNA and will follow an approved staffing model.

Physician recruitment: In 2018, we launched the system's first official physician recruitment campaign – DOCS4NYC – to help fill 75 new and open primary care physician positions and expand access to community-based primary care across the five boroughs. We have also focused on retention of our physicians through programs like Doctors Across New York. In 2019, Health + Hospitals received 16 grants for loan forgiveness for doctors (~$2M in total) for 16 doctors in exchange for their continued commitment to serve the system (for 3 years).

- **Improved Workflows**: We are providing access to other appropriate levels of care to reduce the need for ED visits through expansion of primary and specialty care, and having them self-select our ExpressCare clinics. We are also implementing targeted interventions for conditions where we see high rates of potentially preventable ED visits by expanding care to the home.

- **Improving ED Throughput**: When patients do show up in our EDs, we have developed processes to quickly move them through our EDs and get them to the right type of care that they need, whether it's utilizing providers in triage to get the definitive evaluation and treatment initiated right away or utilizing direct-to-bed where no patients wait in the waiting room. We are also working on improving efficiency by reducing our lab and radiology turnaround time, and moving our inpatient discharge times to earlier in the day to open up hospital beds to meet ED admission demands.

- **Left Without Being Seen**: Patients come to our EDs to see a doctor. During particularly busy times in the ED, patients without an imminently dangerous condition often have to wait to see a definitive provider after they are triaged by a nurse. In order to minimize situations where a patient leaves before seeing a provider, we continue to implement operational flow strategies based on published evidence and best practices of similarly sized EDs. Some EDs use a provider-in-triage model which sits a physician or Advanced Practice Provider (APP) at the front end that makes sure a provider evaluates every patient to expedite their care. This is complementary to a split-flow model which directs patients to different areas of the ED to match their needs and facilitate the work up. Other EDs use a direct-to-bed model where patients are placed in any available space and use bedside registration to minimize waits. We are making these improvements at NYC Health + Hospitals/Queens, Lincoln, Kings, Woodhull, Harlem and Bellevue.

- **ExpressCare**: This new care setting will provide an alternative for patients seeking fast, reliable and non-emergent care, as well as connecting patients to a primary care provider if they don't already have one. We do community outreach to encourage patients with non-life-threatening conditions to avoid the ED and directly walk in to the clinic. We currently have ExpressCare clinics at six sites, NYC Health + Hospitals/Lincoln, Elmhurst, Queens, Woodhull, Metropolitan, and Harlem and we expect to have clinics at NYC Health + Hospitals/Jacobi and Kings County later this year.

- **Increased Access to Primary and Specialty Care**: We launched NYC Care in the Bronx in August, and have enrolled over 13,000 Bronxites in the

program. Last month, we rolled out the program in Brooklyn and Staten Island, and will be in all five boroughs in New York City by the end of 2020. One of the primary goals of NYC Care is to decrease reliance on emergency rooms, and increase access to primary and specialty care for hundreds of thousands uninsured New Yorkers, half of whom are ineligible for health insurance or cannot afford it. Our eConsult system, which allows primary care physicians to send an electronic referral directly to specialty clinics has already produced 200,000 consults and shortened specialty care wait times.

Other Health + Hospitals Initiatives

Other initiatives we have embarked on include decreasing our potentially preventable ED visits and hospital utilization. For example, over the first four years of the Delivery System Reform Incentive Payment Program (DSRIP), we reduced avoidable admissions by 20%, which is on par with the State's overall trend under DSRIP. We are also doing targeted interventions for conditions where we see high rates of potentially preventable ED visits by expanding care to the home. For example, we are connecting patients with asthma to community-based organizations' community health workers who work with the care team to engage patients in an asthma action plan and go into the home to address environmental triggers. We've seen a 20% reduction in potentially preventable admissions for pediatric patients with asthma in the performing provider system's population since the program started and are expanding to adults this year. Recognizing that transitions from the ED or an acute setting are hard for many patients, resulting in them often coming back to our hospitals unnecessarily, OneCity Health has also invested in programs to make transitions back into the community or other care settings easier. In addition, our Office of Population Health and Community Care teams have been working on screening for social determinants of health (housing,

food, legal, immigration, etc.) and linking patients to appropriate resources. These unmet social needs bring patients to our ED's as the safety net for not only the healthcare system but our social systems as well.

Investments in Health + Hospitals Emergency Departments

Thanks in large part to the financial support of the City Council, other local and state elected officials, and other resources, Health + Hospitals has invested in new equipment and embarked on major renovations of several of its emergency departments to ensure that our patients continue to receive state-of-art-care that they deserve. This investment is also a part of the systems' broader multi-year redesign to build a competitive, sustainable organization that will continue to offer high-quality and accessible health care to the people of New York City.

Lincoln: Earlier this month, Lincoln announced it received FY20 capital funding from the City Council to transform two X-ray rooms in the ED. The space will be renovated into a brand new, state-of-the-art digital radiology suite. The new equipment's enhanced features will be fully digital to improve image quality.

Elmhurst: In the fall, NYC Health + Hospitals/Elmhurst announced its plans to expand its emergency department. The $43 million expansion project will include the redesign of 28,900 square feet of space; and an added floor above the emergency department will be built to accommodate the hospital's Adult and Child Emergency Psychiatry and Partial Hospitalization programs. The space will incorporate a state-of-the-art Stroke Center, featuring an advanced medical imaging unit that will allow the hospital to expedite life-saving care for stroke patients.

Bellevue: Last summer, Bellevue Hospital Center announced the installation of a new state-of-the-art computer tomography (CT) scanner in the emergency department that will reduce wait times, produce faster testing and better image quality, quicker diagnoses and treatment for patients, particularly critical patients in the ED.

Woodhull: In the spring of 2019, Woodhull Medical Center received $5 million in FY19 capital funds from the Council's Brooklyn Delegation to expand its emergency department to improve access to services, alleviate overcrowding, reduce wait times, and improve the patient experience.

Thank you for the opportunity to testify. I look forward to your questions.

Wendy Dean, MD
CEO, Moral Injury of Healthcare

The Moral Injury of Healthcare (MIH) would like to thank the Chair and members of the New York City Hospital Oversight Committee for the opportunity to submit this testimony on safety in New York City (NYC) emergency rooms. MIH is a 501(c)(3) non-profit dedicated to addressing clinician distress. The organization is focused on reducing the conditions which put clinicians at risk for moral injury through research, raising awareness, and advocacy efforts. MIH recognizes that the current business framework of healthcare makes it increasingly difficult to provide healthcare that is good for patients in an environment that does not harm clinicians. For more information on the organization, please visit the website: https://fixmoralinjury.org/.

As a psychiatrist and an expert on moral injury in healthcare, I recommend that New York City assess and address conditions that create barriers to good care, and which, then, create safety risks for both patients and emergency room staff.

Since coauthoring an article about physician distress in July 2018, I have heard from hundreds of physicians—and clinicians across the spectrum of healthcare—that it is increasingly difficult to deliver good care where they work. Many of them have been emergency room clinicians, and in fact, the American College of Emergency Physicians (ACEP) Wellness Committee invited my organization to address this topic at the ACEP

conference in November 2019. The main theme we have heard from clinicians around the country is that ER staff are doing too much, with too little, for too long. This situation is not unique to New York City, but that does not excuse inaction.

When clinicians are consistently unable to meet their patients' needs because of barriers inherent in the framework of care, they are at risk for moral injury ("**. . .** perpetrating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations"). The concept of moral injury was applied to healthcare in July 2018, and has resonated profoundly with clinicians across the spectrum of healthcare. Moral injury, unrecognized and unattended, is a primary contributor to the 42% of physicians reporting symptoms of burnout. That level of distress has far-reaching implications for healthcare. It erodes teamwork, may reduce patient safety by increasing errors, and contributes to the unacceptably high rate of physician suicide (40/100,000). Moreover, clinicians at institutions with higher levels of distress are more likely to leave their jobs, costing the employer or healthcare system roughly $1million dollars per lost physician. Therefore, addressing moral injury—facilitating the ability of clinicians to get patients the care they need—can improve safety, reduce risk, and reduce cost. It is also the right thing for a compassionate healthcare system to do.

Wendy Dean, MD
CEO, Moral Injury of Healthcare

The culture of medicine is one of stoic self-reliance, driven by a deep commitment to the mission of caring for patients. But that deep commitment to the mission makes clinicians ripe for exploitation, and loathe to stand up in protest—because, "Who will care for my patients?" As Danielle Ofri eloquently described in a NYT editorial piece, the good will of clinicians is wondrously elastic, and ruthlessly exploited. On the one hand, clinicians struggle to balance the needs of their employer for volume, speed (door-to-doctor time), community good will (i.e., happy patients), and balanced financials. On the other hand, they are trying to meet the tenets of the oath each of them took and trained under, to put patient needs as a priority—for a thorough, thoughtful history, physical exam, and appropriate testing; for a focused clinician; and for an encounter in which they do not have to wonder what the motives are for the recommended labs, imaging or medications.

As business metrics get pushed further and further into clinical settings—as clinicians are expected to fill gaps in the bottom line with more patients, more testing, or fewer staff—the relational contract of trust and transparency between clinician and patient devolves to the principle of caveat emptor. And when the healing relationship shifts from trust and transparency to opposition and suspicion, psychological safety, not just physical safety, is lost.

Business imperatives for a positive balance sheet—whether at for-profit or non-profit institutions—are imposing financial pressure that many doctors believe is hurting care.[1] In many areas, and increasingly in the emergency room, staff is asked to maintain a high volume of patients, with insufficient staffing. Inpatient beds are full, so patients are awaiting admission on emergency room stretchers for many hours, and sometimes for days. Emergency staff must provide care to those patients, pulling attention from those who present for acute problems. In some emergency departments, doctors are expected to start diagnostic testing for patients after a cursory discussion in the triage area. None of this is good medicine.

Hospital publicity also exerts tremendous pressure to treat patients quickly and to keep them happy. "The average patient influences more than $1.5 million in lifetime hospital expenditures for his or her household" and the impact of social media on the perception of a hospital can be devastating. This also dovetails with Centers for Medicare & Medicaid Services linkage of reimbursements to Hospital Consumer Assessment of Healthcare Providers and Systems scores. (The survey is sent to a random set of patients who received care at an institution, not just to the Medicare patients that institution served). 'Medicine for marketing' is not good medicine, either. Many pressures distort the real priority of medicine, which is taking optimal care of patients. Staff must attend to the financial, marketing, regulatory, quality, safety, and

risk management goals of the healthcare system, when their first priority should be the patient's needs. Tracking emergency care with "lean processes" and infinite metrics can easily distort the bigger picture of medicine. It distracts from medical care that is good for patients and sustainable for clinicians: a system of care that allows staff the time, the focus, and the processing time to attend both their patients and themselves.

This is not a necessarily nefarious construct. Those who pushed down the expectations for care as it is now, in all likelihood did not aim to create a system that harms both its staff and its patients. They probably thought they understood the impact their decisions would have, even though most are not clinicians. They likely thought it made perfect sense to apply theories learned in business school, about assembly lines, to a process that looks like an assembly line when viewed from afar, by those uninitiated to its diversity and complexity. But the dysfunctional business framework is perpetuated by a culture that has not demonstrated deep curiosity and concern for the well-being of employees. The system as constructed relies on stoicism and the seemingly infinite capacity for good will displayed by most clinicians. But, "The increasingly complex web of providers' highly conflicted allegiances — to patients, to self, and to employers — and its attendant moral injury may be driving the health care ecosystem to a tipping point and causing the collapse of resilience."

By focusing on aspects of care that are not patient-as-priority, we are losing patient safety and the foundation of a moral system of care. It is critical that we come together—clinicians, administrators, and the patients we *all* serve—to enact change. We need to realign the incentives of all stakeholders (hospitals, insurers, regulators, legislators, clinicians, patients and families) in the same direction—to what is *best for the patient*. What would be best for patients right now in NYC emergency rooms is optimizing their safety through: adequate staffing, sufficient inpatient beds to minimize boarding, and physicians and nurses who have sufficient time, focus, institutional support and a business framework aligned to provide the thoughtful, thorough assessment, diagnostic evaluation, and acute treatment patients deserve during a health crisis.

MIH applauds the NYC Hospital Oversight Committee for having the courage to confront complex challenges facing all of healthcare. Your leadership may forge a path for others to follow.

Thank you for the opportunity to submit this testimony. Should you have any further questions, please do not hesitate to contact Wendy Dean, MD at wdean@moralinjury.healthcare.

[1] Unpublished MIH survey results.

New York City Council Committee on Hospitals

Hearing Testimony:
"Oversight: Safety of New York City Emergency Departments"

Lorraine Ryan, Senior Vice President, Legal, Regulatory, and Professional Affairs
GREATER NEW YORK HOSPITAL ASSOCIATION

Chair Rivera and members of the Committee on Hospitals, my name is Lorraine Ryan, Senior Vice President, Legal, Regulatory, and Professional Affairs at the Greater New York Hospital Association (GNYHA). GNYHA proudly represents all the hospitals in New York City, both not-for-profit and public, as well as hospitals throughout New York State, New Jersey, Connecticut, and Rhode Island.

Thank you for the opportunity to testify today about New York City emergency departments (EDs). My understanding of care delivery in EDs comes from my clinical training as a registered nurse (RN), experience as a hospital administrator in New York City, and my responsibilities as director of quality and patient safety at GNYHA.

GNYHA and our member hospitals believe health care is a human right. Giving lifesaving emergency care to *all* New Yorkers in their time of need—regardless of immigration status or ability to pay—is part of that core principle. New York City hospitals, through 53 EDs across the five boroughs, provided 4,211,084 ED visits in 2018.[1] EDs are a critical part of New York City's world-class health care infrastructure.

Our members take their responsibility to deliver quality care and ensure the safety of all patients very seriously. They scrupulously follow all applicable laws and submit to rigorous regulatory oversight from accrediting organizations, the New York State Department of Health (DOH), and the Centers for Medicaid & Medicare Services.

Today I will discuss the wider environment for New York City hospitals, how EDs deliver care, the problems EDs and their patients face, and how hospitals address these challenges.

A Time of Peril for New York Hospitals

Despite unprecedented threats to their survival—including looming cuts to the Federal Disproportionate Share Hospital Program in May and Medicaid and Medicare reimbursement that doesn't keep up with costs—New York hospitals are open 24 hours a day, 365 days a year, and committed to treating everyone. Our hospitals, both public and voluntary, serve huge numbers of Medicaid patients and provide the same quality of care to all. In 2017, New York State hospitals provided $3.4 billion in Medicaid services, $600 million in financial assistance, and $988 million in subsidized health services.[2] They are also the economic anchors of their communities: hospitals are the largest non–public sector employers in New York City and employ hundreds of thousands of hardworking caregivers, the majority of whom are union members.

The ED Care Model

The American College of Emergency Physicians defines emergency care as any health care service provided to evaluate and treat any medical condition that a person believes requires unscheduled medical care. EDs exist and are designed to treat patients with acute, emergent, and often life-threatening medical conditions. Federal standards governing ED care, New York State law and regulations, and hospital

[1] 17% were for Medicare beneficiaries, 47% for Medicaid beneficiaries, 21% had private insurance, 13% were uninsured, and 3% enrollees in other insurance programs (such as federal plans and workers' compensation). Total visits have stayed relatively constant in recent years; in 2014, they provided 4,084,211 visits. Source: GNYHA analysis of NYS Institutional Cost Reports.

[2] Sources: GNYHA Analysis of New York State Institutional Cost Reports, 2017; Internal Revenue Service Form 990 reports.

accreditation standards require that ED staff possess basic and advanced life-support certifications and specialized training to ensure the competent discharge of clinical responsibilities. Care delivered in EDs is quite different from what might be delivered in non-emergency or primary care settings. ED providers are licensed, certified professionals who possess the knowledge and training to quickly assess, diagnose, and develop a treatment plan for any patient who presents for care.

When an individual presents to an ED, a clinician—an RN, nurse practitioner, physicians' assistant, or physician—will "triage" the case by examining and speaking with the patient and quickly assessing the severity and urgency of their particular medical issue(s). The most acutely ill patients (e.g., trauma, heart attacks, hemorrhage) are fast tracked, stabilized, and escalated to necessary specialty care; they are often admitted to the hospital or transferred to a higher level of care for ongoing treatment.

Patients who present with less acute conditions are assessed, diagnosed, and typically discharged to the primary care provider, often a clinic, for ongoing management of chronic conditions. Many patients come to EDs with non-emergent conditions that could be treated more effectively in a primary care setting, where ongoing follow-up care for chronic conditions can be provided.

According to DOH, around "70% of hospital based ED visits are either non-emergent and/or could have been treated in a primary care setting."[3] This is a major problem—it means patients aren't getting the comprehensive, efficient, quality care they deserve. It also creates added stress on EDs—reducing the availability of care for the acutely ill who truly need emergency treatment—and increases the cost of health care.

Problems and Solutions

As care providers, we must listen to patients, understand the factors shaping their decisions, and make it as easy as possible for them to seek care in the most appropriate setting. Below is an overview of some of the problems patients and hospitals face, and the ways providers are addressing them.

Coverage An individual without insurance is less likely to seek primary care and more likely to turn to the ED. We have achieved significant success in expanding coverage: about 95% of New Yorkers now have health insurance because of initiatives such as the Affordable Care Act, Medicaid expansion, and New York's Essential Plan. However, the remaining 5% without coverage—around one million people statewide[4]—tend to disproportionately seek care at the ED.

GNYHA believes we can expand coverage to almost all uninsured New Yorkers by increasing subsidies on the commercial health insurance exchange, increasing outreach to those already eligible for coverage, and expanding the Essential Plan to cover undocumented immigrants (as proposed in Council resolution 0918-2019). This would make it easier for people to receive preventive and primary care, create healthier communities, and relieve pressure on EDs.

[3] Presentation by New York State Department of Health, "Hospital Emergency Department (ED) Care in New York State," January 31, 2020.

[4] Around 600,000 of that number are in New York City.

Access We must give patients good options for community care. For years, hospitals have invested huge resources into building and maintaining major ambulatory networks (and the care managers who leverage these networks) that focus on providing care to Medicaid beneficiaries and the uninsured. In 2017, New York State hospitals provided over 8.5 million clinic and ambulatory care services to Medicaid and uninsured patients.[5] Hospitals are also building urgent care clinics alongside or close to EDs, which enable patients with non-emergent symptoms to get care more quickly and cut down on overcrowding.

One exciting new initiative in this area is the Federal Emergency Triage, Treat, and Transport (ET3) Model, which reimburses emergency medical services provided in the community and patient transports to destinations other than EDs, such as urgent care centers and behavioral health centers. By altering incentives, we are hopeful that the ET3 model will help patients get care in community settings rather than EDs.

Physical plant and operations While policymakers and health care providers need to help patients get care in community settings—the best long-term strategy to relieve pressure on EDs and reduce wait times—they must also make sure EDs function well and are ready for actual emergencies. Hospitals constantly seek to renovate, improve, and expand (as necessary) their EDs, but this can be difficult, especially for hospitals struggling to make ends meet and with limited access to capital. GNYHA has advocated for funding that hospitals can use for this purpose, and has secured hundreds of millions of dollars through the Statewide Health Care Facilities Transformation Program. Hospitals are also implementing operational strategies to mitigate a lack of space in urban environments, including a "split flow" ED design. In this system, clinicians diagnose patients soon after entering the ED, and patients then enter one of two tracks of care, depending on the severity of their illness.

Technology Many hospitals are investing in telehealth, which enables virtual urgent care services for non-emergency and minor medical conditions. It also helps patients avoid an ED visit and receive an examination and diagnosis at home—and, if necessary, schedule in-person treatment. Hospitals are also beginning to provide tele-ED services in private rooms within their EDs. This allows patients to see a physician, particularly for flu-like illnesses, without contributing to the volume pressures of the physical ED and avoiding potential transmission of viruses and other illness.

Workforce The dedicated professionals that keep EDs running—RNs, physicians, administrative staff, and many others—face unique pressures. GNYHA is committed to supporting its member hospitals and health systems as they work to increase workforce well-being and resiliency. GNYHA has developed resources to help our members identify and align initiatives related to occupational burnout and regularly holds symposiums and webinars for hospital staff to learn and share strategies to improve workforce resilience.

Scope of practice As modern medicine has advanced, many of the limits on the tasks different health care clinicians can perform have not. This exacerbates problems in the ED, which can lead to longer wait times and inefficiencies. GNYHA strongly supports modifications to scope of practice rules that are commensurate with professional training and education. One promising area is expanding the use of non-patient-specific standing orders in the ED, enabling RNs to perform tasks without waiting for a physician's

[5] Sources: GNYHA Analysis of New York State Institutional Cost Reports, 2017; Internal Revenue Service Form 990 reports.

order. One example is giving RNs the discretion to perform non-invasive tests, such as an EKG, to rule out a heart attack when a patient presents with chest pain.

Social determinants of health As with virtually every health care issue, social determinants of health have a major effect on ED utilization. We must further invest in the social safety net, pursue policies that promote social justice, combat structural racism, and improve access to critical services such as education, transportation, and healthy food. Providers have a role to play in addressing these problems, but they can't solve them alone.

Conclusion

While expanding and improving EDs is critical—and many hospitals are doing just that—ignoring the root causes of ED crowding would be shortsighted and ultimately harm the communities New York City hospitals serve. Expanding access to care and coverage options is the key.

EDs are, by their nature, stressful and hectic places—especially in a city like New York. However, our hospitals are committed to finding innovative solutions to improve ED care, with the ultimate goal of helping people get the care they need, when they need it, in the most appropriate care setting. That is their mission as not-for-profits, public institutions, and caregivers.

Testimony of David Reich, M.D.
President and Chief Operating Officer
Mount Sinai Hospital
New York City Council Hearing: Safety of Emergency Departments
February 24, 2020

Good morning to Councilmember Rivera and all of the members of the Council's Committee on Hospitals. Thank you for having me here today. My name is Dr. David Reich, and I am the President and Chief Operating Officer of The Mount Sinai Hospital.

I arrived at Mount Sinai in 1984 to begin anesthesiology residency and have remained there throughout my career as a practicing cardiac anesthesiologist, Chairman of Anesthesiology for nine years, and, most recently, for seven years as President and COO of the largest hospital in the Mount Sinai Health System. I am incredibly proud of the work our team performs every day to serve our patients and keep our communities healthy.

Despite our many successes, however, our hospital and many peer academic medical centers' emergency departments face complex challenges on a daily basis. As many leaders on the City Council know, we have been grappling with these issues for a long time. I am here today to provide information, but also to advocate for a series of actionable changes to improve emergency department conditions in New York City. These suggestions are for your consideration and comment in the hope that, collaboratively and collectively, we can define better solutions. We all have the same goal: to ensure New Yorkers receive the best quality medical care.

Some challenges are faced by *all* emergency departments across the five boroughs. The greatest of these challenges is that too often patients arrive at our City's emergency departments, who could be better served in non-hospital settings. These include hospital-at-home programs, multi-specialty outpatient facilities, primary care practices, urgent care centers, tele-medicine visits, community paramedicine programs and sobering centers. I hope that we will have more opportunity to explore some of these solutions, since we can and we should implement cost-effective reforms that address the underlying causes of emergency department crowding, with the attendant consequences of long wait times, patient dissatisfaction and difficult working conditions that demoralize dedicated ED staff. The Council's advocacy and support is instrumental if we are to be effective in addressing the root causes of emergency department crowding.

Mount Sinai is employing innovative approaches to the most vexing challenges for our Emergency Department. The entire organization, including support staff, nursing, physicians and advanced practice providers and senior administration, works tirelessly to provide world-class care for every patient we serve. The Mount Sinai Emergency Department is ranked third in the nation in National Institutes of Health funding and is consequently staffed by some of the most brilliant physicians that innovate and implement groundbreaking advances, such as the Geriatric Emergency Room and Hospital-at-Home. This is not theoretical ivory tower research.

Rather, this research creates real advances for New Yorkers every day. And the metrics reflect the quality of the team. Patients who come to the Mount Sinai Hospital Emergency Department with heart attacks, severe heart failure, severe lung conditions or strokes have among the best survival rates in the nation.

One reason for our excellent patient outcomes is the introduction of Split Flow in 2015. Split Flow is a national best practice that gets patients in front of a medical expert *sooner*. Patients see a triage nurse immediately upon arrival. Some patients with lower acuity problems receive their care in chairs, while those with more severe illness receive the care they need more quickly. At Mount Sinai Hospital today, a walk-in patient is seen by the medical provider in an average of 22 minutes – well below the national average. Our "left without being seen" rate is now just 1.8% – lower than the national average at 2%. These are superb quality metrics.

Yet we are not complacent and are constantly looking to improve. We commission independent external departmental reviews every few years and we also benefit from the regulatory oversight processes of the State Department of Health, The Joint Commission and CMS. Over the past four years, we've made several critical enhancements to our strategic plan that have helped streamline our ED operations. We have expanded our ED staff by more than 130 additional employees across every category of clinical and support staff, 42 of them registered nurses – and 20 in 2019 alone. We have also added additional nursing leadership to help provide 24/7 onsite leadership support and a "float pool" to bring additional nurses to the ED during each shift.

We are also on the cusp of initiating a $48 million renovation and expansion of our ED that will dramatically enhance operational efficiencies, increase throughput and improve patient experience and quality. Mount Sinai spent $3 million in 2019, engaging a team of experts to completely redesign our ED, with meaningful input from staff, departmental leadership and the community. This effort culminated in the submission of a Certificate of Need application to the State Department of Health on December 31. We are working closely with the Department of Health as they review this exciting project.

The plan under review will expand the ED by 8,500 additional square feet, doubling the space devoted to critically ill patients. We are increasing the number of exam spaces by 19 for a total of 72 individual treatment spaces. The renovated emergency department will be able to serve more than 122,000 patients per year, which aligns with the projected volume of the Hospital. This is an ED space designed for 21st Century needs. Pending the various regulatory approvals, we hope to begin construction on this multi-year project by mid-2020. A separate construction plan that is under preparation will relocate and expand our observation unit from 20 to 30 beds.

While construction will be transformative over the next several years, Mount Sinai is also using innovative solutions currently to decant our busy ED. To address the needs of patients who do not require hospital admission, we opened an Express Care facility on the same block as our ED in 2018, which accepts all insurance. This winter, we've expanded Express Care to weekend

hours and are seeing approximately 300 patients per week. We have also expanded access and office hours for our community in a wide range of ambulatory hospital initiatives that address the population health needs of our community.

For those patients who need admission, we added 16 medical-surgical beds this past autumn that are dedicated to ED patients. In medically appropriate patients and with their consent, we transferred approximately 1000 admitted patients directly from The Mount Sinai Hospital ED to available inpatient beds elsewhere in the Mount Sinai Health System—mainly to the newly renamed Mount Sinai Morningside. Transferred patients arrive in a hospital bed an average of eight hours sooner. Our Hospital-at-Home program continues to enroll patients with excellent outcomes. We implement our surge plan, as needed, to move some patients to hallways on patient units. The additional case managers, social workers, and volunteers serve the complex needs of our population by addressing placement issues, safe discharge planning and facilitating meaningful discussions about goals of care.

In conclusion, Mount Sinai has made major investments that are already moving the needle for the emergency and urgent care needs of hundreds of thousands of our neighbors. In advance of the complete renovation and expansion of our Emergency Department, we are constantly innovating, using science, clinical expertise and compassion to better serve our community.

I thank the Council again for the opportunity testify today and I'm happy to answer your questions.

February 24, 2020

Dear Chair Rivera and the New York City Council Committee on Hospitals,

I'm writing today as an Emergency Physician and as a citizen of New York City who is concerned about the prevalence of Emergency Department (ED) boarding and crowding in our area. My views expressed are solely my own and do not express the views or opinions of my employer.

I've worked in Emergency Medicine in Manhattan for over five years, in multiple hospital systems. In that time, I have been overwhelmed by how many patients are squeezed into our departments, and the expectations on staff to see a high volume of patients, often beyond what is reasonable.

Fundamentally, the demand for Emergency Medical care is greater than the resources currently available. These are complex issues, but I hope to shed some light on the lived experience of someone working in these settings.

Emergency Department boarding and crowding are hospital problems.

It's essential to acknowledge that ED boarding and overcrowding are problems that originate in the hospital level, not in the Emergency Department itself. The fundamental issue is that patients who are admitted to the hospital physically remain in the ED for an extended period of time instead of moving to an inpatient floor. The hospital system controls which patients get beds - is it the patients with unplanned emergencies like heart attacks and pneumonia, or the planned surgical and procedural cases? This goes beyond physical bed availability - how many staff are assigned to care for patients, and what is their capacity?

A hospital may have physical space available, but not have staffing available to care for admitted patients in that space. Many inpatients experience difficulty with planning a safe discharge from the hospital due to challenges arranging home care, rehabilitation or skilled nursing care, so some patients may stay in inpatient beds longer than medically necessary.

The Emergency Department is set up to provide short term treatment.

The main responsibilities of Emergency Medicine are to assess, risk stratify, treat, and disposition patients. We are required by EMTALA to provide a medical screening exam and stabilizing treatment to all patients who present to our doors. We see a broad variety of patients - very sick patients in cardiac arrest, with major trauma, heart attacks, broken bones and surgical emergencies. We also see patients with common colds, simple wounds, and benign headaches. Many NYC ED volumes approach or exceed 100,000 patients per year, seeing hundreds of patients per day.

The Emergency Department is by definition a transitional location. Ideally, patients receive a disposition within six hours - a plan to continue care at home, or a plan stay in the hospital for further treatment. In order to function properly, admitted patients must leave the department to make room for newly arrived patients. Ideally, admitted patients move to a room within two hours. Emergency Department boarding describes when a patient is admitted to the hospital, but remains in the Emergency Department when no inpatient beds are available. It has been clearly established that ED boarding worsens patient outcomes, especially in patients requiring ICU level care.

Meanwhile, as admitted patients board, more patients keep arriving to the ED. Admitted patients may fill the rooms if they need certain resources (telemetry, negative pressure for infectious control, oxygen, ventilator support) or they may remain in uncomfortable ED stretchers in the hallways while they wait for a bed upstairs. It is not uncommon to see a patient boarding for more than 24 hours. Patients needing psychiatric admission often need to be transported to another facility, and frequently wait in the ED for days. Meanwhile, new patients arrive. When boarding is high, many new patients will be seen in the hallways as admitted patients fill up the available rooms. Boarding and crowding are a challenge for everyone present. Patients are uncomfortable. It is difficult to provide the care they require. Nurses and physicians are often overwhelmed, as they may still be responsible for the care of admitted boarding patients in addition to newer Emergency Department patients.

Another key challenge with Emergency Department boarding and crowding are staffing ratios. Emergency Department staffing is generally fixed based on the prediction of when patients will arrive. However, the reality of Emergency Medicine is that many more patients may arrive than were anticipated. It is very common to see both overcrowded and understaffed Emergency Departments. It is not uncommon in New York City to see one physician assigned to thirty patients at a time, or one nurse assigned to over twelve patients. No one is arguing that this is safe practice, but it remains a reality in many of our local hospitals.

ED boarding and crowding are well known, national challenges.

These are not new problems. The Institute of Medicine released a report on ED boarding and crowding in 2006. Rabin et al (from the Department of Emergency Medicine at Mount Sinai School of Medicine) published on the problem of ED boarding and crowding and the need for more proactive solutions in 2012.

Though recent press may have brought this issue to light, boarding and crowding have been prevalent in all NYC hospital systems for many years. I have never met an Emergency Physician in New York City who works at a hospital that does not struggle with boarding and crowding. This is a national challenge, and one likely worse in our area due to increased space constraints.

It is my hope that growing awareness of this challenge will inspire legislation to measure ED boarding and crowding, advocate for systemic improvement, and inspire more investment by our hospital systems in this important issue. The paper attached by Dr. Rabin et al outlines specific strategies to address this issue: **Solutions to Emergency Department 'Boarding' and Crowding Are Underused And May Need To Be Legislated.**

In even simpler terms, I think it would be helpful to define the capacity of a space. I've seen spaces that were approved for twenty beds to be used for fifty patients. How many people can an Emergency Department reasonably accommodate? How many staff are required to care for that number of patients? What are the contingency plans when the demand for that space and staffing exceed what is available? Instead of making do with limited staff and putting a stretcher in every available space, I'd like to see us acknowledge and respect the reasonable limitations of both space and staff. Our patients deserve to be treated in a safe environment by staff with the capacity to care for them, not in a room packed full of stretchers staffed by people asked to do an impossible job.

Emergency Physicians want the best for our patients. That means acknowledging and allocating the appropriate resources necessary to care for them.

Thank you for your attention to this issue. Below are a few references that may be useful to your team.

Sincerely,

Shannon McNamara, MD, ABEM, FAAEM
New York City Emergency Physician

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http://www.nationalacademies.org/hmd/Reports/2006/Hospital-Based-Emergency-Care-At-the-Breaking-Point.aspx

Solutions To Emergency Department 'Boarding' And Crowding Are Underused And May Need To Be Legislated
Elaine Rabin, Keith Kocher, Mark McClelland, Jesse Pines, Ula Hwang, Niels Rathlev, Brent Asplin, N. Seth Trueger, and Ellen Weber
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Solutions To Emergency Department 'Boarding' And Crowding Are Underused And May Need To Be Legislated

ABSTRACT The practice of keeping admitted patients on stretchers in hospital emergency department hallways for hours or days, called "boarding," causes emergency department crowding and can be harmful to patients. Boarding increases patients' morbidity, lengths of hospital stay, and mortality. Strategies that optimize bed management reduce boarding by improving the efficiency of hospital patient flow, but these strategies are grossly underused. Convincing hospital leaders of the value of such solutions, and educating patients to advocate for such changes, may promote improvements. If these strategies do not work, legislation may be required to effect meaningful change.

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For decades, dangerously crowded conditions have plagued hospital emergency departments across the United States and around the world. In 2006 the US Institute of Medicine declared "crowding," when the number of patients exceeds the emergency department treatment space capacity, to be "a national epidemic."[1] Since that declaration, waiting times for emergency department care have increased, sometimes even for the sickest patients.[2,3]

The detrimental effects of emergency department crowding on patients are numerous and well documented. Crowding is associated with higher morbidity and mortality, delayed pain control, and inferior health care.[4] Crowding also impedes hospitals' ability to reach national safety and quality goals, compromises the health care safety net, and limits the national capacity for disaster response.

Boarding Causes Crowding

Crowding is not an emergency department–based problem. Rather, it is a symptom of dysfunction in interrelated parts of the broader health care system. A stubborn misperception persists that crowding results from uninsured patients' seeking nonemergency care in the emergency department.[5] However, as the Institute of Medicine and the Government Accountability Office now recognize, the main driver of emergency department crowding is patient outflow obstruction: an inability to move admitted patients to inpatient beds in a timely manner.[1,2]

After evaluation and treatment in the emergency department, patients are either discharged, held for observation in an emergency department observation unit, or admitted to inpatient wards for longer courses of evaluation and treatment. Patients are considered admitted, regardless of where they are physically located, once the emergency physician places an order admitting them to the hospital and requesting an inpatient bed. Patients who remain in the emergency department beyond the time required to implement a timely transfer to an inpatient bed are considered "boarders" in that department. Definitions of *timely transfer* vary.[6] Experts often cite a period of less than two hours from the admission order as timely.[7,8]

Boarding effectively diminishes emergency department capacity, because it reduces the number of beds available for the evaluation and treat-

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ment of new patients. One hospital found that moving admitted patients to inpatient beds within two hours increased the "functional treatment capacity" of its emergency department by 10,397 hours, or 433 days, annually.[9]

Common And Harmful Boarding

Emergency department boarding has been common for decades. A landmark 2001 point-in-time study found that one in five patients in US emergency departments were boarding, and three in four emergency departments were boarding at least two inpatients.[10] A 2003 survey by the Government Accountability Office found that nine out of ten hospitals reported some degree of boarding, and 20 percent boarded patients for at least eight hours, on average.[7] Another study found evidence that some patients were boarded for days.[11] And according to a national survey published in 2010, 84.9 percent of hospitals reported having boarded patients the week prior to the survey.[12]

Certain groups of patients board for longer periods, including black, female, elderly, and psychiatric patients.[13–16] Patients with medically treated conditions, such as pneumonia or heart failure, are more likely to board than patients with surgically treated conditions.[13,17] In large metropolitan areas, 48 percent of admitted patients board at least two hours, but in areas with populations of under a million, only 23 percent of admitted patients board at least two hours.[2]

Holding admitted patients in crowded conditions carries well-documented risks, including prolonged illness and worse outcomes for stroke, cardiac, and intubated patients; exposure to hospital-acquired infections; and lapses in daily medications and other routine care from overtaxed emergency department staff.

Evidence increasingly confirms that boarding may increase in-hospital death rates substantially.[18] In fact, the first North American death from hospital-acquired severe acute respiratory syndrome, in 2003, occurred after the patient was exposed while boarding in a Toronto emergency department.[19] (Technical Appendix A summarizes the evidence of boarding's detrimental effects.)[20]

Systemic Problems In Hospital Flow

A hospital is a system with patients flowing through it, from admission through testing and treatment to discharge. Boarding results from backups in this flow, when inpatient beds are not readily available to patients admitted through the emergency department. Theoretically, backups occur at the following points in time: when hospital capacity is exceeded, and the hospital is full of patients who need inpatient care; when the hospital inefficiently manages and discharges inpatients, unnecessarily tying up inpatient beds; or when empty beds exist but are unavailable to emergency department patients—for example, when beds are reserved for other possible admissions.

According to queuing theory—the mathematical study of the behavior of waiting lines or queues—bottlenecks in flow form when a system operates above 85–90 percent capacity, decreasing efficiency.[21] As predicted by queuing theory, boarding occurs before hospitals and units are 100 percent occupied, usually around 80–85 percent capacity. This is partly because specific bed types, such as beds for males or beds for isolation cases, fill earlier than other types.[22–24]

CAPACITY CONSTRAINTS Boarding occurs during times of high occupancy at hospitals,[17,25,26] establishing a vicious cycle: Boarding lengthens hospital stays,[27,28] increasing hospital occupancy, which in turn increases boarding. However, there are few signs of systemic supply deficits. According to the American Hospital Association, average hospital occupancy in 2008 was 68 percent—far below capacity.[29] Local variation exists, and public, urban, and East Coast hospitals may operate at higher occupancy rates than other hospitals. However, only 13 percent of urban hospitals were found to be full in a 2009 national study.[30]

INEFFICIENCIES Whether or not hospitals operate close to capacity, inefficiency, rather than insufficient bed supply, is often the cause of boarding. Although hospitals operate around the clock, many services—including diagnostic testing, specialist consultations, medical procedures, and administrative and other services—are available only during limited hours. One study found that patients were half as likely to be discharged on weekends and holidays than on other days.[31] Better management of services without continuous availability could increase hospital capacity by increasing inpatient turnover without taking expensive measures to add beds.[21,32,33]

Some hospitals—including cash-strapped safety-net hospitals—have decreased or eliminated boarding by improving efficiency. Exhibit 1 highlights management strategies to improve efficiency based on evidence of what has worked.

For example, moving stable patients who are boarding in emergency departments to inpatient hallways alleviates crowding without jeopardizing patient safety.[34] Boarders prefer less crowded inpatient hallways to emergency department hallways,[35] and patient safety increases because patient-to-nurse ratios are usually lower on in-

EXHIBIT 1

Hospitalwide Strategies For Efficiency Improvement Demonstrated To Reduce US Emergency Department Boarding And Crowding

Strategy	Rationale/effect
Moving boarders to inpatient halls	Places boarders in quieter, less crowded, safer (lower patient-to-nurse ratio) setting while freeing emergency department beds; may actually expedite placement into rooms; demonstrated to be safe
Smoothing elective surgical and catheterization schedules	Distributes procedures evenly over the week to decrease peaks in demand for inpatient beds and need for procedure cancellations; shown to nearly eliminate boarding at Boston Medical Center and elsewhere
Scheduling early cardiac catheterizations	Performs catheterizations earlier in the day to expedite the freeing of unneeded beds reserved for postcatheterization patients
Active bed management	Often assigns a "bed czar" to closely track bed use and address bottlenecks in flow into and out of beds; computerized systems are also often employed
Discharge lounge	Often moves to a lounge patients awaiting discharge who no longer need to be in a bed, freeing up beds
Aggressive management and expediting of inpatient discharges	Increases attention to discharge planning from time of admission so that arrangements for home services or outpatient placement are more likely to be in place when the patient is medically ready for discharge
Monitoring of bed-cleaning turnaround time	Improves flow by simple monitoring and accountability
Simplified admission protocol	Simplifies often complicated procedures that emergency department and inpatient teams must follow before transferring patients to the floor; makes more steps occur in parallel, to expedite transfer
"Reverse triage"	Uses a system designed for creating capacity in disasters when the hospital is full: patients with the least need for inpatient beds can be discharged

SOURCE Authors' analysis. Citations are available in the online Appendix (see Note 20 in text).

patient wards than in the emergency department. Although this system does not place boarders in rooms, it liberates emergency department beds. Once patients arrive on wards, beds in rooms are often quickly found.[34]

RESERVATION OF EMPTY BEDS Some hospital practices contribute to the inefficient use of resources. For example, reserving empty inpatient beds can cause some inefficiency in the flow of bed use. One recent informal survey found that more than 60 percent of teaching hospitals board patients in the emergency department even when beds are empty elsewhere in the hospital (Sandra Schneider, immediate past president, American College of Emergency Physicians, personal communication, January 20, 2012). Beds are reserved for patients being transferred from other hospitals, for patients having elective procedures who may require admission, or to maintain a "geographic" bed plan: a plan that groups beds according to specific specialties (renal, orthopedics, and so forth).

Reserving empty beds for postelective procedure admissions is a known cause of boarding in emergency departments.[1,2,26,36] Larger elective surgical caseloads lead to increases in the number of empty inpatient beds reserved. Even in a hospital where most admissions occurred through the emergency department, elective surgical caseload was a better predictor than the number of emergency department admissions of ambulance diversion.[37] Ambulance diversion, a proxy for crowding, entails sending ambulances to other hospitals because the original hospital is at full capacity.

Some studies failed to confirm that reserving empty beds for nonemergency department admissions leads to boarding.[25,38] However, some hospitals perform relatively few elective procedures, so the extent of this effect probably varies among hospitals.

A measure known as "surgical schedule smoothing" can be introduced to regularize surgery schedules and reduce boarding through increasing the efficiency of inpatient bed use.[1,11,33] For example, many surgeons prefer to operate early in the week, leading to the heaviest surgical schedules on Monday. Moving some procedures to later days in the week and weekends can reduce the peaks in demand for inpatient beds that often lead to boarding.

Some hospitals have used this strategy to eliminate boarding while increasing their elective surgical caseloads. This increase has been accomplished partly by decreasing surgery

cancellations that stemmed from overbooking. Despite initial resistance by surgeons, both surgeons and other hospital staff have ultimately been content with the outcome.[33]

Another intervention proven successful is "pooling," or grouping beds among different hospital units. As previously mentioned, many hospitals employ the opposite: a "geographic" bed plan, where wards are zoned for specific specialties. This approach has the advantage of matching specialized nurses with patients and is convenient for inpatient medical staff. However, the downside is that once a ward fills, additional admissions tend to be boarded in the emergency department, despite the availability of beds on other wards.

Thus, the advantages to patients of a "geographic" plan are counterbalanced by the risks of boarding. One hospital found that introducing some flexibility in the geographic pooling of beds decreased emergency department boarding times by 50 percent and increased hospital revenue by 1 percent.[39]

Overall, strategies to increase hospital efficiency are optimally used in combinations tailored for individual hospitals. Furthermore, not all bottlenecks are within hospitals' control; inpatients who require postdischarge nursing home or rehabilitation care remain in hospital beds until space is available in an appropriate facility. At one major urban hospital, the average 7.5 hour discharge process takes 35 hours for patients needing facility placement.[40] The Institute for Healthcare Improvement recommends that hospitals actually fund new local nursing home units for patients on ventilators, to facilitate the hospitals' own flow.[41]

Crowding, Boarding, And Hospital Profits

Few hospitals have implemented strategies to improve patient flow (Exhibit 2). In a recent survey of US emergency department directors, fewer than half of the 220 respondents reported that their hospital employed more than two of nine suggested measures.[12]

Smooth patient flow requires some empty beds, but do empty beds represent lost revenue? Historically, hospitals were paid a daily fee for inpatient care and had little incentive to discharge patients or operate beyond usual business hours to improve flow. Incentives are changing, as admissions increasingly generate fixed reimbursement. This change means that maximizing revenue involves increasing the volume of admissions, which may in turn require optimizing patient flow.

Studies examining the financial effects of boarding have yielded mixed results. When flow is obstructed and emergency departments become too crowded to safely accept more patients, emergency services agencies institute a diversion of ambulances to take patients elsewhere. The only study to examine the profitability of ambulance diversion found that periods of diversion were actually more profitable for the hospital than those when ambulance patients were admitted.[42]

Emergency department crowding and ambulance diversion of new patients thus might deflect patients who generate inferior revenue margins. In fact, one study of hospital admissions of Medicare patients found that nonemergency department admissions were just barely profitable, while emergency department admissions incurred an average revenue loss of more than $700.[43]

PROFITABILITY OF ELECTIVE VERSUS EMERGENCY ADMISSIONS Although most emergency department patients are insured,[2] the Emergency Medical Treatment and Labor Act (EMTALA) mandates that emergency departments treat unstable patients regardless of their ability to pay. Because hospitals can confirm that patients for elective admissions are insured before admitting them, the emergency department often becomes a major source of unreimbursed admissions.

Hospitals may appreciate that crowding deters patients from coming to their emergency departments, thereby reducing the number of unreimbursed admissions.[44] However, single-hospital studies failed to confirm that emergency department admissions are overall less profitable than elective admissions.[45,46]

Admissions for elective surgery such as knee replacement or gallbladder removal tend to be particularly profitable for hospitals. "Doing," or performing procedures, is generally more profitable than "thinking" medical care, such as analyzing blood tests to find the cause of kidney failure. This difference is true in part because elective procedures are usually performed on insured patients who are healthy enough to undergo surgery, require less overall care, and have more predictable lengths-of-stay.

However, the profitability of procedures is also an unintended consequence of payment rates set by the Centers for Medicare and Medicaid Services (CMS). Reimbursement for procedures is higher so that it can cover the greater staffing and resources required by procedures; no profit advantage was intended by payers. Relative reimbursement rates for all US payers are largely dictated by CMS; private insurance companies use the agency's rates as a guide.

Over the past decade, the rapid rise of specialty

hospitals that exclusively perform procedures has alerted CMS that a profit discrepancy exists, and the agency intends to rebalance payments.[47] This process, however, remains nascent, and it faces powerful political opposition from procedure-based subspecialists. For now, the profit discrepancy between procedures and "thinking" care persists. As a result, hospital managers may prioritize elective procedure admissions over emergency department admissions.[2] The profit discrepancy also makes interventional cardiologists, gastroenterologists, and surgeons very valuable to hospitals, which in turn limits hospitals' ability to negotiate with those specialists about schedule smoothing and other matters.

The issue of lucrative elective procedure admissions may explain recent findings of nationwide studies that boarding is no worse at safety-net hospitals than at other hospitals,[16] and that emergency department lengths-of-stay are increasing more in hospitals serving more insured patients—institutions that can more easily generate revenue from elective procedures.[3] Thus, hospitals may be compromising their emergency care capacity by pursuing revenue from elective procedures. A Chicago safety-net hospital made headlines for "cherry picking" by diverting patients from its emergency department, reducing the number of emergency department beds and increasing the proportion of inpatient beds set aside for surgical admissions.[48]

FINANCIAL LOSSES RESULTING FROM BOARDING

Boarding in the emergency department and crowding in hospitals can negatively affect hospital revenues and create some financial losses. Any decrease in the number of insured or paying patients who arrive by ambulance or who walk in results in lost revenue. One Pennsylvania hospital estimated that boarding patients more than two hours costs the hospital more than $3 million annually when it must turn away new patients.[9]

Another institution's researchers recently demonstrated that although the institution's elective admissions generate more average revenue than emergency department admissions, profits are maximized by selectively postponing elective admissions to reduce boarding. The authors reasoned that revenue from postponed procedures is merely deferred, whereas revenue lost by diverting emergency department patients is lost permanently.[49]

Some states, such as Massachusetts, have banned ambulance diversions. But as crowding persists, emergency departments lose revenue, because more patients choose to leave without being treated.

For hospitals, increases in lengths-of-stay because of boarding lead to increased losses for admissions that are reimbursed through fixed fees.[27,50] Crowding may also cost hospitals under the CMS pay-for-performance program, a recent initiative that provides financial incentives to meet clinical quality benchmarks. Several of these are emergency department–based, including the administration of aspirin for myocardial infarctions. Crowding and boarding delay care, including actions measured for benchmarking, which thus compromises hospitals' ability to achieve these benchmarks.[51]

Hospitals may also experience secondary revenue losses from boarding. In the authors' experience, private physicians who refer patients to an emergency department for urgent evaluation, only to have their patients wait hours for inpatient beds, may choose to affiliate with other institutions. Low patient satisfaction related to long wait times and boarding may also drive well-reimbursed business away,[52] especially given the new competitive pressures for hospitals to post information on emergency department wait times publicly.[53]

EXHIBIT 2

Adoption Of Recommended Interventions To Reduce US Emergency Department Crowding And Boarding, 2009

Intervention	Adoption rate (%)
Bed coordinator	50.5
Instantaneously available bed information	66.1
Elective surgeries scheduled:	
6–7 days per week	13.6
5 days per week	58.2
Elective admissions suspended during ambulance diversion	18.7
Rapid admission protocol	14.8

SOURCE McCaig LF, Xu J, Niska RW. Estimates of emergency department capacity: United States, 2007. Hyattsville (MD): National Center for Health Statistics; 2009 May. (NCHS Heath E-Stat).

Policy Recommendations

ENGAGE HOSPITAL LEADERS

Reducing emergency department boarding has been demonstrated to require a clear commitment by hospital leadership[33,54–56] to overcome operations barriers across departments. The Institute of Medicine specifically called on CEOs to drive hospitalwide patient-flow improvements.[1] Improved use of existing beds should be the first-line strategy to improve hospital system flow, through the use of proven interventions to reduce crowding and boarding (see Exhibit 2).

In some local areas, systemic bed supply may need to increase or coordination among hospitals regarding occupancy may need to improve. However, better data on this phenomenon are needed. The best use of resources may be to increase the number of transitional beds at facili-

ties to which patients are discharged, instead of increasing beds in hospitals.

INVOLVE PATIENTS Public education campaigns that alert consumers to the potential risks to their health associated with overcrowding in the emergency department may prove effective. It is worth noting that when England introduced limits on the amount of time patients could spend in the emergency department in 2005, it was in response to pressure on the government from patients upset by long waits and crowding.[55]

No such outcry exists in the United States, but patients sitting on hospital boards or committees could affect local change, and widespread public concern could motivate government involvement. At present, the general public probably lacks sufficient awareness of this issue and its power to address it, however. Thus, organizations concerned with emergency care, disaster response, patient safety, and related issues should consider sponsoring related public education campaigns.

IDENTIFY GLOBAL LESSONS Boarding and crowding are international issues, despite differing financial incentives in different health systems, and lessons can be learned from legislative responses elsewhere.

Britain's "Four-Hour Rule" dictates that 98 percent of emergency department patients be seen, treated, and either discharged or placed in an inpatient bed within four hours. Hospital CEOs are held responsible for meeting the government-monitored target, and as of 2010, 96 percent of British patients were either moved to inpatient beds or discharged in four hours. The four-hour target did not result in major expansions of hospitals but in improved inpatient bed management and discharge planning.[55]

Parts of Australia, New Zealand, and Canada have followed suit with similar regulatory mandates. The Canadian province of Alberta recently reported significant improvements in emergency department time to physician (that is, the amount of time that elapses before the patient sees a physician) and lengths-of-stay after mandating that boarded patients be moved to inpatient hallways when emergency departments are overcrowded.[57]

BUILD ON US INITIATIVES TO REDUCE BOARDING Before resorting to such a blunt, and politically problematic, instrument as a four-hour rule nationally, the United States should attempt to expand a recently developed base of existing initiatives.

Perhaps most promising, starting in 2014 the CMS pay-for-reporting program will provide hospitals with financial incentives to track several boarding-related hospital performance metrics: emergency department length-of-stay for admitted and discharged patients, and boarding times.[58] Boarding could be reduced if the program as it stands were converted to a pay-for-performance arrangement that also imposed penalties for failing to reduce wait times.

Such an approach would give hospital leadership a financial stake in reducing, rather than just reporting, boarding and wait times. The approach might be most effective if hospital compliance were required for the ninetieth or ninety-fifth percentile of their waiting times rather than the median wait periods.[16]

The Joint Commission recently adopted requirements that hospitals address boarding for the purposes of accreditation.[6] However, specifying the percentage of admitted patients expected to board for less than four hours could strengthen these requirements. The Joint Commission is limited in its ability to overcome political resistance by its quasigovernmental role and by competition from other accrediting organizations, so such a change is unlikely.

If CMS follows through on plans to eliminate the profit advantage of elective and procedure-based admissions, this change could decrease boarding and increase incentives for improvements in patient flow. Balancing profitability should not occur solely by cutting procedural reimbursements, however. Given the already thin margins on which hospitals operate, this approach to change would probably lead to closures, including among safety-net hospitals. Boarding might then be exacerbated by a reduction in inpatient bed supply.

Conclusion

Boarding is a major cause of emergency department crowding and is associated with inferior patient outcomes. Boarding is a systemwide problem, and successful responses require the endorsement of hospital leaders. Proven strategies to reduce boarding are grossly underused. If continued education of hospital managers and the public does not result in change, enhanced regulation will be necessary to protect patients. ■

All of the authors are members of the Emergency Department Crowding Interest Group of the Society for Academic Emergency Medicine. The article was submitted on the group's behalf.

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In this month's *Health Affairs*, Elaine Rabin and coauthors discuss the many effective techniques that exist to better manage patient "flow" through hospitals, and thereby decrease both harmful emergency department crowding and the "boarding" of patients who can't be admitted in a timely way to inpatient beds. Persuading hospital leaders of the value of such solutions is essential, the authors write, as is educating patients to advocate for such changes. If those tactics don't help spread adoption of patient flow management, they contend, legislation may be required.

Rabin is an assistant professor in the Department of Emergency Medicine at the Mount Sinai School of Medicine and a recent cochair of the Society for Academic Emergency Medicine's Emergency Department Crowding Interest Group. She received a medical degree from Cornell University and completed a residency in emergency medicine and a research fellowship at Mount Sinai School of Medicine.

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Brent Asplin is president of Fairview Medical Group.

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Ellen Weber is a professor in and vice chair of the Department of Emergency Medicine at the University of California, San Francisco. After serving as the emergency department medical director for fourteen years, she spent a year studying how British hospitals implemented a four-hour throughput rule for emergency department patients. Weber earned her medical degree from Harvard University and completed a residency at the University of California, San Francisco. She is board certified in internal medicine and emergency medicine.

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