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The Emerging Heart Hospital Standard

How Specialty Heart Hospitals are Setting New Benchmarks for Quality, Productivity, & Profitability in Cardiovascular Care

HealthGroup West, LLC
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Introduction

Our firm specializes in strategic planning for cardiovascular programs throughout the United States—one of the most dynamic fields in all of medicine. To remain relevant in this type of business requires voluminous research and almost constant travel. New ideas and trends in cardiovascular care are always cropping up, but many wither before taking root (remember capitation, and how it was going to render over half of all cardiologists 'surplus' by the year 2000?) Unfortunately, in some instances new ideas do take root and then proceed to wreak havoc, like the brief (but for many disastrous) flirtation with Cardiovascular Physician Practice Management Companies. The PPMCs were able to sign up clients, but ultimately proved unable to deliver on their promises of efficiency and contracting leverage. In our work the ability to identify significant and enduring new advances in time to capitalize on them, while avoiding potential pitfalls, is crucial to our success. This is especially true because our clients often allocate millions of dollars based on the results of our planning efforts. So we pay special attention to issues that have the potential to radically alter the landscape of cardiovascular care. The potential of specialty heart hospitals has been just such an issue since the mid 1990s, when the first wave of heart hospital development created controversies the likes of which are usually reserved for pay-per-view. Unfortunately, while the rhetoric often ran hot, there was often little factual basis underpinning arguments on either side of key issues. Questions such as how specialty heart hospitals impact quality of care, financial performance, or patient and physician satisfaction often went unanswered. Taking a reasonable leap of faith, some physicians and health systems embraced the specialty hospital concept. But since the mid 1990s many have also expended considerable resources in an attempt to fight their development. Today many of the traditional arguments against specialty heart hospitals are falling in the face of empirical evidence. Based on the experience of some of the pioneers in the heart hospital movement, clear and convincing data are now emerging to validate the soundness of this concept. In this paper our goal is to provide decision makers with a framework to evaluate the performance of their own cardiovascular programs against the results of specialty heart hospitals based on broad measures of quality, productivity and profitability. We welcome your comments and feedback.

Regardless of ownership or financial status, specialty heart hospitals can raise the bar for quality in a market and also place downward pressure on costs by giving insurers options to contract with the low-cost leader.

Specialty Heart Hospitals – Fad or Future?

In many rapidly developing fields it takes a while for a commonly accepted terminology to emerge, and this is certainly true when it comes to heart hospitals. So from the outset, it is important to define some of the key terms related to specialty heart hospitals. A survey by one firm found that "[g]enerally, heart hospitals describe themselves as 'freestanding' when the physical plant is adjacent and connected (usually by a walkway or skywalk) to the main hospital facility with some reliance on the main hospital for core services. Heart hospitals that share no core infrastructure with a host hospital are described as 'stand-alone' facilities. The 'hospital within a hospital' description is used when cardiac services are integrated within existing hospital infrastructure, but with distinct reporting, financial and physical identities" (Heck 2002). While popular usage sometimes varies, this nomenclature squares with our experience around the country as well. As a rule, our practice is to group all of the subtypes of these facilities under the heading of *'specialty heart hospitals.'*

Heart Hospitals are 'freestanding' when the physical plant is adjacent and connected to the main hospital facility. Heart hospitals that share no core infrastructure with a host hospital are described as 'stand-alone'

Not One-Size-Fits-All

Clearly, there is no one-size-fits-all model when it comes to specialty heart hospitals, and a number of different types of facilities successfully meet high performance standards. In our experience, the key distinguishing features of heart hospitals are both *physical* and *operational*. That is, for a facility to be considered a specialty heart hospital most cardiovascular services need to be physically located in close proximity to each other. In addition, these services need to be operated as a business unit, with an independent or at least semi-autonomous management team with budgetary authority and the power to make key decisions on staffing, marketing, and capital purchases.

Are Heart Hospitals a Trend?

Is there a trend towards development of these types of facilities, or just a handful of isolated developments? Back in 1999 one prominent cardiovascular consultant argued that freestanding facilities create "a lot of unnecessary capital expense and beds" and that there was definitely not a national trend to develop these types of heart hospitals (Egger 1999). But our research has shown quite the opposite to be true (see the maps at the end of this document). In fact, there is currently substantial growth taking place across all categories of specialty heart hospitals. From publicly owned for-profit heart hospitals, to freestanding not-for-profits adjacent to existing facilities, to privately funded stand-alone facilities, rarely a month goes by without a new announcement. And next-generation facilities are continuing to refine their financial and management models. But will these hospitals deliver on the promise of lowering costs while simultaneously increasing quality? Skeptics beware; our analysis of initial results looks very promising.

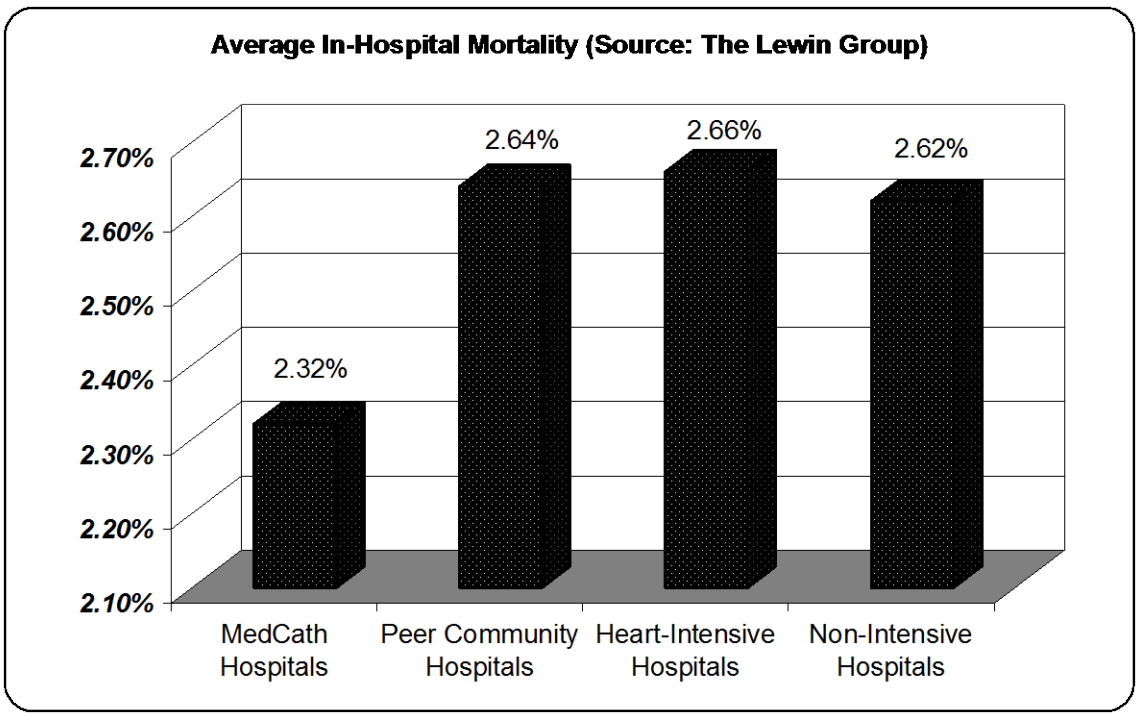
Comparative Quality & Outcomes

One of the customary charges made against specialty heart hospitals is that they are nothing more than an effort to siphon off the profit from existing hospitals. Opponents rarely pull any rhetorical punches in their attacks. For example, in one such dispute the heart hospital development group was publicly labeled "a money-grubbing carpetbagger that will skim the cream off the area's healthcare dollars and divert the profits from programs to enhance the community" (Lamb 1999). In another instance a new hospital was dismissed as "a marketing gimmick" that would clearly not save any lives (Winslow 1999). But do the charges stick? In the initial years after the first specialty heart hospitals were developed there were rarely any data upon which to base such a determination. This has often provided convenient cover for inaction. However, recent analyses have shown that many specialty heart hospitals perform better than traditional hospitals on a number of cost and quality measures, positioning them well in the context of any policy debate on the viability of the specialty hospital model.

Measuring Quality at MedCath

The following conclusions were recently reached by analysts at The Lewin Group in a study based specifically on facilities owned and operated by MedCath, the oldest and largest specialty heart hospital development group. In this study, the eight operating MedCath hospitals (of various ownership and management models) were compared to almost 1,000 other hospitals with cardiovascular programs serving Medicare patients, and the following results were observed:

- After adjusting for risk of mortality, MedCath heart hospitals on average exhibited a 12.1% lower in-hospital mortality rate for Medicare cardiac cases compared to peer community hospitals.



- MedCath heart hospitals had shorter lengths of stay for cardiac cases (4.12 days) than peer community hospitals (4.99 days) after adjusting for severity.
- Patients treated at MedCath heart hospitals typically showed lower rates of medical complications versus patients treated at the peer group community hospitals.
- MedCath heart hospitals discharged a higher proportion of their cardiac patients to their homes and transferred fewer discharged patients to other facilities. (This likely results in reduced aggregate expenditures as compared to patients treated in traditional community hospitals) (Dobson 2002).

Healthy & Wealthy?

But what about the common allegations that hospitals like those of MedCath Corporation are only interested in the 'healthy and wealthy' patients. The Lewin Group study also found that, as a group, MedCath heart hospitals have a higher case mix severity than peer community hospitals, so in fact they actually take sicker patients than the average hospital (Dobson 2002). But are their patients wealthier? In MedCath's heart hospitals, Medicare and Medicaid are the largest payers, with about 65% of the payer mix (Deloitte & Touche 2001). This is in line with other hospitals around the country—and it goes without saying that Medicare does not pay specialty heart hospitals any more than it does other hospitals situated in similar environments.

Productivity & Technological Gains

The fact that specialty heart hospitals can produce such outstanding outcomes should not come as a surprise. In fact, in our work we have seen that most heart hospitals arise out of concern on the part of physicians over how to get better control of the patient care process. In this regard, heart hospitals have demonstrated that bigger is not always better. In fact, though often developed around the principles of the 'focused factory' first applied to healthcare by Regina Herzlinger, heart hospitals rarely rank amongst the highest volume programs in their markets. In the previously mentioned Lewin Group study, for example, it was found that MedCath hospitals ranked near the middle of their respective markets for the total volume of care provided (Dobson 2002). Herzlinger notes that "larger volume provides no guarantee of higher quality…Quality outcomes for open heart surgery vary considerably, even though these are high volume operations in virtually every hospital (Herzlinger 1997). The real basis for quality, she goes on to note, lies in the development of a system designed to produce the desired outcome. Fair enough. But how do heart hospitals create better systems?

Many specialty heart hospitals perform better than traditional hospitals on a number of cost and quality measures, positioning them well in any policy debate on the viability of the specialty hospital model.

Specialization, Not Integration.

The implication in health care that it's better to have an 'integrated system' is incorrect, according to David Crane (the current CEO at MedCath Corporation). He

challenges anyone to "[t]ry and identify any other service industry in America that is better served by having a whole lot of unrelated and often conflicting businesses combined under one roof. The trend across American industry for the past 30 years has been the opposite" (Deloitte & Touche 2001). Judging by the amount of money wasted in the 1990s by health systems in developing their own insurance products and acquiring then divesting physician practices, we're inclined to agree. But specialty heart hospitals are expensive—most new facilities end up costing about $500,000 per inpatient bed. So does it take a new facility and all of the expense that it entails to achieve systematic efficiencies? Almost invariably it does. Existing hospitals are usually a patchwork of facilities and services that were initially designed decades ago and were modified and adapted as volumes grew and technologies changed. In most cases it is simply not possible (or ultimately even more expensive) to try and re-configure an existing physical plant to reflect the state-of-the-art in cardiovascular facility design. By specializing, a hospital can focus staff training on one area of medicine and focus resources on the latest equipment specific to its needs. Just as important, hospital layouts can be designed to reflect maximum efficiency, specifically for cardiovascular patients. As a result, operations are more efficient, and the time and staff needed to transport patients around the building are dramatically reduced. Labor costs, usually running at about 40% to 50% of net patient revenues, can sometimes be cut nearly in half (Dobbs 2001). In an era marked by nursing shortages, the importance of this should not be overlooked.

Because of a general scarcity of specialty cardiovascular physicians in many markets, the only way patients and referring physicians are going to achieve a better experience is through the development of care systems designed to make cardiovascular physicians more productive.

Risky Business?

So what are the risks? One industry consultant offered the following opinion on the risks of developing freestanding heart hospitals:

- Technological advances are likely to supplant much of what now occurs in a "heart hospital," leaving its owners with an obsolete business model (and physical plant).
- A heart hospital can separate (both physically and psychologically) cardiologists and cardiovascular surgeons from their referral sources.
- Most cardiologists perform services other than those provided at a heart hospital, and thus may be forced to work at multiple locations (Hough 2002).

With all due respect, we find these arguments very unconvincing. When it comes to technology, we have found that specialty heart hospitals are usually among the first to embrace new advances, and also are the best positioned to make the necessary capital investment. MedCath's Chief Executive Officer is on record as saying that its heart hospitals "were the first in our marketplaces to get the ultrafast CT scanner as a diagnostic tool, at $1 million each. We were also first to get cardiac MRI, at $1.4 million each" (Deloitte & Touche 2001). In terms of an obsolete business model and physical plant, this

would seem to apply much more clearly to existing hospitals with infrastructure that is decades old and inefficient patient treatment processes. Because much of the nation's healthcare infrastructure is already in need of replacement, to us it makes eminent sense to invest in new facilities that will be more flexible and adaptive to change than previous models. And their strategic value goes beyond the bricks and mortar. According to Jean Mah, a principal at Chicago-based Perkins & Will Architects, specialty facilities such as heart hospitals lure the best physicians and provide opportunities for hospitals to spread their brands. By tying their names to specialty services in consumers' minds, hospitals can capture new market share (Moon 2002).

Physician Relations

In terms of a physical separation from referral sources and being 'forced' to work at multiple locations, this is already the everyday experience of most cardiologists around the country. Most doctors already hold privileges and see patients at multiple hospitals. The prospect of concentrating their work in a single facility is usually quite appealing to physicians. Without a heart hospital, they typically cannot concentrate their volumes and tend to cover as many facilities as possible. And what about alienating referral sources? Most cardiologists are already running this risk as they attempt to navigate the fragmented systems of multiple hospitals. Their office-based practices also tend to experience long wait times to see new patients. Because of a general scarcity of specialty cardiovascular physicians in many markets, it is our opinion that the only way patients and referring physicians are going to achieve a better experience is through the development of care systems designed to make cardiovascular physicians more productive—and heart hospitals certainly hold out that promise.

How do specialty heart hospitals compare to traditional cardiovascular programs on major measures of financial performance? Several years ago it would have been impossible to answer that question.

Unnecessary Duplication?

And what about the increased duplication that new heart hospitals represent? Many opponents cite increased costs due to unnecessary duplication as a chief reason to spurn them. In fact, these types of policies have resulted in very few specialty heart hospitals being developed in states with Certificate of Need regulations. On the surface, this would seem to make good sense. After all, most specialty heart hospitals so far have been established in markets that are already served by existing cardiovascular programs. Would it not be better, the argument goes, to focus on placing these facilities in underserved areas first? Our response is that, while initially appearing counterintuitive, healthcare markets are probably better served by the competition that a new specialty heart hospital represents. Regardless of ownership or financial status (for-profit or not-for-profit) specialty heart hospitals can raise the bar for quality in a market and also place downward pressure on costs by giving insurers options to contract with the low-cost leaders in a market. This was certainly the case in Tucson with the development of the Tucson Heart Hospital. Tucson is only a mid-sized city, but in the early 1990s it was home to no fewer than eight hospitals providing

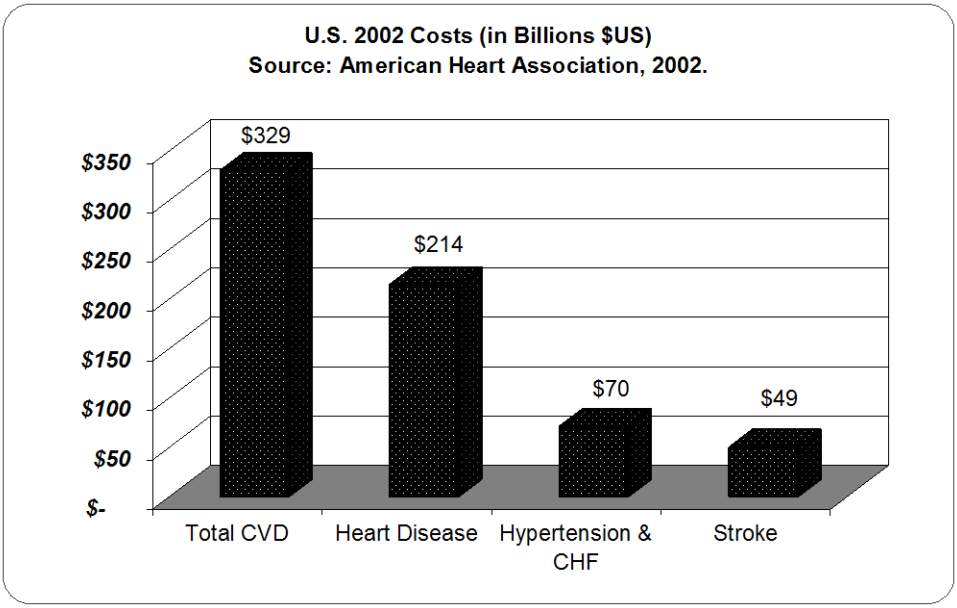
cardiac surgery—which gave it one of the highest program-to-population ratios in the country. While its early operations were not trouble free, the establishment of the Tucson Heart Hospital was the catalyst needed in the market to prompt the closure of several low-volume, underperforming heart surgery programs. As a result, at least in part, the overall quality of heart surgery outcomes is improving in the Tucson market. While in this instance a for-profit model beat other hospitals to the punch, it appears that hospitals in other cities are learning from this experience and are heading off any attempts at intrusion into their markets by taking on the challenge of developing specialty heart hospitals themselves.

Financial Performance

Cardiovascular care has been described as medicine's single largest enterprise. In the U.S. alone it makes up about 20% of all healthcare costs, with total spending on hospital-based treatment estimated at over $200 billion (Winslow 1999). As such, cardiovascular care enjoys the status of a major industry—though in this case one industry's revenues are society's costs. But by any measure, the financial importance of cardiovascular care to the hospital system overall is undeniable: over 1,000 U.S. hospitals offer full-service heart programs (defined here as service up to the level of adult heart surgery), and they typically account for more than 20% of a hospital's revenue and sometimes 50% or more of its profits (Winslow 1999).

Financial Profiling

As we begin to experience the full brunt of the aging trend within the U.S. population, there will be a clear imperative to pursue all viable methods of delivering high-quality cardiovascular care at lower unit costs than are currently possible. With that in mind, how do specialty heart hospitals compare to traditional cardiovascular programs on major measures of financial performance? Several years ago it would have been impossible to answer that question. As



noted recently in *Modern Healthcare*, "despite increasing demand for hospital financial data and the growing sophistication of hospital financial reporting systems, it's still a challenge to find comprehensive and timely financial data on the hospital industry" (Jaklevic 2002). However, comprehensive financial data is available for hospitals owned by public companies because of filing requirements imposed by the Securities and Exchange Commission. And there are efforts underway to extend these types of systems into the not-for-profit sector as well.

Comparative Financial Analysis

In preparing this paper we ran analyses of financial data as reported by a variety of specialty heart hospitals owned by different companies and investor groups around the country. While there was some natural variation based on size, location, and service profile, we were able to develop a composite financial picture for a broad cross-section of facilities. Our analysis shows that the typical specialty heart hospital:

- Receives about 85% of its total patient revenue from inpatient procedures, which is comparable to the average community hospital cardio-vascular program.
- Runs a discount factor of 48% of charges (based on contractual allowances), which is also in line with the experience of most community hospital cardiovascular programs.
- Generates a cash flow margin of about 25% of net patient revenues (with some facilities closer to 35% to 40%); which is significantly higher than the 15% to 20% commonly experienced in traditional hospital cardiovascular programs.
- Produces an operating margin (including depreciation expenses) of 15% to 20%; which is almost twice as much as the typical community hospital program.
- Delivers an average net profit margin of 16.1% (on a pre-tax basis for for-profit facilities, after deducting interest, depreciation and amortization costs and accounting for non-patient revenue and expenses); this compares to an average 8% to 10% profit margin in the typical community hospital cardiovascular program.

In specialty heart hospitals labor costs can sometimes amount to less than half the costs of programs of comparable patient volumes. And this does not even factor in the savings achieved from increased employee satisfaction with their working environment and reduced turnover costs.

Sources of Savings

As mentioned previously, heart hospitals are rarely paid more for their services than their acute care hospital counterparts. In fact, many heart hospitals try to position themselves as the low-cost leaders in their markets. So where do the savings, and hence higher profitability, come from? It is certainly not from lower debt loads, as most heart hospitals entail substantial capital investment and are usually financed through debt. Neither is it from lower supply costs, since any purchasing discounts are often wiped out by the high volume of expensive drugs and devices that are employed in what tends to be a procedurally oriented facility (though making physician-investors sensitive to supply costs certainly can't hurt). In the majority of cases, better financial performance seems to come from lower labor costs. Our analysis shows that labor costs typically represent 40% to 50% of net patient

revenues in most hospitals, regardless of profit status. But in heart hospitals labor costs can sometimes amount to less than half the costs of programs of comparable patient volumes in the same community. And this does not even factor in the savings achieved from increased employee satisfaction with their working environment and reduced turnover costs. Even more important, the savings do not appear to come from cuts in the ranks of clinical workers. The management requirements of most acute care hospitals, which are typically large and complex organizations, often dictate substantial budgets for administrative purposes. The typical specialty heart hospital is able to get by with a lower proportion of its revenues allocated to administrative overhead. Again, MedCath's experience is illustrative. According to James Harris, CFO of MedCath Corporation, their hospitals have been able to structure their costs so that only about 30% of net revenues are accounted for by labor. This achieved in three key areas: 1) a much lower ratio of administrative personnel to caregiving employees; 2) the improved design and layout of their specialty facilities; and 3) the governance and decision making systems put in place at each hospital (Deloitte & Touche 2001).

Additional Measures

On many additional measures specialty heart hospitals set very high standards. For example, our analysis revealed that the typical heart hospital:

- Generates $700k to $850k in net patient revenues per inpatient bed.
- Has a total staffing ratio of 3.0 to 3.5 employees per inpatient bed;
- Employs an average of 1.5 full-time RNs per bed; and,
- Collects $200k to $350k in net revenue per hospital employee.

This constitutes formidable performance by just about any standard of comparison.

Can Your Program Measure Up? Take the Test

So how can hospitals that currently don't enjoy the benefits of a specialty heart hospital compete in today's healthcare marketplace? The reality is that providers of cardiovascular care are experiencing a crisis in many parts of the country from overcrowded ERs and lack of necessary specialty physicians. But many of these problems can be alleviated by lessons learned in the development of heart hospitals. There is a tremendous need for an overhaul of much of the nation's healthcare infrastructure, and cardiovascular services represent an ideal starting place for this overhaul. Specialty heart hospitals are an organizing tool that ought to be seriously evaluated by those committed to achieving the highest standards of care, and the variety of successful models that exist mean that there is a good chance that one can be adapted to your specific environment. To evaluate where you stand on this matter, you will need access to certain key data, as well as an understanding of the competitive makeup of your market. We suggest that you begin a self-assessment by answering the questions found on the following pages.

Cardiac Program Strategic Assessment
-10 Key Questions & Measures-

☐ **Are your financial ratios healthy?**

Full-service cardiovascular programs typically generate 30-35% of total acute-care hospital revenues (in rare cases over 40%). Well-run programs achieve operating margins of 15-20% of net program receipts. If your results are any less, you can do better. Find out.

☐ **Are you providing all appropriate services?**

This much is sure: Technology advances and regulations change. Your program needs to respond. By adding new diagnostic, interventional & surgical modalities you can enhance patient care and be responsive to market demands. Don't rest on your laurels.

☐ **Where do your patients come from?**

Cardiac programs are tertiary in nature. You must do more than meet the needs of your immediate med/surg catchment area- and you can't afford to sit back and wait for referrals. In order to thrive you must reach out.

☐ **Do you understand your competition?**

It's not always the cross-town hospital. It can be Wall Street. It can be your payors. If you're not careful, it can be your own staff. It pays to learn how to avoid the mistakes of other programs.

☐ **Are you leaving money on the table?**

Every time insurers raise premiums, it falls to hospitals to ensure that those resources are directed toward patient care. Access to quality cardiovascular care is a big enough issue to make a difference in payor negotiations. Make sure you are prepared to cut the best deal.

☐ **Is your hospital physician friendly?**

Perhaps the most important strategy hospitals can pursue to enhance their results is to partner with physicians on business development and operational improvement. And this willingness needs to be shown in both word and deed.

☐ **Do you have an appropriate acuity mix?**

If your ER provides a disproportionate number of your total heart patients, your quality indicators will suffer and the negative financial and productivity impact will be felt hospital wide. But it doesn't have to be that way.

Cardiac Program Strategic Assessment (cont'd)

☐ **Are your operating benchmarks in line?**

As a complex organization your program requires constant tuning- Lengths of stay should be neither too long nor too short. The mix of inpatient & outpatient beds needs to reflect current practices. And the list goes on. Periodic adjustment is crucial for sustainable growth.

☐ **Are your services laid out efficiently?**

Our studies indicate that changes to physical layout can add as much as 10 percentage points of profit on operations. That often translates into millions of dollars saved- dollars that are then available for investment in other areas.

☐ **Can you document your outcomes?**

In 21st Century healthcare Quality is King. Every program needs to know where it stands and have a plan for improvement. But you don't have time to waste on unproven methods. Learn about and implement what has been shown to work in similar environments.

If you don't know the answers to these questions–or don't like your answers–we can help by performing a *Strategic Assessment* of your cardiac program. With a basic set of data and two days of meetings with key individuals on site, our team can accurately assess your situation, report back, and outline a sound process for improvement. And we'll be your partners in making it happen.

About HealthGroup West

HealthGroup West is expert in the planning and development of cardiac and vascular healthcare services. It is one of the most knowledgeable groups of experts in the country on the development of cardiovascular markets and all types of specialized cardiovascular facilities. Collectively, the full-time staff and special advisors of HealthGroup West, LLC represent many decades of hands-on experience in the analysis and development of cardiovascular and other specialty medical services. They hold advanced degrees in the fields of Business Administration, Health Policy, Information Science, Medicine, Law, Clinical Sciences, and others. We welcome your feedback and comments on this report.

About the Authors

Jeffrey Frazier has almost 10 years of direct experience in cardiovascular business consulting, both as a senior level consultant to hospitals and physician practices and as a researcher and author. He has also been retained by a number of state health agencies and hospitals in assessing population needs and criteria for establishing cardiovascular services. In recent years he has served as a cardiovascular consultant and expert witness to hospitals successfully obtaining Certificates of Need in numerous states around the country. He holds a Masters degree in Health Policy from Dartmouth Medical School's Center for the Evaluative Clinical Sciences. He also has Masters degrees from the University of Arizona and the University of Nevada Las Vegas. He can be reached by e-mail at *jfrazier@healthgroupwest.com*.

Kevin Curtis. Over the past 10 years Mr. Curtis has prepared and implemented strategic plans for the development of numerous hospital cardiovascular programs and physician practices around the country, including open-heart surgery programs, cath lab development and Heart Hospital planning. He has an especially extensive background in the development of cardiovascular medical practices, outpatient Heart Centers, and Vascular Centers. Kevin has earned college degrees in Economics, Finance, and a Masters in Business Administration. He can be reached by e-mail at *kcurtis@healthgroupwest.com*.

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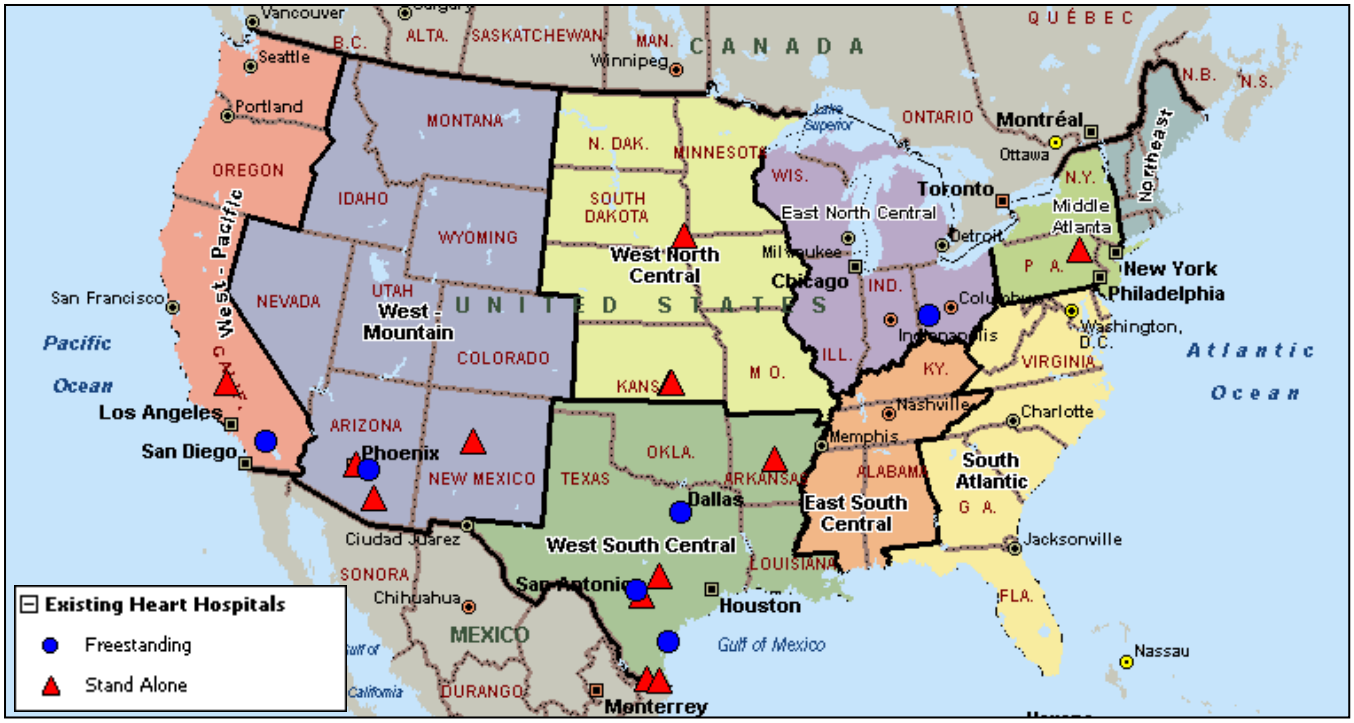
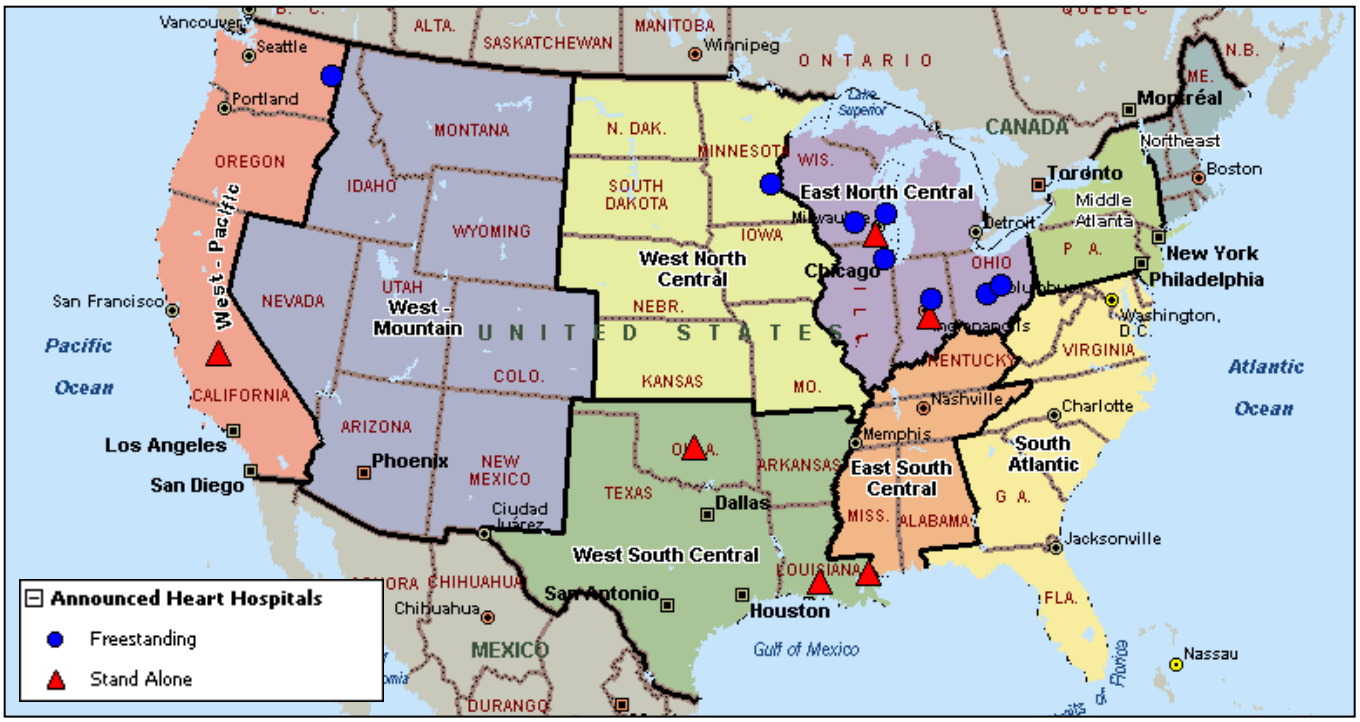
Existing Freestanding & Stand-Alone Specialty Heart Hospitals



Heart Hospital	City	State	Structure
Arizona Heart Hospital	Phoenix	AZ	Stand Alone
Arkansas Heart Hospital	Little Rock	AR	Stand Alone
Bakersfield Heart Hospital	Bakersfield	CA	Stand Alone
Baylor Heart & Vascular Hospital	Dallas	TX	Freestanding
Cardiovascular Center of PR	San Juan	PR	Stand Alone
Dayton Heart Hospital	Dayton	OH	Freestanding
Galicia Heart Hospital	Wichita	KS	Stand Alone
Geisinger Wyoming Valley Heart Hospital	Wilkes Barre	PA	Stand Alone
Harlingen Medical Center	Harlingen	TX	Stand Alone
Heart Hospital	Palm Springs	CA	Freestanding
Heart Hospital	Corpus Christi	TX	Freestanding
Heart Hospital of Austin	Austin	TX	Stand Alone
Heart Hospital of New Mexico	Albuquerque	NM	Stand Alone
Heart Hospital of S. Texas at Methodist Hosp.	San Antonio	TX	Freestanding
Heart Hospital of San Antonio	San Antonio	TX	Stand Alone
Heart Hospital of South Dakota	Sioux Falls	SD	Stand Alone
Kansas Heart Hospital	Wichita	KS	Stand Alone
Lutheran Heart Hospital	Mesa	AZ	Freestanding
McAllen Heart Hospital	McAllen	TX	Stand Alone
Tucson Heart Hospital	Tucson	AZ	Stand Alone

Note: While we have attempted to provide a comprehensive look at the locations of existing and announced Specialty Heart Hospitals around the country, this list is probably not exhaustive. We have also excluded from these maps locations of Heart Hospitals developed 'within a hospital.' The classification of the hospital as either freestanding or stand-alone is ours, and might differ in some case from how a particular facility decides to market itself.

Announced Freestanding & Stand-Alone Specialty Heart Hospitals



Hospital Name	City	State	Structure
Abbott Northwestern Heart Hospital	Minneapolis	MN	Freestanding
Condell Heart Center	Libertyville	IL	Freestanding
Covenant Heart Hospital	Wauwatosa	WI	Freestanding
Deaconess Heart Hospital	Spokane	WA	Freestanding
Fresno Heart Hospital	Fresno	CA	Stand Alone
Heart Center of Indiana	Carmel	IN	Freestanding
Heart Hospital of Lafayette	Lafayette	LA	Stand Alone
Heart Hospital of Milwaukee	Milwaukee	WI	Stand Alone
Indiana Heart Hospital	Indianapolis	IN	Stand Alone
Louisiana Heart Hospital	St. Tammany Parish	LA	Stand Alone
Oklahoma Heart Hospital	Oklahoma City	OK	Stand Alone
Richard M. Ross Heart Hospital - OSU	Columbus	OH	Freestanding
Riverside Heart Hospital	Columbus	OH	Freestanding
St. Luke's Heart Hospital	Menomonee Falls	WI	Freestanding

Note: While we have attempted to provide a comprehensive look at the locations of existing and announced Specialty Heart Hospitals around the country, this list is probably not exhaustive. We have also excluded from these maps locations of Heart Hospitals developed 'within a hospital.' The classification of the hospital as either freestanding or stand-alone is ours, and might differ in some case from how a particular facility decides to market itself.