

PUBLIC HEALTH >> Jessica Zigmond

No more room

Overcrowding blamed for ambulance diversions

An increase in the diversion of ambulances from hospitals is driven by overcrowded emergency departments and not enough appropriate inpatient hospital beds, the Centers for Disease Control and Prevention said in a study released last week.

The CDC's research, from the 2003 National Hospital Ambulatory Medical Care Survey, found that 16.2 million patients arrived at emergency departments by ambulance, and that about 501,000 ambulances, or one per minute, were diverted. Based on the percentage of time spent on diversion, the most common reasons for diverting ambulances were a lack of appropriate inpatient beds and a high number of emergency department patients. The complexity of cases, staffing shortages and equipment failure were less common reasons, the study showed.

The issue of overcrowding arose on Capitol Hill last week, with officials from the American College of Emergency Physicians testifying before the House Committee on Homeland Security to discuss the nation's state of readiness in emergency departments and the consequences if patients infected with the avian flu visit emergency rooms. The college offered 10 recommendations to "avoid catastrophic failure," and first on the list was ending the practice of "boarding" admitted patients in emergency departments because no inpatient beds are available.

"The federal government must take measures necessary to strengthen our resources and prevent more emergency departments from being permanently closed," said college board member David Seaberg, according to a transcript of his testimony. "In the last 10 years, the number and age of Americans has increased significantly. During that same time, while visits to the emergency department have risen by tens of millions, the number of emergency departments and staffed inpatient beds in the nation has decreased substantially. This trend is simply not prudent policy, nor is it in the best interest of the American public."

The ambulance diversion report said the number of emergency department visits rose by 26% from 1993 to 2003, while the number of emergency departments decreased by 12%. In

some cases, entire hospitals, not just emergency departments, closed.

"Regardless of the population increase, people are using the ED more," said the CDC's Catharine Burt, an author of the study that will appear in the April issue of the *Annals of Emergency Medicine*. "The rate of visits per 100 people increased 12%. If there are more people, you'd think there would be more EDs. But on the contrary, it came down, so the volume is a lot higher."

For this reason, ambulances are diverted when emergency departments are too overbur-



St. Luke's in Houston uses a form to track its ER capacity compared with other area hospitals.

dened to care properly for additional patients. But a 2004 editorial in the *Annals of Emergency Medicine* said ambulance diversion "is a solution with its own problems." These include reducing response time, which can be critical, and forcing patients to be treated at hospitals farther from their homes, families, regular physicians and medical records.

"The problem is crowding in the ED," Burt said. "Hospitals are realizing that this is a systemic hospital problem. ED crowding is responsible for a large portion of why hospitals go on diversion, but, also, there are not enough of the appropriate hospital beds."

Staff members at 610-bed Sacred Heart Medical Center in Spokane, Wash., began to examine how system issues could improve its emergency department in 2003, when the hospital's ambulance diversion rate was 80 to 85 hours per month, which converts to roughly \$8 million in lost revenue, said John

Reamer, the hospital's director of emergency and trauma services. In January 2003, the hospital hired Empath, a healthcare consultancy focused on improving operational efficiencies in the emergency department and the processes that affect patients as they move to the inpatient environment.

"It was a significant culture change," Reamer said. "We were operating in silos. We operated with little or no accountability to processes. We had no real-time data collection. Our IT systems were limited, and I don't think we had a universal vision throughout the medical center of where we needed to be."

In December of that year, Sacred Heart implemented more than 3,500 process changes. In 2005, the hospital's ambulance diversion time decreased to just below 22 hours for the year, Reamer said. Process changes, such as updating the emergency department status board every 15 minutes and moving patient discharge times to 11 a.m. so new patients can be admitted earlier, have helped not only the emergency department, but the entire medical center.

"The processes that freed up the ED were changes to the in-house processes we used," said Michael Banks, Sacred Heart's chief financial officer. "It allowed us to move people from the ED through the hospital faster," Banks said, adding that these changes, along with layoffs last year, significantly affected the hospital's bottom line. The hospital expects a \$22 million gain in net income for 2005, compared with a \$3 million loss in 2004, Banks said.

In San Diego, a voluntary, community-wide effort to decrease ambulance diversions lowered the number of patients who did not reach their intended hospital from 1,320 in the pre-trial period to 449 in the post-trial period, according to a study in the *Annals of Emergency Medicine* in October 2004.

In October 2000, an oversight committee created and distributed an ambulance-diversion guideline for all San Diego hospitals to follow before they requested ambulance diversion, and it is still used today. And at 685-bed St. Luke's Episcopal Hospital in Houston, the emergency department uses a guideline created last fall that is used by 10 to 15 area hospitals, said Katie Necroto, nurse manager of emergency services at St. Luke's. A form is used to track information to determine when the emergency department is at capacity compared with other hospitals in the city. St. Luke's also has one bed-flow coordinator each shift to monitor bed capacity throughout the entire hospital. <<