

Choosing the Right Cardiovascular Delivery Model for Your Hospital: “For All of the Right Reasons”

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“Every calling is great when greatly pursued.”

— Oliver Wendell Holmes

Cardiovascular (CV) services garner significant attention in healthcare these days, and for good reason. Just look at the financial statements for the average American hospital. Our experience indicates that CV services account for 30–40% of revenue and can be as much as a whopping 60–70% of profit (net income). Add to that the projected population growth rate for the prime CV age cohort (45 years and older) at 37% over the next 22 years,¹ and you have an apparent business recipe for success. The challenge is that every hospital and cardiology group in the country sees the same statistics and looks to garner a bigger piece of the pie to support the numerous less profitable services they provide.

“When people are free to do as they please, they usually imitate each other.” — Eric Hoffer

They say that imitation is the best form of flattery. If that is the case, then hospitals apparently have great admiration for their competitors when it comes to building their CV programs. In many markets, creative development is lacking until one progressive hospital suddenly rolls out an expansive program that is viewed as a threat to other providers in the area. The response is often a hectic race to match or beat one another to the punch. Sometimes this race is fueled by consultants and consulting firms promoting the “deal” of the day. The result is often what happened in a quiet, conservative, quality Midwestern medical community last year when it was announced that a proprietary company would joint venture a heart hospital with a group of local physicians. Before you knew it there were four free-standing heart hospitals on the drawing board.² This is not an isolated incident... it is happening over and over again across the nation (Indianapolis, Milwaukee, Phoenix, Houston, etc.).^{3–5}

This article highlights a different approach: one tailored to the needs of your hospital, your medical staff and your community. It reinforces our observations from all regions of the country, and our contention that if you do it right — clinically, structurally and operationally — you will have financial success, improved quality and delivery of care, and enjoy the satisfaction of leaving a legacy to which your successors will aspire. Imitation may flatter

your competition, but it may not — and likely will not — get you where you want and need to be for the long-term.

Historical Perspective

Healthcare services have undergone a huge evolution over the past forty years. Technological advances have been mind-boggling, regulation has heightened to the point that a new specialty of “healthcare attorneys” has been firmly established, and the entire reimbursement system has been overhauled. CV services have been impacted as strongly as any healthcare specialty. Advances in imaging techniques and clinical testing have improved the diagnostic process (e.g., digital cardiac nuclear imaging, digital echocardiography, high speed CT, electron beam CT, MR angiography, PET scanning, cardiac cath systems, etc.). New generations of drugs and therapies have enhanced response and recovery and many CV surgical procedures are being performed off-pump and with microsurgical techniques. Interventional procedures are substituted for CV surgery at rates alarming to CV surgeons,⁶ and some experts are projecting that high speed CT and/or MRA will replace diagnostic catheterization in the not too distant future.⁷ From a financial perspective, CV services continue to be among the leaders for hospitals and physician specialists (Table 1). In short, although inevitable changes certainly loom on the horizon for CV services delivery and reimbursement, it will likely remain the engine that drives hospitals for the foreseeable future.

Fragmentation Versus Consolidation

The traditional hospital structure is a matrix organization (fragmented), in which departments are grouped together based on the similarity, rather than the complementary nature of the functions performed. Therefore, disparate ancillary departments are all lumped together administratively because of the types of services they provide rather than the types of patients they care for. (This also applies to all other service groupings such as nursing, support services, surgery, business, administrative, etc.) This may seem to make sense in many respects because of the similarities in the types of services performed. However, recent arguments and experience suggest that grouping departments based on the types of patients they serve (consolidated) provides better continuity, process flow, quality of care, communications and business reporting systems. Likewise, it better reflects the organizational and financial units in a manner more representative of the services performed.

For instance, when it comes to planning which services to grow or how to negotiate rates for various patient categories, hos-

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pitals are at a loss if they are not categorized appropriately. In the same vein, if the care givers for all CV patients in nursing, diagnostic services and surgical services are organized in the same unit, it is more likely that patient processes will be optimized to the greatest benefit of the patients, physicians and the hospital. The outcome is improved quality of care, enhanced physician and staff satisfaction, and a better organized and more productive and profitable business unit. There are numerous matrix and serviceline variations for any serviceline, but the focus should be on what is best for the patient, not what is most comfortable for the hospital or staff. This often requires a change in philosophical perspective and the status quo.

What About Vascular Services?

As technology and medical techniques become more and more advanced, the lines of demarcation between specialties often blur. Such has been the case as the diagnostic and interventional techniques and therapies, more traditionally associated with radiology and cardiology, have expanded into the vascular arena. In recent years angiographic and ultrasonographic procedures have been quite effective in visualizing vascular pathologies. Likewise, interventional stents have proven very effective therapy to resolve many vascular disorders. These techniques have been the traditional domain of radiology and cardiology, however vascular and general surgeons, and even neurologists, also claim competencies in this rapidly growing subspecialty.

The truth of the matter is that the circulatory system is quite extensive and overlaps the traditional turf of multiple specialties which have very reasonable and cogent claims of participation. But again, we must focus on the patient's needs to optimize our service. If this is the case, then it is logical that the care of the entire circulatory system should be packaged in one unit within the hospital. This gives rise to the Heart and Vascular Center of the future, which can address all levels of cardiovascular services for the patient by bringing together a multidisciplinary team of professionals to attend to all aspects of care. Secondly, the most successful programs are designed to include the most proficient and highly skilled professionals, regardless of pedigree, rather than setting limitations based on traditional boundaries. Programs should establish credentialing criteria based on required skills to ensure the highest level of quality care for the patient, and consider the inclusion of all qualified physicians. This is a very sensitive matter, as it contemplates opening areas formerly sacrosanct to traditionally rival specialties. However, when developed and implemented properly, openly and with a genuinely committed group representing all disciplines, it can be a very successful venture. Vascular services is a huge opportunity for most hospitals and their medical staff, and should be addressed judiciously, designed with a patient focus, and to the mutual benefit of both the hospital and participating physicians.

Table 1. Compensation, volume and revenue by specialty.

Top Physician Compensation ⁸	Top Hospital Services		
	By Volume ⁹	By Revenue ¹⁰	
1. Cardiology, Invasive	\$362,209	1. Cardiology	1. Cardiovascular Surgery
2. Orthopedic Surgery	\$354,184	2. OB/delivery	2. Neurosurgery
3. Cardiology, Noninvasive	\$320,111	3. Pulmonary	3. Vascular Surgery
4. Gastroenterology	\$312,074	4. Orthopedics	4. Cardiology
5. Urology	\$303,433	5. Gastroenterology	5. Orthopedic Surgery

Why Are CV Services Unique and Why Do They Warrant Special Structural Attention?

For a number of reasons, regrouping departments according to related functions may not be optimal for all services. Many have such a broad scope and extensive overlap with other services that it would be next to impossible. Others are so limited that it makes no practical sense. However, neither is the case when it comes to CV services. In fact, they are a (if not "the") leading factor in revenue, profit, volume, process and delivery in most hospitals, and their components are generally very easily segregated and packaged into a single inter-related and complementary business and delivery unit. For example, it is not difficult in most organizations to isolate, both physically and organizationally, the following key CV departments: CV noninvasive labs (ECG, nuclear cardiology, CT, MRA, stress testing, EKG, holter monitor and vascular labs), cardiac cath, electrophysiology, and even CV surgery. Operating in this naturally unified approach significantly and positively impacts continuity of care, enhances and permits better quality analysis and improved outcomes, and provides a clean structure for financial and management reporting.

Consider now that CV services are usually the highest profile services provided at most hospitals, that they are often the number one revenue producer and contribute more to profit than any other service, and are supported by the largest demographic cohort. It is easy to see why special attention should be given to achieving the optimum structural and delivery systems for CV services. Taken a step further, the effectiveness of the structure of CV services will greatly impact the hospital's ability to further expand services, develop timely and innovative ventures and affiliations, grow referrals and expand market and marketshare, and align more tightly with physicians and other targeted partners. The question is no longer *Do we invest in the development of CV services?* but rather, *What is the right structure to achieve our goals and meet the needs of our constituents?*

"The nice thing about standards is that there are so many of them to choose from." — Andrew S. Tanenbaum

Cardiovascular Service Models and Structures: A Broad Spectrum

As implied earlier, there is a very broad range of models that hospitals could consider in their strategic development of CV services. We have outlined below several which span the spec-

trum from end to end, and equally importantly, we have provided a rationale for choosing the model that may work best for your hospital.

Model I. Traditional Hospital Heart Services (Matrix Organization)

Overview. This structure has historically been utilized by hospitals for many years, and generally groups hospital departments according to the similarity of functions performed within each department. As indicated before, this structure would typically group departments into categories somewhat like the following: Diagnostic/ancillary services, nursing-related services, support services, business/finance and other functions (human resources, business development, planning/marketing/community relations, physician relations, etc.). When it comes to developing CV services within this structure, each department or function involved is included in the planning process but manages itself separately and implements the related enhancements independently. Although they have common goals, they remain accountable within the organization to their traditional administrative supervision.

Potential Benefits

- No new facility costs
- Familiarity with existing services
- Less costly upfront investment
- Less need for additional clinical/administrative staff
- Horizontally integrated (hospital maintains greater control)

Potential Limitations

- Scattered physical layout and inefficiencies
- Lack of centralized focus
- No “one-stop-shop” service for patients or physicians
- Focused on hospital and physician needs (not patient)
- Lack of consolidated clinical expertise
- Inconsistent outcomes tracking
- Reporting complexities (Financial, management outcomes, market, etc.)
- Difficult to market (not consumer oriented)
- Absence of physician governance

Summary. This model tends to maintain the status quo for the traditional hospital structure and lacks focus on the quality, delivery, operations, planning and financial management of cardiovascular services as a unit or business structure.

Model II. Cardiovascular Serviceline

Overview. This model is built on the premise that unification of all aspects of CV services will result in optimal quality, delivery, productivity and financial performance. Essentially, a new organizational entity is created which manages and develops all CV services. The best way to get a true picture of this model is to look at a representative organizational structure (Figure 1).

In this model, CV services are regrouped as a new organizational entity within the hospital. An advisory board of qualified physicians and administrative staff provide oversight and report

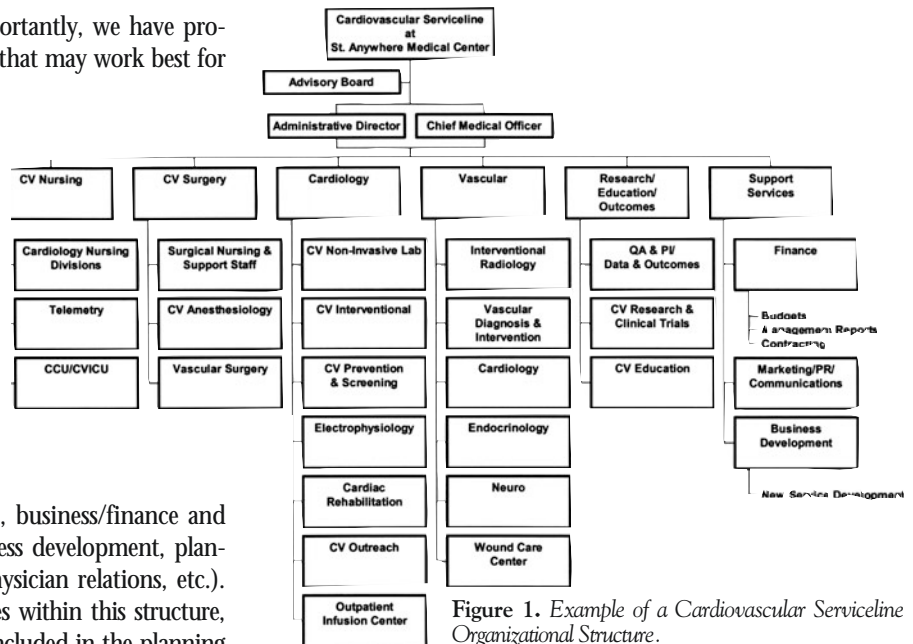


Figure 1. Example of a Cardiovascular Serviceline Organizational Structure.

directly to hospital administration. Leadership is absolutely critical, and requires both physician and administrative expertise. With the team approach illustrated above, the CV physician leader (CMO) optimally would fill the role of the serviceline CEO, with an administrative/executive director providing administrative leadership. All major components of CV services (CV nursing, CV surgery, cardiology, vascular services, research/education/outcomes and support services) report directly to the administrative director and CMO. Although most functions fit wholly within the CV serviceline, some overlap with other services (e.g., endocrinology, neurology, wound care, finance, marketing/public relations, etc.). In the cases of overlap, the CV serviceline utilizes the expertise of the affiliated service as needed under the direction of the serviceline leadership. The leadership team (CMO, administrative director and managers of the major component areas) meets regularly to ensure that the serviceline is providing optimal delivery of services and achieving its stated goals. The ultimate goal is to maximize overall service and performance through a unified team approach in both clinical and business delivery.

Potential Benefits

- Uses existing facility layout
- Patient focused
- Centralized administration
- Streamlined delivery of patient services
- Enhanced monitoring and reporting of CV services
 - * Quality, financial, management, etc.
- Strengthened marketing position
- Greater attention to innovation and new services and business development

Potential Limitations

- Facilities and services may be scattered
- Potentially more political
- Potentially more administrative staff
- Requires reorganization of services

Summary. The appropriately implemented CV serviceline focuses the entire cardiovascular team within the hospital directly on maximizing the delivery of care to the CV patient and enhancing the financial viability of the combined set of services. It provides a much more efficient mechanism than the traditional approach that focuses on each component individually.

Model III. The Heart and Vascular Center (or Institute)

Overview. This model focuses on improving the delivery of CV services through facility design, in a manner in which, optimally, all outpatient and diagnostic CV services are physically incorporated within or adjacent to one another. The term “institute” should not be confused with the old idea promulgated in the 1980s, which in reality often amounted to little more than marketing umbrellas for hospital services delivered as usual. A fully adapted heart and vascular center as discussed here would include all noninvasive cardiac and vascular diagnostic services, cardiac cath and potentially intervention, electrophysiology, and other patient-oriented resources in one locale. This model improves the delivery, processes and quality of care to the patients because of its physical concentration of related services staffed by experts focused solely on the CV patient. It improves both patient and physician satisfaction and enhances public awareness with a highly visible facility and branding. In essence, it provides the staff, physicians and community a concrete anchor to which they can relate the organization’s commitment to the development of CV services (it takes the serviceline beyond the realm of the abstract). The center can naturally expand beyond the hospital throughout the region with varying levels of comprehensive CV service satellites that are extensions and feeders to the home base.

Potential Benefits

- Highly visible internal facility
- Concentrated services
- Improved quality, processes and delivery of care
- Highly patient focused
- Enhanced patient satisfaction
- Enhanced physician satisfaction (centralized services)
- Higher level of clinical expertise and team approach (very focused staffing)
- One-stop-shop for outpatient & diagnostic services
- Very focused quality monitoring
- Comprehensive tracking and reporting capabilities
- Enhanced marketing (regional extension)
- Enhanced clinical input and leadership

Potential Limitations

- Continued fragmentation of inpatient CV services is possible, depending on how it is designed
- Requires repositioning of outpatient and diagnostic CV services and facilities
- Requires restructured financial reporting
- Increased reporting requirements (IS, finance quality, planning)
- Necessitates re-orientation of staff and potentially upgraded levels of expertise

Summary. The Heart and Vascular Center/Institute enhances the delivery of outpatient and diagnostic CV ser-

vices by concentrating them in a highly efficient and visible facility staffed by experts dedicated to the CV patient. This is a huge step toward the delivery of patient-focused CV services at the hospital and potentially throughout the region. *Note: The Heart and Vascular Center/Institute, Heart Hospital Within a Hospital and Free Standing Heart Hospital models (Models III–VI) are greatly enhanced when implemented in conjunction with the CV serviceline organizational structure and processes (Model II).*

Model IV. Heart Hospital Within a Hospital

Overview. This model is a natural extension of the CV Serviceline and the Heart and Vascular Center, and in fact incorporates all of the organizational and process aspects of those models and much more. In addition to the diagnostic and outpatient services located in the heart and vascular center, the heart Hospital Within a Hospital relocates all inpatient CV services to the dedicated hospital-based CV facility. This would include all inpatient cardiac nursing divisions, telemetry, CCU, cardiac cath and interventions, vascular services, CV surgery, research and education, inpatient cardiac rehab and all other CV services. The physical facility should optimally have a prominent dedicated entrance giving the appearance of a dedicated specialty hospital, which it is to a great degree. Additionally, it incorporates all of the organizational and reporting structures of the serviceline model. As one might imagine, this type of enhancement has a huge impact on all aspects of service including delivery, quality, teamwork, operational processes, patient satisfaction, management and financial efficiencies. Ultimately, the Heart Hospital Within a Hospital is a highly visible facility, in which everyone operates with a singular mission: optimal delivery of CV patient care.

Potential Benefits

Same as those indicated for the Heart and Vascular Center, in addition to the following:

- Concentrated patient-focused services and facilities are expanded to include inpatients
- Greatly enhanced process, flow and continuity of care
- Improved quality of care & quality monitoring
- Enhanced opportunities for physician leadership as part of the governance structure
- Great ability for focused, targeted marketing
- More likelihood to reinvest some of the profits in enhanced CV services
- Possible physician partnering opportunities
- No need to duplicate ER & support services
- Possible enhanced managed care opportunities

Potential Limitations

Same as Heart and Vascular Center, in addition to the following:

- Increased facility requirements
- Up-front capital investment
- Potential CON implications

Summary. This model allows the hospital and physicians essentially all of the benefits of a Free Standing Heart Hospital without all of the duplication of support services and huge

outlays of additional costs for land and building to develop a free standing facility.

Model V. Free Standing Attached Heart Hospital

Overview. If a hospital has adequate land and capital for expansion on its existing campus, it may consider the Hospital Within a Hospital model as a free standing attached facility. This permits all of the same benefits with enhanced identity as a free-standing hospital. The efficiencies and lack of duplication of facilities (especially for the ER, etc.) by a physical attachment to the main hospital allows the Heart Hospital to utilize existing support services of the general acute care hospital.

Potential Benefits

Same as the Heart Hospital Within a Hospital, in addition to the following:

- More readily identifiable facility
- Highly patient-centered
- Possibility of physician offices on-site
- Enhanced marketing and contracting
- Potentially enhanced governance and partnering opportunities
- Enhanced fund raising capabilities
- State-of-the-art new facility
- Enhanced clinical enthusiasm

Potential Limitations

Same as Hospital Within a Hospital, in addition to the following:

- Campus restrictions
- Major up-front capital requirements
- Potential governance issues

Summary. This model gives the staff, physicians and entire community the strong branded identity of the organization's commitment to service, excellence and leadership in regional CV services.

Model VI. Free Standing Off Site Heart Hospital

Overview. This model involves the development of an entirely new specialty hospital at a location remote to the current hospital campus. Whereas it provides the ultimate level of high profile visibility and commitment to specialized CV services, it also has numerous additional issues for consideration as outlined below.

Potential Benefits

Same as Free Standing Attached Heart Hospital, in addition to the following:

- Potential access to new markets by virtue of a new location
- Enhanced partnering opportunities (physicians, other hospitals, etc.) through joint ventures and affiliations (Note: Recent Medicare legislation may have a bearing on these opportunities)¹¹
- Branding opportunities
- Ability to consolidate services
- Potential ability to attract highly trained specialized personnel

Potential Limitations

Same as Free Standing Attached Heart Hospital, in addition to the following:

- Increased legal complexities

Spectrum of Complexity & Opportunity

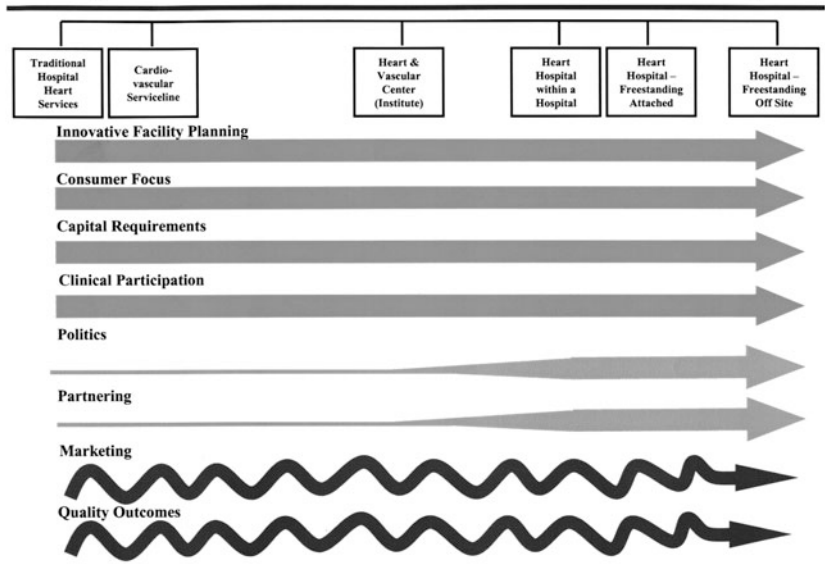


Figure 2. Graphic representation of the spectrum of opportunities and complexities of each of the models addressed above.

- Requires a complete new organizational infrastructure
- Necessity for full services (ER and other support services)
- Removal of major services (or in the alternative, duplication of those services) from the main acute care hospital
- Likely to force similar defensive responses from major competitors
- An additional hospital for physicians to cover (many primary care physicians will continue to use the general acute care hospital, necessitating cardiologists to continue to function and cover that hospital in addition to the new stand-alone facility)
- CON and licensing issues
- Increased medical staff credentialing issues
- May be viewed by the community as unnecessary duplication (and may well be)
- Potential physician ownership complexities (Note: Recently, Medicare legislation placed an 18-month moratorium on physician investment in new specialty hospitals.)¹¹

Summary. Although there is great apparent appeal, and this model is currently receiving considerable attention in the press,¹² it has significant inherent complexities and issues that warrant detailed attention prior to approval and implementation. In many instances, a variation of one of the other models may well satisfy the needs of all parties involved (Figure 2).

"Delusions of grandeur make me feel a lot better about myself."
— Jane Wagner

Do It for the Right Reasons, or Save Everyone the Pain (Including yourself!)

It may well be argued that all too often complex and expensive CV programs and hospitals are initiated in an attempt to dominate a region or in response to an aggressive competitor, when little true consideration is given to the actual need for the particular services implemented or facilities constructed. Perhaps some of these programs are developed for the wrong reasons, and may therefore be prone to under-performance and poor quality, and subsequently contribute

to the rampant increasing costs and inefficiencies in health-care today.

So how does one determine the best road to pursue? The answer resides in analysis of several factors:

- * What are the goals and objectives of the undertaking?
- * What is the current profile of services in the region?
- * What are the “real” needs for the community and the patients we serve?
- * Where are the opportunities?
- * Who are the participants and how should they align?
- * What are the “market drivers” that will impact performance?
- * What are the potential risk factors if the wrong option is selected?
- * What is the most effective structure to accomplish the goals and objectives?
- * Can we do this ourselves or do we need someone, or a set of advisors, to facilitate the process most effectively and assist in bringing the project to successful fruition?

Addressing these factors starts with a detailed analysis of the regional market and services, and continues with the initiation of a strategic process aimed at developing a Strategic Framework that responds to each of the previous questions. In our opinion, this is greatly enhanced by experienced facilitation in order to keep potentially divergent parties focused and on the designed course. An experienced, credible and knowledgeable set of advisors can also see innovative variations to any model that will enhance the program and the satisfaction of the parties involved.

Conclusion

The above discussion highlights a spectrum of new cardiovascular delivery motifs that are sprouting across the country. Any one of these, and the hundreds of variations that exist, may well be applicable in a specific community or locale. It is apparent that each model or variation has overlap with other models. What we have highlighted is a broad-spectrum overview of options.

An observation we make as we travel across the country is that some of these ventures are being developed potentially for the wrong reasons and with consequences that may be difficult to sustain in the long-term. Once again, the countryside appears to be crisscrossed by “deal-making” journeymen whose primary focus is legal construct and financial revenue flows — which are important — but in our opinion, may not

be the glue for successful patient care and reasonable expenditure of limited resources. Experientially, superb patient care (which should be the ultimate goal of the venture) requires the proper mix of skills, people and structure neatly wrapped around strategies that are pragmatic and that promote an environment that supports the development of a collaborative sustaining culture where professionals enjoy working and patients are properly cared for. Inherent in the structural constructs outlined above is a critical need for leadership, communication and the right attitudes. Given that there are frequently principles but no precedent, it is not a proprietary product or a legal model that needs to be built. It is an enhanced service format for our patients — service that results in better patient care, more efficient practice, economies of scales and increased revenues for all parties concerned. It is the unique combination of these factors that must and should be addressed to “do it right,” and will result in improvement for all parties, especially for patients.

“The person who says it cannot be done should not interrupt the person who is doing it.” — Chinese Proverb

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