



THE LEAPFROG GROUP

Informing Choices. Rewarding Excellence.

Getting Health Care Right.

Overview of Leapfrog's Smooth Patient Scheduling Survey Section

Survey Town Hall Call
May 5, 2011

Introductions & Agenda

- **Introductions**
- **Presentation Agenda**
 - Background
 - Leapfrog's Standard
 - Detailed review of survey questions
 - Scoring
 - Challenges
 - FAQs
 - Available resources
- **Q + A**

Background

- Hospitals often experience patient overcrowding on certain days and times throughout the week, contrasted with slower levels of activity on other days/times; this results in expensive resources (e.g., inpatient beds, operating rooms) and staff facing excessive demand at times and are significantly underutilized at other times
- This peak/valley cycle has consequences:
 - EDs go on diversion status
 - Patients are boarded in the hall or in a non-appropriate unit
 - The nursing staff is stressed as the patient census fluctuates
 - The peaks are a stress on both hospital systems and hospital staff, potentially compromising quality of care
 - ***Recent research* has found that fluctuations in patient census have been associated with treatment delays, medical errors, and unsafe practices that can lead to adverse events and poorer outcomes***
- With the expected increase in insured patients (34 million), demand for hospital services will grow and patient flow problems such as ED overcrowding and surgical delays/cancellations are likely to grow as well

* Needleman J, Buerhaus P, et al. Nurse Staffing and Inpatient Hospital Mortality. N Engl J Med. 2011;364:1937-1045.

What is Behind This Problem?

- These high-stress days are a product of how hospitals schedule their elective admissions, creating 'artificial' (or 'unnatural') variability
- The 'natural' variability of unscheduled admissions (e.g., an emergent surgery) can be managed with use of queuing theory, matching random demand to fixed capacities

How to Address?

- Possible alternatives to address these capacity concerns:
 - Option #1: Build more capacity, which is expensive (est. \$800,000-\$2 million per O.R.; can be twice that for building a specialty O.R.), and that doesn't address the peak/valley cycles
 - Option #2: Eliminate the current inefficiencies in existing ED, ICU, and surgical suite capacities
- Forward-thinking hospitals have employed the same methods that manufacturing and other service organizations have used to understand, manage, and optimize the performance of their systems to reduce current inefficiencies (e.g., Toyota production model).
- Smoothing day-to-day variations in scheduled (surgical) admissions creates a more even flow of patients throughout the rest of the system.

Hospital Results

- Hospitals that have employed these methods have:
 - (1) Increased patient throughput and increased patient access to care
 - (2) Reduced waiting times for emergent and urgent surgeries
- A sample list of hospitals that have employed these methods include:
 - Boston Medical Center (Boston, MA)
 - Mayo Clinic (Rochester, MN) – *work in progress*
 - Cincinnati Children's Hospital Medical Center (Cincinnati, OH)
 - Palmetto Richland Memorial Hospital (Columbia, SC)
 - The John Hopkins Hospital (Baltimore, MD) – *work in progress*

Leapfrog's Standard

- Hospitals are asked to report their progress in applying operations management methods (e.g., queuing theory, variability management) to smooth patient flow across ***all operating rooms that service inpatients***, with a focus on minimizing current inefficiencies and managing existing resources to the fullest
- Hospitals are asked to 'start small' by focusing on inpatient ORs, but they could benefit by applying these methods to other areas of the hospital as well

To fully meet the standard:

- Hospitals will need to have applied operations management methods to all of its operating rooms that service inpatients and either:
 - (1) Document an average utilization of 85% or greater across those units post-implementation of the methods; or
 - (2) Document a 15% improvement in the utilization of those units (or initially, a 5% improvement by the end of year 1, or a 10% improvement by the end of year 2).

Alignment with Other National Organizations

- Leapfrog does not stand alone in recognizing the importance of using operations management methods to smooth patient flow.....
 - **Institute of Medicine (IOM)**
 - The Institute of Medicine has embraced variability management's role in addressing the problem of ED overcrowding in its 2006 report, *The Future of Emergency Care in the United States Health System*.
 - **American Hospital Association (AHA)**
 - The American Hospital Association has recognized the management of variability in health care as a key principle for achieving IOM's Six Aims for Improvement: care that is safe, timely, effective, efficient, equitable, and patient-centered.
 - **Joint Commission Resources**
 - Joint Commission Resources' book *Managing Patient Flow in Hospitals: Strategies and Solutions* address the topic of variability management.
 - **The Institute For Healthcare Improvement (IHI)**
 - The Institute For Healthcare Improvement offers periodic seminars on the topic of reengineering the operating room to improve hospital-wide efficiency.

Detailed Question Review

Section 8, Questions 1-3

- The first three questions in the section are intended to be ‘filter’ questions; filtering out those hospitals in which the standard will not apply
- The standard does not apply to:
 - Hospitals with less than 25 staffed beds
 - Hospitals that have either zero or one operating room that services inpatients
 - Standard optional: Hospitals whose elective surgeries make up less than 10% of their total admissions during the latest 12-month period

Section 8, Question 4

- Hospitals are asked to calculate their variability in scheduled and unscheduled admissions
- Use the 'Admission Variability Calculator' to calculate the ratio of absolute deviations (link to the calculator provided in survey endnote #43)
- In calculating your hospital's ratio, exclude: newborns and admissions on weekends and holidays
- A ratio greater than 1.0 means the hospital has more variability in its scheduled admissions than unscheduled admissions (reflects the ratio of 'artificial' variability to 'natural' variability)

Section 8, Question 5

- Asks about the hospital's status in applying operations management methods (e.g. queuing theory, variability management) to all operating rooms that service inpatients, to smooth patient flow.
- Yes/No question
- See the Bibliography and the Technical Implementation Guidelines for suggestions on the types of methods other hospitals have used to smooth patient flow

Section 8, Question 6

- Asks for the date (month & year) in which your hospital first applied operations management methods to its operating rooms that service inpatients
- Date will be used for scoring purposes, in determining OR utilization improvement after 1 year (12 months) and 2 years (24 months)

Section 8, Questions 7-10

- Hospitals are asked to report the available and utilized 'prime time' hours of ORs that service inpatients, both prior to and after applying operations management methods
- Definitions
 - **"Prime Time"**: Each hospital will have its own definition of what constitutes 'prime time' for its operating rooms. For a typical hospital, 'prime time' will start around 7 am and go until 3-5 pm.
 - **Available "Prime Time" Hours**: number of operating rooms that service inpatients x 'prime time' hours x 5 days/week x 4 weeks
 - **Utilized "Prime Time" Hours**: cumulative duration of case lengths in 'prime time' + cumulative duration of turnover time in 'prime time', across the four week period
- Reporting time periods
 - **Pre-implementation**: 4 consecutive weeks prior to first wide-spread announcement that methods would be introduced
 - **Post-completed implementation**: 4 consecutive weeks after revisions to surgical schedules have been fully completed

Section 8, Questions 11-13

- For hospitals that have not applied operations management methods to all ORs that service inpatients, to smooth patient flow, these questions ask about the steps hospitals have taken toward fully implementing the standard
 - Have a written plan to apply operations management methods to operating rooms that service inpatients within the next 12 months?
 - Have a dedicated budget to apply operations management methods to operating rooms that service inpatients?
 - Has a chief of a surgical department contacted a peer at another hospital that has already applied methods to smooth patient flow and increased utilization by at least 15%?

Scoring

Note: A hospital's results on this section of the survey will be scored, but not publicly released for this survey cycle. Hospitals can view their results on their 'hospital detail page'. The release of those results will coincide with the release of the public results.

- **Fully meets the standard (4 bars):**

The hospital has applied operations management methods to smooth patient flow across all its operating rooms that service inpatients and can document either:

(a) an average utilization of 85% or greater across those units post-implementation; or

(b) at least a 5% improvement in utilization across all units by the end of the first year, or at least a 10% improvement in utilization across all units by the end of the second year, or a 15% improvement in utilization across all units.

- **Substantial Progress (3 bars):**

The hospital has applied operations management methods to smooth patient flow across all of its operating rooms that service inpatients, but can not document the utilization targets outlined above.

Scoring

Some Progress (2 bars):

The hospital has completed at least two of the following three preparation steps:

- The hospital has a written plan for applying operations management methods to smooth patient flow across its operating rooms that service inpatients within the next 12 months
- The hospital board has approved a dedicated budget for the application of operations management methods to smooth patient flow in its operating rooms that service inpatients
- The chief of one surgical department of the hospital contacted and held discussions with a peer at another hospital that has already applied operations management methods to smooth patient flow to increase unit utilization by at least 15%

Willing to Report (1 bar):

The hospital provided responses to this section of the survey, but did not meet the criteria for “Some Progress”.

Challenges to Implementation

- Will require the participation of administrative and clinical leadership, as these methods address structural changes in how hospitals schedule elective surgeries
- Hospital leadership will need to work closely with surgeons and surgical staff to examine scheduling of existing capacities and make necessary adjustments to smooth patient flow
- This may require shifting surgical staff schedules that have been in place for long periods of time

Frequently Asked Questions (FAQs)

With this measure set, is Leapfrog asking hospitals to become a 7-day hospital?

Leapfrog does not require hospitals to move to a 7-day concept, as we recognize the significant cultural shift that would require. That said, Leapfrog does see a 7-day hospital concept as a good opportunity for hospitals to use existing resources more efficiently.

Frequently Asked Questions (FAQs)

How should we count 'Available' hours in an unit that is scheduled to close before the end of 'prime time'?

The closed hours should be deducted from the total available hours.

How should we count 'Utilized' hours for a case that extends past 'prime time'?

For calculating utilized hours, hospitals should only include those hours of a case that were done within 'prime time'. If a case extends past 'prime time', only include the subset of hours that were in 'prime time'.

Available Resources

- Documents (can be found on survey home page)
 - Smooth Patient Scheduling Fact Sheet
 - Smooth Patient Scheduling Bibliography
 - Technical Implementation Guidelines
- Leapfrog Survey Help Desk
www.leapfroghospitalsurvey.org/helpdesk

Hospital Experiences.....

- **“The peaks that I use to have no longer exist....which helps with variability, patient satisfaction, and staffing overall”.**
 - Janet Gorman, RN; Director of Nursing; Boston Medical Center; Boston, MA
- **“Physicians have been satisfied as well. Instead of [surgical access] being a random emergency-based system, it is now a very predictable system.”**
 - Frederic Ryckman, MD; VP of System Capacity & Perioperative Operations, Transplant Surgeon, and Clinical Director of Surgery; Cincinnati Children’s Hospital Medical Center; Cincinnati, OH
- **“Contrary to the thinking of many people, it is not that we don’t have enough hospital beds. It is that we are not managing the variability and the demand for hospital beds as efficiently and effectively as we could.”**
 - Brent R. Asplin, MD; Chair of the Emergency Medicine Department; Mayo Clinic; Rochester, MN
- **“As our industry looks to the future, and the challenges we will face to produce not only care of the highest quality, but also care which is affordable and accessible, we must learn even more about things like the management of variability, and apply what we have learned, to the work we do.”**
 - Ellis M. Knight, MD, MBA; Senior Vice President, Ambulatory Services; Palmetto Health System; Columbia, SC