Keep on Moving: Unlocking Back Door Flow

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Chief Innovation Officer - EmCare, Inc.
Chief Medical Officer - BestPractices, Inc.
IHI Faculty Member
National Speaker - The Studer Group
Flow Into, Through and Out of Your Hospital....

Output-UnLocking the Back Door
Hospital-Wide Patient Flow and the Emergency Department

- Nearly half of the EDs in the U.S. report operating at or above capacity
- Approximately 500,000 ambulances are diverted each year away from the closest hospital
- 9 out of 10 hospitals report “boarding patients” in the ED while waiting for inpatient beds
A major concern in ED patient flow is the number of admitted patients being held in the ED (boarders)

- The greater the percentage of ED beds occupied by boarders (admit-holds) the more likely flow will be impeded or obstructed
- Boarders occupy beds and consume resources that are staffed and allocated for incoming ED patients
- There is an extensive body of literature on the negative impact of boarders in the ED (Bernstein SL. Et. Al. The effect of emergency department crowding on clinically oriented outcomes. AcadEmergMed. 16(1):1-10,2009 Jan.)

There are a number of strategies that can help decrease ED boarding and accelerate movement into and through the hospital…
TJC and Hospital-Wide Patient Flow

2005 - TJC and the Hospital-Wide Patient Flow Committee:

JCR Leadership Standard LD.3.10.10

• The leaders develop and implement plans to identify and mitigate impediments to efficient patient flow throughout the hospital.

• Effective for all accredited hospitals on January 1, 2005

2013 - The Joint Commission says “Boarding in the ED requires a hospital-wide solution.”*

*As reported in ACEP NEWS - January 14, 2013

• Performance standards put into effect Jan 1, 2013 require hospital leaders – namely the chief executive officer, medical staff and other senior hospital managers – to set specific goals to:
  – Improve patient flow
  – Ensure availability of patient beds
  – Maintain proper throughput in labs, ORs, inpatient units, telemetry, radiology and post-anesthesia care units

“We want to make sure that organizations are looking at patient flow hospital-wide, even if the manifestation of a flow problem seems to be in the emergency room.” ~ Lynne Bergero, The Joint Commission
The Future is Now-The Baby Boomers are Here…

Demographic growth is driven by the elderly:

The 65 and older age cohort will experience a 28% growth in the next decade

- One baby-boomer turns 50 every 18 seconds and one baby-boomer turns 60 every 7 seconds (10,000 a day)
- This will continue for the next 18 years

This cohort will comprise 15% of the total population by 2016

A higher proportion of patients in this cohort, in comparison to other age groups, are triaged with an emergent condition

One-quarter of Medicare beneficiaries have five or more chronic conditions, sees an average of 13 physicians per year, and fills 50 prescriptions per year…
Peter Drucker’s Observations on Healthcare and Hospitals

“The hospital is altogether the most complex human organization ever devised.”
Hardwiring Flow
Creating Continuous Flow
The Lifecycle of a Patient Visit
Patient Flow and Patient Throughput
Pushing and Pulling our Patients Through

Front End
• Door To Triage
• Door To Doctor
• Door To Bed

Middle
• Decision to Admit/discharge

Back End
• Discharge to home/admit

Push
Push
Push
Pull
Pull
Pull

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Poor patient flow has a negative impact on overall hospital performance, slowing throughput and decreasing capacity.

The negative impact of inefficient patient flow is often felt most in the emergency department, where movement, flexibility and efficiency are critical.

Poor collaboration, strained communication, silo mentalities, and differing incentives contribute to fragmented relationships between emergency medicine and hospital medicine physicians.

A primary culprit is physician communication and hand-offs at admission — moving patients from the emergency department to the inpatient units.
From Admission To Discharge: Ideally an Integrated Network of Processes...
Accelerating Flow Into Your Hospital
Early Decision To Admit

- In most cases, an experienced emergency physician or nurse will know if a patient needs hospital admission within minutes of entering the patient’s room and performing a brief assessment.
- Delaying admission until every lab and diagnostic study is back is an unrealistic expectation on the part of the admitting team.
- Early consultation for admission is often resisted, despite the obvious improvement in patient flow.
Expedited Testing

• At times, diagnostic testing may be necessary to determine the need to admit or the bed location (such as ICU versus floor).

• There is a role for expedited testing within the ED.
Express Admitting Units (EAUs) And ED Holding Areas

- Busy EDs need to decompress before the number of boarders starts to grow.
- After evaluation, admitting service can select the most appropriate in-hospital bed.
Holding (or “Bridge Orders”) - a few comments…

Holding orders (or “bridge orders”) can decrease time to admission and decrease ED LOS. Holding orders are part of the emergency medicine practice in many EDs.

• (Patterson J. Dutterer L. Rutt M. et. Al. Bridging orders and a dedicated admission nurse decreases emergency department turnaround times while increasing patient satisfaction Ann Emerg Med. 50(3):351-2,2007 Sep.)

• Holding orders are NOT admission orders. Holding or Bridging orders are time-limited orders that permit stable patients to be moved safely from the ED to an inpatient setting or holding unit.

• In the past, some experts believed that Emergency Physicians should NOT write admission orders as it could unnecessarily extend their medico-legal liability to the inpatient setting. However, current thinking suggests that there is little additional legal risk for the emergency physician who writes holding orders. Holding orders must be properly written. The orders should make clear that the inpatient team is responsible for all further orders and the admitting team (and NOT the emergency physician) must be notified of any change in the patient’s condition.

Below, the current position statements of AAEM and ACEP:

• The American Academy of Emergency Medicine states that “The Academy believes that it is acceptable for emergency physicians to write Holding Orders, which define any necessary treatment and assessment parameters required in the interval until completion of admission orders.” (http://www.aaem.org/positionstatements/admissions.php).

• In their April 2010 policy revision, the American College of Emergency Physicians (ACEP) stated; “…in the interest of patient care and safety, an emergency physician may be compelled to write transition orders. These transition orders may include essential treatment and assessment parameters required before preparation of suitable admission orders.” (ACEP Policy “Writing Admission and Transition Orders” April 2010)

There appears to be more legal risk in boarding patients in an overcrowded ED than in using holding orders.
Consider ICU “Fast-Tracking” – One Example

POLICY

• A Critical Care Alert can be called for patients meeting the following inclusion criteria:
  • Sepsis/Sepsis syndrome
  • Acute respiratory failure requiring mechanical ventilation
  • Resuscitation post-arrest
  • Unstable hemodynamics requiring vasopressor intervention
  • Intracranial hemorrhage with evolving neurological deficits or airway compromise

• Patients meeting inclusion criteria will have a Critical Care Alert called at the time they are recognized to meet inclusion criteria.

• A 30 minute response time (from notification to arrival in ED) is required from patient’s physician or the intensivist.

• Critical Care Unit will respond within 30 minutes of notification with both a bed assignment and a team for transporting the patient to Critical Care.

• All immediate diagnostic radiology needs should be completed prior to transport.

• The patient’s ED nurse will accompany the team to the Critical Care Unit to give bedside report.
No Delay
Nurse Reports...
## Adopt-A-Boarder Program

- Started independently at Inova Fairfax Hospital and in Stonybrook, this practice has spread to many of the largest hospitals in the United States, including Duke, William Beaumont, and UCLA
  - Admitted patients routinely spend hours in the ED hallway while they await an inpatient bed
  - On a busy day an ED can have up to 10 patients at any one time in their hallway awaiting bed placement
  - Some patients wait 12 hours or more in the hall
  - Instead of having all 10 patients wait in a single hallway in the ED, what if we placed 1 patient each in 10 different hallways on inpatient wards?
    - Would they get better care?
    - Would they be more satisfied with their boarding stay?

- Admitted ED patients very much preferred the inpatient hallway to the ED hallway
- Adopted boarders felt they got more personal attention and better care in the inpatient hallways than in the ED.
- Nearly all patients stated that they were happy to be closer to their inpatient bed
- Studies from Stonybrook, Inova hospitals, and UCLA showed that the Adopt-a-Boarder program accelerated bed turnover
- Many patients who were destined for an inpatient hallway bed instead went straight to their inpatient rooms
  - Beds were cleaned in a fraction of the usual time
  - Patient satisfaction with the program was extremely high at all hospitals studied
  - Further discussion of this program can be found at [http://www.hospitalovercrowding.com/](http://www.hospitalovercrowding.com/)
Partnering With Your Hospitalists
Contributions to Patient Flow By Specialty

Significant flow and service efficiencies plus improved clinical outcomes can be achieved through the combined efforts of both services.

Emergency Medicine
- Effective triage
- Professional, organized communication
- Lean thinking and patient-centered processes
- A continuous focus on improving flow and the patient experience

Hospital Medicine
- Patient rounding throughout the day
- Foresight and planning
- Observing and understanding a patient’s needs
- Arranging appropriate services and assistance
- Managing the patient experience and creating a positive care environment
Hospital medicine physicians, or hospitalists, direct care for patients requiring hospital inpatient services.

The hospitalist can serve as *quarterback* of the patient care team, teaming up with multiple players:

- E.D. physicians and personnel
- Primary care physicians
- Specialists
- Nursing staff
- Case managers
- Laboratory staff
- Radiology personnel
- Patients
- Family members
- Program coordinators
- Home care agencies
- Long term acute care hospitals
- Rehab facilities
- Nursing homes

As many hospitals move to a model of 24-hour laboratory, radiology and other essential services, the advantages of 24-hour hospitalist services will likely become more dramatic.
Door-to-Discharge: A seamless network of patient care, handoffs, and transitions

**DOOR**
Patient seen in ED by a physician

**COLLABORATE**
ED and Hospitalist physicians collaborate during the admission process

**HOSPITALIST CARE**
Hospitalist physician oversees patient’s care during inpatient stay.

**DISCHARGE**
Patient discharged by Hospitalist
Handoffs, Turnovers, and Teamwork
Handoffs, Turnovers, and Teamwork
Handoffs - Multiple Potential Standardized Formats Are Available:

• The Five-P’s--Sentara
• I PASS the BATON- the Department of Defense’s Patient Safety Program
• SBAR + 2-Crew Resource Management
• HANDOFFS-TeamHealth
• Safer Sign Out
DEMAND-CAPACITY MANAGEMENT
An Administrative System for Flow

Admissions -> Transfers -> Discharges

A Bed Management Process
Real Time Demand/Capacity System
An Early Warning + Response System
Forecasting and Planning
Real-Time Demand Capacity Management (RTDC): This Is Not Your Typical Hospital-Wide Bed Meeting

Hospitals benefit from an administrative system for flow that:

- **Predicts** at a unit level the **capacity** to accept admissions within a designated time period
- **Predicts** at a unit level the **demand** within a designated time period
- **Documents a plan** at a unit level if demand is predicted to be greater than capacity
- **Evaluates the success or failure** of predictions and plans
- **Uses failures and successes of predictions and plans to develop the key improvement projects to improve flow**
Be-A-Bed-Ahead Programs

**Traditional:**
- ED calls for an inpatient bed
- Bed board begins to “search” for a bed
- Multiple calls to multiple floors
  - “Bed hiding”
- Bed located
- Environmental services cleans the bed
- Bed in service
- Bed available

**Be-A-Bed-Ahead:**
- Beds identified as available only when clean, unoccupied, and staffed
- Bed board prospectively identifies beds by type (Med-Surg, ICU, Telemetry, etc)
- Bed board informs unit of “next up” status
- Charge nurse informs nurse of “next up” status
- Bed assigned when requested

Adapted from Chapter 38 - *Disposition Decision to Departure: Finishing Strong*, McGraw-Hill January 2014
Jody Crane, Robert W. Strauss, Suzanne Stone-Griffith, Thom Mayer
Don’t Overlook the Importance of Leadership, Rounding, and You… (MBWA)

Rounding on admitted patients / Optimized rounding practice

• Look
• Listen
• Ask
• Coach
• Problem-solve
• Communicate
• Plan
Optimize Bed Capacity **AND** Utilization

Patients should be in a bed 
only if it is medically necessary 
and 
only as long as medically necessary
Bed Turns-How Many Patients a Bed Can Serve per Unit of Time
Lean Admissions at ThedaCare

“Encircle Health”

- Anticipates and structures to meet all needs in one visit
- Lab designed to get results to patient record within 15 minutes
- Patients leave with one plan, all results
Admissions and Discharges

Problem: Mid-day bed crunch due to misalignment of admissions, discharges

Contributing Factor: Late rounding by PCPs, non-hospitalists

Patient Flow

6a  7a  8a  9a  10a  11a  12p  1p  2p  3p  4p  5p  6p  7p  12a

Peak Admission Period  Peak Discharge Period
“Everybody Out By 11…”

...discharge orders improved from 29.5% to 56%, but the mean length of stay was unchanged...

...although the timing of the discharge orders decreased by 78 minutes during the period, patients actually left the hospital only 12 minutes earlier—still around 4 p.m...
Scheduling and Orchestrating the Discharge: An Alternative to “Everyone Out at Ten!”
By Kirk B. Jensen, MD

In many hospitals, a rallying cry of “Everyone out by 10 a.m.!” drives the patient discharge system. Yet despite the frantic morning rush this directive creates for the staff, data shows that most patients do not go home until late afternoon. Why? First, the processes involved in discharging a patient are complex and time-consuming, requiring action from the dietary, pharmacy, respiratory therapy, nursing, and other hospital departments. When the schedule demands that all these processes be completed throughout the hospital at the same time, a bottleneck forms that can create delays throughout the system—from the emergency department to the ICU to rehab. Often, the discharge work is not completed on time due to delayed lab work, no physician discharge orders, or communication breaks down as each department acts independently of the others, following its own procedures. The whole process may not be well planned, resulting in a disorganized sequence of events. The consequent delays slow or stop the flow of patients through the hospital. As they currently operate, most hospital flow systems are push systems: patients are pushed through as staff tries to coordinate a complex series of events on a schedule impossible to meet.

From a systems standpoint, hospitals have inputs (patients coming to the hospital), throughputs (patients being treated or admitted), and outputs (patients being released). Flow is defined as the movement of these patients into, through, and out of the hospital. How efficiently this movement is accomplished determines the rate of flow throughout the entire system, a flow throughout the entire community. Looking at ways to improve hospital efficiency, quality of care, and staff and patient satisfaction, the Institute for Healthcare Improvement (IHI) Flow Collaborative, now in its second year, has more than 70 teams working on improvements to hospital-wide patient flow. The teams have found that the patient transition process—
“Orchestrating the Discharge”

How to Begin the ReEngineered Discharge (RED) Implementation at Your Hospital

Contract HHSA290200600012I

New tool (deliverable 2.4)

April 15, 2011

Prepared for
Cindy Brach
Agency for Healthcare Research & Quality (AHRQ)
Rockville, MD

A note to users: We would greatly appreciate any feedback that you might have on how to improve this toolkit. This information should be directed to Project RED on our Boston University website.
Flow, Surgery, and Anesthesia
You Must Manage Preoperative and Perioperative Flow
What Makes Hospital Census Variable?

• If ED cases are 50% of admissions …and…

• Elective-scheduled OR cases are 30% of admissions, …then…

• Which would you expect to be the largest source of census variability?

Courtesy Eugene Litvak, PhD
The Answer Is …

The ED and elective-scheduled OR have approximately equal effects on census variability. Why?

Because of another (hidden) type of variability …

**Artificial Variability**
- Non-random
- Non-predictable (driven by unknown individual priorities)
- Should not be managed, must be identified and eliminated

**Natural Variability**
- Clinical variability
- Professional variability
- Flow variability

Courtesy Eugene Litvak, PhD
Smoothing Surgical Flow

• The operating room has a significant impact on the flow of patients through the hospital

• Smoothing surgical patient flow patterns leads to smaller ranges between high and low volume and opens capacity in both the OR and the inpatient areas of the hospital

• Adjust the block schedule based not only on utilization but also on where the patient should go post-operatively

• Fewer patients are placed off-service, which leads to a reduction in length of stay

• An additional benefit is that placing patients in the appropriate bed and unit improves not only patient satisfaction but also physician satisfaction
Keys to Success
**Key Principles**

- Patient flow is a complex technical problem
- The Myth Of 100% Utilization
- Patient flow cannot be solved by just one discipline or one department within the hospital
  - The solutions require high levels of cooperation and integration
  - Effective diagnosis of problems and effective testing of changes using PDSA cycles are required
  - The solutions cannot just be installed
The #1 Reason To Commit to This Is…
“It’s good for the patients…and it’s good for the people who take care of those patients.”

~ Thom Mayer, MD
RESOURCES, DATA, BENCHMARKING AND REFERENCES
The Patient Flow Advantage:
*How Hardwiring Hospital-Wide Flow Drives Competitive Performance*

Kirk Jensen/Thom Mayer  FireStarter Publishing,  January 2015

**Section 1 — Framing the Flow Mandate**
- Chapter 1: Why Flow Matters
- Chapter 2: Defining Flow: Establishing the Foundations
- Chapter 3: Strategies and Tools to Hardwire Hospital-Wide Flow
- Chapter 4: Lessons from Other Industries

**Section 2 — Advanced Flow Concepts**
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- Chapter 10: Hardwiring Flow in Critical Care
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- Chapter 12: Acute Care Surgery and Flow
- Chapter 13: Integrating Anesthesia Services into the Flow Equation
- Chapter 14: The Role of Imaging Services in Expediting Flow
- Chapter 15: The Future of Flow
Hardwiring Flow
Systems and Processes for Seamless Patient Care

Thom Mayer, MD, FACEP, FAAP
Kirk Jensen, MD, MBA, FACEP

• Why patient flow helps organizations maximize the “Three Es”: Efficiency, Effectiveness, and Execution
• How to implement a proven methodology for improving patient flow
• Why it’s important to engage physicians in the flow process (and how to do so)
• How to apply the principles of better patient flow to emergency departments, inpatient experiences, and surgical processes
Strauss and Mayer's Emergency Department Management

- By Robert W. Strauss MD, Thom A. Mayer, MD
- Kirk B Jensen, MD, MBA, FACEP, Associate Editor
- Publisher: McGraw-Hill Professional
- Publication date: January 2014
- Thom Mayer, one of two chief editors, co-authored 20+ chapters
- Rob Strauss, one of two chief editors, co-authored 20+ chapters
- Kirk Jensen, one of two associate editors, co-authored 11 chapters as well as serving as section editor of the Operations: Flow section.
- Stephanie Baker co-authored a chapter on Patient Throughput
Patient Flow: Reducing Delay in Healthcare Delivery, Second Edition:

1. Modeling Patient Flows Through the Healthcare System, RANDOLPH HALL, DAVID BELSON, PAVAN MURALI AND MAGED DESSOUKY
2. Hospital-wide System Patient Flow-ALEXANDER KOLKER
3. Hospitals And Clinical Facilities, Processes And Design For Patient Flow MICHAEL WILLIAMS
4. Emergency Department Crowding-KIRK JENSEN
5. Patient Outcomes Due to Emergency Department Delays- MEGHAN MCHUGH
6. Access to Surgery and Medical Consequences of delays BORIS SOBOLEV, ADRIAN LEVY AND LISA KURAMOTO
7. Breakthrough Demand-Capacity Management Strategies to Improve Hospital Flow, Safety, and Satisfaction-LINDA KOSNIK
8. Managing Patient Appointments in Primary Care-SERGEI SAVIN
9. Waiting Lists for Surgery-EMILIO CERDÁ, LAURA DE PABLOS, MARIA V. RODRÍGUEZ-URÍA
10. Triage and Prioritization for Non-Emergency Services-KATHERINE HARDING
11. Personnel Staffing and Scheduling-MICHAEL WARNER
13. Using Simulation to Improve Healthcare: Case Study-BORIS SOBOLEV
15. Forecasting Demand for Regional Healthcare-PETER CONGDON
16. Queueing Analysis in Healthcare -LINDA GREEN
17. Rapid Distribution of Medical Supplies - MAGED DESSOUKY, FERNANDO ORDÓÑEZ, HONGZHONG JIA, AND ZHIHONG SHEN
18. Using a Diagnostic to Focus Hospital Flow Improvement Strategies ROGER RESAR
19. Improving Patient Satisfaction Through Improved Flow- KIRK JENSEN
20. Continuum of Care Program- MARK LINDSAY
21. A Logistics Approach for Hospital Process Improvement-JAN VISSERS
22. Managing a Patient Flow Improvement Project-DAVID BELSON
Leadership for Smooth Patient Flow:
Improved Outcomes, Improved Service, Improved Bottom Line

Kirk B. Jensen, MD, FACEP
Thom A. Mayer, MD, FACEP, FAAP
Shari J. Welch, MD, FACEP
Carol Haraden, PhD, FACEP

The heart of the book focuses on the practical information and leadership techniques you can use to foster change and remove the barriers to smooth patient flow.

You will learn how to: Break down departmental silos and build a multidisciplinary patient flow team Use metrics and benchmarking data to evaluate your organization and set goals Create and implement a reward system to initiate and sustain good patient flow behaviors Improve patient flow through the emergency department—the main point of entry into your organization The book also explores what healthcare institutions can learn from other service organizations including Disney, Ritz-Carlton, and Starbucks. It discusses how to adapt their successful demand management and customer service techniques to the healthcare environment.

“This book marks a milestone in the ability to explain and explore flow as a central, improvable property of healthcare systems. The authors are masters of both theory and application, and they speak from real experiences bravely met.”

Donald M. Berwick, MD
President and CEO
Institute for Healthcare Improvement (from the foreword)

ACHE + Institute for Healthcare Improvement
# The Hospital Executive’s Guide to Emergency Department Management

**Kirk B. Jensen, MD, FACEP**  
**Daniel G. Kirkpatrick, MHA, FACHE**

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*HcPro April 2014*
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The Definitive Guide to Emergency Department Operational Improvement

Joseph Crane and Charles E. Noon

X₃² Healthcare
Where analytics and innovation meet to define the future of healthcare

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© Kirk B. Jensen, MD, MBA, FACEP
Improving Patient Flow in the Emergency Department

Kirk Jensen  
Jody Crane

Healthcare Financial Management

November 2008
Real-Time Demand Capacity Management and Hospital-Wide Patient Flow

In 2004, the Joint Commission issued its first accreditation standards—effective January 1, 2005—for managing patient flow.*

The current Leadership Standard, LD.04.03.11, states, "The hospital manages the flow of patients throughout the hospital."

When first issued, the standard served as a call to action for hospitals to focus more formally on patient flow issues. Yet, many hospitals still lack the processes and structures to admit or transfer patients to an inpatient bed on a timely basis. This often results in emergency department (ED) overcrowding,** because the beds are being used by patients waiting to be admitted. Such overcrowding has been shown to have an adverse effect on patient outcomes and the well-being of health care workers.**

To address the Joint Commission standard, many hospitals established flow committees to identify the major barriers to patient flow and then embarked on improvement projects focused on these barriers. In our observations, three issues affecting the results from this approach have surfaced, as follows:

1. The improvement projects selected are often not connected to the true bottlenecks identified at the time that problems with patient flow occur.
2. The changes that result from the projects may optimize only part of the system but may not optimize flow throughout the hospital.

Article-at-a-Glance

**Background:** The Joint Commission’s accreditation standard on managing patient flow, effective January 2005, served as a call to action for hospitals, yet many hospitals still lack the processes and structures to admit or transfer patients to an inpatient bed on a timely basis. In 2007 the University of Pittsburgh Medical Center (UPMC) at Shadyside, a 526-bed tertiary care hospital, began testing and implementing real-time demand capacity management (RTDC) at an initial pilot site. The hospital had identified improved patient flow as a strategic goal in 2002, but a series of patient flow projects failed to result in improvement.

**Implementing RTDC:** Standard processes for the four RTDC steps—Predicting Capacity, Predicting Demand, Developing a Plan, and Evaluating a Plan—and standard structures for unit bed huddles and the hospital bed meetings were developed. The neurosurgery (NS) service line’s ICU and stepdown unit were designated as the first pilot sites, but work was quickly spread to other units.

**Results:** Improvements were achieved and have been sustained through early 2011 for all measures, including (1) the unit-based reliability of discharge predictions; (2) overnight holds in the postanesthesia care unit; a problem eliminated two months after RTDC work began; (3) the percentage of patients who left without being seen (LWBS).

Chapter 8

Improving Hospitalwide Patient Flow at Northwest Community Hospital


From a systems standpoint, hospitals have inputs (patients coming to the hospital), throughputs (patients being treated or admitted), and outputs (patients being released). Flow is defined as the movement of these patients into, through, and out of the hospital. How efficiently this movement is accomplished determines the rate of flow through the hospital, if not throughout the entire health care system.

Many factors control the flow within the hospital: First, barriers to entry may slow or stop the flow. In the emergency department (ED), for example, the inability to get patients admitted contributes to a patient flow backlog that strains staff and creates long waits, sometimes compromising quality of care or necessitating diversions. In the ICU, transfer of patients to the floor can be delayed by the unavailability of beds, keeping patients waiting for needed ICU space. Patients often must be moved to less than ideal places because the system is not flowing smoothly, compromising the quality of patient care. Second, barriers to exit can slow or stop the flow as well. If a patient is not discharged in an efficient and timely way, needed and valuable space is rendered unavailable for longer than is necessary, creating backups throughout the system. Paradoxically, barriers to exit help create the barriers to entry. If inpatients cannot get out, new patients cannot get in.

As the venerable and ever-interesting Yogi Berra once said, “People don’t go there anymore. It’s too crowded.” Although this phenomenon probably only made sense to Yogi, it is, in fact, the incentive for hospitals to work on improving patient flow and throughput. In the health care industry, patient service and patient safety are paramount. In the current economic and reimbursement climate, collecting every dollar allowed can be tantamount to survival. The service and safety complications, as well as the loss of income derived from hospitals going on bypass or diversion, or from patients leaving before being seen, or from prolonged inpatient stays, simply cannot be tolerated. Furthermore, although it may not be rocket science, optimizing patient flow is surprisingly analogous—to get from launch to landing quickly and safely. Throughput as a science has been around since quantum, or waiting, lines, were first analyzed by A.K. Erlang in 1913, in the context of telephone facilities.1

Industries as diverse as airlines, trucking, and fast-food drive-throughs have since made use of queueing theory, computer simulation, and smoothing demand to maximize throughput and optimize resource allocation. Despite its proven ability to better serve customers, reduce costs, and improve safety, health care has been late to jump into the science of operations management (OM).
The Improvement Guide and Rapid-Cycle Testing

Langley GL, Nolan KM, Nolan TW, Norman CL, Provost LP.


Benchmarking Resources

Where to find data

Your neighbors
  • Call and/or visit
ACEP
  • http://www.acep.org
Premier
  • www.premier.com
VHA
  • www.vha.com
ED Benchmarking Alliance
  • www.edbenchmarking.org
UHC
  • www.uhc.org

Be sure to compare hospitals with similar acuity and similar volume…
References


• Full Capacity Protocol. www.viccellio.com/overcrowding.htm


References: The Psychology of Waiting


EVALUATION REMINDER:
We want your feedback to get better. Please remember to take the session evaluation. Thank you!

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Next Presentation: Good Marriage or Bad Divorce?

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