Boarding Myths
Hidden Causes—Hidden Solutions

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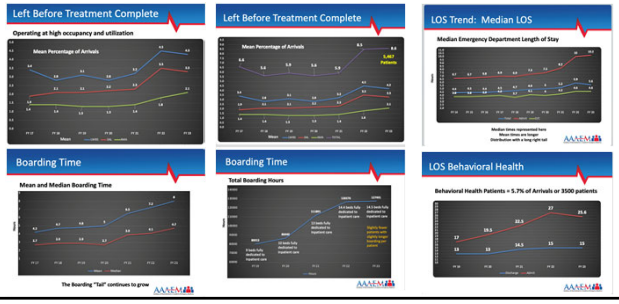
Everything is Up



BOARDING AND CROWDING

MYTHS;

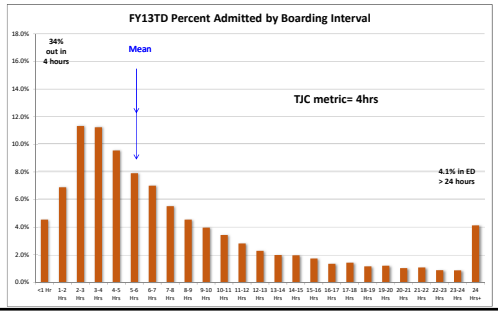
REAL CAUSES:

REAL SOLUTIONS

Myth 1: We're all taking about the same thing

- Boarding
  - When Does the Timer Start
    - Intent to Admit
    - Admission Acceptance
    - Admission Orders
    - When Admin Feels Like it
- The 4 Hour Mean/Median
  - Proportion that meets standard
- Crowding v. Boarding (State of the ED)

Crowding and Operations
Inpatient Boarding in the ED



Myth 2: Biggest Myth of All
Crowding is Only an Inconvenience

- **Mortality:** ED patients,[6,7,8.] ED admits,[6,9,10,19.] ICU patients;[11] cardiac pts (ambo diversion).[13,14]
- **Delayed Rx:** PCI,[22] Abx,[23,24,25] TPA,[26,27] Analgesics,[28,29] Asthma Rx,[30]
- **Adverse Events/Errors:** [32-36] Sensory Overload,[35.] Premature d/c,[37]
- **Poor Outcomes:** [16,17,21] Elderly,[16] Critically Ill[11,12]
- **Increased Costs:** Inpt LOS,[20,21,38,39,40,41]
- **Impaired Access:** LWBS,[42,43] Ambo Diversion,[13,14,18]
  - 18% return, 11% admit.[43]
- **Poor Pt Satisfaction:** [45-50]
- **⇧Legal Action:**[51]
- **⇧Staff Turnover:**[51]
- **⇩Productivity:**[51]
- **⇧Violence:**[52]

6

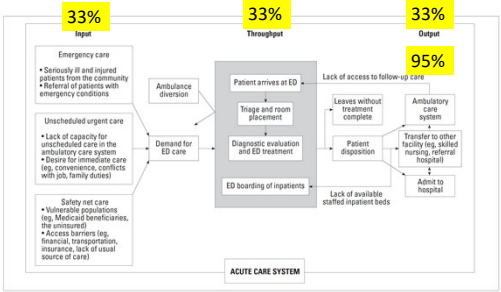
Harmful Effects of Crowding (Clinicians)

- Moral Harm
  - Violence toward staff
  - High turnover
  - Decreased productivity
  - Increased distractions—leading to human error
  - Consequent Legal Actions
- Burnout
  - Poor Patient Experience
  - Higher cost

(Myth 2): LWBS Means no Emergency

- Up to 20% return
- ~10% return for admission or sugery
  - with worse outcomes

Myth 3: ED Crowding is an ED Problem

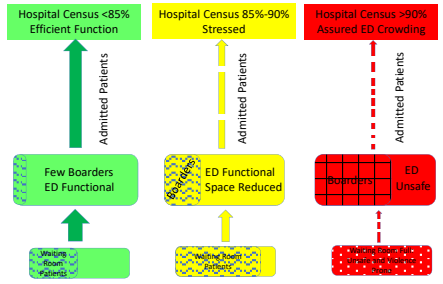


(Myth 3): Solutions Rest with the ED

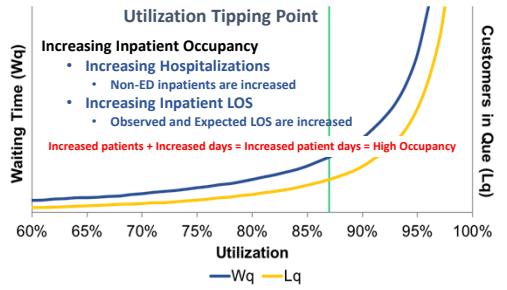
> *It should be noted that many ED-based solutions do significantly improve ED operations and patient flow within the ED, but most do not address boarding and crowding. Thus, meaningful solutions are at the institutional level."*

- It's Misaligned Health Care Economics
- Dictates High Inpatient Volumes
- Assures Hospital Crowding and Inefficiency
- Critical Threshold 87%

Figure 1. Impact of Boarding on ED Function



Queuing Theory:
Matching fixed resources with unscheduled demand



Myth 4: If only the ED were more efficient

- Consults Game
- Admission Games
- Convoluted Admissions Process
- Bed Hoarding Games
- Discharge Games
- No Weekend Services
- Easier to Admit through the ED
- Training Issues

99% efficiency of 35 steps=70%
95% efficiency of 35 steps=16%
90% efficiency of 35 steps= 2%

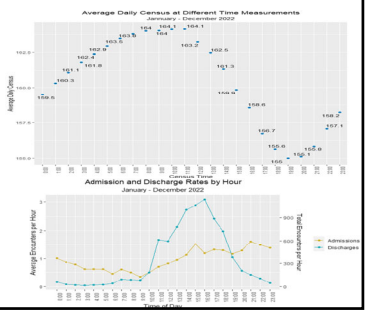
Myth 5: Low Acuity Patients are the Problem

- Low acuity: 10%-36%
  - 50% have barrier
  - 15% financial
  - 30% no primary care

> *"Focusing attention on ways to decrease lower-acuity ED visits diverts administrative energy from addressing the real issue — excessive boarding functionally decreases ED size. It is important to underscore that diverting low-acuity patients to alternate sites does not decrease admission demand or impact boarding."*

Myth 6: Hospital Census is Low—So it must be the ED

- Average Census:
  - Midnight is the Lowest
  - Includes L&D, Ob
  - Surgical Reserved Beds
  - Specialty Beds (e.g., PM&R)
- Most Admission are Medicine
- Census: during the day >100%

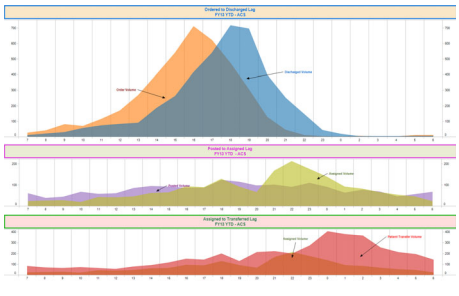


Pierce: https://doi.org/10.1002/jhm.13233

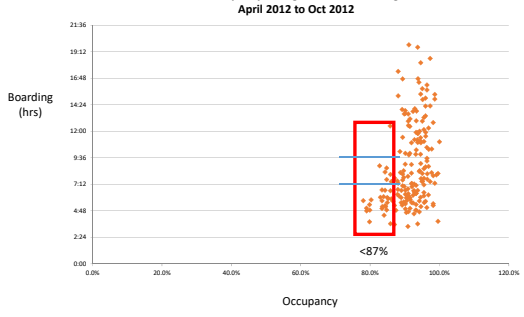
Myth 7: Hospital Has Few Options

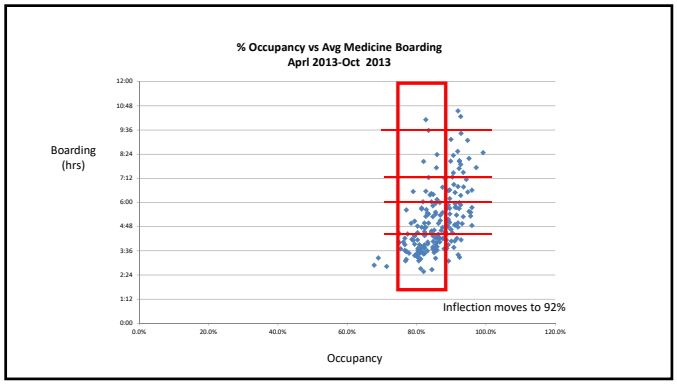
- Bed Czar
- Inpatient Hallway Beds
- Real Surge Plan (pre-emptive)
- Value EM admission=to all others
- Command Center
- Staff Properly
- 24/7 Hospital
- Surgical Smoothing
- Early d/c (inpt) or discharge lounge

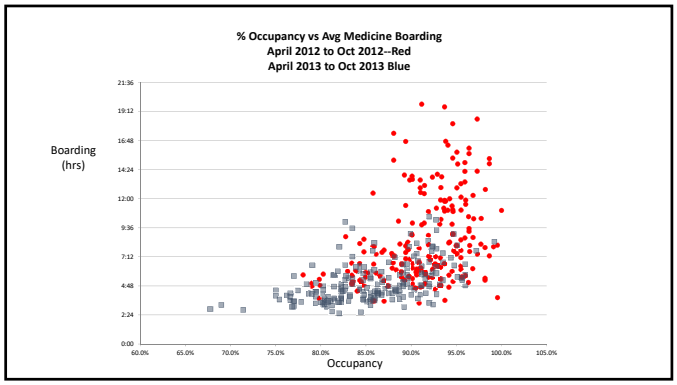
Mismatched Availability



% Occupancy vs Avg Medicine Boarding
April 2012 to Oct 2012

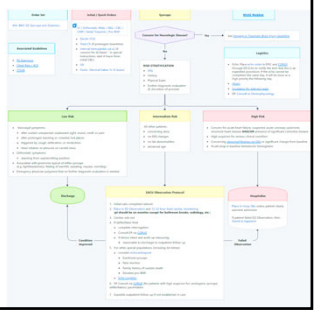






Myth 8: The ED has no Role in Fixing It

- Decrease Admissions (reverse triage)
- Follow pathways
- Strict Interpretation of EMTALA
- Fast Track
- Bedside Registration
- Staffing
- MVP (multi-visit patient program)

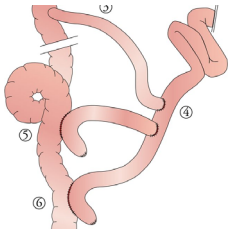


Myth 8: The ED has no Role in Fixing It

Resource	FY 19	FY 20	FY 21	FY 22	FY 23
CT Utilization	25.5%	Mean = 2.3 hours vs 2.8 hours			31.5%
MRI Utilization	2.7%	2.8%	2.8%	2.9%	3.2%
Mean CT Process time has increased by 39%					
Mean MR process time has increased by 169%					
CT and MR Utilization account for 65,000 hours of process time					
If patients are in beds, we now dedicate *AN ADDITIONAL 2 beds* entirely to CT/MR wait: *7 beds* entirely dedicated to process wait time					
MRI Turnaround	4.0 hr	4.3 hr	5.1 hr	5.3 hr	5.5 hr

Myth 9: Build a Bigger ED

"You can't cure constipation by building more colon"



So What's the Real Cause(s)

So What's the Real Cause(s)

- Census Must be Kept High
- $$ Prefer Procedures
- 4 ½ day Hospital
- Lack of Post Discharge Facilities
- Lack of Primary Care
- End of Life Care

Medicine is a Commodity Traded on the NYSE

So What's the Real Cause(s)

- Total EDs in US Decreased
- Total Inpatient Beds Capacity Down 27%
  - 2.41 from 3.32 per 1,000
- ED visits outpaced population growth
- Regulators not Enforcing Standards
- RCA process has no teeth
- **Preference to Concentrate Risk in the ED**
- **"Lets not make the ED too good"**
- Institution Fatigue
- Misunderstanding of Occupancy

Solutions

Traditional Solutions

Traditional Responses (Tactics)	Comment
ED Input	
Establish UCC nearby	**No impact on boarding**,unlikely to affect underinsured or ED volumes
Triage low-acuity patients out	**No impact on boarding**,need alternate venue; EMTALA
Extend primary care hours/availability	**Helpful**,may incur costs; may enhance control of chronic disease and thus avoid admissions
Ambulance diversion	**Not helpful**, hurts patients, may needlessly lose revenue

ED Throughput	
Physician/provider at triage	**No impact on boarding**,decreases ED LOS for discharged patients; decreases LWBS; may identify higher-acuity patients earlier but waits for treatment thereafter persist; unnecessary testing may occur due to restricted physical exam of the patient
Bedside registration	**A best practice. Minimal to no impact on boarding**. Streamlines operations — may decrease ED LOS for discharged patients
Creation of fast tracks	**No impact on boarding**,some additional costs
Improving ancillary turnaround times	**No impact on boarding**,decreases LOS of non-admitted patients, may lead to shorter decision time
Increased ED staffing	**No impact on boarding**,helpful for overall LOS if initially understaffed; there is a limit due to space constraints; may assist with admitting patients, leaving appropriate numbers of nursing available for undifferentiated new patients **Case managers are helpful**with facilitating some follow-up admissions, thus avoiding admission
Increasing ED size (redesign, more beds)	**Not helpful**, costly, may make boarding worse by increasing the number and duration of boarded patients
Increasing ED size (adding hallway beds)	**No impact on boarding**,costly staff addition or stressed staffing ratios, privacy issues. Except for rare exigencies, hallway beds are not appropriate in any location, including ED and inpatient units.
Inpatient unit to manage ED boarding patients	**No impact on boarding**, may make it worse
Availability of after-care clinics with evening hours within 48 hours of ED discharge	**Very helpful**in preventing some admissions; allows for safe ED discharges and known early follow-up
Discharge nursing calls	**Possibly helpful.**Allows for checking on patients for specific indications and helping with follow-up care, etc. Allows for more safe ED discharges knowing follow-up nurse will call. Abandoned in some centers as costly, time-consuming; low yield as many patients cannot be reached.
Discharge lounges	**Possibly helpful**if done properly; requires increased staffing, and handoffs to staff unfamiliar with patient

Traditional Hospital Based Solutions

Output (Hospital-Based Solutions)	
Availability of inpatient ancillary services off-hours (evenings and weekends)	**Helpful**when 7 days a week to place patients, secure outpatient services, and decrease inpatient LOS
Hospital operations 24-7; smoothing elective admissions and surgeries	**High impact.**Hospitals can no longer run 4.5 days a week with increasing LOS; procedures and consults must be available throughout the entire week, not front-loaded to early in the week.
Opening unstaffed beds	**Very helpful**; functionally increases inpatient capacity. Increased costs may be offset by increased revenue in some settings.
Redistributing inpatient service beds (e.g., from surgery to medicine)	**Very helpful**when high capacity, otherwise prevents cohorting patients, as was necessary during Covid-19 surges
Temporary boarding on inpatient hallways	**Proven effective**; patient preferred; decreases both ED and inpatient LOS. Having teams see patients needing beds often helps with expediting discharges and cleaning services; may be impractical during pandemic infection control measures.
Admitting service (MD, nurses, or both), provide care for the admitted patient in the ED	**No impact on boarding;**ED remains functionally undersized. Helps free up ED staff. **Improved care for boarded patients**while in the ED and by virtue of receiving in-patient care as soon as admitted in ED; may avoid increase in hospital LOS often associated with boarded patients
Stop elective surgeries/procedures and transfers	**Minimally helpful**as generally implemented after crowding occurs; may lose revenue; possible patient safety risk from delayed care.
Align inpatient discharges to admission demand	**High impact.**a best practice, usually requires earlier inpatient discharge, may require incremental resources; requires academic centers to delay teaching and focus on discharges early
After-care appointments made within 48 hours of discharge	**Helpful**allows for earlier discharges with someone checking on patient, medications, and response to therapies upon discharge

Real Solutions That Work*

1. **Must be a priority AND seen as a priority of the CEO**
2. Must be acknowledge as **THE MOST MAJOR HIDDEN PATIENT SAFETY ISSUE**

"Frankly, I don't remember why I called this meeting."

* At least for a short period of time

Real Solutions That Work*

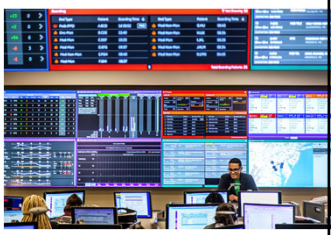
3. **Health Care Finance Reform**

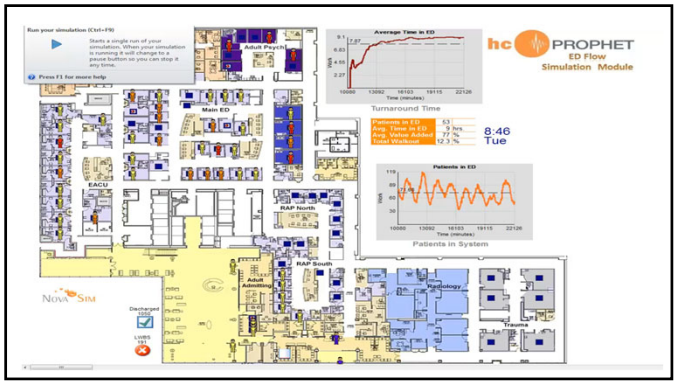
4. **Regulators**
5. **Pre-emptive Surge Plans**

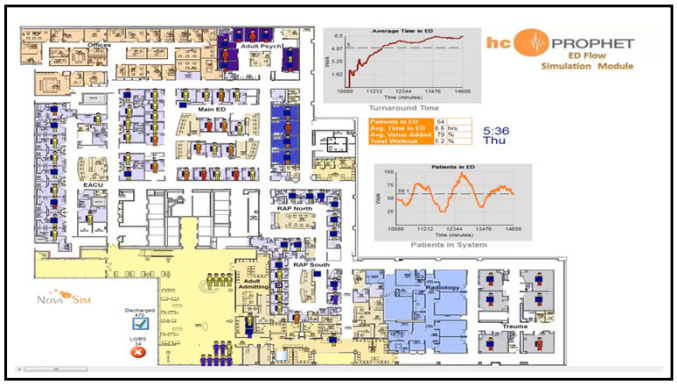
* At least for a short period of time

Other Actions

- Get on the Agenda of the Board of Trustee
- Develop Enforceable Surge Plans
- Give 24/7 Bed Czar re final authority
- Command Center
- 24/7 Hospital
- Surgical Schedule Smoothing
- Set Occupancy Target at 85-87%







Future Solution

NEJM Catalyst

COMMENTARY

Criteria for Declaring Crisis Standards of Care: A Single, Uniform Model

Gabor D. Kelen, MD, David Marcozzi, MD, MHS-CL, FACEP, Jason J. Marx, MD, MBA, Allen Kachalia, MD, JD

DOI: 10.1056/CAT.22.0269

Following previously established professional and organizational precepts, the authors developed criteria and associated threshold triggers that allow recognition and, thus, declaration of Crisis Standards of Care (CSC) in an acute care health institution. They specify a clear set of criteria indicating a state of crisis within which routine Standards of Care cannot be maintained. The authors also describe suggested methods to declare and appropriately terminate CSC status. As with all evidence-based science, they anticipate the protocol offered here will continue to evolve. However, the templated offering in this report has been successfully used and allows standardization and uniformity of approach in all acute care hospital settings within a region or state.

Future Solution

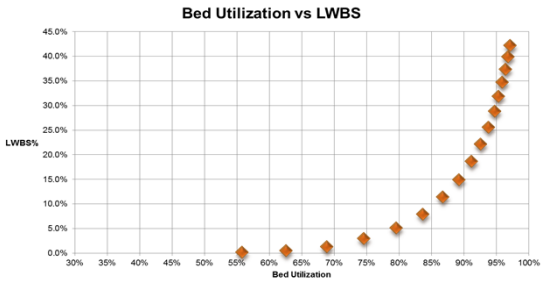
	Standards of Care			
	Conventional (Usual Care) Per Patient Optimal Care	**Contingency** SOC maintained Per Patient Optimal Care	**Crises** Usual SOC not possible Risk Based Optimized Care	**Catastrophic** Disaster Protocols Greatest Good Overall
System	Standard Operations	Assistance within System Assistance within System	Surge Plan Inadequate ICC or UCC Operations Aspects of System Down	External IC Likely Regional/Fed Assistance
Space	Routine	Conserve Space Stretch Space (PACUs, EDS Boarding, Hallways) Some Transfers Out Limit Transfer In Some cancellation of electives	Non conventional Space Required Delayed urgent procedures	Evacuation/Transfer
Staff	Normal	Augment Units w qualified staff Overtime/Call Ins	Units Augmented with non-traditional Staff External Help (e.g., Emergency Credentialing)	Traditional External/Volunteer
Stuff (Supplies)	Cached and Available	Conserve/Substitute/Reuse	Scarce Resource Allocation Protocols	Whatever is Available

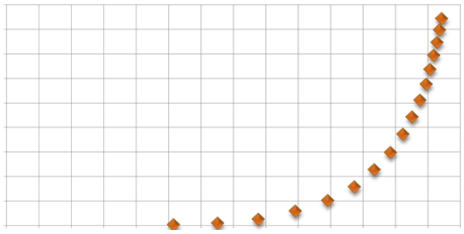
Surge Plans Activated → Crises Triggers → Operations Dysfunctional

Risk (morbidity/mortality) — Increases

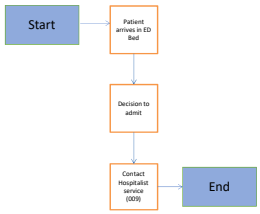
Demand/Resources Ratio — Increases

The End





Crowding and Operations: Admission Process: Bayview



How do We Get From Here