

# HS&S Strategy OUTLOOK

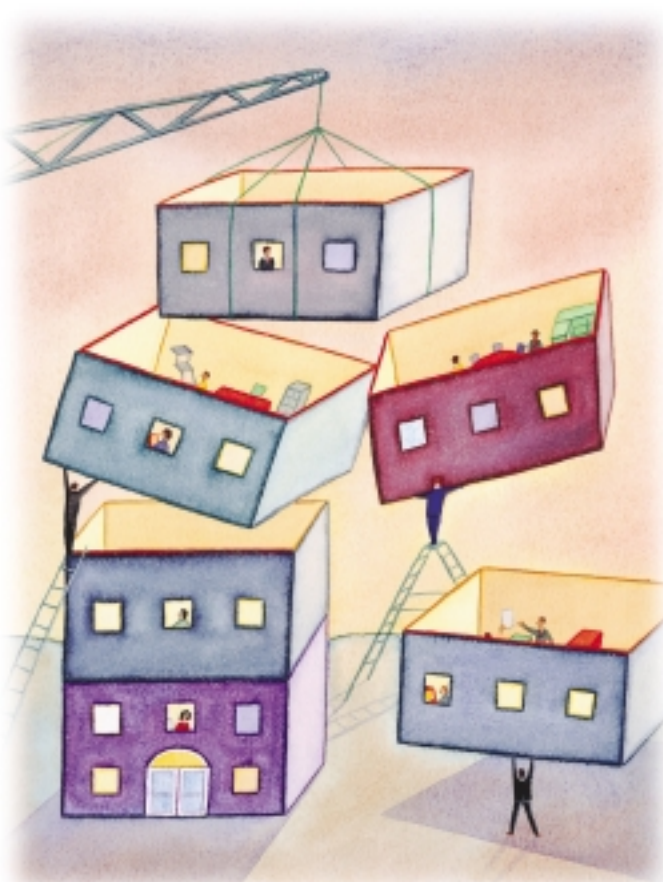
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## Right-Sizing Health Care Facilities and Services: The Strategic Imperative

Population growth and aging and medical and technological advances are fueling demand for health care services in most markets. Many providers are now experiencing significant capacity constraints that require expansion and reconfiguration of services, especially in emergency departments and critical care and telemetry units. At the same time, the demand for outpatient and ancillary services has grown even faster than the demand for inpatient care, requiring providers to expand and reconfigure departments and services to serve the unique and growing needs of these patients.

Right-sizing services and facilities to meet future demand has become a strategic imperative for many institutions that must often choose among competing proposals for scarce capital dollars. The first step in right-sizing is forecasting the future demand for services in a manner that is systematic, thorough, and rigorous. An equally important second step is deciding what productivity or efficiency benchmarks to use to translate projected demand into capacity requirements, as measured by the number of emergency department treatment bays, critical care beds, imaging rooms, and other service and facility components.

Suppose, for example, that three hospitals (City, Suburban and University) have each forecast future demand for 90,000 emergency visits.



- City Hospital has a high percentage of low-acuity visits to its ED and its patients are accustomed to long wait times for treatment. This hospital might conclude that it needs 50 bays (beds) to handle the projected demand.
- Suburban has a high-acuity patient mix and experiences significant peaks in demand during afternoon and evening hours. This hospital might conclude that

it needs 60 treatment bays to handle the same demand, even though it has very efficient throughput for both admitted and discharged ED patients.

- University Hospital offers several specialty services in the ED, such as trauma, pediatrics, and mental health and has a chronic shortage of inpatient beds that keeps admitted patients in the ED much longer than medically necessary. This hospital might conclude that it needs 75 treatment bays.

So, what size ED is appropriate? 1,200 annual visits per bay (University)? 1,500 visits per bay (Suburban)? 1,800 visits per bay (City)? The answer is, "It depends." In part, it depends on external factors, such as patient acuity and patient arrival patterns. But, in large measure, it depends on internal operational efficiencies within the ED, related departments such as radiology and clinical laboratory, inpatient nursing units, and housekeeping. While productivity and efficiency measures are typically viewed through the narrow lens of attempting to minimize or reduce the organization's operating costs, the reality is that physicians, patients, and families alike are looking for efficient operations from health care organizations they use, which emphasizes the strategic nature of the right-sizing challenge.


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When right-sizing facilities and services, it is important to first investigate whether there are opportunities to reduce patient throughput time to the benchmark levels by improving current operating conditions.

### Emergency Department: Managing Capacity and Efficiency

Separately forecasting ED demand for fast-track, discharged, and admitted patients; achieving the benchmark levels shown for each category below; and having an appropriate number of inpatient beds available for patient transfers is the preferred way to right-size the ED.



Emergency Department Benchmarks	
Measure	Benchmark
ED Length of Stay by Patient Type	
• Fast Track	• 1 hour
• Treat and Release	• 2.5 hours
• Admitted	• 3.5 hours
Patients left without Being Seen	1.25%

Long wait time for treatment is a major cause of patient dissatisfaction in the emergency department. Achieving appropriate patient throughput benchmarks should minimize this problem for most health care organizations. But providers that routinely experience strong peaks in demand at certain times of the day or certain months of the year need enough treatment bays to ensure that arriving patients can be treated in timely fashion even during peak periods. Added capacity will reduce overall visits per room per year, but the end result will be a better balance between productivity and accessibility.

### Scheduling

Long lead times for scheduling imaging exams, elective surgery, and other diagnostic and therapeutic procedures are a major cause of patient dissatisfaction. Using imaging equipment and surgical facilities at 80 percent of capacity should provide enough of a cushion to meet occasional surges in the demand in timely fashion. However, if long lead times persist for an extended period of time, and

no operational inefficiencies can be identified, demand has mostly likely been underestimated and additional capacity is needed.

### Surgical Suite Efficiencies

For surgical suites, opportunities to improve patient throughput by ensuring on-time starts and reducing turnaround time between cases must be considered when right-sizing decisions are on the table. But there are several other ways to maximize use of existing operating rooms before building new ones. One approach is to optimize the scheduling process. Since the vast majority of surgical cases are non-emergent, ways to smooth demand throughout the day and the week should be evaluated and discussed with surgical staff. Another strategy is to monitor the use of protected block times on a quarterly basis and reassign blocks, as needed, to minimize the probability that operating rooms sit idle during prime shift.

Improving patient throughput and implementing firm scheduling policies should allow health care organizations to achieve 80 percent utilization of OR capacity during the prime shift. Assuming an 8-hour prime shift, this is equivalent to 1,600 hours of room use per year. Surgical suite capacity can also be expanded by routinely staffing and scheduling several operating rooms 10 or 12 hours per day, in which case the benchmark level of utilization might increase to 1,800 or 2,000 hours per OR per year.

### Radiology Productivity

Radiology productivity is usually expressed in terms of the number of procedures per room per year. This benchmark varies widely from modality to modality, depending on the average room use time per procedure. The appropriate common denominator is to target 80 percent utilization of all imaging rooms. If rooms are routinely scheduled 10 hours per day five days per week, 80 percent utilization equates to 2,000 hours of room use per year. If CT scans can be scheduled every 20 minutes and MRI exams every 30 minutes, the resulting productivity benchmarks would be 6,000 CT scans, but only 4,000 MRI exams, per room per year.

Routinely scheduling patients during evening and weekend hours is a strategy sometimes used to increase imaging capacity in lieu of purchasing additional expensive equipment. Routinely

scheduling a CT scanner 14 hours every weekday and 10 hours on Saturday, for example, would increase the productivity benchmark to 9,600 scans per year at 80 percent utilization.

Expanding hours of operation also increases accessibility to services, especially for patients who find it difficult to schedule tests and procedures during daytime hours. Because service accessibility is an important dimension of patient satisfaction, it should also be taken into consideration when determining capacity requirements for radiology procedures and other services.

More aggressive productivity benchmarks may also be achieved by radiology departments and other services as technological advances emerge. For example, if new high-speed CT scanners reduce throughput time from 20 minutes to 15 minutes per patient, scanner capacity could increase by 33 percent.

### Right-Sizing Ambulatory Care Clinics

A challenging problem of importance to academic medical centers and large multispecialty physician groups is determining how many exam rooms to staff in each specialty. A 2003 study sponsored by the University Health System Consortium documented wide variation in clinic performance using several different performance measures, including use of clinic space and resources.

One of the findings was that the median number of visits per exam room per hour was only 0.63 for the study hospitals. Even if clinic visits averaged 45 minutes in duration (high for most clinics), the median utilization of exam rooms among the study hospitals would have been less than 50 percent of capacity. Health Strategies & Solutions has observed similar levels of exam room underutilization in engagements with academic medical centers. Based on our experiences, we recommend that exam rooms be utilized at 70 percent of capacity. In fact, that is the standard used by Massachusetts General Hospital when planning a new 450,000 square foot outpatient facility. Massachusetts General chose the 70 percent utilization target based on review of national best practices, the realities of health care delivery at academic medical centers, and the project's economic requirements.

Achieving 70 percent utilization of available clinic space will usually require significant changes to current practices, especially with respect to scheduling,

co-location of services, and hours of operation. But the cost savings that result from utilizing clinic space at 70 percent instead of 50 percent of capacity are enormous. Because average visit duration varies from specialty to specialty, the targeted number of visits per exam room per year will vary by specialty, but the 70 percent utilization target is one that can be applied uniformly.

In essence, right-sizing health care facilities means choosing the productivity benchmark, such as ED visits per treatment bay, surgical procedures per operating room, imaging tests per radiology room, and visits per exam room that represent the appropriate balance between accessibility and efficiency. Too much emphasis on accessibility and not enough on efficiency, the norm in many health care settings, usually results in excess capacity and unnecessary capital and operating expenditures. In turn, having excess capacity means less pressure exists to improve operational efficiency, so that opportunities to reduce operating costs are missed—a mistake that can have significant financial implications for providers.

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## Client Spotlight: The Health and Wellness Center by Doylestown Hospital



The Health & Wellness Center  
BY DOYLESTOWN HOSPITAL

### The Project

In 1999, Health Strategies & Solutions began working with Doylestown Hospital, located in the suburbs of Philadelphia, to plan a wellness center five miles south of the hospital. HS&S consultants completed a business plan and facilitated steering committee meetings that helped to build consensus to proceed with the development of the wellness center. The business plan was also used to:

- Enable governance approval by demonstrating to the Doylestown Hospital board that there was sufficient need for the wellness center and that it would be financially viable
- Expedite the design, construction, and operations of the wellness center
- Identify and resolve secondary issues, such as backfill needs for space vacated in the hospital, before the center opened

The wellness center was intended to position Doylestown Hospital to take advantage of national trends to improve community health, expand its continuum of services, and gain additional outpatient market share and revenue. Doylestown Hospital had several additional goals for the wellness center:

- Develop a consumer-friendly center, sensitive to the needs of today's patients
- Establish market leadership in ambulatory care services
- Alleviate volume constraints at the hospital by acquiring another location to provide ancillary services
- Extend its service area by increasing patient draw from growing areas to the south of Doylestown
- Provide an outpost to offset incursions from competing health systems
- Develop services to complement those offered at the hospital

### The Outcome

Doylestown's Health and Wellness Center opened in the spring of 2001, offering diagnostic imaging services, fitness services, outpatient surgery, rehab/physical therapy, and health education. The center is distinctive in its market and has begun to achieve national recognition for its comprehensiveness, integrated operations, and trailblazing wellness services. Physician offices at the center cover many specialties, including cardiology, dentistry, dermatology, family medicine, gastroenterology, gynecology, orthopedics, pediatrics, and plastic surgery. The center also offers on-site babysitting, a café, and several features that enhance the ambience of a noninstitutional type of setting, such as a waterfall, fireplace, and healing gardens.

The capital cost to develop the land and the physical structure was approximately \$27.5 million, excluding equipment. The Health and Wellness Center has roughly 125,000 square feet of space that generated revenue of almost \$7 million for

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## On the Dais

### Upcoming Presentations

#### American College of Healthcare Executives

Craig Holm and Rick Afable, M.D.: "Building Effective Medical Staff Relationships," ACHE Online Seminar, October 26-December 7

Alan Zuckerman: "Strategy Planning from Formulation to Action," ACHE Cluster Seminar, November 14-15 in San Antonio

Alan Zuckerman: "Putting Strategic Planning to Work," ACHE Senior Executive Institute, January 11 in Orlando

#### Pennsylvania Emergency Nurses Association

Robert Hill and Matthew Costello: "Financial Challenges in the ED: A Hands-On Approach," November 10 in Doylestown, PA

#### Carolinas Society for Healthcare Planning and Marketing

Christie Markham: "Impact of Clinical Technology Innovations on Service Line Growth," November 16 in Asheville, NC

## Off the Press

### Recent Articles

"Why Should You Consider Acquisition?" by Alan Zuckerman, October issue of *Healthcare Financial Management*

"The 'Under-Arrangement' Transaction: Proceed with Caution" by Lou Glaser, Craig Holm, and Alan Zuckerman, October issue of *Managing the Margin*

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<http://www.hss-inc.com/4-3-articles.htm>

## Client Spotlight: *continued*

hospital-operated services in the first fiscal year, and \$13 million in the latest fiscal year. The operating margin of the center averages close to 30 percent, with the lowest year having a 23-percent operating margin.

Although the precise effect on market share is difficult to measure, Doylestown has seen an increase of patients originating from the southern part of its service area, which was one of the initial goals of opening the Health and Wellness Center. Additionally, a primary care practice previously referring to one of Doylestown Hospital's competitors to the south is now setting up its offices in the center.

This project is a good example of how a hospital can take advantage of trends in the health care market to meet consumer needs and improve financial performance. Doylestown Hospital was able to meet its goals for the Health and Wellness Center, adding a valuable segment to its continuum of services and enabling it to stay in front of its competitors as an ambulatory care leader.



**Above l to r:** Robert Hill, Christine Markham, Keith Pryor, Tracy Johnson, Craig Holm, Alan Zuckerman and Hugo Finarelli

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Health Strategies & Solutions, Inc., is a national management consulting firm dedicated to helping organizations discover innovative strategies and

solutions for today's complex health care challenges. Our staff has enabled hundreds of health care organizations across the country to address complex issues, make decisions that achieve lasting results, and set courses for success.

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