"Pull Don't Push –
A Paradigm Shift for Patient Throughput"

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The University of Kansas Hospital

Leading the Nation in Caring, Healing, Teaching and Learning.
Finite Number of Beds

Emergency Department

Transfer Center

Operating Room

Direct Admits

Clinics

Direct Admit

Emergency Department

Clinic

Finite Number of Beds
Collateral damage

- Increased ambulance diversion
- Increased transfer center denials
- Patient care issues
- Satisfaction
  - Patients & Family
  - Staff
In place Interventions

• Patient flow coordinators
  – ED
  – OR
  – Inpatient
• Director on call
• Bed meeting
The LEAN House

<table>
<thead>
<tr>
<th>Just in time</th>
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<tbody>
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Hoshin kanri

leveled production (heijunka)

cost reduction through the elimination of muda

5S
Lean Principles

1. Identify Value
2. Map the Value Stream
3. Create Flow
4. Establish Pull
5. Seek Perfection
Paradigm Shift

• This is not an ED problem
• Bring the resources to the patients
• Pull the patients to the units
• Do it differently
What is Full Capacity Protocol?

• A hospital-wide response plan for extreme hospital patient volume and/or entry point saturation

• Goals:
  – Ensure safe, efficient care during high volume
  – Enhance throughput
  – Reduce diversion time
  – Ensure continued community access to quality care
Phase 1: Full Capacity Watch
Click for detailed instructions regarding activation.

Phase 2: Full Capacity Warning
Click for detailed instructions regarding activation.

Phase 3: Code Max
Click for detailed instructions regarding activation.
Full Capacity Protocol

1. **Trigger criteria met**
   - ED
   - OR
   - Inpatient

2. **Team Activated**
   - Response

3. **Action Lists Implemented**
   - Action at All Levels
Full Capacity Watch

Determine Triggers

• Use of hall beds
• Time patients are waiting to be seen
• Number in waiting room
• Acuity level numbers
• Patients waiting for beds
• Minimal discharges
• Number of ORs scheduled
## Activation Team – Notification

<table>
<thead>
<tr>
<th>Environmental Services Shift Supervisor</th>
<th>Nursing Director</th>
<th>Chief of Staff</th>
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<tbody>
<tr>
<td>Radiology Supervisor</td>
<td>Nursing Administrative Coordinators</td>
<td>Clinical Placement Coordinator</td>
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<tr>
<td>Transportation Shift Supervisor</td>
<td>Unit Coordinators</td>
<td>Patient Placement Coordinator</td>
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<tr>
<td>ED Medical Director</td>
<td>Nurse Managers</td>
<td>Periop Patient Flow Coordinator</td>
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<td>ED Flow Coordinator</td>
<td>AOD/MOD</td>
<td>Pharmacy Shift Supervisor</td>
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<tr>
<td>Hospital Administrator on Call</td>
<td>Chief Medical Officer</td>
<td>Case Managers/Social Workers</td>
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<tr>
<td>PT/OT</td>
<td>Laboratory Services</td>
<td>Respiratory Shift Manager</td>
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<tr>
<td>Materials Management</td>
<td>Dietary</td>
<td>Patient Placement Manager</td>
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<tr>
<td>BioMed</td>
<td>Executive Team</td>
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</tbody>
</table>
Activation Team - Response

Team
- Environmental Services Supervisor
- Nursing Director
- Nursing Administrative Coordinators
- Transportation Shift Supervisor
- Patient Placement Coordinator
- Periop Patient Flow Coordinator
- ED Flow Coordinator
- AOD/MOD
- Patient Placement Manager

Focus
- Resources
  - Staff
  - Beds
  - Report
  - Orders
- Prioritization
Full Capacity – Watch - Phase 1 Actions

• Extra resources to ED/OR
  – Transport
  – Housekeeping
  – Nursing
• Refocus priorities
• Go get your patients
• Patient wait in the hallways while room is being cleaned
• Facilitate discharges
Action Check Lists

- Ambulatory Clinics
- Biomed
- Case Management
- Clinical Placement Coordinator
- Critical Care (Units)
- Dietary Services
- Director on Call/Nursing Administrative Coordinators
- Emergency Department Lead Physician
- Emergency Department Supervisor/Flow Coordinator
- Environmental Services
- Float pool
- Labor and Delivery
- Laboratory Services
- Corporate Communications
- Materials Management
- Medical Surgical/Progressive Care (Units)
- Patient Placement Coordinator
- Perioperative
- Pharmacy
- Physician Leaders
- Physician Team
- PT/OT
- Radiology
- Respiratory Therapy
- Telecommunication
- Transportation
- Unit Managers/Coordinators
Phase 1 Checklists

Environmental Services

PHASE I: Full Capacity Warning

- Lead EVS supervisor physically responds to command center in ED
- Completes bed/room cleans as assigned by clinical patient flow coordinator or NAC/Director on call.
- Lead EVS supervisor will mobilize additional personnel as needed
- EVS immediate response to floor for stat cleans for patients waiting in hallway
- Reassign staff to patient care areas and delay cleaning public spaces or non-patient care areas
Medical Surgical/Progressive Care Units

PHASE I: Full Capacity Watch

- Discharges are a priority
- Physically check each room and bed with the bed board to be sure that the bed board is correct.
- Review and update triage list (pending discharges, transfers, etc) Identify potential discharges and transfers and call physicians to obtain orders
- Coordinate with case management team to expedite discharges
- Triage telemetry patients; assess for monitor removal and utilization of portable monitors if appropriate
- Triage non-monitored and off-service patients to appropriate location as bed availability allows
- Utilize discharge lounge
- Assign staff to discharge patients unless Transport staff is immediately available
- Assure all discharged rooms are prepared for EVS cleaning. Staff to assist in stripping rooms and preparing them for cleaning (remove linens and equipment from room)
- Identify additional staff that may be able to care for patients (manager, educator, unit coordinators, CNS) in alternative care areas
- Unit Coordinator facilitates report from the ED to assigned RN. UC will assume responsibility to take report from ED if RN not available within 15 minutes
- Unit Coordinators dispatch RN to ED to “pull patients up” to unit
- Patients with room assignments and orders that are waiting in the ED will be transported to the floor to wait in the hallways while their room is being cleaned. When the patient is transported to the inpatient bed, please assign staff to return the stretcher to the ED
- Patients may arrive on the unit without a full order set and work up. Page admitting service if patient has immediate care order needs.
**PHASE I: Full Capacity Watch Status Response**

- Split team if necessary to facilitate the discharge process
- Prioritize ED patients awaiting admission evaluation and orders
- Report to the ED within 30 minutes to examine and determine admission need
- Intensivists will respond to ED and provide rapid assessment of ED pts who are felt to be ICU candidates
- Intensivists will initiate transfer orders for patients who could be transferred to lower level of care
- Complete necessary diagnostics/interventions/workup on the unit – not in the emergency department
- Notify NAC or Director on call of needs to complete intervention on the unit
- Geographical placement will not be utilized
- Discuss with unit coordinators/unit managers about possible discharges and determine necessary actions to facilitate discharge.
- Utilize minimally acceptable “tuck in orders” Fast track patient to floor & see patients on the floor rather than the ED – sweeper teams
- Initiate back up call processes if the patient care need is expected to overwhelm current medical staff coverage. If there are multiple demands or needs of the service such as multiple admissions and/or discharges, reassign staff to take care of the priority to decompress the ED
- Delay any non-formal teaching activities. If possible, attending should not participate in formal educational activities
- Be available to become directly involved to help units facilitate discharges. Place orders, write scripts
- Shift priorities to manage patient flow on unit
- Contact Chief of Staff with any discharge barriers that can be potentially overcome
- Seek additional physician/resident/midlevel support to facilitate patient flow in over-crowded areas
- Discuss saturation status with sub specialist document justification for continued admission for pending exams
- Exhaust all avenues to overcome discharge barriers, immediately involve administration to solve if possible

**Example:** Attending meets with team and after dealing with acute issues, identifies pending discharges and discharge barriers on other medically stable patients. Attending meets with executive huddle and tries to find alternatives for other stable patients such as nursing home placement or transportation. Attending calls each subspecialist to discuss hospital conditions and arrange alternatives, such as GI procedures being done as outpatient or discussions with ID about IM or home IV abx administration on stable patient. Work rounds are performed with minimal informal or formal teaching.
Phase II – Full Capacity Warning

• All Emergency Department beds in patient care rooms are full including hallway beds, and/or there is a greater than 2 hour delay in urgent patients being seen in the Emergency

• Admit patients to alternative care areas (GI lab, Dialysis, Main Pre Post) as defined by the Disaster Management Protocol

• Interim diversion
Phase II Actions

**Director on Call/Nursing Administrative Coordinators**

**PHASE II: Full Capacity Warning**

- Initiate alpha numeric page for Phase II
- Utilize document “How to open a unit”
- Assure physical beds are available
- Begin utilization of alternative care areas via the disaster management plan
- Identify available resources unassigned to patient care that can provide patient care
  - Unit Educators
  - Unit Coordinators
  - Quality Coordinators
  - Clinical Nurse Specialists
  - Nurse Coordinators
  - Clinical Excellence teams
- Staff alternative care areas via reallocation of staff or use of call in, on call and or float pool
- Nursing Director / NAC physically goes to the ED and collaborates with ED Flow Coordinator and ED physician to triage patient movement to alternative care areas
- Notify admitting (registration) for need to register patients in alternative care areas
- Notify administrator on call and review current state
- Remind nursing to Document on requisition exact location of patients in alternate care areas and identify the patient as an overflow patient to expedite results of labs.
- Post watch banner on 24/7. Go to [http://intranetdev.kumed.com/capacitycontrol](http://intranetdev.kumed.com/capacitycontrol) Click on the watch banner. Click update selection.
- Once watch has been lifted, return to the capacity control page and deactivate the banner. Click update selection. The banner will disappear in 2 hours.
PHASE 3 Code Max

• All alternative care areas are in use.
• No additional beds available - no ability to place patients.
• Consider
  – Elective procedures
  – Elective ORs
  – Transfers in
  – Full Diversion
• Implement Incident Command
Safely and efficiently moved 6 patients in 28 minutes

- RNs from the units quickly responded to the ED to get report and transfer patients. Two units responded directly to the ED – 66 & CFP to transfer patient to their unit
- PACU responded by holding patients until the ED got some movement – great help!
- EVS quickly deployed teams to get patient rooms ready
- Transporters quickly responded to help move folks
- SICU nurse responded to be an extra set of hands
- Discharges in the queue before activation 31
  - 1530- 43 (28 minutes after activation)
  - 1546-32
  - 1548-44
  - 1607- 34
Act IMMEDIATELY

• Everyone has responsibilities
• Not everyone is happy about it
• Patients prefer to see their bed being cleaned then be in the hall in the ED
• 2-3 beds will make a difference
• Test it
• Fail
• Make changes
• Fail
• Fix it
• Test again
• Succeed