

**Interim Report from the  
Connecticut Emergency Department Boarding and Crowding Workgroup**

Submitted to the Public Health Committee  
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## Executive Summary

The Connecticut Emergency Department Boarding and Crowding Workgroup was convened under the authority of Public Act (PA) 23-97, section 27, “An Act Concerning Health and Wellness for Connecticut Residents” which was signed into law by Governor Ned Lamont in 2023.

The legislation directed the commissioner of the Department of Public Health to convene a working group “to advise the commissioner regarding methods to alleviate emergency department crowding and the lack of available emergency department beds in the state.” The working group was advised to report its findings and recommendations to the Commissioner of Public Health and to the joint standing public health committee of the General Assembly on or before January 1, 2024, and annually thereafter until January 1, 2025. This report thus represents an interim and preliminary report of the progress and recommendations of this group. It is also meant to provide some background on the issues.

Membership of the group was appointed by the Department of Public Health during the summer of 2023 and comprised 22 members including 2 co-chairpersons. The overall group met three times in 2023. Initial considerations from the ED working group for the Public Health Committee to contemplate as of January 1<sup>st</sup>, 2024, include:

- Recognizing that the twenty-eight (28) hospital Emergency Departments (ED) and four (4) free standing satellite ED’s in the state of Connecticut are a crucial element of public health and a key public resource.
- Recognizing that ED crowding is pervasive, longstanding, persistent, worsening and proven to have broad and significant negative effects, including mortality, on both patients and staff.
- Understanding that individual hospitals have been unable to solve this issue and that it continues to worsen and is not a transient phenomenon.
- Being aware of the lessons from the 2007 legislative session, HB-7293 “An Act Concerning Emergency Department Overcrowding” which received a favorable recommendation from the Public Health Committee and many other entities but failed to pass.
- Recognizing that the primary driver of ED crowding is ED **boarding**.
- Understanding that a critical step to solving this public health crisis is to develop a quality measure of boarding at the state level.
- Understanding that a boarding measure is both an outcome measure and a process measure and is in the purview of the Department of Public Health.

### **Recommendation:**

**We recommend to the Commissioner of the Department of Public Health that the Connecticut Department of Public Health should collaborate with this workgroup to develop mandated, publicly reported quality measure(s) on emergency department boarding, requesting necessary resources from the state to accomplish this.**

The establishment of measurement in this area will provide a benchmark and ongoing data to inform this working group as they strive to provide constructive recommendations to alleviate emergency department crowding and boarding.

## I. Background: Emergency Department Crowding and Boarding

### The Emergency Department as a Public Health Resource

Emergency Departments (EDs) are uniquely situated in the fabric of the American healthcare system and are a key public health resource. It is crucial to understand that EDs are the only access point in the U.S. healthcare system where patients are guaranteed to undergo evaluation and stabilization regardless of insurance ability to pay, at any time of the day or night (24/7/365).

This guarantee is codified into federal law under the Emergency Treatment and Labor Act (EMTALA). EMTALA was enacted as part of the Consolidated Omnibus Reconciliation Act (COBRA) which passed in 1986.<sup>1</sup> It states in part, that Medicare-participating hospitals must provide a medical screening examination and stabilization to any individual who comes to the ED and requests an examination. This is independent of the patient's ability to pay, and the hospital is in fact forbidden to inquire about payment status prior to providing these services. The hospital is then obligated to treat/stabilize any emergency medical condition, or transfer to a facility that has the capability to do this. Facilities receiving transfers due to a need for higher level care are similarly obligated to accept patients under EMTALA. All 30 Connecticut EDs are subject to EMTALA regulations.

The ED is the only place in the healthcare system that is equipped to address true emergencies including cardiac arrests, trauma, strokes, sepsis, and others. When these conditions occur the patient typically has no choice but to present to the ED and may not even be conscious when they do so. In addition to truly emergent conditions, there are a myriad of urgent but potentially life-threatening conditions that must be diagnosed and appropriately treated and dispositioned, such as blood clots, appendicitis, ectopic pregnancies, and many others. Substance abuse and mental health crises represent a substantial portion of the ED population and consume a disproportionate share of ED time and resources. Then there are patients who have no other access point to the healthcare system or are directed by their healthcare provider to come to the ED due to actual or perceived barriers in outpatient care, or simply for convenience.

The 30 active EDs in Connecticut treated approximately 1.3 million visits in 2021, the last year for which we currently have full data.<sup>2</sup> ED visits dipped with COVID but then have rebounded to pre-COVID rates. This means the average ED in CT sees over 40,000 patients annually, or around 118 patients per day, with an average of more than 3,500 daily visits by Connecticut residents to EDs.

In any given year it is exceedingly likely that you, a family member, or a close friend will require care from one of these EDs. This may be by choice or not. When the ED does not have the space or resources to care for patients effectively in a safe and equitable manner it is not just an individual ED or hospital issue, it is a state issue. When hospitals have systematically failed to provide this public health resource in the manner that it should be available to our citizens over a prolonged period of time it becomes an issue that merits state level scrutiny and solutions.

### Emergency Department Crowding

Emergency Department (ED) crowding has been recognized in the medical literature for over 30 years.<sup>3,4</sup> ED crowding can broadly be defined as when the number and acuity of patients presenting for treatment exceed the capacity of appropriately staffed ED beds and treatment spaces. This results in patients being treated in hallways or other sub-standard spaces, delays in care, insufficient

personnel to address medical needs in a timely and safe manner, and/or inordinately long wait times to initiate treatment.

The terms “emergency department crowding” or “emergency department overcrowding” have been part of our national conversation since the 1980s. There seems to be a public perception that ED crowding is primarily a result of a large influx of patients with minor or non-emergent complaints. While these visits do occur, they are typically managed fairly expediently (i.e. discharged if they do not have an emergent issue) and despite public perceptions these visits are not generally the true cause of crowding. Rather, it is the extended holding of patients who cannot be dispositioned from the ED that is the underlying cause of crowding in most situations. This includes patients with psycho/social needs as well as those who need to be admitted to the hospital, with an inpatient bed requested, but remain in the ED. This situation is known as “boarding” and has been a persistent and worsening state and national issue for more than two decades.

### ED Crowding and Boarding Effects on Patients and Staff

A meta-analysis of the literature performed more than 15 years ago evaluated the evidence of the effect of ED crowding on patient-centered outcomes.<sup>5</sup> They used the framework outlined in the 2001 Institute of Medicine (IOM) report “Crossing the Quality Chasm” and included six quality of care domains: safety, timeliness, patient-centeredness, efficiency, effectiveness, and equity. They found evidence to support the fact that ED crowding significantly and negatively impacts all these domains.

Ten years later, a systematic review of the “causes, consequences, and solutions” identified 102 relevant, high-quality peer reviewed manuscripts on the issue. They looked at the scientifically identified effects of crowding in three domains: patient, staff, and system.<sup>6</sup> At the patient level this meta-analysis found high-quality evidence showing that ED crowding increases exposure to medical errors, including medication errors, and increases mortality. Crowding causes significant delays in assessment and treatment including delay to treatment of acute myocardial infarction, delays in treatment of acute stroke, delays in administration of analgesia (pain control) and antibiotics when crowding was present. Proven effects of ED crowding on staff include increased stress, burnout, and increased exposure to violence from patients, which has lately been rising at an alarming rate.<sup>7</sup> At the system level, evidence suggests that ED crowding makes the ED less efficient, therefore compounding the increased ED time to evaluation and further exacerbating crowding.

### ED Crowding – what causes it?

Causes of ED crowding can broadly be divided into input (number and type of patients coming to the ED), throughput (time from ED arrival to a disposition decision), and output (either discharging patients or getting them to appropriate environments for care including inpatient admission, extended care facilities, or rehabilitation facilities). The working group has tried to outline the overall flow and identify possible points for intervention (appendix 1).

In an ideal world, only patients with true emergencies that could not be handled in the outpatient setting would come to the ED. In the real world, patients come to the ED for myriad issues, many of which are not truly emergent. As mentioned above, it is essential to understand that there is broad consensus that these “non-emergent” issues are not the primary driver of ED crowding. When something is truly non-emergent but presents to the ED, it can usually be addressed and dispositioned relatively quickly. These patients will almost always be discharged to home or back to

their prior place of residence, so there are not the bottlenecks that are faced for patients with more serious issues.

It is also crucial to understand that attempts to stem the inflow to the ED, while well meaning, need to be in line with recommendations and legislation on the issue and particularly not have the unintended consequence of diverting people who truly need emergency care. A concept called the “prudent layperson” standard has existed for several decades and is now codified into both state and federal law. First introduced by Maryland in 1983 it was codified into Federal Law as part of the Affordable Care Act in 1997. These standard states that, for insurance and coverage purposes, it is the symptoms (including pain) that define an appropriate emergency visit rather than the ultimate diagnosis. In other words, someone with chest pain who ends up not having any serious diagnosis cannot be denied coverage for the visit retroactively because they did not in fact have an emergency. As noted below, a prior attempt in Connecticut to stem ED inflow via financial pressure was opposed based on this principle. It does not mean that there may not be effective ways, such as a Mobile Integrated Health (MIH) program, to safely divert care to more appropriate settings, but any efforts in this regard need to be undertaken with both EMTALA and the prudent layperson standard in mind, and there is broad consensus that the inflow is not the primary driver of crowding.

ED throughput is the time a patient stays in the ED for diagnosis and treatment before a disposition can be made. Delays in this area may include delays due to adequate physician or nursing staffing, delays in obtaining or interpreting testing such as labs or imaging, and delays in obtaining consultation required to make a disposition decision. These areas are important and should be looked at by any individual hospital attempting to maximize the efficiency of available space and resources.

However, both input and throughput are understood to be more minor primary drivers of ED crowding. Rather, it is the difficulty of getting patients out of the ED once testing, treatment, and diagnosis are complete. The 2018 meta-analysis on crowding summarizes that “All studies that reported on output factors as a cause of ED crowding concluded that access block, that is, the inability to transfer a patient out of the ED to an inpatient bed once their ED treatment has been completed, was the major contributor.”<sup>6</sup> “Access block” results in “boarding”, a term that has increasingly appeared in the literature in conjunction with ED crowding or overcrowding.

### Boarding – What is it and why is it important?

Boarding can be defined as when a decision to admit a patient has occurred, but the patient remains in the ED. Boarding may occur when the hospital is at or over capacity, when inpatient beds cannot be occupied due to clinical or ancillary staffing, there are major delays in cleaning available beds by hospital staff, or delays in intra-facility transfers. Any of these restrictions may result in the boarded patient occupying space that is needed to treat incoming patients in the ED or delaying care to incoming patients due to the continuum of care or changing conditions of the boarded patient. The care received by these boarded patients, especially behavioral health patients, are often suboptimal as compared to inpatient standard of care due to ongoing incoming emergent situations, uncomfortable and loud environment, and transition of care teams who are often not present in the ED.<sup>8</sup> Boarding leads to crowding by occupying space and resources that are then diverted from incoming patients. In addition to myriad adverse effects on patients, crowding and boarding have been associated with increased workplace violence and staff attrition.<sup>9</sup>

## What has previously been done at the state and national level?

The state of Connecticut has recognized the related problems of crowding and boarding for two decades or more, and in fact attempted to address this in 2007 with Raised Bill No. 7293 “An Act Concerning Emergency Department Overcrowding” which was referred to the Committee on Public Health during the January 2007 Session of the General Assembly.

The Statement of Purpose for this bill was “To improve access to care and reduce overcrowding of hospital emergency rooms.” A primary focus of the bill was on *inflow*, attempting to discourage inappropriate utilization of CT EDs by “establishing criteria for defining emergency and nonemergency visits to hospital rooms” and stating that “nonemergency visits to hospital rooms shall be paid at the hospital’s outpatient clinic services rate”. It instructed the Department of Social Services to award contracts for Medicaid managed healthcare plans and to “require each Medicaid managed care contractor to pay a fee in the amount of one hundred dollars per visit for each Medicaid recipient who received nonemergency services at a hospital emergency room more than twice in a twelve-month period.”

Notable other sections included provisions for funds to expand ED facilities, required coverage for behavioral health needs (placement and services), requirement for healthcare facilities to “establish protocols for responding to emergency department overcrowding”, and for the CT Department of Public Health to “establish a state-wide program for tracking and reporting hospital emergency department overcrowding”.

HB-7293 received a joint favorable report from the Public Health Committee with a public hearing on 3/14/2007 and a vote on 3/21/2007. Testimony for this bill can be found here.<sup>10</sup>

Gregory Shangold MD, a member of the current workgroup and at the time a member of the Government Relations Committee in the Connecticut College of Emergency Physicians stated in 2007 “There is no doubt emergency department visits are climbing at a rapid rate. ‘Boarding’ is the process by which sick patients remain in the emergency department because the hospital does not have any staffed in-hospital beds. This is the immediate cause of emergency department crowding...”.

While there was support for many parts of bill, particularly efforts to measure and track crowding at the state level, this bill ultimately did not pass through the House and Senate, and it has taken until 2023 to revisit this issue on a state level. While data is still incomplete, anecdotally the situation is now far worse, despite infrastructure expansions in many areas. While the bill clearly had a lot of work and thought put into it, and did have supporters of many sections, it appears to have foundered on two main issues:

- 1) Well-meaning intentions to divert “non-emergency” patients from the emergency department. While it may appear desirable to curb the “inappropriate” utilization of the ED when other care settings could provide more economical and efficient care, attempts to establish who is truly emergent vs. non-emergent have been problematic and have had the unintended consequence of diverting care from true emergencies in some circumstances. Attempts to provide differential reimbursement for care that is determined to be non-emergent after the fact may be in violation of state and federal law under the prudent layperson standard.

- 2) Issues regarding funding and administrative burden. The scale of funding infrastructure improvements did not seem to be feasible. There was resistance to the “administrative burden” of reporting.

It is both somewhat encouraging that there was momentum for possible solutions and discouraging that we are in the same or worse place a decade and a half later. We are optimistic that revisiting and reinforcing some of the strong areas of this previously proposed bill (along with potential additions) could lead to solutions. It is important to note that since that time the prudent layperson standard has only been strengthened, making it more difficult if not impossible to legislate or financially influence someone who believes they need ED care from seeking it. Boarding remains the primary driver of ED crowding, as it did in 2007. The establishment of metrics and plans, to be administered by DPH (with appropriate resources) remains a priority, and in fact should be much more feasible with far less administrative burden given the progression of electronic health records and other technology since 2008.

There have also been attempts to address crowding and boarding at the national level. These have included the institution of a CMS quality measure on boarding (ED-2). This measure will be in place until the end of 2023 but is being retired as of 2024. It has been a voluntary measure and very inconsistently reported by hospitals. It has also suffered from issues with implementation and reliability. However, in 2023 the effort to find a workable quality measure on boarding was reinvigorated by CMS, with a contract awarded to the Yale Center for Outcomes Research and Evaluation (CORE) to develop a workable metric to assess ED capacity.

At one point The Joint Commission had attempted to enforce a 4-hour boarding threshold, but this was not consistently enforced and appears to have been largely abandoned in any Joint Commission citations against hospitals. CMS has recently revisited the boarding issue and has engaged in a contract to re-establish a national quality measure. The contract for this quality measure was awarded to Yale in 2023, with Rebekah Heckmann (a member of this committee) serving in a lead role. While this is encouraging, federal level interventions are complex and time-consuming, and we believe state-level efforts are likely to be more feasible while attempting to align with federal initiatives.

The issue of boarding has resurfaced as a priority at the national level. In November 2022, a letter spearheaded by the American College of Emergency Physicians (ACEP) addressed to President Biden and co-signed by more than 30 organizations urged this to be a priority.<sup>11</sup> The primary message of this letter was that “**Boarding has become its own public health emergency.**” In mid-2023, ACEP hosted a summit with more than 15 organizations that emphasized this message. Among many potential ways to address the issue, the first one that was noted was the “Government Role: Increases in investment in public health measures and preventative health” and specifically “Creation of ED dashboards to define the problem”.<sup>12</sup> In summary, the background on this topic suggests that ED crowding is:

- A public health issue
- Significantly associated with adverse impact on patients
- Significantly associated with adverse effects on exiting ED staff
- Primarily driven by difficulty with ED outflow, specifically **boarding**
- A resurged public health priority that has potential new solutions with previously unsuccessful state- and national-level solutions
- Currently unmeasured in the state of Connecticut or federally



## **II. The Connecticut Emergency Department Crowding and Boarding Workgroup**

The Connecticut Emergency Department Crowding and Boarding Workgroup was convened under the authority of PA 23-97 “An Act Concerning Health and Wellness for Connecticut Residents” which was signed into law by Governor Ned Lamont in 2023.

The relevant language of the statute to this workgroup was in Section 27:

**Sec. 27. On or before July 1, 2023, the Commissioner of Public Health shall convene a working group to advise the commissioner regarding methods to alleviate emergency department crowding and the lack of available emergency department beds in the state, including, but not limited to, the following:**

- (1) The establishment of a quality measure for the timeliness of the transfer of an emergency department patient, who will be admitted to the hospital, out of the hospital's emergency department;**
- (2) The establishment of emergency department discharge units to expedite the discharge of patients from the emergency department;**
- (3) (A) An evaluation of the percentage of emergency department patients who are held in the emergency department after being admitted to the hospital and while waiting for an inpatient bed to become available, and (B) the development of a plan to decrease such percentage; and**
- (4) The reduction in liability for hospitals and their emergency the physicians when patient crowding of a hospital's emergency department has reached the point of causing significant wait times for patients seeking emergency department services.**

**On or before January 1, 2024, and annually thereafter until January 1, 2025, the working group shall report its findings and recommendations to the Commissioner of Public Health and, in accordance with the provisions of section 11-4a of the general statutes, to the joint standing committee of the General Assembly having cognizance of matters relating to public health.**

As described in PA 23-97, the working group members were all appointed by the DPH Commissioner and the co-chairs must include representation from the Connecticut chapter of a national organization of emergency physicians and from a hospital association in the state. Commissioner Juthani appointed Michael Holmes and Dr. Chris Moore to serve in these positions, respectively, on August 7<sup>th</sup>, 2023.

Upon their appointments, the co-chairs worked to identify recommendations for the Commissioner on working group membership. After consultation with the Department and external stakeholders, Commissioner Juthani appointed those listed on page 2 to the working group.

Membership of the group was appointed by the Department of Public Health during the summer of 2023 and currently comprises 21 members with 2 co-chairpersons. Composition of the group was guided by the DPH in consultation with the co-chairs. Membership in the group was considered permissive, with reference to representation as recommended in the statute, but was not considered proscriptive (i.e. there was no mandatory representation).

The overall group met three times in 2023, on October 26<sup>th</sup>, November 13<sup>th</sup>, and December 11<sup>th</sup>. Overall group meetings are scheduled for the third Wednesday of each month of 2024 going forward.

The group adopted the following mission statement:

**“To understand the various factors that lead to emergency department overcrowding and boarding and to provide recommendations to relevant stakeholders, including the health and human services agencies, the legislature, hospitals, and other related industries, on quality measures and actionable interventions to limit boarding and ensure that all people presenting to Connecticut emergency departments have access to timely, equitable, and dignified care.”**

Efforts have been made to organize subgroups based on the recommendations from the statute. These are delineated as follows:

- 1) Subgroup on a quality measure: co-chairs Chris Moore MD and Rebekah Heckman MD  
The intent of this subgroup is to provide recommendations to the overall group on the composition and implementation of a quality measure for crowding and boarding.  
Membership of the subgroup to date includes: Jonathan Bankoff MD, Barbara Cass RN, Lara Chepenik MD, Phil Davis, Kenneth Dock Fox RN, Beth Leibhardt RN, Renee Malaro RN, Gregg Shangold MD, and Anumeha Singh MD.  
This subgroup has met twice in 2023 (November 29<sup>th</sup> and December 6<sup>th</sup>) with a publicly noticed agenda and minutes kept.
- 2) Discharge units – likely to encompass issues around outflow: co-chairs Anumeha Singh MD and Beth Leibhardt RN  
This subgroup has not met yet and composition is not finalized but is anticipated to commence meeting in January of 2024.
- 3) Development of a plan to decrease boarded patients: Chair Kenneth Dock Fox RN  
This subgroup has not met yet and composition is not finalized but is anticipated to commence meeting in January of 2024.
- 4) Reduction in liability: to be determined.

### III. Progress and Recommendations of the ED Crowding and Boarding Workgroup

The work during 2023 has largely been organization and preparatory and we anticipate that much of the actual work will be done in 2024 and reported in January of 2025. However, we believe we have established a strong working group and have recommendations on the importance of a quality measure for boarding.

Overall group discussion to date has been focused on the issue, goals, definitions, and subgroups. There was unanimous consensus that ED crowding, and specifically boarding, represents a significant public health issue in the state of Connecticut, with broad stakeholders citing anecdotal evidence of the issue while also emphasizing the need for data.

Efforts have been made to gather and understand what data is available at the state level. While the Department of Public Health has basic data on hospitals (each of which have emergency departments) and specifically the number of inpatient beds each hospital is licensed for. This table is included in appendix 2. However, significant data in ED care appears to be lacking or not readily available to DPH. We have requested the physical location of all CT EDs, the number of defined beds and/or treatment spaces, the annual visit volume (stratified by pediatric/ adult/ geriatric and medical/ psychiatric/ substance abuse), the admission and transfer rates (stratified by age and type). DPH is reviewing the data sets that are collected through DPH for release, however, to date this data request is pending. It has been suggested that the Connecticut Hospital Association (CHA) will have and tracks much of this data, and we have reached out to them to see about obtaining it, but as a trade organization with proprietary data they are under no obligation to provide it. Although, CHA has provided links to available data that needs to be reviewed and analyzed for relevance and utility as the workgroup progresses.

There are several possible access points to other data including the Connecticut Health Information exchange (“CONNIE”), and the Office of Health Strategy (OHS) Hospital Reporting System (HRS) reports (particularly OHS HRS 450 and 485) but these are inconsistently reported by hospitals and there appears to be a significant lag in these reports being available (often only available until 2019).

The first recommendation of PA 23-97, Section 27, is: “The establishment of a quality measure for the timeliness of the transfer of an emergency department patient, who will be admitted to the hospital, out of the hospital's emergency department”. This is essentially a quality measure on boarding and has been a focus of the overall group as well as the Quality Measure Subgroup.

The Quality Measure Subgroup unanimously recommended the following motion to the full group:

**“We recommend to the Commissioner of the Department of Public Health that the Connecticut Department of Public Health should collaborate with this workgroup to develop mandated, publicly reported quality measure(s) on emergency department boarding, requesting necessary resources from the state to accomplish this.”**

This motion was discussed at the full meeting on December 11<sup>th</sup>. Member discussion reinforced concerns with boarding and the impact on quality and safe care and the value in collecting data regarding ED boarding. DPH suggested the group take more time to develop the boarding quality

measure to ensure the data is meaningful, expectations regarding the data collection are clearly established, and there is a concrete plan for how the data will be used and analyzed. While there were concerns expressed by DPH as detailed above, the motion passed by a vote of 16-1.

This motion was further discussed at the full group meeting on January 17<sup>th</sup>, 2024, specifically regarding the use of the word “mandated” in the above recommendation. We are committed to working with DPH, the Connecticut Hospital Association, participating hospitals, and other relevant parties to ensure that such a measure is developed over a sufficient time period and in a manner to minimize unnecessary burdens.

### Quality Measure Subgroup

The Quality Measure subgroup has met twice, on November 29<sup>th</sup>, 2023 and December 6<sup>th</sup>, 2023. Emphasis has been on defining a quality measure that is effective while being as simple and feasible as possible, in addition to aligning with national efforts.

There was discussion of whether any quality measure should be mandated and publicly reported. There was unanimous consensus in the subgroup that - despite the difficulties and the need to try to anticipate and address any unintended consequences – any measure that was not mandated and publicly reported would not be effective in allowing us to understand and track progress over time.

There was discussion of who would steward the data and a quality measure at the state level. The two possibilities are essentially DPH and the Connecticut Hospital Association (CHA). There was unanimous consensus in the subgroup that DPH should steward the data and the associated quality measure. CHA may be able to access this data and facilitate methods to standardize it and allow collaboration among member hospitals in streamlining methods to obtain it; however, it was felt that the data should not be proprietary but needs to be under the oversight of a state agency. Based on DPH performance with data around infectious diseases and the opioid crisis, we are confident that DPH can perform this role if they are provided with adequate resources, which are strongly recommended to be provided.

It was discussed that resources will be needed. It was the unanimous recommendation of the subgroup to recommend that resources be requested at the state level that will be sufficient to accomplish this. The amount and direction of these resources will need to be determined.

Timing of a request for a mandate and resources were discussed. While it is understood that the recommendations for measure are not finalized, it is felt that it is imperative to the work of the overall group that a measure be initiated to support the overall efforts of the group over the course of 2024 and longer term.

The quality measure subgroup is committed to working with the overall group, DPH, and the CHA to reach an acceptable quality measure without undue administrative burden.

There was preliminary discussion of the elements of a quality measure. While the overall mission of this group is around ED crowding, there was consensus, based on wide experience as well as the background materials referenced above, that focusing on ED Boarding would be both feasible and the most effective measure to counter overall ED crowding.

There was discussion around the definition of boarding. It was agreed that boarding should be defined as the time from a “decision to admit” to the time of leaving the emergency department for patients that are “admitted or transferred to another inpatient hospital”. Thus, the cohort to which boarding would apply would only be those who ultimately end up being admitted as an inpatient,

including medical, surgical, and psychiatric patients. Patients who go from the ED to an extended care facility, rehabilitation facility, addiction treatment facility, etc. would not be included in the cohort.

The “decision to admit” time has been discussed and needs some further clarification, though there are some standardized definitions available in the literature. In some cases, the “decision to admit” is the actual admission order (i.e. for a medical patient that does not require approval from an admitting provider), while in other cases it makes more sense to mark the time when the admission is decided even if the order has not been placed. Finalizing the “decision to admit” definition will require a better understanding of local workflow patterns and an exploration of HER timestamps.

While there will be an overall “boarding time” that could be reported as mean (+/-SD) and/or median (with IQRs), the subgroup favored defining a “boarding threshold” because this approach is less susceptible to gaming. A threshold of four hours has been previously proposed and used both in the U.S. and internationally.<sup>13</sup> Thus the “proportion of admitted patients boarding over four hours” represents a discrete and relevant measure that should also scale to the size of the ED and is a recommended measure.

It was discussed in the subgroup that in addition to a boarding metric, it may also be essential to track the overall time in the ED (“length of stay”) for all patients collectively and for admitted patients separately. This is important to account for approaches that may appear to alleviate boarding by delaying the “admit decision” until a bed is available.

The Quality Measure Subgroup discussed and unanimously recommended to the full group that a motion be made to recommend **mandated, publicly reported quality measure(s), stewarded by the Department of Public Health, with requested state resources requested to accomplish this**. The Quality Measure Subgroup hopes to work collaboratively with DPH and to involve the Connecticut Hospital Association (CHA) to develop and implement this measure throughout 2024 and beyond.

#### **IV. Acknowledgments and Future Directions**

We would like to thank the legislature for their faith and support in establishing this workgroup. We would like to thank the Department of Public Health, particularly Melia Allen and Miriam Miller MPH for their patience and hard work in providing logistic support and advice.

We look forward to continuing to investigate solutions for this complicated public health issue and anticipate a more comprehensive report in January of 2025.

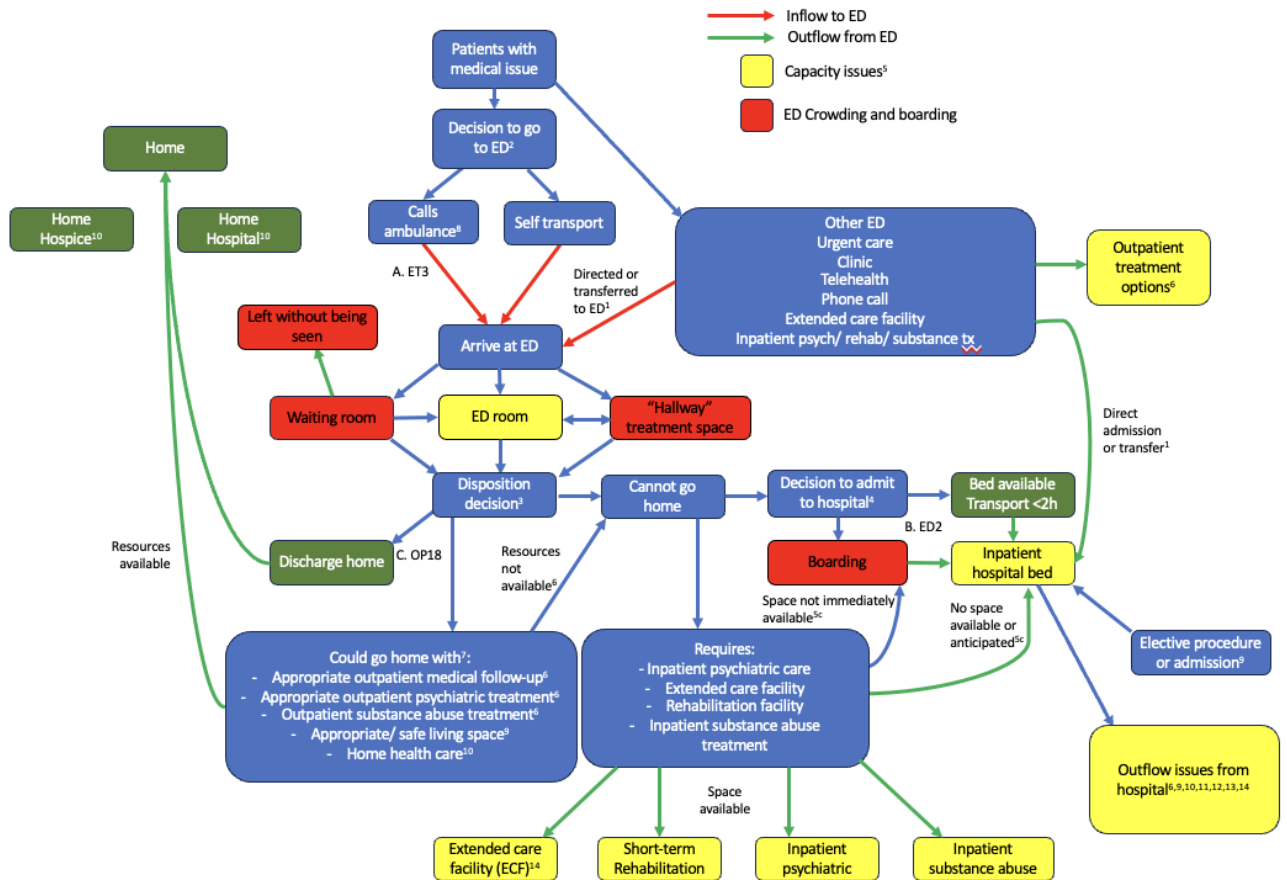
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# Appendix 1. Emergency Department Flow Diagram and Points for Intervention

## ED Crowding and Boarding Flow and Intervention Diagram

Draft 12/7/23



### Possible points for interventions:

1. Interventions to avoid inappropriate transfers to ED/ appropriate direct admissions
2. Interventions to incentivize appropriate patient utilization of ED
3. Interventions to improve ED throughput
4. Interventions to avoid unnecessary admissions
5. Interventions to increase capacity
  - a) Emergency department space
  - b) Hospital inpatient or observation space
  - c) ECF, rehabilitation, psychiatric, substance abuse inpatient space
6. Interventions to increase outpatient treatment options
  - a) Primary care
  - b) Subspecialty access (cardiology, neurology, GI, dermatology, orthopedics, etc.)
  - c) Urgent care
  - d) Substance abuse
  - e) Psychiatric
7. Interventions for EMS to transport to appropriate ED/ diversions (potential statewide triage, cooperation between hospitals)
8. Interventions for "Smoothing" of elective procedures
9. Interventions for living options (homeless, group care)
10. Interventions for increase home care options
11. Interventions to decrease hospital length of stay, expedite discharge
12. Interventions to ease appropriate transfers: preapprovals, minimum length of stay
13. Interventions to prioritize placement (ECF, rehab) from hospitals at or over capacity
14. Interventions to ensure consistent protocols for discharging patients back to SNFs

### Existing measures:

- A. ET3: triage, treat, transport (to be retired 12/31/23)
- B. ED2: median time from **admit decision** to ED departure (ret. 2024)
- C. OP-18: ED arrival to ED discharge time

Appendix 2. Connecticut Hospitals (source American Hospital Directory, [www.ahd.com](http://www.ahd.com))

Hospital Name	City	Staffed Beds	Total Discharges	Patient Days	Gross Patient Revenue (\$000)
<a href="#">Backus Hospital</a>	Norwich	190	11,057	49,933	\$1,340,737
<a href="#">Bradley Memorial Campus</a>	Southington	42	2,371	10,176	\$95,778
<a href="#">Bridgeport Hospital</a>	Bridgeport	426	17,842	107,899	\$2,765,911
<a href="#">Bridgeport Hospital Milford Campus - Milford</a>	Milford	106	2,032	9,873	\$157,278
<a href="#">Bristol Hospital</a>	Bristol	138	4,760	21,728	\$552,732
<a href="#">Charlotte Hungerford Hospital</a>	Torrington	108	5,178	24,300	\$546,240
<a href="#">Connecticut Behavioral Health Hospital</a>	West Hartford	38	0	0	\$12,503
<a href="#">Danbury Hospital</a>	Danbury	374	16,808	78,993	\$2,323,420
<a href="#">Day Kimball Hospital</a>	Putnam	104	3,064	12,914	\$286,422
<a href="#">Greenwich Hospital</a>	Greenwich	186	10,463	52,391	\$1,584,193
<a href="#">Griffin Hospital</a>	Derby	117	6,648	30,390	\$976,363
<a href="#">Hartford Hospital</a>	Hartford	938	37,899	229,241	\$5,132,347
<a href="#">Hospital of Central Connecticut, New Britain General Campus</a>	New Britain	276	12,459	70,333	\$1,728,319
<a href="#">Johnson Memorial Hospital</a>	Stafford Springs	64	1,237	4,555	\$174,636
<a href="#">Lawrence &amp; Memorial Hospital</a>	New London	252	10,892	67,314	\$1,255,225
<a href="#">Manchester Memorial Hospital</a>	Manchester	227	6,547	27,490	\$744,640
<a href="#">Masonicare Main Campus</a>	Wallingford	310	0	0	\$79,511
<a href="#">Middlesex Hospital</a>	Middletown	206	9,906	46,388	\$1,473,545
<a href="#">MidState Medical Center</a>	Meriden	143	8,990	42,559	\$1,001,830
<a href="#">New Milford Hospital</a>	New Milford	85	1,636	6,716	\$172,137
<a href="#">Norwalk Hospital</a>	Norwalk	238	8,889	40,926	\$1,136,703
<a href="#">Rockville General Hospital</a>	Vernon	102	228	732	\$125,255
<a href="#">Saint Francis Hospital</a>	Hartford	466	19,556	107,597	\$2,896,568
<a href="#">Saint Mary's Hospital</a>	Waterbury	164	8,323	33,991	\$1,036,182
<a href="#">Saint Vincent's Medical Center</a>	Bridgeport	307	11,180	63,757	\$1,682,681
<a href="#">Sharon Hospital</a>	Sharon	83	1,223	4,204	\$124,372
<a href="#">Stamford Hospital</a>	Stamford	305	12,538	70,125	\$3,310,161
<a href="#">The Connecticut Hospice</a>	Branford	16	182	1,885	\$18,352
<a href="#">UConn John Dempsey Hospital</a>	Farmington	156	9,221	37,940	\$1,587,939
<a href="#">Waterbury Hospital</a>	Waterbury	244	10,778	50,254	\$1,069,736
<a href="#">West Haven VA Medical Center</a>	West Haven	0	0	0	\$0
<a href="#">Whiting Forensic Hospital</a>	Middletown	0	0	0	\$0
<a href="#">Windham Hospital</a>	Willimantic	46	2,778	10,334	\$352,157
<a href="#">Yale New Haven Hospital</a>	New Haven	1,567	57,353	405,405	\$11,547,613
<a href="#">Yale New Haven Hospital, Saint Raphael Campus</a>	New Haven	573	19,829	95,382	\$1,343,588
<b>TOTAL</b>		<b>8,597</b>	<b>331,867</b>	<b>1,815,725</b>	<b>\$48,635,074</b>