

Sarah Norland

containing costs in the ED

Tired of high costs associated with slow patient throughput in the ED? Find out what several hospitals have done to improve their patient flow and optimize department performance.

A Shakespearean actor slips on stage one night and breaks his wrist. He is rushed to the closest hospital, where he waits his turn in the crowded emergency department. As the charge nurse walks by and casts a disapproving eye at the ever-increasing backlog, she sees him dressed in his 16th century garb and does a double take. "Just how long have YOU been waiting?"

AT A GLANCE

Slow patient throughput doesn't have to be the norm in your ED. In this article, leaders from several hospitals discuss strategies they have used to improve patient flow, reduce patient wait times, decrease ambulance diversion hours, and improve resource use.

It's an old joke, but it does call to mind an experience that's all too common—patient and staff frustration with long waits in the ED.

Long wait times have become standard at many hospital EDs as increased demand forces staff to make the best with limited resources. From 1992 to 2002, the number of annual ED visits increased 23 percent in the United States while the number of EDs decreased by 15 percent. A majority of hospitals—62 percent—responding to a 2002 American Hospital Association survey reported being “at” or “over” operating capacity.

This trend poses a significant challenge to healthcare financial executives, as the effects of slow patient throughput can be quite costly. Patients annoyed with long waits may leave without treatment or become so dissatisfied as to choose other providers for future health care—a troubling prospect given that 50 percent or

more of a hospital's admissions typically originate in the ED.

The chaotic environment that typically accompanies overcrowding often takes a toll on staff as well. Recruiting and retaining high-quality talent may become more difficult. Also, patient safety may be compromised and increased exposure to costly lawsuits may result. A 2002 study by the Joint Commission on Accreditation of Healthcare Organizations found that more than half of all ED sentinel events—unexpected occurrences involving death or serious physical or psychological injury, or risk thereof—were caused by delays in treatment. In 31 percent of the cases, overcrowding was identified as a contributing factor.

But what is the alternative?

Building more space and adding beds to the ED is incredibly expensive, averaging about \$1 million per bed. And such decisions may not address underlying issues appropriately. Failure to understand and properly control patient flow can lead to the difficult lesson that an empty bed is an expensive bed. Or worse still, adding capacity may fail to resolve the problem because of existing inefficiencies.

There are no easy answers. However, healthcare financial managers shouldn't give up hope. Much insight into ways to address ED performance can be gained simply by examining hospitals that are making strides. Consider the following success stories.

St. Joseph Medical Center

Despite an 8 percent volume increase in the past two years, this 365-bed not-for-profit suburban medical center in Towson, Md., has been able to shave several hours off of its average ED wait time. A patient with a non-life-threatening condition generally waits less than 10 minutes to see a nurse and 30 minutes to see a physician. If the patient needs to be admitted to the hospital, a wait of two hours and 45 minutes is standard—a 50 percent decrease from previous years. Also, ambulances are now diverted from the ED less than 10 hours per month, down from several hundred hours during the hospital's most challenging moments. Gail Cunningham, MD,

FACEP, head of the ED, credits the following actions as key contributors to this success.

Making use of benchmarking resources. St. Joseph compared its ED processes with best practices described in the Advisory Board Company's Clockwork ED program. By breaking down the ED throughput experience into timed steps similar to those described in the best practices and comparing supporting processes, a truer picture of the hospital's strengths and weaknesses was possible.

Supporting performance accountability and healthy competition. Also key was sharing these data with staff. As an example, the hospital set door-to-bed goals and provided reports indicating how frequently the goals were being met. In the two years since the program started, the main ED's wait time has decreased from 80 minutes to 28 minutes. The ED's urgent care average is now seven minutes. Cunningham credits most of this improvement to an enhanced sense of

IMPROVING EMERGENCY DEPARTMENT LABOR COSTS

Labor costs present a significant challenge to many emergency departments, and the experience at Huntsville Hospital in Huntsville, Ala., was no different. The 900-bed facility and Level 1 trauma center has an annual volume of 110,000. In 1995, the hospital was using an outsourcing group to provide physician coverage. For a flat subsidy of \$100,000 a month, the group provided 70 hours of physician coverage per day (coverage was determined by the staffing group). Worse still than this high cost was that of 43 positions credentialed, only five were filled by physicians board certified in emergency medicine. "The result was a wide variety of practice patterns," explains Jeffrey Brown, administrative director of the Huntsville Hospital Systems Emergency Physicians Group.

To improve ED labor costs and management, leadership took the following approach:

Properly staff the medical director position. "You need someone who will be the medical face of your program, who will attend service line meetings, develop protocols for the department, and be willing to serve on different committees that interact with other departments that make the decisions that are going to affect the ED," explains Brown. Too often hospitals don't put enough emphasis on "face" time.

Don't let revenue be the primary lure for recruitment. "Most physicians don't grow up hoping they'll move to Alabama. We're further hamstrung by the fact that at the time, there were no emergency residency programs in the state, and residents tend to stay pretty close to where they train." Yet throwing dollars at the situation didn't seem like the best option. Those motivated by money will be more likely to move on as soon as someone else presents a higher offer.

The ability to move patients in a timely manner relies on the interactions of many different areas throughout the organization.

accountability. "It's definitely become a pride thing," she says. "It's important to the charge nurse for each shift to feel they have been successful in achieving our goals."

To further encourage accountability, a treatment "teams" system was created. Under the prior system, nurses and physicians pulled all charts for the patients they would be treating from the same rack. Under the new system, groups of nine patients are assigned to the care of a team consisting of two nurses, a technician, and a physician. "When you're a doctor working on a team, you know that those patients' charts are yours to take care of, and no one else is going to be getting to those patients," explains

Cunningham. "It's you that's responsible." She credits the new system for better communication among staff and about a 20 percent improvement in physician productivity.

Setting and maintaining definitive criteria for diversion decisions. "There used to be a reflex behavior when things were getting chaotic to go on divert," says Cunningham. "And no one really paid enough attention to why the decision was made and whether anything could have been done to avoid it." These days, the ED must meet three of seven criteria before diversion. These criteria are based on factors such as number of patients in the waiting room, wait time, number of admissions in the ED, and nurse availability.

Do establish incentives for high performance. "I don't like the idea of guaranteeing physicians a lot of money," says Brown. "But when people are good at what they do, they should be paid better. Therefore, it's important to establish a threshold at what you'll tolerate for throughput." Huntsville developed a relative value unit-based compensation plan with flat hours serving for a base salary.

Focus on retention. Huntsville strategized for ways to use quality of life to its recruiting advantage. Huntsville switched to employing its physicians, offering full employment benefits and putting them on a 401(k) vesting schedule. Also, the hospital limits shift schedules. "We only do nine-hour shifts in the department, with no more than about 150 hours total in a month," says Brown. Shorter hours encourage greater time spent with family and interests outside the hospital.

"It's important that our physicians become embedded in the community," explains Brown. "It keeps them more stable and helps prevent burnout."

The result? Huntsville Hospital now has 23 full-time board-certified emergency medical physicians. These physicians make more money than they would have in the past because compensation has been linked to efficiency. The hospital has increased coverage from 70 hours per day to 126 hours, and it no longer pays \$1.2 million annually in subsidy. Under the new program, costs for coverage have been reduced more than half and quality has improved.

Says Brown, "We've validated that if you can give people the right environment to work in, structure incentives fairly, and provide security, you can achieve your labor goals."

GOING WITH THE FLOW

See the Institute for Healthcare Improvement web site at www.ihfi.org, and click on "Patient Flow" for an improvement tracker tool that will help you determine the degree to which your hospital's ED is experiencing throughput challenges, practical tips for improvement, and links to useful resources.

When two criteria are met, the department issues a prediversion alert across the hospital in which nursing managers from other departments are called on to assist (for example, sending manpower, providing stretchers, or moving discharges out), and the radiology department gives higher priority to ED patients.

Streamlining departmental protocols. Leadership also examined department protocols for ways to minimize delays while maintaining clinical excellence. As an example, ED physicians now read X-rays first, rather than waiting for radiology to perform initial viewing. Also, orders to admit a patient no longer have to be given in writing, which typically required an on-site physician to consult with others off-site. "Now, we encourage medical staff to give orders over the phone," says Cunningham. "And that's been pretty successful."

Robert Wood Johnson University Hospital Hamilton

An efficiently run, patient-friendly ED helped New Jersey's Robert Wood Johnson University Hospital Hamilton receive the 2004 Malcolm Baldrige National Quality Award. Achievements leading to the award include the hospital's 15/30

program. Under the program, patients coming into the ED are guaranteed to see a nurse within 15 minutes and a physician within 30 minutes or the visit is free. When the program started in 1998, the hospital was seeing about 25,700 patients annually in the ED. In 2004, this number increased to 50,400—a 96 percent increase. The change has driven overall business, with 70 percent of inpatient admissions at the 200-bed acute care facility coming from the ED.

Despite these increasing demands, the ED has maintained a tradition of high patient satisfaction. Scores using the Press Ganey national benchmarking tool are within the top 10 percent across the nation for ED satisfaction. In addition, the percentage of patients who leave the department without treatment is 1.8 percent, an impressive figure when compared with the best practice level of 2 percent. The following actions have been strong contributors to RWJ Hamilton's performance excellence, according to Christy Stephenson, president and CEO; Peter Newell, senior vice president and CFO; and Deb Baehser, vice president of patient care services.

Building multidisciplinary, hospitalwide teams to oversee and implement change. The ability to move

MEASURE TO MANAGE

Most emergency department improvement initiatives begin with using performance data to indicate opportunities for improvement. Yet just because a measurement is accurate doesn't mean it's valid. As an example, consider Boston Medical Center's experience with investigating housekeeping's role in inpatient bed turnover. On average, it took about 20 minutes to clean a bed.

Unfortunately, time spent cleaning was not the right parameter. Leadership discovered a better measure was how long it was taking for a bed to be ready for

use. "I was stunned when it came out that it took us about 100 minutes, knowing full well that only 22 of those minutes are actually spent cleaning the bed," says John Chessare, MD, BMC's chief medical officer. Using bed availability as the new point of reference, staff determined the supply of housekeepers needed to be greater at certain peak times to better meet demand. "We've got it down to about an hour now," says Chessare. "We still don't think that is good enough, but it is a tremendous improvement and makes the cycle time of getting the patient out of the ED better."

TIME IS MONEY

Although the marginal cost of treating additional patients in the emergency department may not seem significant, overcrowding can lead to increased healthcare costs. As an example, consider research that found inpatients remaining in the ED after admission had a greater average length of stay than those who were promptly transferred to inpatient units. During this three-year study, the cost to a 490-bed hospital between 1998 and 2000 for

excess hospital days associated with these patients who spent more than one day or overnight in the ED waiting for a bed was \$6.8 million. Researchers estimated the 8,455 excess hospital days cost the hospital an average of \$800 per day.

Source: Emergency and Acute Care System: Process, Policy and Contributing Factors, Part 2, National Institute of Health Policy, August 2002.

patients in a timely manner relies on the interactions of many different areas throughout the organization. "We knew we needed a team of professionals composed of more than just the ED's staff," says Stephenson. Planning for the 15/30 program also required involvement from the intensive care unit and critical care areas, radiology, laboratory services, registration, finance, patient relations, nursing, plant operations, and other support functions.

The throughput initiatives reflect these collaborative discussions. Just a few examples of supporting processes include:

- > Work redesigns that included initiation of bedside registration
- > Creation of a greeter position responsible for directing patients from the lobby to their destination
- > Implementation of 24-hour triage
- > Staffing the prompt care area (RWJ Hamilton's fast-track ED) with nurse practitioners
- > Creation of a 24-hour rapid admit nursing team to support the inpatient unit (Rapid admit nurses complete the nursing assessment and paperwork that needs to be completed so patients can be received in a timely manner.)
- > Creation of a bed manager position responsible for patient flow (This nurse oversees the flow of ED admissions—for example, following up on patients waiting for lab results or external

physician consultation—and ensures the timely transfer of ED patients to assigned inpatient beds.)

- > Adding a physician to the triage area and a second triage nurse during high-traffic times of the day
- > Intake process changes that have allowed for a chart to be generated quickly while the patient is still in triage

Optimizing technology. Advances in technology also have been important. The hospital implemented a picture archiving and communication system in its radiology department that interfaces with the computer system in the ED so that when a radiologist reads a report, it automatically populates into the ED system. "That has dramatically improved our turnaround," says Baehser.

The ED also makes use of a physician order entry system by which the physician can place an order into the computer and it will automatically generate to the unit secretary's screen at the department, lab, or radiology where needed. It also automatically generates to a nursing screen if there's a medication that needs to be ordered.

Physicians use this system to create the patient's chart, add progress notes, insert order requests, and document care. All of these data are captured electronically, and the result has been an increase

LEARN MORE

HFMA's audio webcast "Finding Emergency Department Profitability: Transforming Your ED from Loss Leader to Profit Center" is available for purchase at www.playbacknow.com/search/index.cfm?orgname=hfma. Simply scroll down to 10/14/2004.

in the amount of chargeable activities that the department is capturing—the first month of operation demonstrated about a 10 percent to 15 percent increase.

Aligning incentives. RWJ Hamilton ensures its performance goals reach beyond senior administration and management to every staff member. With its Engage Every Employee program, staff are recognized and rewarded for meeting patient satisfaction and financial goals specific to their position and department. These goals are written on cards that each staff member carries. Goals this past year for many of the employees in the ED are related to reducing supply costs.

Improved point-of-service payment collection also has been a primary focus for the department, says Newell. The effort appears to be paying off: In February 2004, the ED's point-of-service collections were about \$20,000 per year. These days, the amount has increased to between \$5,000 and \$7,000 a week.

"I think once you align people in the ED as well as individuals throughout the hospital on goal achievement for specific margin management initiatives, you're much more likely to see success," says Newell.

Boston Medical Center

Boston Medical Center is a 547-bed not-for-profit hospital that provides Level I trauma services. It is the major safety-net provider in Boston and the primary affiliate of the Boston University School of Medicine. BMC was one of 10 hospitals across the nation to receive a grant from the Robert Wood Johnson Foundation to participate in the Urgent Matters project, an initiative to help hospitals eliminate ED crowding and improve the timeliness and availability of ED care. It then became one of four participants to receive additional funding for a special demonstration project. BMC examined ways to "smooth"

patient flow through improved scheduling of elective surgery, initially cardiothoracic and vascular surgery.

BMC's average total ED throughput time has dropped from 4.5 hours to 3.75 hours—a figure that amounts to about 525 hours saved per week. Over the past year, it also has decreased ambulance diversion hours by 20 percent. This improvement has had a positive impact on the bottom line since the hospital estimates it misses on average two admissions for every hour on diversion, and two admissions equates to about \$20,000 in forgone revenue.

Highlights of some of BMC's strategies include the following, according to John Chessare, MD, chief medical officer; Jonathan Olshaker, MD, chairman of the ED; Niels Rathlev, MD, vice chairman of the ED; and Linda Fisher, RN, nurse manager.

Using rapid cycle change technique. This quality improvement method involves testing changes on a small scale, measuring the results, and then determining whether the change was successful. "I don't think there was one revolutionary change that decreased our throughput time dramatically in one week. It really was a series of smaller changes over time that created a positive change," says Olshaker.

Examples of rapid cycle change projects included looking at ways to safely limit the number of X-rays and time spent performing X-rays. "For example, decision rules have been published that say it's safe not to obtain ankle radiographs or c-spine films for a certain subset of low-risk patients," says Chessare. "We implemented that." BMC also changed the way it does pelvic ultrasounds for patients with possible ectopic pregnancy. "We see a lot of these patients, and in the past, we would provide fluids and wait for them to

have a full bladder before we would scan them. Now we do a different approach, which is to use a transvaginal probe. It has much better resolution, and it also means we don't have to wait for the filling of the bladder."

Advantages to the rapid cycle change approach are flexibility and the ability to initiate change quickly with minimal financial risk. Also, the organization was able to build on successful results and achieve organizational buy-in. "Some projects were successful and some were not," says Rathlev. "But our staff were much less threatened with trying something new for a week or maybe even a couple of days because they knew at the end of that period of time that if there was a great deal of dissatisfaction or the measurements simply didn't bear out that this was an improvement, we would simply scrap it."

Smoothing surgical scheduling to improve ED outflow. "The biggest impediment to the ED doing its work well is being able to get the admissions out," says Chessare. "It's not the only impediment, but it's the largest single fixable impediment." One challenge at BMC had been that the intensive care unit tended to get backed up mid-week, when it experienced greatest volumes. To reduce the backlog, BMC began scheduling elective surgeries more evenly throughout the week and switched to an open scheduling system, where surgeons book time in the operating room only when they need to (instead of the traditional block approach where surgeons book fixed blocks of time in the operating room every week). The result has not only been better flow out of the ED, but also fewer elective surgeries have needed to be bumped to accommodate urgent cases. The number of cancelled or delayed surgeries went from 330 to just three within five months.

Improving bed management. Another way the ED worked with inpatient admissions to improve

flow was by implementing a pull system and a bed czar position. In a pull system of service, the timely transition of work from one step in the process to another is the primary responsibility of the downstream process. Thus, inpatient units anticipated demand based on measuring demand over time and prepared to have a bed ready into which the patient could be moved as soon as the demand occurred. Complementing this process shift was creation of a bed czar position responsible for tracking bed availability and coordinating timely outflow from the ED. After making these changes, the ED saw a 50-minute improvement from the average time between the disposition decision and admission.

BMC credits its successes to exemplary teamwork from each department's leadership and staff, the physicians, and the administration. "Unless the whole hospital is trying to operate as if it is a system, you will not maximize use of your ED," says Chessare. "As a matter of fact, some places in town have built bigger EDs, and it's had no positive effect on the throughput time of the ED."

What Can You Do?

ED overcrowding and inefficiency can be costly, leading to higher treatment costs, staffing difficulties, and poor patient satisfaction. Although every hospital's situation is unique, examining ED management practices of peers can prove useful when addressing these challenges. In addition to looking at the examples discussed for inspiration, a variety of resources are available from government agencies, not-for-profit organizations, and private firms. Financial leadership can play a valuable role in supporting ED success by sharing best practices and benchmarking data, facilitating continuous operational data collection and tracking for the throughput process, and taking an active role in creating a culture of high performance. ●

Sarah Norland is a senior editor in HFMA's Westchester, Ill., office.