NEW INNOVATIONS TO IMPROVE PATIENT FLOW IN THE ED AND HOSPITAL
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Outline

1. Top Innovations ED and Hospital
2. Top Barriers
3. Steps to Eliminate Barriers
4. ROI Leverage
5. Summary
Areas of Excellence

- Executive leadership engaged with ED initiatives as a priority
- The hospital has made substantial flow progress
- Significant progress on ED leadership and medical staffing
- ED overcrowding is not a problem (i.e. no ambulance diversion)
- Inpatient admission process does not seem to be the large bottleneck as it is in many other communities in the country
Patient Centered Care

- Patient
- Staff
- Physicians
- Executive
- Department Leaders
- Regulatory
Barriers to Success
Putting the PATIENT in the MIDDLE

Source: Mike Hill, MD
Lack of executive resolve
Lack of longer-term accountability
Lack of accurate metrics
Trying to solve the wrong problem
Environment that does not encourage true “innovations”
ED Assessment
Designing for ED Processes

INPUT
- ED INPUT
  - Patient Arrival
  - EMS
  - Ambulatory
  - Triage
  - Registration
  - Bed Placement

THROUGHPUT
- ED THROUGHPUT
  - Care Process
  - Staffing
  - Specialist Availability
  - Diagnostic Services
  - Availability
  - IT Systems

OUTPUT
- DEATH
- Hospital Admission
  - OR/ICU/CCU/MedSurg
  - Capacity
  - Bed availability/tracking
  - ED/Floor interaction
  - Patient transport
- ED Treat & Release
  - Access to primary and specialty care, community mental health, other services, transportation

Source: Urgent Matters, TRWJF
ED Process Bottlenecks

Health System
ED Discharges Average Throughput Times, 2010

Minutes

Arrival - Room
Room - MD
Arrival - MD
MD to Discharge
ED Assessment - Top Barriers

Intake
- Greeting of patients missing
- Team Triage not effective and has some design flaws
- Triage assessment too lengthy, cumbersome

Throughput Phase
- Lab/rad. utilization not addressed
- Care team communication
ED Assessment - Top Barriers

BSA Health System
EDMD Patients by Hours Worked, Partial 2010
ED Assessment - Top Barriers

Output Phase

- Length of dispositions
- TAT the longest in the care process
- No accelerated discharge mentality
- Resident/hospitalist workups
Inpatient
Average Hospital Admissions by Hour, 2009

- **Average**
- **Tuesday (high)**
- **Sunday (low)**

Source: BSA Health System
Average ED Admissions by Hour, 2009

- Average
- Tuesday (high)
- Thursday (low)
Potential Inpatient Assessment - Top Barriers

- Admission criteria not utilized consistently
  - ICU
  - Tele/step down units
- Complex admission process utilizing multiple systems
  - Silos in patient movement
  - Overlap of responsibilities
  - No clear expectations and authority
- No Capacity Command Center (CCC)
Possible Product Lines

- Clinical Decision Unit (CDU)
- Rapid Admission Unit (RAU)
- Discharge Lounge (DL)
Discharge Batching

Current industry standard the discharge process promotes batching. Batching has been found (IHI) to:

- Promotes a continuous admission flow
- Is not patient or staff friendly
- Does not promote an effective nursing workload
- During crisis results in a “hurry up and call for discharges” mentality (non-productive for administrative, medical and nursing staff)
- Assumes that the physician is available to call back
- Creates a reactive as opposed to proactive culture
ED Recommendations

- Redesigning of intake process
  - Rapid Medical Evaluation (RME)
  - All universal rooms (nearly there)
  - Direct to bed – “Pull until Full”
- Development of a Rapid Medical Treatment product line
- In-depth study of lab/rad. utilization process
- Investigate more robust Point-of-Care/Stat Lab
- Re-align staff and skill set around demand and skill needs
Ideal Throughput Model - All Patients

- **Dispo Decision to Discharge = 10 min.**
- **Radiology = 30 min.**
- **Lab Time = 40 min.**
- **Lab Result to Dispo Decision = 10 min.**
- **Triage Time = 5 min.**
- **Triage to Bed = 5 min.**
- **Bed to MD = 5 min.**
- **Arrival to Triage = 5 min.**
- **Triage to Bed = 5 min.**
- **Dispo Decision to Discharge = 10 min.**

**Ideal Time**

Arrival to Discharge
90 percent ≤ 2 Hours
Includes 10 minutes MD time with patient

**Intake 20 min/17%**

- **Admit 60 min/33%**
- **DC Home 10 min/8%**

**Treatment Phase 90 min/75%**
Streamline ED Intake & Ordering

- Focus on getting the patient to the provider
  - When beds are available, take patient directly to a bed, bypassing triage.
  - When beds are not available, utilize a quick triage followed by the RME concept outlined above
- Implement a “pull until full” process for ED nurses to bring back patients from the lobby to empty beds
Streamline ED Intake & Ordering

- Focus on getting the patient to the provider
  - When beds are available, take patient directly to a bed, bypassing triage.
  - When beds are not available, utilize a quick triage followed by the RME concept outlined above
- Implement a “Wipe out Waiting” philosophy
- Support with:
  - Leadership staff (charge and manager(s))
  - Metrics for all intervals
Streamline ED Intake & Ordering

- Create an ED Greeter role, possibly in conjunction with the security guard stationed at the front desk
  - Interact with waiting patients, families and to assist with way finding and follow up after triage
  - Scripting and a written process should be developed to assist the greeter in their role.
Streamline ED Intake & Ordering

- Establish protocols for top diagnoses
  - Improve utilization of chief complaint driven protocols or physician care maps in the ED
  - Reduce delays by streamlining progression of patients along the treatment process
  - Initiates tests or patient care if there are unavoidable delays in getting the patient to the provider
Triage

- Triage should never occur when beds are available
- Develop tiered triage process
- Direct-to-bed process should always occur when beds are available
- Develop a greeter position
- Eliminate processes that prolong triage process
Staff by Demand – ED Physician

System - ED Physician Staffing

- Pt Arrival/Load
- Hour of day

- Staffing - Current
- Staffing - Proposed

- Pt Arrival/ Hr - %
- Pt Load/Hr - 246 mins

- Staffing

- 00:00, 2:00, 4:00, 6:00, 8:00, 10:00, 12:00, 14:00, 16:00, 18:00, 20:00, 22:00

- 0, 1, 2, 3, 4

- 0, 5, 10, 15, 20, 25, 30, 35, 40, 45
Staff by Demand - Clinical

System - ED Clinical Staffing

- Pt Arrival/Load
- Hour of day
- Staffing

Pt Arrival/Hr - %
Pt Load/Hr - 246 mins
Staffing - Current
Staffing - Proposed
Staff by Demand - Registration

System - ED Registration Staffing

Hour of day

Pt Arrival/Load

Staffing

Pt Arrival/ Hr - %
Pt Load/Hr - 246 mins
Staffing - Current
Staffing - Proposed
Treatment & Admission Options

- Develop and use protocols and/or pathways to anticipate the needs of consulting physicians
- Use “Bridge Orders”, “Transitional Orders” or “Timed Out Orders” written by the ED physician
- Develop written expectations on response times to ED provider from attending, hospitalists, & residents
Discharge Slotting

According to the IHI, discharge slotting creates:

- Improves patient satisfaction
- Identifies up to a 40 percent capacity waste
- Decreases length of stay by ½ day
- Promotes nursing to manage their shift more efficiently
- Reducing capacity waste by 10-15 percent can eliminate most bottlenecks
- Discharges can be synchronized to the admission process. Admits are linked to the planned discharges based on a master schedule
- Smoothing of the surgery scheduling process that fits well with the repetitive nature of the surgical schedule
- Improves effective management of ancillary resources, i.e. housekeeping
Maximize Relations

- Improve mutual expectations & understanding between ED and non ED physicians
- Assign house-wide clinical leadership to High Impact Teams (HITs) to address patient flow & capacity
  - Foster ownership across departments for patient flow in all areas of BSA
  - Eliminate cultural barriers which allow silo mentality
Data Collection Process/Data Use

- BSA is a data-rich environment
- Information poor
- Departmental leaders difficult obtaining operational data timely or at all
  - Staffing by demand
  - Throughput intervals
  - Utilization rates (lab/rad.)
- Is the right person seeing the right data
- Use fractile data not averages
Averages set you up for:

- Unachievable goals
- Disgruntled Team Members
- Inefficient Processes
- Low Patient Satisfaction
Establish Customer Satisfaction as a Key Priority

- Reinforce the importance of customer service in hospital commitments
- Circuit television providing information about their hospital visit
- Establish immediate objectives to meet customer needs
- Improve consistency of and develop scripting for departmental patient rounding
- Improve and maintain staff satisfaction to support customer satisfaction
Develop & Sustain Key Initiative Success Features that Support a Change Process

- Establish and document clear executive goals, incentives and accountabilities for the initiatives
- Collaboratively develop the initiatives around these goals
- Create an environment and culture of profound re-thinking of all existing processes and permissions to “think outside the box”
- Use accelerated and empowered decision-making tools such as the High Impact Team (HIT) process
- Set “real-time” goals with support metrics
Phase II - Implementing Change

- The impact of culture on change ("process and the people")
- Teamwork
- Planning Change
- High Impact Teams (HIT)
  - One to Three cycles of HIT
  - Facilitation by Abaris
- Accountability
HIT Team Concept

- Utilization of front line staff
- Empowered to change processes
- Systematic process of problem identification, brainstorming solutions, rapid cycle testing, and implementation of interventions.
- GOAL = Sustain Measurable Change
HIT Team Concept

High Impact Teams
Steering Group – Executive Leadership

ED Intake  ED Dx & Tx  ED Discharge
ED Revenue  Hospital Intake  Hospital Discharge
Improvement in ED throughput produces at least:

- 10% = 5 beds
- 15% = 10 beds
- 20% = 15 beds
The First Law of Improvement

“Every system is perfectly designed to achieve exactly the results it gets.”

— Don Berwick, MD

President

Institute of Health Improvement
Questions?

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