

## Replace or Renovate?

*James E. Hosking, CHE, FAAHC, FHIMSS, managing director, TriBrook Healthcare Consultants, National Healthcare Practice, American Express TBS, Rolling Meadows, Illinois*

**O**ver the past several years, there has been increased interest in replacing rather than renovating aging healthcare facilities. According to *Modern Healthcare's* 2003 Annual Construction and Design Survey, 82 new and replacement acute care hospitals were completed in 2002 with an additional 105 under construction. (These figures exclude 62 completed facilities and 48 specialty hospitals under construction.) Similar construction-activity levels were reported in the surveys in 2001 and 2002 (Moon 2003). The National Healthcare Practice of American Express TBS recognized this trend and initiated formal and informal surveys to determine why redevelopment was occurring and whether or not the replacement strategy was achieving the desired results.

### REASONS TO REDEVELOP

Hospitals pursue a replacement strategy for several reasons. The rationale can be categorized into three major groupings: market positioning, site/facility limitation, operational improvement opportunity. Typically, all these reasons contribute to the replacement decision. A brief discussion of these factors follows.

#### Market Positioning

Over time, market demographics change, retail operations move from downtown to suburban malls, interstate highways transform traffic patterns, and neighborhoods are affected by urban sprawl. Additionally, the United States is experiencing significant population growth. According to the U.S. Census Bureau (2003), between 1990 and 2000 the population increased by 32 million (13 percent) and is projected to grow by 25 percent between 2000 and 2030. The population is aging as well; people are living longer with the help of medical advances and healthier lifestyles. The U.S. Census Bureau (2003) reported that 18.5 percent of the population will be age 65 and older by 2025, compared to only 12.4 percent in 2000. These numbers are significant in that hospital discharges for people 65 and older are 4.3 times greater than for people younger than 65.

Assuming a 1 percent per year reduction in the patient day use rate for the 0 to 64 population and a constant use rate for the population age 65 and older, inpatient days will increase 38 percent over the next 30 years. Thus, hospitals will have to consider whether or not to expand current facilities; establish satellite sites; redevelop on a larger, more appropriate location; and/or anticipate new competition in desirable growing markets.

**Site/Facility Limitation**

Hospitals today are aging, face major infrastructure issues, and have little or no opportunity to regenerate their physical facilities on existing campuses. Many hospitals date back to the 1950s and 1960s, the "Hill-Burton era," in which the last major infusion of capital for healthcare facilities occurred. Now 50 years old, these hospitals are approaching the end of their useful life. Other hospitals have been struggling with aging infrastructure and limited capital investment. According to the *Almanac of Hospital Financial and Operating Indicators* (Cleverley 1997; Ingenix 2004), the average age of a facility increased 20 percent in the last ten years, indicating a decreasing capital investment in plant and equipment. At the same time, new programs and technology together with a shift to outpatient care as well as more stringent codes have increased overall hospital space requirements. Some of the major space factors include larger/private patient rooms; additional patient/staff/physician amenities; new technologies such as MRIs, PET scanners, and cardiac cath laboratories; and outpatient processing (preparation and recovery) areas. According to an informal research conducted by our firm, hospital square feet per bed has increased—from approximately 1,000 to 1,200 square feet per bed in the early 1980s to about 2,200 to 2,400 square feet for hospitals being planned today.

Some older facilities have been built haphazardly, limiting space flexibility and hindering appropriate functional relationships. In some cases, added medical office buildings and parking structures block potential expansion zones. At other times, campus expansion is prevented by related neighborhood developments and by the community concerned about traffic congestion, diminishing residential housing, and area density. If expansion and/or major renovation are possible, floor-to-floor heights (space between the top of one floor to the top of the next floor) or floor sizes may limit functional designs and minimize operating cost improvements.

**Operational Improvement Opportunity**

The most significant reason to replace a facility is probably the opportunity to improve operating costs. Relocation to a new market can increase utilization, improve payer mix, facilitate staff/physician recruitment and retention, and spread fixed costs over a larger patient base. Similarly, improved functional relationships, appropriate room/unit sizes, and cost-effective physical infrastructures can reduce operating costs. However, to truly reduce such costs, organizations must implement improved care delivery, efficient support systems, and streamlined organization structures. In addition, they should rethink how they provide services. These changes should also lead to the flexibility to accommodate future growth and new technology.

**OPERATIONAL IMPACT EVIDENCE**

These reasons for replacement are compelling to many organizations. We conducted a quantitative study to verify that these reasons are backed up by evidence that they can yield benefits.

In 2003, we surveyed 19 replacement hospitals (which opened in the last 7 years and had experienced at least 1 full year of operation since opening), including not-for-profit, for-profit, and nonfederal governmental hospitals ranging in size from 42 beds to 683 beds. The list was not scientifically developed; instead, it was based on replacement projects of which we were aware. The survey utilized available secondary data and considered pre- and post-replacement market utilization and operational and financial performance, and it did not attempt to consider market influences for the individual hospitals. Secondary data were derived from the American Hospital Association, Solucient, and hospital benchmarks. A summary of our key findings follows (Hosking and Jarvis 2003).<sup>1</sup>

### **Market Performance**

Fourteen of the 19 hospitals in our survey experienced an increase in inpatient admissions. Overall, admissions increased 14 percent in the first full year of operations (19 hospitals) to an accumulative 116 percent after 7 years (1 hospital). According to AHA (2003) data, total U.S. admissions between 1997 and 2001 increased 7 percent. Similarly, outpatient visits improved in 16 of 17 hospitals with available data. Overall, outpatient visits grew an average of 33 percent (17 hospitals) in the first full year from the previous full pre-opening year and spiked 93 percent after 7 accumulative full years of operation (1 hospital). Correspondingly, all U.S. hospitals experienced a 21 percent increase in total outpatient visits between 1997 and 2001 (AHA 2003). Hospitals in our survey experienced significantly better market performance than all U.S. hospitals, although that finding is not statistically significant because of our sample size.

### **Operational Performance**

Operational performance was measured based on full-time equivalent staff (FTEs) per adjusted occupied bed (AOB), because staff-related costs typically represent over one-half of hospital operating costs. Of the 14 hospitals with available data in our survey, 8 experienced a reduction in FTEs per AOB while 6 had an increase. In many cases new programs/services were likely added in the new facility. The overall average change from pre- to post-opening was a decline from 5.2 to 4.5 FTEs per AOB. Nationally, the average FTEs per AOB are 4.9 (AHA 2003). Thus, replacement hospitals appear to be operationally more efficient based on our limited sample size.

### **Financial Performance**

Financial performance was measured based on an overall operating margin percentage. Of the 15 hospitals with available data in our survey, 10 improved their operating margins, with the overall average margin from pre- to post-opening margins increasing from 0.3 percent to 2.8 percent. According to the *Almanac of Hospital Financial and Operating Indicators*, the average operating margin of all hospitals was 1.5 percent in 2002 (Ingenix 2004).

## CONCLUSION

Although our study is based on a limited sample and does not consider individual market factors, it indicates a likelihood that replacement hospitals will significantly improve organizational performance for a number of years after their opening.

In the next five columns, we will analyze how to approach a replacement hospital project from the preliminary viability analysis through facility occupancy. Our topics include team selection/project management, financing options/ implications, performance-driven space programming, and operations/activation planning. The overall replacement process takes three to seven years and involves significant decisions and compromises. An integrated approach supported by an experienced internal and external team is essential to a successful implementation.

## Note

1. For a detailed article of the survey, see Hosking, J., and R. Jarvis. 2003. "Developing a Replacement Facility Strategy: Lessons from the Healthcare Sector." *Journal of Facilities Management* 2 (3): 214–28.

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For more information on the concepts in this column, please contact James Hosking at [james.e.hosking@aexp.com](mailto:james.e.hosking@aexp.com).