

The Next Race For Space

Will Be In America's
Emergency Rooms



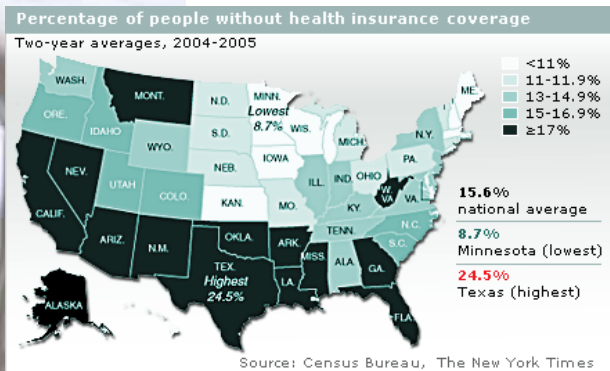


The Solution: An End-to-End Real Time Capacity Management System

As the aging Baby Boom generation begins winding its way through America's healthcare system, another group is close behind -- the newly insured. Together, they form a tsunami of 120 million individuals who will stress U.S. healthcare system like never before.

No one had predicted the aftershock health reform could cause by insuring an entirely new segment of society precisely as the leading edge of Boomer Nation starts knocking on the ER doors.

The move adds almost 50.7 million people, from all demographics, to the largest single U.S. generation in history (78 million adults). Over half of the newly insured have incomes 200 percent below the poverty level.



They've been less likely or able to seek medical care than the insured (53% to 46%) and less likely or able (28% to 37%) to undergo treatment for a chronic condition. While younger (21% are below 18, 63% are under 34), they're not necessarily healthier because of healthcare access problems.

It's ratcheting up an existing capacity problem which is likely to be with us for many years. While the average Roman 2,000 years ago could expect to live 22 years, those who are age 65 right now can expect to live to 80.





A key financial strategy for hospital executives this year is improving capacity management for better overall performance. Keeping better track of patients, employees and medical devices may be the most immediate way to improve operating margin and control increased demand for access. The fastest way to optimize a hospital's capacity is to employ software technology and expert analysis that turns real-time data into actionable opportunities that improve overall performance.

The Real Emergency is in Rest of the Hospital

For years, there have been dire alerts about overcrowding in America's emergency rooms. The Joint Commission, Urgent Matters, the Institute for Healthcare Improvements and many others have said "fix it or else."

These organizations generally agree that ER overcrowding is really just a symptom of the real crisis which is caused by capacity issues everywhere else in the hospital.

While some healthcare institutions took action, the majority did not. While building more capacity was once the preferred "solution," the nation's economic downturn has made building financially infeasible.

As the health reform law now stands, American hospitals must trim \$200 billion in waste over the next decade, about \$26 million per hospital. But job freezes and layoffs are no longer viable. Asking staff to do more with less would cost lives and money. Reimbursement penalties tied to quality care delivered could force inefficient hospitals into mergers or worse. Hospital executives need a solution that will address overcrowding and produce revenue immediately.

Real Time Capacity Management

The trend toward real-time management is well documented in industry. According to Gartner Research, it involves constantly monitoring and instantly analyzing root-cause and overt events that are critical to its success...then removing delays in its critical business processes.

"As much as 20 percent more space without adding a single new bed"

The concept is just beginning to get traction with healthcare executives. But components of this concept have been in operation for a while. A sizable number of forward-thinking hospitals have incorporated various workflow technologies into their operations to speed processes, eliminate redundancy, get valuable business intelligence, and assign accountability to help produce steady performance improvement.

Automated patient flow squeezes wasted time out of the bed turnover process, thus converting that time into space - as much as 20 percent more space without adding a single new bed. This technology relieves overcrowding, shortens ED wait times, and allows patients to be quickly admitted to the right bed for the appropriate treatment. By speeding bed turns and transports, patient

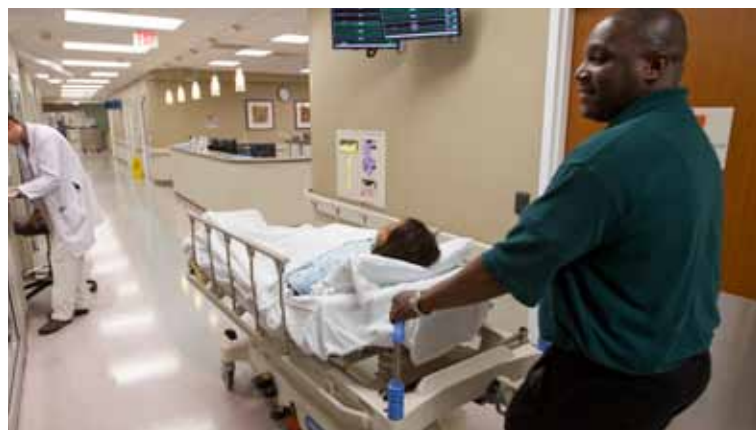
flow automation can make many more beds available, and by providing analytical data on peak times, it can help supervisors match staffing to demand. As an example, The Advisory Board Company estimates a typical 300-bed hospital with an average contribution margin of \$3,000 per discharge could add \$10 million to its bottom line just by improving yearly bed turns from 48.5 (the lowest performance quartile) to 62 (the highest quartile).

To get those results, you need an end-to-end, real-time capacity management system that directs every patient, employee and device movement in the enterprise. TeleTracking, creator and leader of the automated patient flow market, is building that system now by combining the best Real-Time Locating System (RTLS) and flow technologies available. Nothing on the market today will match its ability to manage capacity.

A “moving picture” of the operation

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 marketing opportunities.

These analytics help to identify the root causes of process delays and wait times for space, materials, staff and, most importantly, patients. Desk-top Patient Flow Dashboards can give every executive a ‘moving picture’ of key performance indicators within the entire operation, such as which nursing units are



complying with 11 a.m. discharge goals, which are accepting patients within a 90-minute window and whether staff resources are matching volume requirements.

Executives and placement specialists can instantly know where there is available capacity in the system and in which units. Physicians can know how many patients must be discharged in order for them to admit new patients so they can be more active in the flow process. High performing health systems already use these dashboards to measure and manage performance, set targets within each strategic priority area, and then share the information regularly with hospital leaders, according to The Health Research and Educational Trust.

Nursing operations director Melinda D. Noonan, DNP, RN, NEA-BC, says Chicago’s Rush University Medical Center uses customized software to collect and analyze data for predicting staffing needs, patient volume patterns and other trends. That saves the hospital money by reducing staffing waste and decreases patient wait time by assigning the correct number of providers to the predicted volume. Noonan says Rush looks at data on the speed of patient

placement from each admissions portal on a monthly basis to decide how to keep the portals in balance.

Adding a real-time view of the hospital in addition to a retrospective view allows executives to make more timely business decisions. The ability to incorporate third-party data means decision-makers can follow related financial, clinical and operational information on a single platform.

The eight-hospital, 1,800-bed Methodist Healthcare System in San Antonio, TX, provides an excellent example. At Methodist Healthcare’s Stone Oak, TX, facility, installing the dashboards in administration’s offices helped discharge compliance increase from 50% to 90%.

Methodist’s C-level management uses TeleTracking’s **Patient Flow Dashboard™** for a real-time census view throughout the system.

Automating Referral Centers

Diversions endanger lives and do nothing for the bottom line. The average transferred neurosurgery case, for example, provides \$15,000 more in margin contribution than a regular neurosurgery admission. Academic medical centers especially rely on such complex cases to

produce the margins needed to support their clinical, research and educational missions. Yet many major referral centers still use manual transfer processes which can’t keep up with the pressures of today’s demands for specialty services.

Methodist Healthcare System made capacity management improvement its top priority in FY2010 because patient flow congestion was causing operational slowdowns that delayed care, cost the system business and left physicians, employees and families dissatisfied. The system automated its transfer center and centralized all enterprise-wide patient flow logistics around it to ensure effective capacity use.





\$750,000 in one year by using a sensor network to track mobile medical equipment, such as IV pumps and cardiac telemetry devices. Memorial University Medical Center (MUMC) in Savannah, GA slashed equipment-related costs more than \$300,000 (nearly 40%) in a year-over-year comparison since installing a similar system.

“The level of data generated by these systems has the potential to profoundly change the management of technology and the delivery of patient care,” said Barbara Christe,

lead researcher, associate professor and program director of biomedical engineering technology.

The savings multiply quickly when these technologies are applied enterprise-wide. Methodist recently announced plans to install RTLS across five of its six hospitals.

The results have been spectacular, with sharp growth in transfer center volume and major reductions in lost bed time, bed assignment time, and ED diversions. Within the past year at Methodist:

- Transfer Center volume has risen by over 100%
- Bed assignment time has decreased 78%
- Bed turnaround time was down 27%
- Lost bed time went from 76 minutes to 35 minutes
- Time from bed request to bed occupation is down 45%
- Monthly ED diversions dropped from 700 hours to just eight hours
- The transfer acceptance rate is now at 99%
- The system gained 4.5% of the rural market share and exceeded overall budget projections by 7.9%
- MHS is using automation data to determine shifting referrals trends and identify new service opportunities

Automating transfer centers can create more access, which can help save lives, generate revenue, and yield business development intelligence. Most importantly, in the context of healthcare reform, automated transfer centers and the other process management technologies mentioned above help ensure that patients have timely access to the kind of care they need at the quality level they deserve.

Real-Time Locating Systems (RTLS)

RTLS dramatically reduces search time and decreases capital expenses for medical equipment by allowing staff to locate tagged items on a floor plan computer view of the entire hospital enterprise. Sensor network data on equipment utilization guides future purchasing decisions. Real-time equipment tracking also improves patient safety and the quality of patient care.

A study by Indiana University-Purdue University Indianapolis showed Southeastern Regional Medical Center, Lumberton, N.C., saved nearly

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***- Barbara Christe, lead researcher,
Indiana University-Purdue
University Indianapolis***



Complete ROI in a year

Since RTLS networks can pay for themselves in less than a year, why wouldn't hospitals rush to adopt them? Early systems interfered with clinical technologies. Newer systems have removed the interference issues. Still, hospitals are more predisposed to adopting new treatment technology because it isn't perceived as "industrial."

“The difference between saving and squandering billions”

Federally-budgeted incentives could speed the industry-wide adoption of capacity management technology by years. Given the population crunch hospitals are facing, that could be the difference between saving and squandering billions over the 10-year period stipulated by the White House.

The High Cost of Hospital Acquired Infections

Manual infection control processes unintentionally create gaps in communication, leaving housekeepers and transporters unknowingly vulnerable to infection by entering an isolation room without warning. Because they are the most travelled employees in a hospital, they can potentially endanger the entire patient population.

“With federal cuts for HAI-related hospital stays beginning next year, this capability could help hospitals save over \$7 billion in the next decade.”

Systems like TeleTracking's **Capacity Management Suite™** automatically trigger real-time alerts to close those gaps. Support personnel can then take appropriate measures to greatly reduce the chance of exposure. With cuts in federal reimbursement for HAI-related hospital stays beginning next year, this capability could help hospitals recover a great deal of the \$7 billion the Fed expects to withhold over the next decade.

About TeleTracking

For more than two decades, TeleTracking Technologies, the world leader in automated patient flow, has applied proven principles of logistics management to hospitals and health systems to help them enhance patient care, improve financial performance and gain competitive advantage. Our industry-leading software and consulting services create an enterprise-wide platform that connects patient flow to patient care for better outcomes. TeleTracking solutions reduce overcrowding, cut costs, generate revenue, fight the spread of infection, manage assets, accelerate patient transfers and provide a wealth of data for continual operational improvement and business development. We provide process planning and patient flow redesign through our consulting division, Avanti Patient Flow Services®, data analytics tools and services through our Business Analytics Division and real-time asset and patient tracking through our RTLS Division. As the leading provider of innovative patient logistics management, TeleTracking and our more than 850 clients have formed an alliance of shared knowledge and mutual trust which is dedicated to the ongoing improvement of patient care.



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