

# What Every Healthcare Executive Needs To Know About Reform



**TeleTracking**<sup>™</sup>

Patient Flow Automation for Healthcare<sup>™</sup>

## The Perception of Overcapacity

In just two decades, over a quarter of a million beds were eliminated from the U.S. healthcare system, while our population kept growing and getting older. The result was an overcrowding crisis in the nation's EDs that continues to this day. An April 2009 study by the GAO says overcrowding still represents a threat to "the nation's ability to provide effective emergency medical care."

But the problem may be one of **perception as much as reality**. Efforts to address overcrowding exclusively in the ED are only treating the symptom and not the disease. There is growing awareness that the real problem is in the rest of the hospital. Without available beds for ED admissions, emergency personnel must treat patients who should be on the units.

The common hospital perception is that "we are operating at capacity and don't have room for more patients," but studies **show the definition of "at capacity" actually may be the problem**. If measured by available staffed beds, "at capacity" can be as low as 60 percent of all beds, which is much lower than the 85-90 % commonly recommended as the maximum capacity number.

By speeding bed turns and transports, patient flow automation can make many more beds available, and by providing analytical data on peak times, it can help supervisors **match staffing to demand**. With substantial improvement in flow, capacity will become less of a problem, even as demand increases.

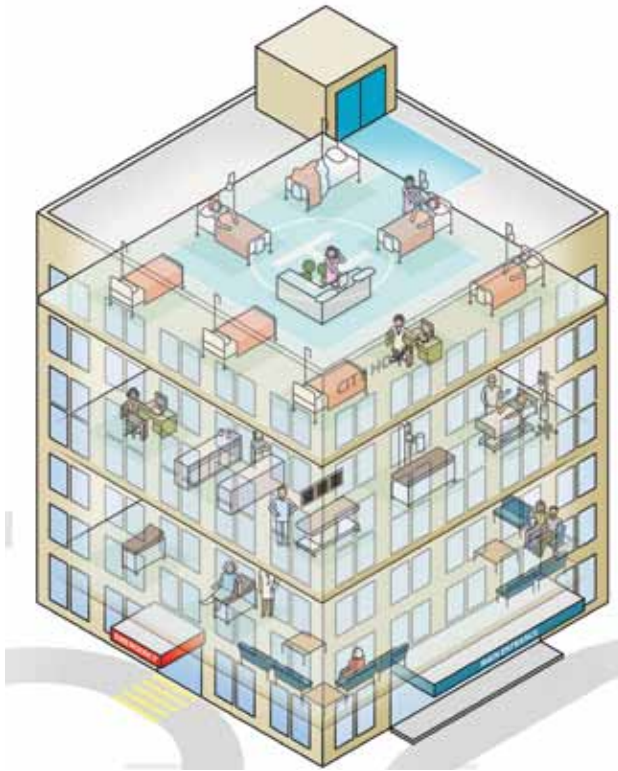
The alternative, new construction, can take three or more years at well over \$1 million per bed, with no immediate impact on today's problems. Yet within three months, hospitals can **add capacity of up to 20 percent** from their existing beds and get real-time business management analytics for the relatively modest cost of combining patient flow redesign with automation technology.

With over 80 percent of the installed flow automation market, TeleTracking products are improving the business of healthcare in a significant way. However, we take our greatest pride in how they improve the purpose of healthcare – to help people get better.

Sincerely,



Anthony A. Sanzo  
CEO, TeleTracking Technologies, Inc.



# What Every Healthcare Executive Needs To Know About Reform

**A**fter decades of squeezing inefficiencies out of their hospitals, healthcare executives are being asked to squeeze some more, just as healthcare reform will increase demand for services.

So what is the answer? Executives need a solution that will address overcrowding and produce revenue immediately.

By automating patient flow, hospitals are converting time into space. As much as 20 percent more space without adding a single new bed. It's providing sustainable operating efficiencies which are yielding savings, revenue and information which can help them build business.

## Managing Time... Managing Business

**J**ob freezes and layoffs are no longer viable solutions. Mistakes cost lives and money. Asking staff to do more with less cannot continue indefinitely. And building additional capacity is out of the question in this economy.

Patient flow automation was designed for just these needs. Optimizing flow is the most immediate way to improve operating margin and control increased demand for access. Using automation and process redesign can add up to 20 percent more usable capacity without adding a single bed. Better utilization means better performance.

**But there is more to the story.** Patient flow automation has evolved into a powerful business tool for hospitals. Since patient movement is the backbone of a hospital or health system's physical operations, the data collected along the way yields an extraordinary amount of actionable decision-making information, from staffing needs to new market opportunities.

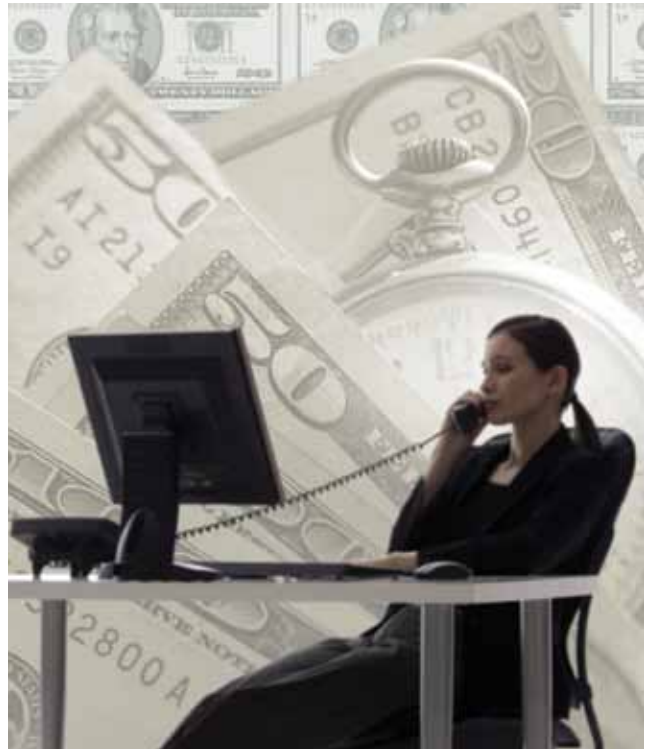
*"It's the data that is the power for making change."*

– Melinda Dunham Noonan, DNP, RN, NEA-BC, Director of Nursing Operations, Assistant Professor, Rush University Medical Center, Chicago, IL

Patient flow management has expanded to include automated transfer control, infection control and asset management as more insight is gained into the patient flow continuum.

**Smarter systems**, integrated with other hospital IT, will keep paying dividends, even as budgets get tighter. But the biggest dividend will be giving patients access to the care they need when they need it.

While electronic health records may someday improve care and lower costs, improving patient flow can make it happen right now.



*"We had peaks and valleys where we didn't have enough people to get the work done and then we had slow times where people sat around and did cross word puzzles. Now we have the people in the hospital when the work is there to be done."*

– Lou Leavens, Director Patient Transport Service, William Beaumont Hospital Royal Oak, Troy, MI

***Job freezes and layoffs are no longer viable solutions. Mistakes cost lives and money. Asking staff to do more with less cannot continue indefinitely. And building additional capacity is out of the question in this economy.***

## Reform, Patient Care and the Bottom Line

The White House says the best way to pay for reform is to eliminate waste. To that end, hospitals have pledged to trim a total of \$155 billion, or \$2.6 million per hospital per year, in Medicare and Medicaid costs over the next 10 years.

Where will that money come from? It can come from automation.

In 2007, The Advisory Board Company quantified the cost of poor patient flow. It said a hospital with poorly managed flow will use its staffed beds about 48.5 times per year. In contrast, hospitals managing their patient flow efficiently will use their staffed beds approximately 62 times per year. For an average-sized hospital of 300 beds with an average contribution margin of \$3,000 per discharge, that amounts to a \$10 million swing.

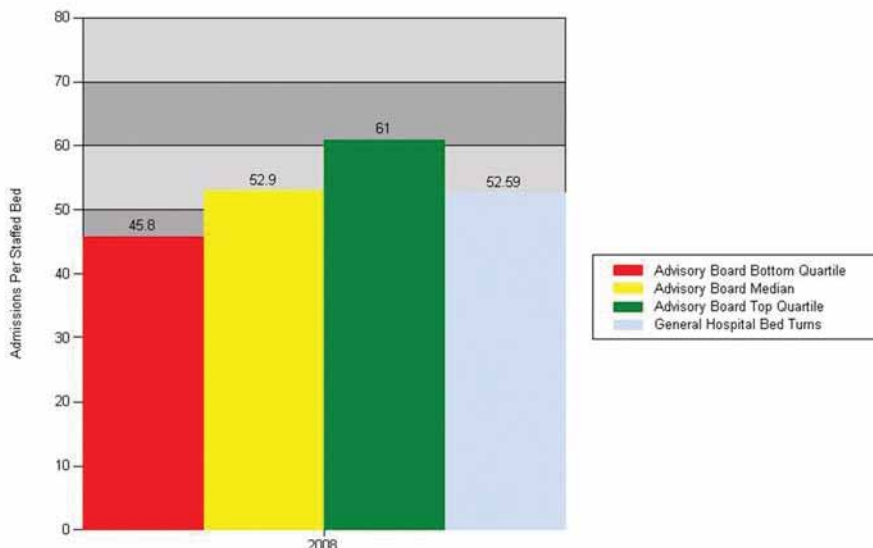
Many leading hospitals have turned to automated patient flow because they recognize that it is a bottom-line decision which goes beyond easing overcrowding in the emergency department. By taking inefficiencies out of the flow process, these solutions add “virtual” space that is extremely cost effective compared to new construction, which can cost up to \$2 million per bed and take 3-5 years to complete.



Another way to offset reform reductions is to automate the process of tracking medical devices. A study by healthcare market research firm KLAS showed that location technology (RTLS) can reduce equipment loss by as much as 50 percent and increase operating room utilization up to 70 percent.

### Advisory Board Annual Bed Turns Report - 2008

Description: This report represents Bed Utilization as defined by the Advisory Board (2007, Breakthrough Capacity Management: IT's Role in Optimizing Bed Utilization) along with the Advisory Board's standard Bottom Quartile, Median, and Top Quartile statistics.



## The Space between the Silos



Hospitals are a collection of components, variously called departments, disciplines, silos, functions, units, even buckets. While the components generally are well managed, **the space between them has been a problem.**

Patient Logistics grew out of the recognition that with everyone focused on their own component, no one was managing the patient's path between and through those components. The result was inadequate communication and less than optimal patient care.

**Improving effective communication** among caregivers was the second highest priority among the National Patient Safety Goals issued by the Joint Commission in 2008. The commission noted that timely, accurate, complete, and unambiguous communication reduces error and improves patient safety.

Achieving that goal means creating an optimal patient pathway from admission to discharge through a combination of strategic change and process excellence across disciplines and functions. This may include establishing a central transport department, a transfer center or a patient logistics command center. Automating the overall process is key to overcoming territorial barriers because it links departments and provides real-time data for continually improving flow.

**However, technology alone is not enough** to guarantee quality. Industrial efficiency programs such as workflow measurement systems were an acknowledgement by corporate leaders that people and technology had to be humming along in harmony to achieve any long-lasting operational improvement.

After decades of trying people-oriented efficiency projects, a sizable number of forward-thinking hospitals have discovered that, without automation and accountability, there is no guarantee of efficiency.

## HAIs: The next “asbestos”



As the most widely travelled hospital employees, they often are also the most overlooked and under-protected when it comes to infection alerts. But TeleTracking’s Patient Placement Indicators trigger **automatic alerts** to all who need to know. So environmental employees know to don protective clothing and initiate special cleaning procedures for beds and equipment. And because the alerts are digitally connected to the patient, transporters are aware of infection at handoffs.

Patient flow automation can **help reduce the human suffering** and financial drain on hospitals caused by Hospital-Acquired Infection. By automatically alerting all who need to know, including housekeeping and transporters, it helps protect entire groups of employees who were previously overlooked in infection control efforts and new patients who previously might have been placed in isolation with an infected patient.

*“Trial lawyers are calling HAIs  
“the next asbestos.”*

**N**early a third of Americans say they have contracted or know someone who has contracted a hospital acquired infection.

That may be why trial lawyers are calling HAIs “the next asbestos.”

The cost of HAIs in lives is incalculable. But in dollars, at the current infection rate, the average 500-bed hospital may experience 194 unnecessary deaths and **\$28 million in unnecessary cost** annually. These costs may not be reimbursed under reform laws, which were designed to penalize “excessive” re-admissions for certain conditions, including HAI.

In addition, the typical hospital is the target of seven HAI-related lawsuits per year with an average settlement of \$1.5 million, or a total of \$10.5 million. That figure seems destined to rise significantly as public infection reporting requirements spread across the U.S.

Who hasn’t walked into an isolation room without being warned? Now imagine how often it must happen to **housekeepers and transporters**.



**Seven lawsuits**  
**\$1.5 million settlement**  
**\$10.5 million per hospital**

## Making “Sense” of Asset Tracking



**B**etter inventory control and asset management can save money. But the right RTLS system can do much more.

Unlike most RTLS systems, a **sensor network** determines not just location, but status and context. When it locates a wheelchair, it also indicates if the chair is **occupied**, **whether it is moving or not**, and **if it's in the right room**. Temperature monitoring versions **report on the status of refrigerators** and freezers and alert staff if the temperatures move out of a pre-set range. Essentially, a sensor network provides a snapshot of a device “in context.”

Applied to patient flow, the system can tell staff if a patient is in the right location for a procedure with the right assets at the right time, precisely how long the patient was in that location, where to find patients scheduled for time sensitive treatment and when a high-risk patient crosses a safe boundary.

Sensor networks are helping hospitals reduce search time for medical equipment, decrease capital expenses, improve patient monitoring and safety, raise the quality of patient care, improve asset and bed utilization, lower medical errors, save costs and capture additional revenue.

The best sensor networks are impervious to the electronic noise which disrupts most other RTLS systems. If readers are of the plug-in variety, installation requires virtually no disruption of day-to-day operations. And some have proven to **pay for themselves in less than a year**.



A study by Indiana University-Purdue University Indianapolis showed that 314-bed Southeastern Regional Medical Center (SRMC), of Lumberton, N.C., **saved nearly \$750,000** in one year by using a sensor network to eliminate the hour a day that every nurse wastes searching for equipment. And 316-bed Wayne Memorial saved \$400,000 in equipment costs by purchasing 20 percent fewer IV pumps. Equipment inventory time was cut from 8-12 hours a month to a few minutes each week.

From May to October, 2010, Memorial University Medical Center (MUMC), a 530-bed hospital in Savannah, GA was able to save \$333,000 in management costs alone by taking its asset management function in-house via a sensor network. Year over year savings are expected to exceed \$500,000.



*The RTLS went live in May 2010. The hospital has saved over \$333,000 so far this year— representing a 40% reduction in Total Mobile Asset Management Expenses YTD.*

## Why Turn Patients Away?

**D**iversion endangers lives and does nothing for the bottom line.

Yet many major referral centers still rely on manual transfer processes, which can't keep up with the pressures of today's demands for specialty services. The results include inconsistent data, limited reporting ability, increased liability risk, reduced volume potential, strained referral relationships and ultimately, poorer patient care.

Leading hospitals are creating automated **central transfer centers** to ease those pressures by coordinating all admission requests from other hospitals and local physicians, typically through a single phone number. They capture patient medical and demographic details, facilitate physician communications and handles bed requests, registration and transportation.



*“Centralization has allowed us to see all beds in the facility and be more efficient with placement.”*

– Susan Sewell, RN, VP of Patient Management,  
Methodist Healthcare System, San Antonio, TX

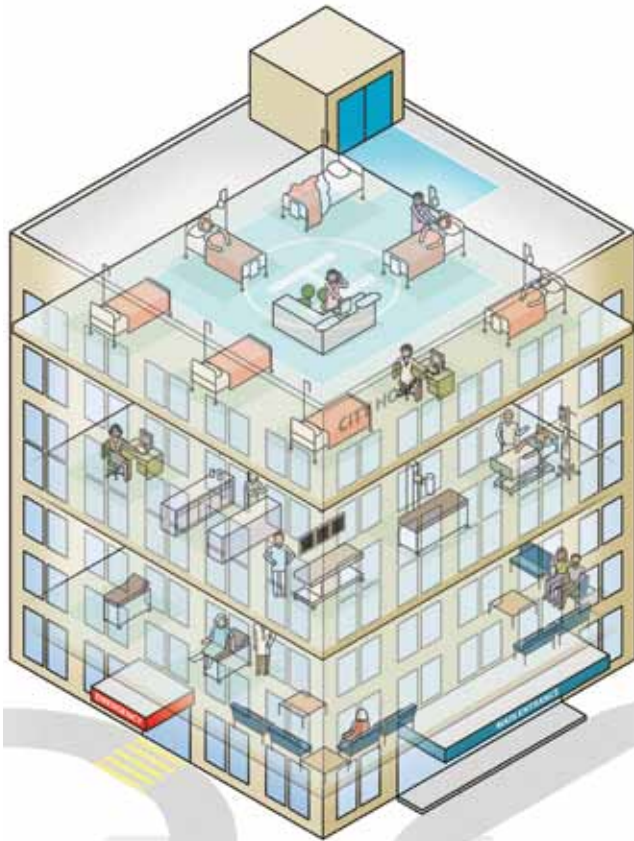


Automating your transfer center also **helps generate revenue** that otherwise would be lost, and yields valuable business planning information about service utilization in a hospital's referral zone. When combined with institution or enterprise-wide patient flow automation, placement of transfer patients is much less time-consuming because transfer specialists have access to all available beds. It also assures that a patient will get to the right bed within the right time frame for the right care.

The cost of patient diversions in lives is incalculable. In dollars it is more evident. The average transferred neurosurgery case, for example, provides \$15,000 more in margin contribution than a regular neurosurgery admission. A recent study by the University HealthSystem Consortium (UHC) shows **academic medical centers** rely on a precariously narrow “financial core” of **complex transfer cases** requiring access to subspecialty care “for virtually all of the margins used to invest in the clinical enterprise as well as to support research and education.”

According to the study, The AMC's economic wellbeing remains inextricably linked to the growth and expansion of that financial core. That dependence will continue, and may even intensify, under health care reform, the study said.

## Transparency: The Glass Hospital



manage patient placement and hospital census. Or go mobile with applications for bed management and transport management, automatically updated to show precisely what is happening now on a unit, a floor, a hospital or an entire system, depending upon the access level provided.

Since everyone involved with patient flow can be connected electronically, nurses now have the ability to plan, prepare and manage the entire patient flow continuum. Every patient discharge, bed cleaning and bed request is immediately entered, updated and visible in on the display screen.

**And peri-operative solutions** keep track of patients when they leave the unit floor to undergo procedures, automatically giving professionals and patient families the status and location of a patient, without a single phone call.

**Nurses** never seem to have enough time. Whether searching for misplaced equipment, making scores of phone calls, or filling out stacks of forms, it means time taken away from their primary job — care-giver.

Time is exactly what Patient Flow Automation and real-time locating systems give back to them, eliminating the calls, the paperwork and searching previously needed to track patients and medical equipment.

Automation provides transparency, as if your hospital had walls of glass so you could immediately see into each room.

A web-based portal gives you instant updates on patient status, location and bed availability so you know exactly what is happening with your patients. This portal provides as much or as little as you need to know under varying conditions. It lets you update not only flow, but clinical information, such as lab and radiology status. The result is easier input and monitoring of bed and transport requests, discharge status and critical patient placement indicators (PPIs) such as isolation or fall risk.

**The white board is a relic of the past.** A flat panel screen called an electronic bedboard offers a digitized way to



## System Integration and Survival



**H**ealthcare reform is accelerating the integration of hospital information systems in a way the marketplace could not. Reform legislation ties reimbursement to higher performance. As hospitals recognize the Federal demand to elevate care and reduce costs, they will also realize the importance of information integration to accomplish those goals.

Fragmented system integration will hurt care delivery because of inadequate coordination, duplication of effort by staff, the loss of critical information for key decision-makers, and the possibility of putting the patient at greater risk.

To survive and stay competitive in the new climate of healthcare reform, hospital CNOs and CIOs want vendors truly committed to cooperating, because linking granular data from disparate systems will be absolutely essential for decision-making, reporting, and compliance.

For their part, vendors need to understand that without cooperation, their clients may not survive reform. It's better to have a smaller piece of the pie than none at all.

While there are several producers of automated flow options, many facilities are finding that the best-of-breed solutions typically satisfy more of their users' needs by providing richer reporting functionality and accuracy for patient placement and bed placement cycle times. In an integrated environment, hospital staff across units can take advantage of the rich patient flow data contained in the best-of-breed applications while using the advantages of their robust hospital enterprise-wide systems for managing health records and clinical data. In combination, these

information solutions minimize maintenance costs, allow for continuous process improvement, and produce better outcomes. It's a win-win for everyone—especially the patient.

***“We had peaks and valleys where we didn't have enough people to get the work done and then we had slow times where people sat around and did cross word puzzles. Now we have the people in the hospital when the work is there to be done.”***

**– Lou Leavens, Director Patient Transport Service,  
William Beaumont Hospital Royal Oak, Troy, MI**

### **Business analytics**

Patient flow is the operational backbone of any hospital. As such, it touches virtually every area. Because of that fact, it can yield a treasure trove of information about how to improve the hospital's day-to-day functions.

Running the business of healthcare becomes easier with robust reporting that reveals peak demand times, facilitates resource time-shifting, and provides the proof you need to add or subtract FTEs for improved operations. The information pathway recorded by automation is a rich source of decision-making information for other business improvement, including new market opportunities.

With access to that data, hospital business analysts can do full statistical analysis on the facility based on algorithms that they may create to show key trends. This has significant value for proving compliance under new reform guidelines for reimbursement.

***“We continue to make improvements in bed turnaround time even today... because as we analyze the data that we can pull out of the system... a minute here, a minute there... it all adds up.”***

**– Susan Lawrence, VP Care Continuum, Lehigh Valley Health Network, Allentown, PA**

## Converting time into space



Patient Flow Automation for Healthcare™



Since it was founded in 1991, TeleTracking Technologies has been converting time into space to help hospitals ease overcrowding and run more efficiently.

TeleTracking has grown from a single bed management application to an entire suite of solutions which address virtually every point along the patient flow continuum. This end-to-end system of patient logistics management now addresses patient throughput, asset management, inter-hospital patient transfer and infection control for a single hospital or an entire healthcare system.

Our product development people are backed by the largest Research & Development base in the category - over 850 clients whose feedback and ideas have proven invaluable in keeping us at the forefront of patient flow improvement. Together, we and our clients recognized that our computerized system yields a wealth of practical data which could be applied to not only operational improvement, but business development as well.

TeleTracking is the acknowledged “Best In Category” (KLAS) and “Best of Breed” producer of patient flow automation solutions, as well as the market leader by far with 80 percent of the installed flow automation market. We are transforming hospital transfer centers across the country so they no longer need to turn away patients because of capacity problems. We’re currently integrating flow automation and sensor network technology to deliver products which will keep more precise track of patients and assets, eliminating even more wasted time from the patient flow process. And we are fighting the spread of hospital-acquired infection by automating the infection alert process to avoid communication breakdowns that can lead to exposure.

*“It took about 210 minutes to turn around a bed. Once we implemented we were able to improve that to about 60 minutes.”*

– Susan Lawrence, VP Care Continuum, Lehigh Valley Health Network, Allentown, PA