ED Management®
The monthly update on Emergency Department Management

AHC Media LLC

IN THIS ISSUE

■ **Enclosed in this issue:**
— Evaluation Form for CNE/CME Subscribers

Financial Disclosure:
Author Steve Lewis, Senior Managing Editor Joy Dickinson, Associate Publisher Coles McKagen, and Nurse Planner Diana S. Contino report no consultant, stockholder, speaker's bureau, research, or other financial relationships with companies having ties to this field of study. Executive Editor James J. Augustine discloses he is a consultant for The Abaris Group and conducts research for Ferno Washington.

MARCH 2008
VOL. 20, NO. 3 • (pages 25-36)

Study: Wait times continue to lengthen — Visits increase as EDs disappear

Some EDs cut wait times despite odds stacked against them

A new study published online by the journal *Health Affairs* had some sobering, though perhaps not surprising, news for ED managers. Between 1997 and 2004, waits increased 36% (from 22 to 30 minutes, on average) for the more than 90,000 ED patients whose records the researchers reviewed.[1]

The study, which analyzed the time between a patient's arrival in the ED and when they were first seen by a physician, used data from the National Center for Health Statistics. Even more alarming were the results for more seriously ill patients:

• For those patients who a triage nurse classified as requiring immediate attention, waits increased by 40% (from 10 to 14 minutes).

• For ED patients suffering heart attacks, there was a 150% increase: from eight minutes in 1997 to 20 minutes in 2004.

• One-quarter of heart attack victims in 2004 waited 50 minutes or more before seeing a doctor.

During the time period of the study, the number of ED visits increased from 93.3 to 110.2 million. At the same time, the number of hospitals operating 24-hour EDs decreased by 12%, according to the American Hospital Association.

For ED staff and managers, these numbers should come as no surprise, says lead author **Andrew P. Wilper**, MD, who is a fellow in internal medicine at Harvard Medical School and affiliated with the Cambridge Health Alliance, both in Cambridge,

Executive Summary

Despite seemingly insurmountable odds, several ED managers have been able to reduce wait times — in many cases, quite dramatically. Here are some of the strategies they say will help you decrease those waiting times:

- Create a chest pain policy that focuses not only on getting patients back as quickly as possible, but also frontloads your work force.
- Encourage staff to bring EKG results to the ED doc as soon as they are obtained.
- When seeking important hospitalwide changes, remind your board of the political consequences of a poor ED image.

MA. "It also confirms what many people who came to the ED as patients have seen," he says.

But why are waits increasing even more dramatically for the patients who most desperately need immediate attention? "The thinking is that it is probably related to the general overcrowding, although I want to add we don't prove causation," says Wilper. "Another important cause is the bottlenecks created by the lack of available inpatient beds."

As for what can be done about, says Wilper, "We need to get more resources in the ED," in terms of staffing and space. "But in addition, we have to see some change in the financial incentives hospitals receive for patients who come to the ED," he says.

In an observation all too familiar to ED managers, Wilper notes that patients who come to EDs are seen by administrations as relative money losers. "Without having to invoke base intentions, we see that the financial incentives are not there to expand EDs, and that's a big part of the problem," says Wilber.

Bucking the trend

Despite these undeniable trends, and despite the fact that many of the solutions offered by Wilper seem to be out of the hands of ED managers, there are EDs across the country that are bucking these trends and reducing their wait times.

"Our wait times have definitely come down in that [the study's] time frame," asserts **Jeff Nickel**, MD, FACEP, medical director of the ED and chairman of medicine for Parkview Hospital in Fort Wayne, IN, which sees more than 60,000 ED patients a year.

"We have created a chest pain policy that focuses not only on getting these patients back as quickly as possible — if not immediately — but on frontloading the entire work force."

It is his ED's policy that when a patient presents with chest pain, they go immediately to a bed, he says. When they get to the bed, an EKG is ordered by protocol, which, says Nickel, brings down their door-to-data time. The results are brought immediately to a physician. **[A copy of the protocol is available with the online issue of *ED Management.* To access the protocol, go to www.ahcmedia.com. For assistance, contact customer service at (800) 688-2421.]**

If the EKG shows an acute myocardial infarction (MI), "the doc goes in right away, and a page goes out simultaneously to everyone on the 'MI activate' team," says Nickel. That team includes anyone who might possibly be involved in the patient's care: representatives from the main lab, the cath lab, and radiology, as well as the chaplain and the critical care unit (CCU) charge nurse. "We get the cardiologist at the bedside within 10 minutes of arrival," says Nickel. "The nurses will even prep the patient, shaving the groin, and so forth. These little things eliminate the time it takes to get them ready for catheterization."

To reduce door-to-doc times for any condition, says Nickel, "You have to have everyone involved — from pre-hospital providers to anyone who would be in contact with the patient during their stay — to come up with

ED Management® (ISSN 1044-9167) is published monthly by AHC Media LLC, 3525 Piedmont Road, N.E., Six Piedmont Center, Suite 400, Atlanta, GA 30305. Telephone: (404) 262-7436. Periodicals postage paid at Atlanta, GA. POSTMASTER: Send address changes to **ED Management**®, P.O. Box 740059, Atlanta, GA 30374-9815.

AHC Media LLC is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

This activity has been approved for 12.5 nursing contact hours using a 60-minute contact hour.

Provider approved by the California Board of Registered Nursing, Provider #14749, for 12.5 Contact Hours.

This program has been approved by the American Association of Critical Care Nurses (AACN) for 9 Contact Hours, Category O, file number 10852.

AHC Media LLC is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

AHC Media LLC designates this educational activity for a maximum of 18 *AMA PRA Category 1 Credits™*. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Approved by the American College of Emergency Physicians for 18 hours of ACEP Category 1 credit.

This activity is intended for emergency physicians, ED nurses, and other clinicians. It is in effect for 24 months from the date of the publication.

Opinions expressed are not necessarily those of this publication. Mention of products or services does not constitute endorsement. Clinical, legal, tax, and other comments are offered for general guidance only; professional counsel should be sought for specific situations.

Subscriber Information

Customer Service: (800) 688-2421 or fax (800) 284-3291 (customerservice@ahcmedia.com). **Hours of operation:** 8:30 a.m.-6 p.m. Monday-Thursday; 8:30 a.m.-4:30 p.m. Friday, EST. Subscription rates: U.S.A., one year (12 issues), $489. Add $17.95 for shipping & handling. Outside U.S., add $30 per year, total prepaid in U.S. funds. Discounts are available for group subscriptions. For pricing information, call Tria Kreutzer at (404) 262-5482. Missing issues will be fulfilled by customer service free of charge when contacted within 1 month of the missing issue date. Back issues, when available, are $82 each. (GST registration number R128870672.)

Sources

For more information on reducing wait times, contact:

- **Eric Fete**, RN, BSN, DO, Medical Director, Emergency Department, Southeastern Ohio Regional Medical Center, Cambridge, OH. E-mail: EFete@emp.com.
- **Jeff Nickel**, MD, FACEP, Medical Director, Emergency Department, Parkview Hospital, Fort Wayne, IN. E-mail: JRNickMD@aol.com.
- **John Reid**, Chairman of Emergency Services, Cape Fear Valley Medical Center, Fayetteville, NC. Phone: (910) 609-4000.
- **Andrew P. Wilper**, MD, Fellow, Internal Medicine, Harvard Medical School, Cambridge, MA. Phone: (503) 260-4948.

the protocol. It's amazing what you can do when you all get together to make some improvement." If, as an ED manager, you try to do something like this as an isolated department, he adds, you never will be successful.

At Southeastern Ohio Regional Medical Center in Cambridge, as soon as an EKG from an ED chest pain patient is printed, "Typically, they bring it to us right away and stick it in our face," says **Eric Fete**, DO, the ED medical director.

It was not always like this, he emphasizes. "We fine-tuned our process last year," he says. "Before, the EKGs stacked up on the desk, but we decided to have the lab give it personally to the doc — or at least tell us the results were in — and we've been pretty consistent."

Door-to-doc times at the ED, which sees about 34,000 patients a year, average just more than half an hour for all patients. In terms of chest pain patients, however, "we pretty much have a policy that the EKG is done [immediately] and they get to the doc in five minutes — and we meet that," says Fete.

The chest pain protocol dictates that if a patient coming into the ED has a chief complaint of chest pain, he or she is brought right back for treatment — not triaged "That's how it should be," he says. "We mainly look for heart attacks, angina, and so forth. It's tailored to acute coronary syndrome."

One of the most important components of improving patient flow is the culture change of moving patients speedily, Fete says. "You really want to get patients back as quickly as you can and get everyone involved," he says. "It's a team culture kind of thing, and that's harder to do than other changes."

Since many of the flow problems faced by EDs are really centered in other parts of the hospital, it's often necessary to win the support of other department heads and even the hospital board to get the necessary changes in place. For **John Reid**, MD, chairman of emergency services at Cape Fear Valley Medical Center in Fayetteville, NC, that involved convincing his board to invest $2.6 million in an outside consulting firm.

"One of the 'Aha' moments came when I was trying to convince the CEO our problem had to do with bed availability upstairs, like finding beds that were really available but were not reported as such," Reid recalls. "The CEO decided to visit the ED for four days in a row. He actually marched the floors and found available beds that had not been reported, so he realized it was not just an ED problem."

To sell the idea to the rest of the hospital administration and board, Reid showed them that improving the process was in their own best interests. "The reputation of the ED had been pretty bad, and everyone in town had a story about the ED," says Reid, who realized that the hospital board members were also local politicians.

"The board was made up of county commissioners," he explains. "I told them that to change the image of the ED in the eyes of the community would be a win for them as politicians as well as a win for the public." **(Read about the changes the Cape Fear ED made, below.)**

Reference

1.Wilper AP, Woolhandler S, Lasser KE, et al. Waits to see an emergency department physician: U.S. trends and predictors, 1997-2004. *Health Affairs.* Doi: 10.1377/hlthaff.27.2.w84. Published online Jan. 15, 2008. Accessed at content.healthaffairs.org/cgi/content/abstract/hlthaff.27.2.w84v1. ■

Consultant, more staff lead to ED turnaround

Door-to-doc time drops 1 hour 20 minutes

One year ago, the waiting room situation in the ED at Cape Fear Valley Medical Center in Fayetteville, NC, was "a sinking ship," according to **John Reid**, MD, chairman of emergency services. "It took 12 hours at least to get [an admitted patient] upstairs," he recalls. In just one year, the department has made the following improvements:

• The total time patients who were admitted to the hospital stayed in the ED went from an average of 7.7 hours

Executive Summary

Process improvement changes can reduce wait times, length of stay, patients who left without being seen, and significantly boost your patient satisfaction scores. Here are some important lessons learned by the ED team at Cape Fear Valley Medical Center in Fayetteville, NC:

- If you are using an outside consultant, visit the facility of one of their clients to see if their approach has been successful.
- Divide your staff into teams, each of which is assigned a specific zone in your department.
- Employ informatics to organize and maintain control over your new processes.

in November 2006 to 5.5 hours in November 2007.

• The percentage of all discharged patients who were seen in less than four hours averaged 64.2% in November 2006. In November 2007, it was 79.3%.

• The percent of patients who left without being seen (LWBS) was 5.8% in November 2006. In November 2007, it was 2.1%.

• The average length of stay (LOS) for all discharged patients was 4.03 hours in November 2006. In November 2007, it was 3.02 hours. The goal is 2.5 hours.

• The door-to-provider time was over two hours in January 2007. In January 2008, it was about 40 minutes.

Key process improvement changes were made at the recommendation of Richmond, CA-based EMPATH Consulting, a hospital consulting firm. In addition, 10 new ED doctors were hired.

'Dysfunctional' front end

The front end was very dysfunctional, says **Linda K. Dietterich**, RN, MS, CEN, CAN, service line director for the ED.

"All the patients would come in and line up in front of the intake nurse, who would just write down their complaint," she says. They would wait for registration without having been triaged, Dietterich says.

Another major bottleneck was the way they were triaging ambulance patients, adds **John Backus**, RN, BSN, clinical director of emergency services. "We would receive several in an hour and up to 100 a day," he says. The past practice was for the lead charge nurse to perform triage on EMS arrivals, which created delays in ED bed assignment/primary care nurse assignment, Dietterich explains. "This process would take up to 60 minutes to complete from patient arrival to ED bed assignment," she recalls.

Recognizing the seriousness of the problem, the ED management team determined outside help was needed. After convincing the administration to invest $2.6 million, they hired EMPATH in January 2006. "Some of our team went to Sacred Heart Hospital in Spokane [WA] with EMPATH and saw with their own eyes that the processes really did improve throughput," says Dietterich. In October 2006, the team from EMPATH began a 62-month on-site improvement process.

They changed the whole front-end process, Dietterich recalls. A greeter, or guest services representative, provides initial contact to all incoming patients and visitors and serves as a liaison between the visitors, patients, triage nurse, and ED lead charge nurse. "Our access representative does a 'quick reg.' to get their name in the system, and then they go right to a triage nurse," says Dietterich, who adds that this process has cut triage time in half.

Also, EMPATH recommended the concept of having teams, with each team having a doctor, a nurse, a technician or paramedic, and a unit secretary. **(For more detail on the team concept, see the story, p. 29.)** That concept has improved other processes, such as ambulance receiving. It begins with the EmSTAT informatics, from Chicago-based Allscripts, recommended by EMPATH. **(For more information on EmSTAT, see resource box, p. 29.)** Information about incoming patients goes right into EmSTAT, and the lead charge nurse assigns them to a zone, Dietterich explains. "They never even see the lead charge nurse because everyone knows where they are going," she says.

With the team concept, EMS calls about patients coming in via ambulance. Once the lead charge nurse designates a zone, the team leader in that area manages the placement and assessment of the patient, Backus says.

Getting more doctors

In addition to convincing administration to invest in EMPATH, Reid also had to sell them on hiring more staff.

"We did not have enough physician staffing, but it was a tough sell," he admits. "I did not give them a price tag, but instead focused on quality. Our 2006 volume was 90,000 and we did not have anywhere near enough docs."

The selling points centered on the ED's increased volume and the staffing models at other EDs with similar volumes, Reid says. "In addition, we had [physician assistants] seeing a lot of sick people, so it was a patient safety and quality issue as well," he says. He gained the board's blessing to hire 10 new board-certified physicians.

In addition to speeding processes and improving

Source/Resources

For more information on streamlining front-end processes in ED, contact:

- **Linda K. Dietterich**, RN, MS, CEN, CAN, ED Service Line Director, Cape Fear Valley Medical Center, Fayetteville, NC. Phone: (910) 609-7891. E-mail: ldietterich@capefearvalley.com.

For more information about ED process improvement, contact: EMPATH Consulting, Richmond, CA. Phone: (888) 436-7284. E-mail: info@empath.md. Web: www.empath.md.

For more information on EmSTAT ED informatics, contact: Allscripts in Chicago. Phone: (800) 654-0889. Web: www.allscripts.com/default.asp.

care, the new systems and additional staff have had a positive impact on patient satisfaction, says Dietterich. "It's been huge," she says. "In July 2006, we were in the ninth percentile, and now we are hovering around the 79th." In the middle of a recent quarter, she adds, the department hit the 99th percentile. "Just to get in the top quartile and be able to sustain that was amazing," she says.

Dietterich says the department has maintained top quartile ranking percentile (82%), as benchmarked with EDs that have more than 70,000 visits per year by patient satisfaction firm Press Ganey. "Currently, year-to-date patient satisfaction ranking in our ED, is at the 92nd percentile," she adds. ■

Emergency department divided into teams, zones

New receiving processes, a new team structure, and zone divisions in the ED at Cape Fear Valley Medical Center in Fayetteville, NC, have enabled the hospital to cut triage time in half, according to **Linda K. Dietterich**, RN, MS, CEN, CAN, service line director for the ED.

"In the past, the ED was divided according to specialization by patient complaint, such as chest pain," Dietterich says. "Now, the ED is divided into zones, with equal distribution of beds, which provides treatment for any incoming patient complaint in every zone."

Each zone, which consists of eight to 11 beds, is assigned a team that provides overall care of the patients within that zone, she continues. Each team consists of an ED physician, RN team leader, ED staff nurses, ED technicians, paramedic, unit secretary, and patient access representative.

The RN team leader monitors and maintains patient flow within the zone, provides updates to the ED lead charge nurse regularly to ensure early initiation of backup when needed, and provides notification of pending admissions and discharges within the zone. This communication provides the ED lead charge nurse with bed availability, which facilitates bed assignments for new arrivals, says Dietterich. The zone staff nurse assignment is based on patient acuity, with the goal of nurse-to-patient ratio being 1:4.

The ED technicians/paramedics assist the ED provider and staff nurse with bedside treatments. The zone access representative completes patient registration activities at the bedside. ■

Streamlined process cuts time to triage in half

Leadership retains only the most essential steps

The time-to-triage in the two very busy EDs in the Children's Healthcare of Atlanta system has been cut in half in less than a year through a process improvement initiative that eliminated several steps in the initial assessment.

In a statistical review during winter 2006, "We were seeing a 28- to 47-minute mean wait time to triage during busy hours just to see an RN, and we knew that was entirely too long," reports **Marianne Hatfield**, RN, BSN,

Executive Summary

The two EDs in the Children's Healthcare of Atlanta have reduced their time to triage by 50% by eliminating assessment steps they considered nonessential.

- An ED leadership team, including assistant managers, administrative resource nurses, educators, trauma coordinators, managers, and physicians, reviewed the existing process.
- Steps eliminated included obtaining vital signs, conducting a full neurological assessment, using the stethoscope, or initiating procedures such as pain control or fever meds.
- The process was piloted with a select group of staff.

Source

For more information on reducing time to triage, contact:

- **Marianne Hatfield**, RN, BSN, System Director of Emergency Services, Children's Healthcare of Atlanta, Atlanta. Phone: (404) 785-4968. E-mail: marianne.hatfield@choa.org.

system director of emergency services for Children's Healthcare of Atlanta. The ED at the Egleston campus sees about 40,000 patients per year, and the ED at the Scottish Rite campus sees 80,000 patients per year.

"We thought we had done all we could do, like eliminating triage when we had rooms available, but once we had gridlock, the wait became entirely too long," she says.

This wait time led to an ED planning meeting in April 2007, adds **Kim Crawford**, RN, an assistant nurse manager in the ED on the Egleston campus. "We had looked at other facilities facing similar issues and had documented their experiences," Crawford says. "We basically decided we needed to look at our process and see what was absolutely necessary when the patient walked in the door vs. what could be done at a later time."

Also, Hatfield says, they already had converted to the Emergency Severity Index (ESI) tool for triage that stratifies patients on a scale of 1 to 5, with 5 being the least urgent. "But it had not given us the reduction we were looking for, so, we went to the basics of the military approach to determine who is sick and who is not, and if they are sick, just how sick they are," she says.

Eliminating steps

The bicampus ED leadership team, which includes assistant managers, administrative resource nurses, educators, trauma coordinators, managers, and Hatfield, had participated in the earlier meetings. The team met again in April 2007 and brought in frontline staff and physicians.

"They were almost doing a full general assessment before, and they cut it down to the most essential steps," says Hatfield. Those steps were:

- identification;
- presenting symptoms;
- pertinent medical history;
- diseases exposure (i.e., travel outside the United States in the past month);
- allergies;
- a very brief ABCD (Airway, Breathing, Circulation, and Disability) visual assessment.

"We streamlined the process down to the things we needed to have to correctly sort that patient to the appropriate acuity level without causing harm to the patient, ourselves, and the department," Crawford explains. "We eliminated vital signs and other parts of the process such as a full neurological assessment, using the stethoscope, or initiating procedures like pain control or fever meds."

Process piloted first

At the end of May, the new process was introduced to a selected group of staff in a pilot program. Certain high-volume days and times were selected. "Scottish Rite is very predictable, and we chose 3 p.m. to 3 a.m.," says Crawford. "We did 11 a.m. to 3 a.m. at Eggleston." These shifts, she notes, involved between six and 10 nurses and technicians.

At Egleston, Crawford held a special meeting on the process, sharing step-by-step diagrams she had made. "I also showed them on a [computerized graphic] presentation how backlogged we were," she adds.

The entire program went live on June 16. "At first, the staff did not like it, but then, when do they *ever* like a new process?" says Hatfield. "However, it made such a tremendous difference, it helped them buy in quickly." Time to triage by registered nurse decreased from 27 minutes to eight minutes, she says.

In addition to slashing wait times, the percentage of patients who left without being seen (LWBS) also was reduced dramatically, says Hatfield. "It went from 1.7% to 0.7% at Egleston, and from 0.9% to 0.3% at Scottish Rite," she reports. Since patient satisfaction has always been well over 90%, it was not really affected by the new process, Hatfield says.

Another factor that contributed to the success of the new process was the tightening of requirements for triage nurses, she says. "We created a more stringent policy, because you want them be a little more experienced, and make sure they really have their triage skills down," Hatfield explains. Nurses with no pediatric ED experience must have one year of ED experience, says Crawford, and if they do have pediatric ED experience, "we require a bare minimum of six months."

This process improvement initiative would work in any ED, pediatric or adult, Hatfield says. Crawford says, "The other interesting thing is that our system really tapers staff [according to demand], as many EDs do, but even with minimal staff, like three nurses at 7 a.m., we are still able to do this process."

They also decided to look at whether they had more "missed" triages with the new process, says Hatfield, "and we actually saw improvement in our triage acuity assignment." ■

Mobile unit helps ED cut LWBS in half

Ultimate goal: Reduce turnaround to 90 minutes

The ED at Jefferson Memorial Hospital in Ranson, WV, has reduced its rate of patients who leave without being seen (LWBS) by 50% with the addition of a mobile unit located immediately outside the main department.

The unit is staffed by a registered nurse, a nurse practitioner, and a technician who floats between the new unit and the main department. An ED physician is available to consult as needed. The unit was badly needed, managers say.

"About a year ago, we looked at our volume and capacity and it became painfully apparent there was no way with this footprint [the size of the main department] that we could support the process changes needed to meet our goal, which was to turn our door-to-discharge time around," recalls **Tina Coad**, RN, MSN, MSM, CEN, FACHE(d), the ED nurse who instituted the addition of the unit, which has four treatment rooms. The American Institute of Architecture (AIA) recommends 1,500 to 1,800 visits per bed, she says. "We had eight beds and were up to 22,000 visits a year," she says.

The mobile care unit also is equipped with computers, a medication dispensing system, and monitors to view digital X-rays.

Another key goal was to achieve a 75- to 90-minute average door-to-discharge time for nonemergent patients. **Denise Carter**, RN, BSN, the ED nurse manager, says, "Sometimes, it was as long as two to three hours just to get into a bed."

Executive Summary

One viable option for reducing the stress on an overburdened ED is the leasing of a mobile unit. For a relatively modest cost, it can be used as a fast-track department, as the ED at Jefferson Memorial Hospital in Ranson, WV, is doing.

- The unit at Jefferson is staffed by a registered nurse, a nurse practitioner, and a technician who floats between the mobile unit and the main ED.
- The mobile care unit has four beds and also is equipped with computers, a medication dispensing system, and monitors to view digital X-rays.
- The triage nurse determines whether a patient goes to the mobile unit or the main ED.

Realizing the seriousness of the situation, Carter and Coad "went to the drawing boards to determine what we could do to create additional space for the ebbs and flows of patients that was not too painful, not too expensive, and would give us immediate relief," says Coad. "I had worked with mobile care units in the past, so we went and found one that could be easily mocked up to be an ED care unit."

The unit, which is leased from Baltimore-based William Scotsman, costs $200-$300 per month. **(See resource box, p. 32.)**

Was it difficult to convince administration to make the investment? "It was a no-brainer — the easiest sell ever," she says. "If you just did the math you could see we were grossly underbedded. In the whole scheme of things it was not that expensive, and we could set it up right outside the [ED] door."

Basically, the mobile unit serves as a fast-track facility. The ED's previous internal fast-track was anything but that, managers say. "With those eight beds we had, when more serious patients came in they got the bed, and the fast-track patients had to wait," Carter explains. It was a double-edged sword, Coad says. "The fast-track area became the exact opposite," she says.

Now, when patients present in the main ED, they are seen by a triage nurse. Based on "very tight criteria" established cooperatively by the ED physicians, nurses, and nurse practitioners, the triage nurse determines whether they should go to the mobile care unit, Coad explains. Carter adds, "Even if they do, whatever testing can be done first — like X-rays, urinalysis, or strep cultures — is done [in the triage area], and they are then escorted to the mobile unit by the nurse and treatment is finished over there."

Although the mobile unit has been in use since August 2007, it is not yet possible to obtain "clean, scrubbed data" on just how much time it has saved, says Coad. There have been other infrastructure changes during that period. Also, they added a new ED physician leadership team recently and experienced some staffing challenges with nurse practitioner coverage for a short time, she explains.

In addition, says Carter, the hours of operation for the new unit were changed on Jan. 1. "At first, it was open from 11 a.m. to 11 p.m., but now we've started to have hours from 1 p.m. to 11 p.m.," she says. The times were changed due to the staffing changes, Carter says.

"We do know that we decreased walkouts, and that was our biggest problem," she says. Before the mobile unit was installed, the average rate reached 10%-12% in some months, Carter says.

Patients are very happy with the new mobile unit, says Carter, "and the staff loves it, too. It decompresses their patient bottlenecking." It was not necessary to add

Source/Resource

For more information on converting a mobile unit into additional ED space, contact:

- **Denise Carter**, RN, BSN, ED Nurse Manager, Jefferson Memorial Hospital, Ranson, WV. Phone: (304) 728-1701. E-mail: dcarter@jeffmem.com.

For more information on buying or leasing mobile units, contact: William Scotsman, Baltimore. Phone: (800) 782-1500. Web: www.willscot.com.

staff to run the mobile unit, she says. Instead, their time schedules were revamped to accommodate needs when the unit was open.

More help is on the way for the Jefferson Memorial ED. Earlier this year, a certificate of need to expand and renovate the existing ED was approved by the West Virginia Health Care Authority. The $4.6 million project includes a 5,000-square-foot expansion of Jefferson Memorial's existing ED from eight to 19 beds, additional parking, renovations to the waiting rooms, and the addition of a decontamination room.

Carter says the ED is planning on keeping the unit. "We will be going through a great deal of change with the construction process and will be using the mobile care unit to decompress some of those changes," she explains. ■

Process improvement helps PCP relations

30-minute guarantee increases referrals

A new process for handlings calls from primary care physicians not only has improved ED communications at Doctors Hospital in Columbus, OH, but it also has boosted relations with family physicians in the community — thanks in no small part to a 30-minute guarantee offered for those doctors' patients.

"The old process we had was basically a clipboard," recalls **Bruce G. Jones**, DO, FACEP, the ED medical director. "When people called in, there was no good way to track when they called, what to put on the board, and how to re-communicate the information to the other two sections of ED." The ED, which sees more than 60,000 patients per year, he explains, has three "pods" for handling patients — A, B, and C — with Pod C set aside for minor acuity patients.

To improve this process, Jones created an orange sheet, which is filled out by the ED physician who takes the call. **[A sample of the call-in log is available with the online issue of *ED Management.* To access the protocol, go to www.ahcmedia.com. For assistance, contact customer service at (800) 688-2421.]** The sheet includes the name of the referring doctor, the name of the patient, their main complaint, and who the primary care physician would like them referred to if they need to be admitted.

This sheet made the process very easy, says **Marcus Topinka**, MD, the ED research director and president of the Doctors Hospital medical staff. "We call out to the triage nurse and let them know the patient is coming," he says. It also gets called out to the registration person, who makes a copy and walks the copies over to other pods.

The bottom half of the sheet, explains Jones, is torn off and attached to the chart for prioritization. "When the doctor sees it, he hangs it up on the grease board alerts," he explains.

Because of the small ED [with only 23 beds], wait times often would be longer than Jones preferred. This wait time especially was a problem when primary care providers (PCPs) sent patients in to be evaluated, and they would have to wait.

"In an effort to get the work-up started on these more critical patients who were referred in from the PCP's office, we developed a '30-minute door-to-doc guarantee' for those patients," he explains.

Most important of all, he says, was that "we made a more concrete, well-defined, definitive process with communications." Having done that, however, "I took one step more and rolled the 30-minute guarantee into it."

The program initially was rolled out in November 2006 and then refined through a process of "trial and

Executive Summary

The ED at Doctors Hospital in Columbus, OH, has replaced a simple clipboard with a formal process for responding to calls from family physicians seeking to have their patients admitted. They have also instituted a 30-minute guarantee for those patients. Here are some of the strategies they used.

- An orange-colored sheet is filled out by the ED physician and copied to the other "pod" areas in the department.
- The bottom half of the sheet is attached to the grease board to alert other staff.
- ED docs must check off boxes indicating they have followed the required process steps.

Source

For more information on handling referrals from primary care physicians, contact:

- **Bruce G. Jones**, DO, FACEP, ED Medical Director, Doctors Hospital, Columbus, OH. Phone: (614) 544-1813.

error," says Jones. "We knew there were three things we had to do: take the phone call, photocopy the form to the other side, and call out front," he explains. "But, that means we expected our docs to do *all of these three things*."

To ensure compliance, Jones placed an "accountability box" on the bottom of the form for the physician's name, the date and time of the call, whether the form was copied to the other pods, and whether the front desk was called. "In addition, you must put the name of the person at the desk who you talked to," says Jones.

A 30-minute guarantee that was only for patients of family physicians initially was a concern for the ED doctors, Topinka concedes. "Our first reaction invariably was the worry that they might be triaged ahead of someone else," he shares, "but once we reassured that would not happen, then all of us quickly bought into it."

Doctors Hospital uses a five-level triage process, with Level 1 being the sickest. "If a '30-minute guarantee' patient comes in, they will never bump a patient who is a level above them," even if it means missing the 30-minute timetable of the guarantee, Topinka says.

They communicated the changes to physicians through inservices, staff meetings, and one-on-ones with each doctor, Jones says. "We have 32 residents, so we wanted to make sure this was only an attending-to-attending call," he says.

There also was some initial sensitivity among those patients who were not referred by their family physicians, he relates. "We changed the name we use from 30-minute guarantee to 'orange protocol,' because some patients had become curious when other patients were referred to as 30-minute guarantees," he notes.

Jones says the new process clearly has improved relationships with family physicians in the community. "Unfortunately, since our past process was loose, we have no way of knowing how many people called in before; thus, we have no baseline," he says. "I do know that since November 2006, we have obtained over 700 call-ins."

In addition, says Jones, "I am definitively aware of at least seven or eight patients that were heading to another hospital but were rerouted to us because of this process. Although I would like to think it is tons more, I can't prove that."

Jones also has extended the guarantee to local junior high school and high school athletic directors. "I have them call my cell phone," he says. "If I'm working, I take the call; if not, I call it in."

As for the guarantee itself, Jones reports that "Overall, we're averaging 28 minutes, and we hit our 30-minute goal 86% of the time." ■

'ED of the future' girded for disasters

Boost capacity and limit contamination

In 1999, "ER One," a high-tech ED designed for optimal response to mass casualty events, was just a gleam in the eye of **Mark Smith**, MD, FACEP, chairman of the Department of Emergency Medicine at Washington (DC) Hospital Center. While the $300 million facility, targeted for another part of the campus, has yet to be built, 10 patient rooms in the ED have been transformed to the specifications of the ER One as part of an initiative Smith calls "Bridge to ER One."

Here are some of the ways in which the "Bridge to ER One" rooms differ from typical ED rooms:

- The oversized rooms can readily be converted to two-patient rooms should the need arise.
- The corridor is slightly wider, to allow for more stretchers.
- All 10 rooms can be turned into negative pressure isolation areas.
- There is no recirculated air, so the risk of infection is reduced.
- The walls are made of a nonporous surface also designed to limit the spread of infection.

Executive Summary

Optimizing your ED to deal with mass disasters can also help make your current patients comfortable. Here are some changes instituted at Washington (DC) Hospital Center as part of its "Bridge to ER One" initiative:

- Patient rooms are oversized so that in a disaster they will be able to accommodate two patients.
- "ER One" rooms each have a shower and toilet, to avoid the contamination spread of common facilities.
- Rubber floors reduce stress and fatigue for staff members and ambulatory patients.

Source

For more information on ER ONE, contact:
- **Mark Smith**, MD, FACEP, Chairman, Department of Emergency Medicine, Washington Hospital Center, Washington, DC. Phone: (202) 877-7000.

• Rubber flooring, which is antimicrobial, also reduces the pressure on caregivers' feet and legs.

• Surfaces are coated with natural antimicrobial materials such as silver.

• Each room has a bathroom and shower, to eliminate shared bathrooms as a potential source of infection spread.

"Our ultimate goal is to build a full ER One on our campus to serve as a resource on a day-to-day basis as a demonstration facility — a national test bed for other EDs to [observe] and see how their departments should be enhanced or retrofitted," Smith says.

While in pursuit of funding for ER One, however, Smith realized his own ED had grown at a very rapid rate and needed to add incremental space. "Over the last year and a half, we have expanded into contiguous space that was a step-down ICU and renovated it into what we call our "Bridge to ER One," he explains.

As with "ER One" when it is built, the evaluation of "Bridge to ER One" never will be completed, says Smith, because new elements will be added as they are developed. However, he adds, the patients already are having a better experience. "We had had [a negative] experience with boarding patients, and this relieves that," he says.

The original ER One concept, created by Smith and his colleague Craig Feied, MD, also an ED physician, was based on several guiding principles, including capacity, capability, and flexibility.

In terms of capacity you need scalability, which is being able to go bigger without gridlock, Smith says. "In terms of capability, you've got to consider how you would manage highly contagious patients and keep operating when you yourself could be the target of direct attack, suffer collateral damage, or suffer major outages," he says.

The ER One concept calls for a 15% premium in room space. "That's very nice [space] for one family and patient, but easily used for two, allowing for 'graceful degradation' as opposed to catastrophic failure" when four or five patients would be crammed into one room, says Smith.

In ER One, the public or waiting space will be gridded with water and power and be rapidly convertible to patient care space. "We pay strict attention to the way infection is transmitted," adds Smith, noting that the typical ED may have one or two negative pressure rooms. "We think every room should be negative," he says.

Not every one of the 10 rooms is receiving full 'ER One' treatment, explains **Ella Franklin**, RN, CRC, an ED nurse manager and director of external partnership relations, research, and development for "Bridge to ER One."

Four patient rooms are designed to the best standards, while four others look like standard ED rooms, she explains. The other two rooms are set up for a concept called "healing design," which, she says, has been proven in pediatrics. "Certain design elements, like natural colors and tree patterns, can improve healing," she says. All 10 rooms have negative pressure.

"We will trial in this space so when we move to ER One, we will have hard evidence about which of our ideas bear out," says Franklin. He says environmental samples will be taken to see if the microbial load is lowered, and staff and patients in the 'healing design' rooms will be surveyed about fatigue at the end of the day.

Smith and his team have been seeking $75 million in federal funding to build ER One. Meanwhile, several corporate partners are supporting the cost of the ED space that already has been transformed. For example,

COMING IN FUTURE MONTHS

- Ethical questions over forced rectal exam result in lawsuit
- Majority of ED's docs resign — at the same time
- Massive explosion reiterates need for multiple burn casualty planning
- Actor's death focuses attention on patients with aortic emergencies

notes Smith, DuPont contributed the nonporous solid surfacing material, and Agion Technologies provided the silver coating. Steris Corp. just received Environmental Protection Agency approval for vaprosure, which is vaporized hydrogen peroxide that "kills *everything,*" he says, In addition, Herman Miller took one of its office furniture lines and created a central workstation that adheres to ER One design for staff collaboration. Designed for three workers, it can comfortably expand to five during a disaster, with additional outlets for phones and equipment built in to the work station. Microsoft Corp. has contributed Azyxxi, its new clinical information system. Cisco is providing its new voice-over Internet protocol, and Parco is offering an ultra-wideband tracking system.

"These are very forward-thinking companies who recognize some serious problems that have resisted solution, and realize that nothing beats trying solutions out in a real-life medical setting," Smith concludes. ■

Association publishes pandemic flu guide

The New Jersey Hospital Association (NJHA) has published the first installment of *Planning today for a pandemic tomorrow*, a guide that hospitals can use to develop or assess a pandemic flu response plan. The guide includes the following topics:

- medical supplies;
- pharmaceuticals;
- surgical supplies;
- patient comfort supplies;
- laundry;
- food services;
- housekeeping;
- morgue;
- transportation services;
- laboratory;
- radiology;
- respiratory therapy and care;
- waste removal;
- central sterilization;
- vendor listing.

It will address critical planning areas such as clinical care, communication, ethics, finance, human resources, leadership, operations and supplies. The first installment, or module, addresses supplies, logistics and support services. Other modules will be posted online over the coming months.

"Our objective was to develop a resource tool that would allow hospitals to drill down to a planning level that would give greater assurance of continuity of care during emergencies. But the modules can be used in many health care settings," said Valerie Sellers, NJHA's vice president of health planning, in a prepared statement.

The first installment and more detailed information about the guide can be found at www.njha.com/quality institute/supplies.aspx. For additional information about the contents of this guide, contact NJHA's Health Planning Department at (609) 275-4020. ■

CNE/CME instructions

Physicians and nurses participate in this CNE/CME program by reading the issue, using the references for research, and studying the questions. Participants should select what they believe to be the correct answers, then refer to the answer key to test their knowledge. To clarify confusion on any questions answered incorrectly, consult the source material. **The semester ends with this issue.** You must complete the evaluation form provided and return it in the reply envelope to receive a certificate of completion. When your evaluation is received, a certificate will be mailed to you. ■

CNE/CME objectives

1. **Apply** new information about various approaches to ED management.
2. **Discuss** how developments in the regulatory arena apply to the ED setting.
3. **Implement** managerial procedures suggested by your peers in the publication. ■

CNE/CME *questions*

31. According to Eric Fete, DO, his department policy states that an EKG should be performed on a chest pain patient:

A. immediately.
B. within five minutes.
C. within 10 minutes.
D. within 15 minutes.

32. According to Marianne Hatfield, RN, BSN, which of the following assessment steps were eliminated in order to speed up time to triage?

A. Taking vital signs.
B. Performing a neurological assessment.
C. Using a stethoscope.
D. All of the above

33. According to Tina Coad, RN, MSN, MSM, CEN, SACHE, the American Institute of Architecture recommends that in order to provide adequate flow, an ED should have a maximum of how many visits per bed?
A. 1,250
B. 1,500
C. 1,750
D. 2,000

34. According to Bruce G. Jones, DO, FACEP, the accountability box on the bottom of the new form for family physician referrals requires the ED doctor handling the call to:
A. indicate the date and time of the call.
B. indicate whether the form was copied to the other pods in the ED.
C. indicate whether the front desk was called.
D. All of the above

35. According to Phil Brown, DO, several different strategies have been used to inform patients and their families about the department's new locked door policy. Which of the following was *not* part of that strategy?
A. A letter to the primary care physicians in the community.
B. A news release to the local press.
C. Signage in the ED.
D. Informing patients and families as part of the greeting process.

36. According to Mark Smith, MD, FACEP, what is the ideal size for a patient's room in an ED designed for disaster preparedness?
A. 5% larger than a typical ED room
B. 10% larger than a typical ED room
C. 15% larger than a typical ED room
D. 20% larger than a typical ED room

CNE/CME answers

31. A; 32. D; 33. B; 34. D; 35. A; 36. C.

Parkview Hospital: Emergency Department	MANUAL: Emergency Department Policy Manual
Policy & Procedure Title: Acute Coronary Syndrome Category: Care of Patients	#1305

PURPOSE:
Guidelines for the care of patients who present to the emergency department with coronary symptoms.

POLICY:
A patient who arrives at the Emergency Department with coronary symptoms the following care as indicated:

- **Follow assessment policy, and ACLS guidelines;**
- **Notify the Emergency physician immediately**
- ***Acute MI Activate if ordered.***
  Acute MI Activate Pathway – see attached.
- **Place patient on monitor and obtain V/S including O_2 saturation;**
- **Immediately obtain 12 lead EKG (age >30 years)**
- **O_2 at 2 – 4 liters per Nasal Cannula if O_2 saturation < 93%;**
- **Initiate saline lock, and draw labs;**
- **ASA 81 mg x 1 if not contraindicated or already taken prior to arrival.**
- **Nitroglycerin 0.4 mg SL every 5 minutes times 2. Do not give if BP </=90.**
- **Additional orders as per physician; *Acute MI Pathway Orders(103K).***
  -or- Pre-Cath Orders (018S) or (036B).
- **Document on patient record: include history, Aspirin Administration, Pain assessment, EKG and monitor strips, data management and all other medication administration;**
  All emergency thrombolytic medication orders should be documented on the Acute MI Order Sheet.
  Any order deviations from the approved Acute MI Protocols may not be administered by nursing unless the order is written and verified by a pharmacist.
- **Consider appropriate clinical pathway if admitted (073B CCU/Cardiac Unit Patient Care Admission).**

Origination Date: 06/80	Reference: AHA
Last Revision Date: 05/96, 2/04, 3/05, 12/07	Source of Revision: ED/Cardiology Task Force, ED Managers, CMS
Last Review Date: 06/00, 07/01, 02/02	
Authorized by: Thomas Gutwein, MD	Authorized by: Debra Richey, RN
Authorized by: Jeffrey Nickel, MD	

Source: Jeff Nickel, MD, FACEP, Medical Director, Emergency Department, Parkview Hospital, Fort Wayne, IN.

30-Minute Guarantee Call-In Log

CALLER'S INFO: **Dr.** _____ _____ _____
date time

Do they want called back? **YES** **NO**

Arrival by:
❑ **car** ❑ **ambulance**

If so, contact #. _____

Admit to Dr. _____ private outpatient? (Dr. _____)

PT's NAME: _____ **cc:** _____ **age:** _____
first last

HISTORY:

ED attending who took message: Dr._____
- Notify front desk (544-2464). *who?*_____
↳ (ask them to complete the orange card located there)
- Copy of note taken to **A Pod**? YES NO

30-Minute Guarantee Call-In Log

CALLER'S INFO: **Dr.** _____ _____ _____
date time

Do they want called back? **YES** **NO**

Arrival by:
❑ **car** ❑ **ambulance**

If so, contact #. _____

Admit to Dr. _____ private outpatient? (Dr. _____)

PT's NAME: _____ **cc:** _____ **age:** _____
first last

HISTORY:

ED attending who took message: Dr._____
- Notify front desk (544-2464). *who?*_____
↳ (ask them to complete the orange card located there)
- Copy of note taken to **A Pod**? YES NO

Source: Doctors Hospital, Columbus, OH.