

Issue Brief

Findings from HSC



EMERGENCY DEPARTMENT DIVERSIONS: HOSPITAL AND COMMUNITY STRATEGIES ALLEVIATE THE CRISIS

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A nationwide surge in emergency department ambulance diversions in 2000-01 raised concerns about access and quality of care for critically ill patients, but the diversion problem has improved markedly over the past two years, according to findings from the Center for Studying Health System Change's (HSC) 2002-03 site visits to 12 nationally representative communities. Hospital efforts to improve bed management and patient flow, as well as community initiatives to monitor and control diversions, have played key roles in easing the problem. The success in bringing the diversion crisis under control offers an important lesson for policy makers—much can be done to better manage existing hospital capacity before potentially costly expansions are made.

Emergency Department Diversion Crisis Cools Down

Although emergency department (ED) ambulance diversions still occur, HSC's 2002-03 site visits to 12 nationally representative communities found they are no longer as frequent or as unmanageable (see Data Source). Even communities with severe diversion problems, such as Boston, Cleveland and Phoenix, have stabilized over the past two years (see box on Page 3).

A recent slowing of inpatient hospital utilization¹ likely accounts for some of the drop in diversions. However, efforts on the part of hospitals and community agencies have been critical in abating the diversion problem. Many hospitals in the 12 communities have expanded or plan to expand ED capacity to reduce crowding at the point of intake and help improve the efficiency of their emergency services. But since

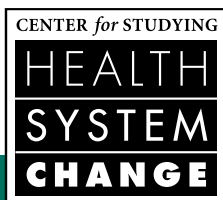
emergency department bottlenecks stem primarily from a lack of critical care beds and regular floor beds, hospitals' most important strategies have focused on these broader hospital-wide issues. Similarly, community efforts have centered on improving coordination across hospitals to help manage capacity problems across local health systems as a whole.

Hospitals Adjust to Shifts in Supply and Demand

Overflowing EDs in 2000-01 were a highly visible symptom of an emerging mismatch between supply and demand for hospital services. Hospital administrators' efforts to address this problem over the past two

years primarily have centered on better capacity management through a focus on three main areas: 1) staffing, 2) bed availability and 3) patient flow within and out of hospitals.

Staffing. The severe nursing shortage that emerged in 1998 and still persists has been a major contributor to diversions and hospital capacity problems. Over the past two years, hospitals have redoubled efforts to fill nursing vacancies, turning to international recruiting and relatively expensive agency and traveling nurses. They also have improved recruitment and retention of nurses by offering financial incentives and flexible work schedules. Some hospitals are collaborating with local schools to encourage students to enter nursing. While many of the strategies are costly, these efforts have begun to help fill vacancies and





Data Source

Every two years, HSC researchers visit 12 nationally representative metropolitan communities to track changes in local health care markets. The 12 communities are Boston; Cleveland; Greenville, S.C.; Indianapolis; Lansing, Mich.; Little Rock, Ark.; Miami; northern New Jersey; Orange County, Calif.; Phoenix; Seattle; and Syracuse, N.Y. HSC researchers interviewed key individuals in each community, including representatives of hospitals, physician groups, local health departments and government officials and other stakeholders. This Issue Brief is based on analysis of these individuals' assessments of hospital efforts to reduce emergency department diversions as well as community initiatives to monitor and control diversions.

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allow many hospitals to reopen—and in some cases add—beds to ease ED backups.

Staffing remains tight in many communities, and some hospitals report diversions still occur sometimes because they are unable to staff all of their licensed beds, but, overall, hospitals have made significant progress in finding ways to use their nursing staff more efficiently. For example, hospitals have redesigned nursing positions to eliminate non-nursing tasks, adding support staff to handle administrative duties and nurses' aides to assist with patient care. Some hospitals introduced information technology on floor units for patient record keeping, which has helped improve nursing efficiency by reducing time spent deciphering physician handwriting, but such initiatives were limited to a few hospitals.

Growing physician unwillingness to serve on hospitals' on-call ED panels has been another major staffing problem that has contributed to diversions. Some specialists have become reluctant to serve in the ED because they receive no payment for treating uninsured patients but still are exposed to the risk of malpractice suits. By 2002-03, hospitals in six of the 12 communities had begun to pay certain specialists for on-call coverage—and in some cases, compensate physicians for services provided to uninsured emergency patients—to maintain adequate ED coverage and reduce diversions.

Bed Availability. Hospitals also have tried to improve use of existing inpatient capacity. Many hospitals have increased the number of observation beds or initiated clinical protocols to help reduce admissions from the ED by shifting certain cases to outpatient programs. Some hospital systems have attempted to better manage beds across affiliated facilities. For example, a large Boston hospital system shifted patients from crowded downtown hospitals to community hospitals with available space.

Freeing up ICU capacity has been especially critical in stemming diversions. In each of the 12 communities, hospitals occasionally have diverted ambulances because ICU beds were full, even if other inpatient beds were available. Most hospitals have not expanded ICU capacity, however, mainly because it is so difficult to find qualified ICU nurses. Instead, hospitals have focused on setting up new units for postoperative or transitional care that can relieve pressure on the ICU, although some hospital administrators caution that creating special purpose units can restrict bed-use flexibility.

Some hospitals have hired hospitalists—physicians specializing in the care of hospitalized patients referred by community physicians. One hospital, for example, set up a short stay—24 to 72 hours—medical/surgical unit staffed by hospitalists to free up beds elsewhere and help prevent readmissions. Another hospital found that using hospitalists in the ED cut the average length of stay for patients admitted through the ED by two days, increasing bed availability.

Many observers suggest that hospitals could dramatically improve bed availability if they exercised greater control over scheduling of elective procedures, but hospitals have shied away from this strategy largely because they are wary of reducing surgeons' productivity and potentially prompting them to direct their patients elsewhere. Indeed, quite to the contrary, hospitals have continued to pursue elective surgical care, both to boost their own revenues and to avoid encouraging physicians to shift this profitable business to specialty hospitals and physician-owned ambulatory surgery centers. In fact, some of the most sought-after patients—such as high-margin cardiac cases—frequently limit the availability of critical care beds for emergency admissions.

Patient flow. Accelerating bed turnover to make room for additional emergency admissions has been another key focus for hospitals to ease the diversion problem. Almost every hospital visited had created “bed czars,” or bed utilization committees, to help expedite patient flow through the hospital. Bed utilization committees typically are comprised of nurses armed with information systems and mobile communication devices that provide real-time census data. The job of these bed managers, as one hospital administrator put it, is to “work the beds all day long” and to make appropriate transitions of care for patients within and out of the hospital. Other strategies to aid bed turnover include improving housekeeping procedures to make cleaning newly vacated rooms a priority and adding space for discharged patients to wait for transportation so they can leave their rooms as soon as possible.

In some hospitals, senior physicians and nurses have been appointed to lead efforts to speed patient discharges, bringing greater finesse to the often-delicate task of changing physician practices. These individuals work one-on-one with doctors to expedite discharges and encourage medical staff to prepare discharge orders earlier in the day.

Other hospitals have taken the approach that providing information about potential overflows will prompt physicians to adjust their discharge decisions accordingly. For example, when the inpatient census approaches capacity, some hospitals place red flags in doctors' lounges to encourage physicians to discharge patients as soon as possible.

Efforts to improve patient flow also have focused on the ICU. Many hospitals have developed clinical protocols for ICU procedures to help standardize care and speed-up internal transfers to step-down units. In addition, many hospitals have hired intensivists—physicians board certified in the subspecialty of critical care medicine—to staff ICUs. Indeed, a Cleveland hospital administrator reported that patient flow from one of the hospital's ICUs markedly improved when care decisions were made by intensivists rather than by admitting physicians.

Although hospitals reported significant improvements in patient flow over the past two years, resistance from attending physicians remained a barrier, complicated by the fact that physicians have little incentive to speed discharges in the current fee-for-service payment environment. In addition, sometimes a shortage of post-acute care options—including skilled-nursing facilities, long-term care beds and home health services—limits hospitals' ability to hasten patient discharges.

Even in communities where there are sufficient resources, post-acute care beds are often filled preferentially with patients who require short-term rehabilitation, which is more profitable, leaving hospitals to search for facilities that will accept long-term patients or more complex patients.

Communities Improve Coordination and Oversight

Communities have played an important role in helping to bring the diversion crisis under control by proactively managing ambulance diversions across local hospitals. Although there are no standard regulations governing how hospitals or communities monitor or control ambulance diversions, model diversion protocols developed in late 2000 by the American College of Emergency Physicians have provided guidance for many communities.

Diversions Then and Now in 12 Communities

Emergency department diversions—when ambulances are redirected from one ED to another because a hospital cannot care for additional patients—had become increasingly common during HSC's 2000-01 site visits, resulting from a growing imbalance between supply and demand for hospital services.² Part of the problem stemmed from increased demand for emergency department services: ED visits grew nationally by about 16 percent between 1996-97 and 2000-01.³

But hospital capacity constraints also played an important role. Managed care pressures to lower utilization and reduce costs led many hospitals to downsize their bed capacity and decrease staffing levels, eliminating much of the stand-ready capacity for periods of peak demand. At the same time, hospitals sought to boost their revenue by pursuing more profitable surgical cases, but the number of intensive care unit (ICU) or cardiac-monitored beds available for new emergency patients declined. Meanwhile, the emerging nursing shortage made it increasingly difficult to staff existing beds. Finally, the move away from managed care's tight utilization controls led to even more pressure on hospital bed capacity. Together, these pressures increasingly led hospitals to board patients awaiting admission in their EDs, and, as EDs grew ever more crowded, hospitals were forced to go on diversion more frequently.

Between 2000-02, both the frequency and duration of diversions increased dramatically across the 12 communities, although there was wide variation in the severity of the problem across these communities. At one end of the spectrum was Little Rock, a community that historically had excess hospital capacity. During 2002, one or more of the largest hospitals in Little Rock would go on diversion sporadically because of a shortage of staff or critical care beds. In other markets, diversions were limited to particular hospitals, as in Greenville where population growth and rising utilization, along with exclusive health plan contracts, pushed demand for services beyond capacity at the county's largest hospital. And, in Orange County, rapid population growth in the southern part of the county has outpaced efforts to expand hospital capacity and left this area with a severe diversion problem that persists today. At the extreme were Cleveland, Phoenix, Boston and Miami, where diversions would sometimes spread from one hospital to another in a domino effect and threaten to put ambulances into gridlock.

All 12 communities have made significant progress in bringing diversions under control over the past two years. Even in communities with the most severe diversion crises, hospitals' total hours on diversion have stabilized or begun to decline. In Phoenix, for example, hospitals' hours on diversion decreased for the first time in three years in the first quarter of 2003, and in Boston, hospitals' hours on diversion during 2003 were 7 percent less than in 2002.⁴ Yet, observers in Boston and Phoenix still consider diversions to be a serious problem since one or more hospital EDs in these metropolitan areas is closed to ambulances all the time. With hospital capacity stretched in many markets, ED diversions will likely remain a chronic—but more manageable—problem.

Most of the 12 communities have established or updated guidelines to define how long a diversion can last, the types of patients or conditions deemed "off limits" from a diversion and the types of capacity limitations that warrant a diversion. In Orange County, for instance, guidelines limit ED diversions to two hours at a time unless the hospital notifies local emergency medical services (EMS) about the situation, explaining why the ED cannot reopen, what efforts are being taken to

address internal problems and when the ED expects to reopen.

In some communities, hospitals have collaborated, sometimes with encouragement from the local hospital association, to help control diversions. In northern New Jersey and Syracuse, for example, hospitals share the load of ED patients and proactively inform one another of capacity constraints in an attempt to avoid a domino effect of simultaneous diversions. Encouraging hospitals to play by the same rules is an



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important part of maintaining access to emergency care throughout a community.

In other communities, the local EMS or other planning body has become involved in defining more rigorous procedures for diversions and determining how many hospitals may simultaneously divert ambulances. For example, in Phoenix, a community task force refined local diversion policies and procedures, including implementing an Internet-based communication tool through EMS that connects every ED and provides real-time monitoring to help ambulance drivers identify which hospital has available beds. The state hospital association was instrumental in purchasing the online communication tool and providing the public with diversion data.

Some communities, particularly those with more severe diversion problems, have created a more regional structure to monitor, control and respond to diversions. In Boston, for example, the regional EMS developed a complex structure between EMS, the local health department and area hospitals to coordinate which hospitals may go on diversion at a given time. Meanwhile, the state's public health department, which has oversight of the regional EMS system, provides ongoing monitoring. Cleveland's Cuyahoga County instituted a diversion policy to guarantee some coverage in each of the county's four geographic regions—every hospital is now assigned a date and time when it will provide backup, even if it means coming off diversion to do so.

Lessons Learned

The severity and sudden onset of the diversion crisis compelled a quick response to avoid serious threats to access and quality of care. This pushed hospitals and communities to look beyond simply adding more capacity to alternative strategies to better manage existing resources. Hospitals redoubled efforts to adapt to the limited supply of nurses and developed initiatives to improve patient flow and free up beds. Both communities and hospitals invested in improved monitoring, coordination and oversight to better manage capacity across local health care systems.

Notably, many of the strategies hospitals have adopted to help manage capacity may pay dividends beyond helping to minimize the need for diversions. Hospitals today are grappling with questions about long-term capacity needs, particularly in the face of the aging baby boom generation, which has prompted predictions of dramatic increases in hospital utilization. Many are responding with a rush to build more beds. Yet, demand for hospital services can be tricky to predict, as the recent slowdown in the inpatient utilization trend demonstrates. And, the aging of the population is unlikely to have as significant an impact on utilization trends as many expect.⁵ With such uncertain demand forecasts, hospitals would be prudent to draw on the management expertise developed to bring the diversion crisis under control as part of their response to long-run capacity pressures. Indeed, hospitals and communities have shown there are a variety of creative ways to make better use of existing capacity when pushed to do so. State and federal policy makers would be wise to consider ways to encourage such efforts before significant—and costly—capacity expansions occur. ●

Notes

1. Strunk, Bradley C., and Paul B. Ginsburg, *Tracking Health Care Costs: Trends Slow in First Half of 2003*, Data Bulletin No. 26, Center for Studying Health System Change, Washington, D.C. (December 2003).
2. Brewster, Linda R., Liza S. Rudell and Cara S. Lesser, *Emergency Room Diversions: A Symptom of Hospitals Under Stress*, Issue Brief No. 38, Center for Studying Health System Change, Washington, D.C. (May 2001).
3. Cunningham, Peter, and Jessica May, *Insured Americans Drive Surge in Emergency Department Visits*, Issue Brief No. 70, Center for Studying Health System Change, Washington, D.C. (October 2003).
4. Massachusetts Department of Public Health, Bureau of Health Quality Management; see http://www.state.ma.us/dph/dhcq/diversion_hours.htm.
5. Strunk, Bradley C., and Paul B. Ginsburg, *Aging Plays Limited Role in Health Care Cost Trends*, Data Bulletin No. 23, Center for Studying Health System Change, Washington, D.C. (September 2002).

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