

INCREASING MARKET SHARE

Second in a Series Examining Revenue Growth Strategies in a Difficult Health Care Market



In an era of declining hospital margins and ongoing cost reductions, developing additional streams of revenue can provide an attractive approach for improving financial health and ultimately furthering mission and community outreach objectives. This article focuses on the first of five revenue enhancement strategies identified in part one of this series (“Returning to Revenue Growth,” *Health Progress*, March-April 2001, pp. 19-21, 79.)

After years of shrinking acute care demand and fierce competition for fewer patients, throughout the 1990s the health care industry emphasized system consolidation and nonacute services development. But several compelling reasons now exist to reemphasize the strategy of strengthening core services and increasing the hospital’s or system’s share of the acute care services market:

- Acute care services remain a significant line of business for most health care systems.
- Admission rates and emergency visit rates have recently begun to increase after several years of flat or declining utilization.¹ Population growth and aging will continue to increase demand for inpatient services—barring a sea change in medical practice and the delivery of health care services.
- Advances in technology and system development support the diffusion of more sophisticated services into the community hospital and outpatient setting.

HOW TO INCREASE MARKET SHARE

Demonstrating quality of care, increasing patient satisfaction, broadening referral streams, expanding service lines, and marketing centers of excellence can all contribute to increasing market share. Specific strategies that have demonstrated proven returns in many markets include physician

recruitment and medical staff development, improved and enhanced emergency services and capabilities, and subspecialty service development. These approaches for increasing market share will be financially successful as long as they build on existing capabilities, redeploy underutilized assets, minimize capital and start-up investments, and result in reimbursement that exceeds the marginal costs of providing the service (i.e., generates contribution margin).

Physician Recruitment and Medical Staff Development The crash and burn of large physician practice management companies and the significant operating losses experienced by hospital-owned physician practices have left physicians and hospitals somewhat disillusioned with the integrated service delivery model. Some systems have divested part or all of their physician practices, and physicians and medical practice groups are returning to the private practice model to stem financial losses.² As alliances shift and realign, opportunities exist to create new relationships with primary care physicians and specialists to broaden a hospital’s or system’s referral base and service mix.

One way to identify opportunities to expand the physician base is by completing a medical staff development plan. This analysis determines the health care organization’s need for physicians by specialty based on the service area population, the underlying health needs of the community, and the program-specific targeted market shares that reflect overall strategic goals. A comparison of this need with existing medical staff supply will identify physician specialties that are underrepresented. The study can also identify geographic regions that are not well covered by primary care physicians affiliated with the health care system.

In addition to the obvious financial benefits of alignment of medical staff resources with health care organization goals, the medical staff devel-

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opment plan may also help address special issues of importance to many Catholic hospitals: Where and to what degree does ambulatory medical care need to be provided to the underserved? How can physician resources be used to support clinics and teaching? And what particular health needs in the community could benefit from better and more effective deployment of physician and other health care resources?

At one community hospital, a recent needs analysis revealed several opportunities for strengthening the medical staff. The hospital's projected physician need, based on targeted market share gains, and its expected supply of full-time equivalent physicians by specialty are shown below in **Figure 1**.

Clearly the hospital's primary care physician network was not well developed for the primary or secondary service areas. In addition, the existing groups in obstetrics/gynecology were not able to achieve the market share targets envisioned by the health care system. Medical staff deficits (including expected retirements) were projected in medical cardiology, general surgery, orthopedics, neurology, and neurosurgery.

Many approaches to recruit physicians and develop the medical staff exist, all of which need to be carried out within legal and regulatory guidelines, including:

- Assisting an existing practice with the recruitment of associates
- Recruiting and providing start-up practice support
- Encouraging physicians who split their referrals or practices with other hospitals to work more exclusively at your institution (thus ensuring availability of desired equipment or facilities, specialty backup, etc.)
- Developing a variety of partnerships with physicians, short of acquisition, that will foster mutually beneficial economic relationships

The multiple approaches used to strengthen the medical staff and hospital-physician relationships should be developed with the consideration that many communities have an oversupply of physicians, some of whom are not affiliated with the hospital, and that referral patterns take time to build or change.

Ultimately, a stronger medical staff that has sufficient breadth and depth will lead to more admissions to the hospital and referrals for ancillary services. A full-time, productive primary care physician with a patient base of 2,000 may generate as many as 200 direct and indirect admissions. A full-time obstetrician/gynecologist will usually bring 150 deliveries and 25 to 50 inpatient gynecologic surgeries a year to the hospital as well as significant outpatient surgery volume.³

Admissions by specialists vary significantly by specialty and are affected by referral relationships with primary care physicians and managed care contracts. On average, an orthopedic surgeon performs 300 to 350 surgeries a year, 30 percent of which will require an admission to the hospital. Other specialties for which a full-time equivalent physician will admit 100 or more patients per year include cardiology, cardiothoracic surgery, general surgery, and neurosurgery.³

Improved and Enhanced Emergency Services and Capabilities
The emergency department (ED) is the major gateway into the hospital and can generate up to 60 percent or more of all admissions to the hospital.^{4,5} Often, the emergency room is the community's first contact with the hospital, placing the ED in an important role in establishing the patient's relationship to an acute care provider and in supporting the primary care physician's willingness to use the ED as a resource. The ED is also often the primary provider of care to many indigent and underinsured patients who do not have ready access to a primary care physician; it therefore plays an important role in the health status of the community.

Although managed care growth did divert some nonurgent visits to other sites, such as physician offices or express care centers, the rate of emergency visits has increased in recent years,

Figure 1

Specialty	Projected Physician FTE Need	Projected Physician FTE Supply	FTE Surplus/ (Deficit)
Adult Primary Care			
Primary Service Area	65	46	(19)
Secondary Service Area A	9	2	(7)
Secondary Service Area B	13	1	(12)
Secondary Service Area C	11	0	(11)
Obstetrics/Gynecology	25	13	(12)
Medical Specialties			
Cardiology	9.0	5.5	(3.5)
Gastroenterology	5.4	6.9	1.5
Neurology	5.4	3.0	(2.4)
Pulmonary Medicine	3.4	5.2	1.8
Surgical Specialties			
General Surgery	9.9	7.4	(2.5)
Neurosurgery	2.4	0.9	(1.5)
Orthopedics	12.5	7.8	(4.7)
Plastic Surgery	3.2	4.4	1.2

FTE, Full-time equivalent.

Figure 2

after several years of decline, to 364 visits per 1,000 in 1999 from a low of 347 visits per 1,000 in 1997.⁶ Significant consumer backlash over denied coverage and the creation of the “prudent person” criteria for patients seeking care in EDs have offset further efforts by managed care organizations to reduce use of emergency rooms.

Urgent and emergent visits form the direct link between the magnitude of ED visits and hospital admissions. The more urgent and emergent visits seen in the ED, the greater the number of resulting admissions. To the extent that expanding the ED would improve access to health care, increase patient satisfaction, and generate positive revenue streams, providers should minimize or eliminate operational barriers that cause potential ED patients to choose other hospitals’ EDs. Two key strategies for improving ED services and operations exist: ensuring efficient departmental and system operations and expanding service capabilities to meet specific needs.

Inefficiency reduces available capacity and can contribute to overcrowding in many emergency rooms, long waiting times for treatment, low patient satisfaction, a high rate of patients leaving without treatment, and high rates of ambulance diversion from the ED. All these factors lower the number of visits and potential hospital admissions and have secondary effects in terms of consumer dissatisfaction and subsequent disinclination to use the organization for other health needs. Inefficient operations also raise the cost per unit of service provided and are a drain on financial performance. Efficiency, adequate treatment capacity, and an attractive environment reduce patient waiting and length of stay for treatment and increase patient and staff satisfaction. Characteristics of more efficient ED operations include:

- Adequate number of treatment areas and flexible “swing” space to ensure availability of a room at peak times of use
- Triage function and sufficient waiting space for patients and visitors
- Aggregation of selected patient populations for focused care management (e.g., fast track, observation)
- Separation of psychiatric and crisis patients
- Quick turnaround for diagnostic procedures (e.g., radiology, laboratory tests) and treatment times
- Streamlined patient admission and transfer processes

Attention to each of these aspects of departmental operations, capacity, and configuration will ensure that patients are being evaluated, treated, and discharged or admitted as quickly and as comfortably as possible. These commit-

Step	Calculation	Comment
Projected Service Area Population	400,000	
Subspecialty Neurosurgery IP Use Rate	0.6	DRGs 1, 2, 4, 7, 530-1, 755-6
Total Service Area Demand	240	
Targeted Market Share	50%	Same as Overall Med/Surg Market Share
Admissions from Service Area	120	
Out-of-Area Draw	25%	Same as Overall Out-of-Area Draw
Total Subspecialty N/S Admissions	160	

DRG, Diagnosis-related groups; IP, inpatient; Med/Surg, medical-surgical; N/S, neurosurgery.

ments are also essential to improving the community’s access to needed services while maximizing ED visit volumes.

Another way to build visits to the ED is to develop specialty service lines and programs that expand the ED’s service capabilities and promote greater community awareness. These include a trauma service, chest pain center, stroke center, express care/urgent care service, and occupational medicine.

The initiation of a trauma service does require some significant investments (e.g., trauma team, physician coverage) and is not feasible for smaller EDs. In larger EDs, it will not only generate trauma visits (most of which lead to an admission to the hospital and surgery) but also result in an increase in nontrauma cases from the “halo” effect of the trauma service. (A trauma center will attract more nontrauma ED visits because of greater community awareness of the ED and its capabilities.)

A chest pain center also improves the quality of the patient care and strengthens the cardiology services provided by the ED. More than 5 percent of all visits to a typical ED are made for chest pain and related symptoms,⁷ some of which lead to an admission. A well-coordinated and designed chest pain center improves service to patients and enhances the ED’s service capabilities.^{8,9} It should be noted that although a chest pain center may build greater volume in the ED, reimbursement for nonadmitted patients is often far below the cost per patient of operating the chest pain center.¹⁰ Thus the profitability of the

service depends on generating enough admissions that the hospital would not otherwise have received.

A comprehensive stroke center includes a multidisciplinary stroke team and diagnostic capabilities that expedite identifying and treating a stroke once the patient arrives at the hospital. Aggressive community outreach to educate people on the signs of a stroke is also an essential component. Both program components will improve the visibility and attractiveness of the ED within the community as well as reduce the rates of morbidity and mortality associated with delayed treatment for stroke. Hospitals that have successfully established stroke centers realize growth in this ED population and significant incremental neurosurgery procedures, ancillary testing, and admissions.¹¹

Express—or “fast-track”—services address a chronic and often highly visible issue in many EDs. Patients with minor problems usually receive lower priority for treatment and thus experience long wait times and higher levels of frustration. Appropriately staffed and configured fast-track programs can expedite the treatment and discharge of the less acute patients without forcing them to compete for ED resources. Separating patients with minor conditions from those with more acute conditions will also improve the patient’s experience and level of satisfaction. Use of emergency departments for basic primary care by those who lack the ability to pay for care is an unfortunate and unavoidable daily occurrence, and attempting to make this experience as effective and efficient as possible benefits both the patients and the provider.

Industrial injuries often result in a visit to the ED. Complex Occupational Safety and Health Administration regulations, employee benefit design, and workplace rules drive the specific data collection and treatment requirements of workplace injuries. The emergency component of a more comprehensive occupational medicine program should be responsive to the needs of the employers in the community and help build the hospital’s relationship with them and their employees for future care. Occupational medicine as a niche program will be discussed in a future article of this series.

Subspecialty Service Development The third key approach for increasing market share is subspecialty service development. Enhanced service development can support the health care organization’s mission to its community by providing care previously unavailable locally. It can also increase utilization of services by reducing outmigration for specialty care or treatment. Two key factors that have contributed to expanded subspecialty care oppor-

tunities in community hospitals are technology diffusion and developing provider systems.

The spread of technology has enabled some subspecialty services, such as diagnostic cardiac catheterization programs previously available only in major tertiary medical centers, to be provided in community hospitals or freestanding settings. The elimination of regulatory barriers, the increased availability of trained interventionalists, and the ability to perform procedures with a greater degree of safety and efficacy than ever before has led to expansion in the number of cardiac catheterization programs. A well-managed cardiac catheterization lab can break even with as few as 200 procedures per year; a lab performing 500 procedures annually can generate as much as \$500,000 in contribution margin.¹²

Considerable interest has also risen in providing highly profitable cardiac surgery and angioplasty services at community hospitals. Recruitment of experienced surgical teams and personnel and the availability of underutilized operating rooms and beds has jump-started such programs throughout the country.

With experienced surgical teams, cardiac surgery programs can meet guidelines for clinical quality of care with as few as 125 surgeries per year, according to the American College of Surgeons, and can achieve breakeven financial performance after 200 to 250 surgeries.¹³ Profitability will depend on the level of investment required to set up the program, including capital costs for operating rooms and equipment, and managed care reimbursement rates for the system. Furthermore, a hospital performing 300 open-heart procedures per year can also expect at least 450 angioplasty procedures per year as well as increased demand for diagnostic catheterizations—all contributing to the financial bottom line.

Horizontal integration and the formation of regional multihospital systems have also provided member hospitals with the opportunity to share the costs and resources necessary to develop new capabilities within the system. Recruitment of a gynecologic oncologist or a neurosurgeon who can perform subspecialty procedures may be feasible for a two- or three-hospital system that offers a broader patient base than for one hospital alone. These procedures could generate hundreds of thousands of dollars in new inpatient surgery revenues in addition to ancillary spin-offs such as computed tomography scans, magnetic resonance image exams, and follow-up radiation therapy visits. Again, as with open-heart surgery, start-up and capital costs need to be assessed to ensure a reasonable payback period for any new service.

Finally, greater breadth and depth of services

and, in particular, increased emphasis on integrated delivery in recent years have resulted in burgeoning interest and many new initiatives in areas heretofore explored very little by health care organizations. Wellness and prevention services, complementary and alternative medicine, community health education, and health-related social services have all become much more prominent as health care organizations focus on the entire continuum of care.

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Increasing volume generally has a positive impact.

ASSESSING FINANCIAL FEASIBILITY

Once service opportunities are identified, the financial feasibility of enhancing or initiating a new service needs to be determined. The key steps of a feasibility study include a market or demand assessment and a financial analysis to ensure that the volume and revenues generated by the new service exceed the costs of providing the service.

DEMAND/MARKET ASSESSMENT

A population-based demand methodology estimates the potential demand for a new or enhanced service based on the incidence of the underlying disease in the population and the percentage of those patients who might reasonably seek treatment within the health care organization (i.e., market share). The incidence rate should be age adjusted (and sex adjusted, if appropriate). An example of a population-based demand methodology for subspecialty neurosurgery is shown in **Figure 2** (p. 3).

Where use rates are not readily available, other evidence-based data can be used to estimate the potential market for services. At one hospital in a two-hospital system, a survey of the medical and radiation oncologists and the gynecologists showed that more than 100 gynecologic oncology surgeries were referred out each year because no surgeon within the system had this expertise.

Another example of an evidence-based demand assessment is determining the potential to increase visits to the ED based on the number of hours in a month that the ED is on "divert" status (i.e., turning away patients) and the rate that patients are voluntarily leaving the ED without treatment. If the ED receives 30,000 visits per year, diversion can result in the loss of as many as six patients and one to two admissions in one hour if the hospital

is diverting during the busiest part of the day. If the ED is on divert status 100 hours during the year, this represents a potential loss of 600 ED visits and as many as 150 or more admissions.

In addition to a high rate of ambulance diversion, one hospital found that more than 5 percent of the pa-

tients who arrived in the ED for outpatient care left before treatment because of the long wait times. Estimates revealed that the hospital lost more than 1,000 visits per year because of capacity constraints and inefficient operations.

FINANCIAL ANALYSIS

Increasing volume generally has a positive impact on the financial bottom line to the extent that the marginal cost of treating the patient is less than the net (of contractual allowances and discounts) revenue received for the admission or visit. Contribution margin will also be higher if additional fixed or developmental costs to initiate the new service are minimized because of the availability of existing capacity or other underutilized resources.

An illustration of how to estimate marginal costs with the subspecialty neurosurgery example shown earlier is presented in **Figures 3, 4, and 5** (p. 6). In this case, the costs of surgery, including the operating room and critical care and routine nursing care costs, are compared with the net revenue that would be received for the admission.

The first step is to determine what resources the expected number of surgeries will require. The key variables are average incremental surgical case time, the percentage of patients and the days spent in the critical care unit, and the length of stay spent on the routine surgical floor. Calculating the resources required for subspecialty neurosurgery procedures is shown in **Figure 3**.

The next step is to determine the marginal operating cost (including staffing, supplies, ancillary testing, pharmacy) of providing these services. In the neurosurgery example shown in **Figure 4**, marginal costs were estimated based on the variable costs of the affected departments that included ancillary and supply costs but excluded fixed costs.

Finally, total net revenue is calculated and compared with total incremental marginal costs to determine if the new service will generate enough contribution margin to cover fixed costs. For the

hospital in the example shown, a reasonable approach to estimating expected net revenue is determined by multiplying the hospital's net rev-

enue per admission with a case mix index of 1.0 by the average case mix index of the subspecialty neurosurgery diagnosis-related group (Figure 5).

Therefore, the addition of the subspecialty neurosurgery could generate more than \$1.3 million in contribution margin. This sum could be used to cover any capital or developmental costs for the service (e.g., physician recruitment costs, equipment) and to cover other fixed costs. In marketplaces that include higher volumes of non-Medicare and managed care patients, net revenue per case should reflect actual reimbursement by the payer based on contractual rates.

Moving from the engrained mind-set of actively securing patient volume toward one of minimizing expenditure of resources for a defined set of covered lives in a reimbursement system dominated by managed care and capitated risk was a difficult hurdle for health care professionals to surmount. Now is the time to reassess the marketplace and actively seek opportunities to once again capitalize on what has been the long-standing core business of hospitals and health systems: strong, efficient, and cost-effective acute care services. □

Figure 3

Resource	Calculation	Comment
Incremental IP Surgeries	160	From Figure 2
Case Time per Surgery	3.0	
Total Operating Room Hours	480	
Percent of Patients Requiring ICU	25%	
ICU Admissions	40	
ICU Average Length of Stay	4.0	
Incremental ICU Days	160	
Patients Requiring Routine Nursing	160	
Routine Med/Surg Average Length of Stay	8	
Incremental Routine Med/Surg Days	1,280	

IP, Inpatient; ICU, intensive care unit; Med/Surg, medical-surgical.

Figure 4

Resource	Calculation	Comment
Incremental OR Hours	480	From Figure 3
Marginal Cost Per Hour	\$600	
Incremental OR Costs	\$288,000	
Incremental ICU Days	160	From Figure 3
Marginal Cost Per Day	\$675	
Incremental ICU Costs	\$108,000	
Incremental Med/Surg Days	1,280	From Figure 3
Marginal Cost per Day	\$225	
Incremental Med/Surg Costs	\$288,000	
Total Incremental Costs for Surgeries	\$684,000	

OR, Operating room; ICU, intensive care unit; Med/Surg, medical-surgical.

Figure 5

Variable	Calculation	Comment
Net Average Revenue per Admission	\$4,900	@ CMI = 1.0
CMI of Subspecialty Neurosurgery	2.59	
Net Revenue per Surgery	\$12,700	
Incremental Neurosurgery Procedures	160	
Incremental Net Revenue	\$2,032,000	
Incremental Costs	\$684,000	From Figure 4
Net Gain from Operations	\$1,348,000	

CMI, Case mix index.

NOTES

- American Hospital Association, *AHA Hospital Statistics*, American Hospital Association Health Forum, Chicago, 2001, p. 9.
- C. E. Holm, D. L. Glaser, and D. Ahern, "From Primary Care Physician Employment to Private Practice: Easing the Transition," *Physician Executive*, July/August 2000, pp. 52-55.
- Health Strategies & Solutions, Inc., Philadelphia, 2001.
- Delaware Valley Healthcare Council. *Hospital Statistics: 1994-1998, 1999*.
- Broward Regional Health Planning Council, Inc., *1999 Annual Utilization Report*, Ft. Lauderdale, FL, 2000.
- American Hospital Association, p. 9.
- "National Hospital Ambulatory Medical Care Survey: 1998 Emergency Department Summary," Advanced Data No. 313, May 10, 2000, p. 15.
- G. Nichol, R. R. Walls, L. Goldman, et al., "A Critical Pathway for Management of Patients with Acute Chest Pain Who Are at Low Risk for Myocardial Ischemia: Recommendations and Potential Impact." *Annals of Internal Medicine*, 1997, vol. 127, pp. 996-1005.
- R. J. Rydman, R. J. Zalenski, R. R. Roberts, et al, "Patient Satisfaction with an Emergency Department Chest Pain Observation Unit." *Annals of Internal Medicine*, 1997, vol. 29, pp. 168-171.
- Health Strategies & Solutions, Inc., 2001.
- G. W. Albers and N. Hock, "The Stanford Stroke Center," *The Stroke Interventionalist*, 1998, vol. 1, p. 10.
- Health Strategies & Solutions, Inc., 2001.
- American College of Surgeons, "Guidelines for Standards in Cardiac Surgery," *Bulletin of the American College of Surgeons*, 1997, vol. 82, pp. 27-29.