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COVER STORY

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capacity planning
seeing the forest for the trees

The recent return to increasing demand for inpatient capacity may have surprised many healthcare leaders, but broad population and technology trends suggest it was inevitable.

Hospital facility construction is booming. Inpatient utilization is on the rise. What happened to the conventional wisdom that hospitals have too many beds? Or that demand for inpatient services will decline as patients flock to outpatient settings? Today's reality is proving quite different.

Between 1994 and 2000, inpatient admissions to the nation's acute care hospitals grew from 30.7 million (the low point of the past 20 years) to 33.1 million, according to the American Hospital Association's 2002 *Hospital Statistics*. Anecdotal evidence from hospital CEOs indicates that utilization of inpatient beds and emergency services is continuing to increase rapidly. These patients, many of whom are sicker than in the past, are increasingly consuming substantial hospital resources such as lab testing and imaging.

Insatiable Demand

"What Americans want is really quite simple," according to Uwe Reinhardt, Princeton University political economics professor. Reinhardt writes:

> [A]ll the health care they or their doctors can imagine, virtually free, without added taxes for health care and without higher out-of-pocket costs for their 'employer-provided' health insurance. That's all. Call it part of the American dream. (*Los Angeles Times*, July 17, 2003)

Today's rising demand for healthcare services has often been characterized as "insatiable." And that demand will only increase as hospitals strive to meet the needs and expectations of the aging baby-boom generation.

Four indicators point to an increase in the overall demand for healthcare services over the long

AT A GLANCE

Strategies for responding to today's rise in demand for inpatient services are many. The following are a few "tried-and-true" strategies:

- **Build new and replacement hospitals**
- **Spin off specialty services**
- **Convert space occupied by less-profitable specialty services**
- **Improve patient management**
- **Reclaim mothballed space**
- **Implement urgent care tracks for appropriate ED patients**

term—a demand affecting both inpatient and outpatient areas. Those indicators are the growth in total healthcare spending, the proliferation of outpatient surgery and diagnostic imaging centers, an increase in surgical volume, and an increase in prescriptions per physician office visit.

Growth in total healthcare spending. The annual healthcare spending growth rate, which is at least halfway attributable to volume of services, jumped from an average of 5 percent between 1995 and 1999 to nearly 8 percent between 2000 and 2001. Annual increases in healthcare spending are expected to be about 7 percent for the next few years.

Proliferation of outpatient surgery and diagnostic imaging centers. Over the period of 1996 through 2002, the number of outpatient surgery centers in the United States increased from 2,435 to more than 3,500. There were 4,159 diagnostic imaging centers in the U. S. in 2001, compared with 1,821 in 1991.

For the first time in two decades, we are seeing fast growth in the construction of new and replacement hospitals.

Increase in surgical volume. The number of surgeries performed (combined for inpatient and outpatient settings) increased at a substantially greater rate between 1996 and 2000 than in the preceding four years. Surgical volume has continued to grow rapidly since 2000.

Increase in prescriptions per physician office visit. In 1999 (latest data available), every 100 visits with a physician led to 146 prescriptions, compared with 109 prescriptions for 100 visits in 1985 (Burt, C. W., *Health Affairs*, July/August 2002). With the explosion in direct-to-consumer advertising of drugs, the number of prescriptions per 100 physician visits has continued to climb.

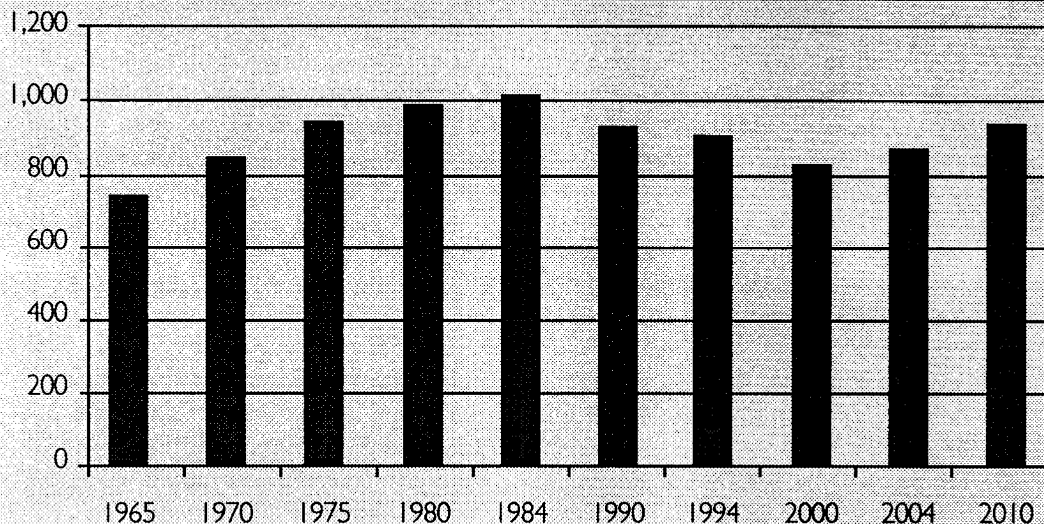
Surging Admissions

Now, indications are that demand for inpatient services is accelerating. What has been driving this trend? Jeff Goldsmith, the noted healthcare futurist, believes it is an outgrowth of the decline in managed care:

> I believe the current surge of hospitalization stems from the collapse of health plan oversight for physician and hospital use. Not only have managed care restrictions been successfully overridden by state and federal regulatory changes, but many strictures have been abandoned by the plans themselves because their administrative costs outweighed the savings they were intended to create. Physicians, in turn, have reacted to the end of managed care's "gatekeeping" technique by pushing the envelope of the level of care they can provide to patients. (*Trustee*, October 2002)

But the rise in admissions cannot be attributed entirely to the decline in managed care. Roger Gilbertson, MD, CEO of MeritCare in Fargo, N.D., observes, "This has never been a big managed care area, so we can't blame the loss of controls for the huge increases in utilization we have experienced. Fortunately, we were able to acquire a hospital in town that closed, and this gave us more capacity. We are still operating at 80 to 90 percent of inpatient capacity, and this creates very serious management problems."

Other factors contributing to the rise in inpatient care include the aging of the population, especially those 85 years and older, and advances in medical technology that are enabling the healthcare system to do much more for people than it could 15 or 20 years ago. Not just the elderly, but also many individuals in their 40s and 50s are becoming more active consumers of health care and taking advantage of new procedures and technology, and physicians are responding by providing greater access to such services. Overall population growth in the United States has also been a contributing factor.



Inpatient capacity grew rapidly until 1984, then declined from 1984 to 2000. Capacity is anticipated to increase through the end of 2010, but is not likely to reach the levels seen in the early 1980s.

Source: Solucient, "National and Local Impact of Long-Term Demographic Change on Inpatient Acute Care," January 2003; and authors' estimates.

Strategies

Hospitals and health systems currently are pursuing a broad range of strategies to meet the surging demand for inpatient services. Not surprisingly, these strategies are designed to accomplish much more than simply to add beds. Hospital planners also want to attract new, better-paying customers, add flexibility to manage future variations in demand, more effectively leverage hospital dollars with donor dollars, enhance physician relations, and improve interdepartmental cooperation and integration.

Here are examples of strategies that some hospitals have pursued:

Building new and replacement hospitals. For many hospitals built with Hill-Burton funds, replacing facilities may be the only choice. Bob Walker, a principal with HGA Healthcare, a national architectural firm that specializes in health care, observes, "When a hospital building is 40 or 50 years old, there isn't much you can do to fix it up. Many of these hospitals were built with Hill-Burton money, and a number of them now need to be replaced."

For the first time in two decades, we are seeing fast growth in the construction of new and replacement hospitals. American Hospital Association (AHA) data indicate that 82 new acute care hospitals were completed in 2002, about the same number as in 2001 (*Modern Healthcare*, December 16, 2002). The AHA notes that this year, by contrast, 105 new hospitals are expected to be completed.

Spinning off specialty services. Some organizations have opted to free space by shifting certain activities to other facilities. For example, a number of hospitals and health systems with relatively large neonatal and high-risk obstetrics programs are considering the feasibility of establishing free-standing (or "free-leaning") children's hospitals.

Relieving demand on a primary campus by creating a specialty facility off-campus can create "wins" on multiple fronts: It can free space for space-constrained departments on the primary campus, establish a separate identity and focus for the outplaced specialty departments, and create an opportunity for donor or physician participation on the investment side.

Converting spaces occupied by less-profitable specialty services. Some hospitals are scaling back on poorly paying programs, and converting the

"Regardless of the reasons for the current round of price increases, the system of healthcare delivery in this country creates almost insatiable demand."

Richard L. Clarke, FHFMA, president and CEO, HFMA ("Perplexing Premium Pricing," *hfm*, December 2002, p. 16)

WHERE HAVE WE BEEN? WHERE ARE WE GOING?

Taking a broad historical perspective is the key to understanding the true nature of the demand for inpatient services in the United States—where it has been and where it is going. The period from the enactment of Medicare and Medicaid (1965) to the beginning of DRGs (1983) can be characterized as rapidly growing demand for hospital services, and construction of facilities to meet demand. However, DRGs and managed care led to a decline in demand from 1984 through the mid-1990s, and to a significant reduction in inpatient capacity. Beginning in 1996, inpatient admissions again began to increase; this time, capacity lagged, leading to the current problem for many hospitals of capacity stretched thin.

1965 through 1980. This period saw rapid growth in the number of hospitals and inpatient capacity. Medicare, Medicaid, and private insurance companies paid hospitals based on their costs, and other than certificate-of-need (CON) laws in most states, there were few constraints on the development of new hospital capacity.

Because the demand for inpatient hospital services increased substantially during this time, experts assumed that with continuing population growth and the aging of the population, most areas would need more hospital beds. The number of beds increased by one-third during these 15 years.

In many respects, the 1965-80 period was the heyday for hospitals. There was steadily increasing demand, and two new federal programs (Medicare and Medicaid) provided payment sources for the elderly and the medically indigent under cost-reimbursement formulas. Competition between hospitals was almost unheard of; collaboration was the byword. Capital, usually in the form of tax-deferred bonds, for modernization and expansion was readily available.

Also during the late 1970s and through the early 1980s, there was growth in the for-profit hospitals sector with such names as HCA, AMI, National Medical Enterprises (NME), and Humana being the most prominent. At their peak, the proprietary chains had about 10 percent of all acute care beds.

The 1980s. By the early 1980s, state regulators began to question plans for additional hospital expansion and new construction. In 1981, for example, proposals were considered to build five new hospitals in the Denver area. However, based on its own analysis of likely demand for inpatient capacity, the Colorado Department of Health determined that none of the new hospitals would be needed (and this was before DRGs and managed care).

The arrival of DRGs on the scene in the early 1980s had a profound impact on inpatient utilization. At Denver's Swedish Medical Center, for example, inpatient utilization dropped 20 percent in one year. During this time, most healthcare prognosticators were making dire predictions that hundreds of hospitals would need to be closed each year to rid the system of excess capacity.

Hospitals questioned whether Medicare's DRG payments would be sufficient to cover costs and whether medical staff would cooperate in the effort to reduce inpatient stays. But after an initial period of adjustment, these concerns abated and the ability of hospitals to cope with DRGs ceased to be a hot topic.

Initially, hospital planners and CFOs were at a loss to know whether the downturn in utilization that began in 1984 was a short-term aberration resulting from DRGs or a paradigm shift. Managed care (mainly HMOs) was gaining prominence in many markets, and it was widely recognized that HMOs were interested

HOSPITAL BEDS, INPATIENT DAYS, AND UTILIZATION, 1965-80

	1965	1970	1975	1980
Beds	741,000	848,000	947,000	992,000
Inpatient Days (millions)	205.5	241.6	258.4	273.0
% Utilization	76%	78%	75%	75%

Source: *Hospital Statistics*, Chicago: American Hospital Association, 2002.

in limiting the number and length of inpatient hospitalizations to save money.

As the decade played out, the conventional wisdom settled in: with the rapid growth of managed care, inpatient utilization would continue to decline for the indefinite future. Common strategies used by hospitals at this time were converting double-occupancy rooms to single-patient rooms, closing clinical wings or converting the space to other uses, and converting acute care beds to swing beds.

At the same time inpatient days began their sharp decline, outpatient visits accelerated. Hospitals came to view outpatient services as a welcome source of new business to offset declines in inpatient revenues and earnings. Indeed, much of this increased outpatient business could be regarded as "new" business, and not merely a revenue shift from services that previously were done on an inpatient basis, because the growth in outpatient visits and procedures has tended to be in areas involving new technology and new procedures that were not available in the 1970s and 1980s.

By the late 1980s, most hospitals and health systems had become preoccupied with preparing for the onslaught of managed care. Many hospitals pursued strategies such as developing physician-hospital organizations (PHOs) or owning primary care networks to make themselves more attractive to managed care payers and more capable of accepting financial risk through capitation, which many industry analysts were saying would become the predominant payment method. A lack of physical capacity of hospitals was not considered a limitation (bricks and mortar were passé), and the nurse shortage had not yet reached crisis proportions. Widespread capitation never materialized, however, and the idea that managed care would prevail in the healthcare marketplace proved to be a major miscalculation.

The 1990s. The decline in the physical capacity of U.S. hospitals was not a concern during the early 1990s. Yet during this decade, the turnaround from declining to increasing inpatient admissions began to be seen.

Nonetheless, the influence of managed care and greater use of hospitalists resulted in the average length of stay continuing to decline through the 1990s. Inpatient days also declined throughout most of the 1990s although the long-term downward trend stabilized late in the decade. Even more important, however, inpatient admissions began to increase in 1996. It is well known that patients in a hospital for shorter stays typically use more resources (e.g., more diagnostic testing, more intensive therapies).

"Until recently, we had excess capacity and lack of demand. Now we have limited capacity and insatiable demand."

Dennis Brimhall, President and CEO of University of Colorado Hospital, regarding his organization's replacement of its entire campus.

TRENDS IN HOSPITAL INPATIENT AND OUTPATIENT ADMISSIONS, 1980 TO 2000

	1980	1982	1984	1986	1988	1990	1992	1994	1996	1998	2000
Inpatient Admissions (millions)	36.2	36.4	35.2	32.4	31.5	31.2	31.1	30.7	31.1	31.8	33.1
Average Length of Stay	7.6	7.6	7.3	7.1	7.2	7.3	7.1	6.8	6.2	6.0	5.8
Inpatient Days (millions)	273	279	257	230	227	226	221	208	194	192	192
Beds (thousands)	992	1,015	1,020	982	949	929	923	904	864	842	825
Percentage Utilization	75%	75%	69%	64%	66%	67%	66%	63%	61%	63%	64%
Outpatient Services (millions)	207	251	217	234	271	304	349	385	441	474	523

Source: *Hospital Statistics*, Chicago: American Hospital Association, 2002.

freed space to accommodate capacity gains in better-paying programs. Grant Winn, CEO of Community Medical Center in Missoula, Mont., reports that the shift in payment for rehabilitation services to the PPS led to a decline in the average length of stay in his organization's rehab unit. Because the rehab unit was in the same facility as the hospital, Community was able to switch these beds to acute care.

Winn says, "Along with diverting patients to the other hospital in town, this is at best a temporary solution to our capacity problems. We are going to have to expand, but adding $30 million in new debt is something we aren't prepared for yet."

Many hospitals and health systems today have inadequate earnings to take on additional debt.

Improving patient management. Some hospitals are managing capacity using approaches previously used in response to managed care payers, such as freeing up beds by discharging patients earlier in the day. The Center for Studying Health System Change (HSC) commented:

> Many have tried to decrease lengths of stay by moving patients to extended care settings, when these options are available in the community. As a more long-term approach, many hospitals hope to accelerate patient discharges through increased reliance on clinical guidelines to standardize treatment plans and on hospitalists—physicians who specialize in managing patients' hospital stays. (*Issue Brief*, May 2001)

Reclaiming mothballed space. Between 1984 and 2000, about 200,000 inpatient beds were taken out of service. Some of the closures resulted from bankruptcies and hospital closings, but most involved mothballing entire hospital wings. In most instances, hospital and board leaders never anticipated the need to add bed capacity, and the closures were viewed as permanent.

However, with the space crunch described earlier, hospitals are considering reopening mothballed space. In Boston, Massachusetts General Hospital (MGH) and Brigham and Women's Hospital had reopened about 300 beds, including most of the beds closed during the mid-1990s, according to the HSC's May 2001 *Issue Brief*.

Numerous other hospitals around the country report that they have reopened and modernized space that had been mothballed 15 to 18 years earlier. The 328-bed Parma Community General Hospital in Ohio, which relocated physical therapy and other tenants from the first floor of its main structure to an adjacent office building, added about 7,000 square feet of space for inpatient services, thereby increasing inpatient capacity by 10 percent (*Modern Healthcare*, March 17, 2003).

Implementing urgent care tracks for appropriate ED patients. Setting aside an area to quickly treat ED patients who have conditions that are not life-threatening has become a commonly used approach to reducing ED patient loads. For example, Wesley Medical Center, a 760-bed hospital in Wichita, Kans., started a new unit within its emergency department called Direct Care. The four-bed unit, located next to Wesley's newly remodeled ED waiting room, is designed to enable ED staff to quickly treat patients suffering from a cold, headache, or other relatively benign ailment (typically within 30 minutes of check-in).

Changing Focus

Through the year 2000, most communities were unconcerned about whether their full-service hospitals had the capacity to meet needs for inpatient and outpatient services. Indeed, the primary

concern of most hospital CEOs and CFOs in the period following the implementation of DRGs and the advent of managed care was how to wring excess capacity out of the system and convert the space into more productive uses. Many healthcare executives and board members were on the defensive as critics claimed that excess capacity was pushing up costs, not driving them down as would be expected in other industries.

Now, for the first time in two decades, hospitals must modernize and invest in new capacity. Meeting this need would not be so challenging if these organizations could be assured of adequate earnings and the ability to increase their debt capacity.

But there's the nub of the problem—many hospitals and health systems today have inadequate earnings to take on additional debt, or they suffer from reduced access to tax-deferred financing, with lower bond ratings and few credit enhancements available.

Meanwhile, they must balance competing demands for capital to support necessary investments in IT, nursing and staff salaries, and medical technology. They also face serious shortages of nurses and other clinicians that prevent them from adequately staffing added space and using new technology.

These challenges can be especially acute for not-for-profit hospitals and health systems. Competition from for-profit niche players, such as heart and surgical hospitals, can seriously undermine the profitability of a full-service, not-for-profit hospital.

In some instances, hospitals face profitless growth as a result of payer mixes (Medicare, Medicaid, and uninsured) that don't generate adequate margins to support expansion efforts. For others, the strain on capacity is exacerbated by a lack of public policies and managed care controls to effectively limit excessive utilization of the system. Finally, some hospitals simply lack physical space for expansion on their campuses.

Devising effective responses to these capacity-related issues should be a fundamental part of every healthcare organization's strategic planning process. The foregoing strategies being explored by hospitals around the nation represent just a few of the ways your organization might effectively respond to today's capacity challenges. The best strategy may be one that gives your organization the flexibility to respond to short-term shifts in demand while maintaining readiness to meet a growing demand for healthcare services over the long term. ■

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