

Angioplasty in the Community: Program Development Solutions Through e-Consulting

Rebecca Ambrosini, RN, MSN

Consultant
Corazon Consulting
Pittsburgh, PA

In today's healthcare environment, many challenges exist for hospitals seeking to provide accessible, affordable, and high-quality cardiovascular (CV) care to the communities they serve. Financial limitations, regulatory issues, facility constraints, and industry-wide shortages of advanced practice nurses and physicians are hurdles that must be overcome to realize clinical, operational, and financial success.

These difficulties can be compounded for a rural or community hospital, where creating access to advanced cardiac care is not always easy, given limited resources and a sometimes remote location. Furthermore, a "diagnostic only" center designation makes competing with other hospitals with more advanced scopes of services nearly impossible.

But, since these hospitals have such a profound sense of commitment to the community in which they are located, creating greater access to advanced care, and thus improved overall community health, needs to be accomplished by seeking out a reasonable means to this end. Offering coronary angioplasty without open heart surgery on-site is one of the options, made possible by relaxed regulatory restrictions, state demonstration projects, and national outcomes registries.

The Importance of Cardiovascular Care

Cardiovascular services generally represent 20 to 40% of a hospital's net revenue and are often the first or second top admitting diagnosis. With the increasing treatment needs of a larger number of patients, and in consideration of the future needs of an aging population with high risk factors for CV disease, community hospital leaders must focus on cost-effective ways to expand cardiology services in order to maintain or grow market share in CV services.

In many areas of the country, the future for diagnostic-only programs is uncertain. Cath Labs not equipped to perform interventions can become a revenue drain on a CV service line, and volumes lost to programs that provide interventional procedures can impose limits on an otherwise profitable clinical specialty. With percutaneous coronary intervention (PCI) considered the new standard-of-care for acute coronary syndrome, facilities must strategize about how to offer this service, and enter a market that holds great promise for non-surgical centers.

Corazon's 2004 *National Survey Benchmarking Cardiac Program Performance* found that 78% of respondents across the country planned to expand or renovate their cardiac infrastructure. These findings have been supported by nationwide trends that place United States hospitals in the midst of the biggest construction boom in 50 years, a scenario fueled by increasing use of high-tech medicine and advanced care techniques.

Many specialty service lines, cardiovascular in particular, are increasingly becoming obsolete in light of significant changes to practice standards. As a result, an older generation of facilities needs to be replaced with newer structures that better accommodate and ensure high-quality and efficient cardiac care delivery that meet or exceed the demands of new, cutting-edge practice. Angioplasty is one example that has changed the way many physicians apply cardiovascular medicine, while also undoubtedly changing the way facilities provide this care.

But how does a rural or community hospital with limited resources take advantage of this booming market situation? Is it possible to expand the scope of cardiac services with limited capital and new program investment dollars? Increasingly so, the answer is yes!

Indeed, expanding a cardiac service line to include coronary intervention is very complex. Aside from the legal and regulatory restrictions imposed by state Departments of Health and other government entities, the process can be daunting— it takes strong internal leadership, diligent focus, and intense study of current industry happenings related to the provision of angioplasty with off-site open heart surgery...a sometimes controversial practice, though one not without significant and undeniable merits.

The Forefront of Advanced Care

Traditionally, the performance of angioplasty has been highly regulated, requiring open heart surgery services on site; however, with improvements in technology and growing utilization rates based on successful outcomes at facilities both with and without open-heart surgery, regulations governing the performance of PCI are slowly changing.

Over the past ten years, PCI has gained widespread acceptance as the preferred treatment for patients with ST-elevation acute myocardial infarction (STEMI) and other high-risk acute coronary syndromes when delivered rapidly and expertly. But, despite these findings, only 20% of patients with STEMI are treated with primary PCI in the United States.^{1,2}

In addition, the Global Utilization of Strategies to open Occluded Arteries (GUSTO) IIb study

showed that patients with STEMI had a 70% higher relative mortality at non-invasive hospitals than at hospitals with interventional capabilities.³ With these and other significant study results, angioplasty is fast becoming the new “gold standard” for Acute Myocardial Infarction.

These trials clearly suggest that patients presenting with acute myocardial infarction have better outcomes with PCI, yet 60% of patients with AMI present to community hospitals without an interventional Cath Lab. Because of the great need that exists for more centers capable of performing PCI, and as the provision of primary angioplasty without open heart capabilities becomes more readily accepted in the community hospital setting, the best time to enter this growing market is now.

A volatile argument related to elective PCI without open heart surgery on-site still exists, mostly due to the belief that some non-emergent patients can be transferred for PCI with minimal risk. Though this implies that advanced interventional care is better in full-service, urban centers, such beliefs are changing as many healthcare leaders and cardiovascular physicians realize the clinical benefits of close-to-home access to PCI.

Taking the debate yet another step forward, many community hospitals argue it is also necessary to provide *elective* PCI to support primary angioplasty programs, reasoning that the added volumes would attract more qualified physicians and staff, increase operator and staff competency, and off-set the high expenses related to operating a 24/7 primary-only program. Indeed, primary PCI patients are usually clinically unstable and at much higher risk, and therefore require advanced (sometimes life-saving) care provided by an experienced team of highly-qualified full-time interventionalists and experienced support staff. However, hospitals that can deliver this kind of exceptional care for primary PCI believe they can safely treat elective patients who are stable, requiring more routine care.

Currently, 31 states allow either primary or primary and elective PCI without open heart surgery on-site. This number is steadily growing as various states across the country re-evaluate their regulations in consideration of study outcomes and the oft-cited benefits of this practice standard. State legislators have recently found their constituents not wanting to travel to cities for healthcare services, preferring their own trusted community hospital and physicians. Patients who take advantage of interventional services in rural and suburban areas have better outcomes because care is more timely and consequently more effective.

Certainly, the lack of access to both primary and elective PCI in the community setting creates two standards of care that simply depends on where you live in the country. Because of this

inequity, those states that do not support elective PCI without open heart surgery could see the proliferation of new expensive open heart programs which will dramatically increase the cost of care overall.

Providing more comprehensive cardiovascular services with the implementation of angioplasty at smaller community or rural hospitals can increase access to advanced care for patients who have traditionally had to travel long distances to receive coronary intervention. With this higher level of care also comes increased confidence from not only patients, but the medical community, which can assist in the recruitment of hard-to-find cardiologists who would be apt to hesitate joining a diagnostic-only program given the practice restrictions.

Joining the Movement

Clearly, starting an angioplasty program in a rural or community facility creates greater access to advanced care and assures a superior strategy for AMI. However, developing a high-quality PCI program takes a wealth of procedural and operational knowledge, attention to documentation and standards of care, detailed facility plans, and oftentimes, the recruitment and training of staff. While most remote hospitals may lack clinical angioplasty expertise, they more than likely have very motivated, dedicated, and expert leadership that can successfully launch a quality PCI program utilizing available resources.

Most community hospitals struggle with the knowledge that there are many needed service initiatives competing for very precious dollars. All of these initiatives are of a high priority and have similar importance to patient care and revenue. Hospital executives and service line leaders must be fiscally responsible when planning and justifying new programs, or when enhancing existing programs, in order to stretch all resources to obtain the greatest value possible for each dollar and hour of work spent.

Most community hospitals have internal expertise that can carry out the implementation of a service line expansion; however, they may lack the time and money it takes to internally research and create the processes, patient flows, policies and procedures, implementation documents, and continuous quality monitoring standards required to develop a “best practice” PCI program. Completing these necessary components can now be made easier using a new concept that uses proven implementation strategies and experts.

Working with an outside consultant to coordinate this type of large scale process can alleviate some of the resource-intensity that accompanies the expansion, though there are varied levels of

consultative involvement. A new concept called e-consulting has recently emerged as a less-costly alternative for the implementation of expanded clinical services using internal hospital expertise, coordinated with the product and experts in the field of cardiology. E-consulting for angioplasty program development offers the experience and know-how that rural and community hospitals need in order to create and develop a sound program, but without the expense of on-site, continuous support from an outside consultant.

The e-learning methodology, embodied in the *Corazon Essentials Online* product, allows users of the Coronary Angioplasty Module access to internet-based content that will accelerate their learning of procedural and operational knowledge, while providing streamlined access to crucial information.

When small cath lab teams at rural and community hospitals have access to the pre-packaged program development materials, they can more quickly use the tools to gain the information necessary to establish an advanced cardiology program. This approach results in the implementation of quality PCI services, while reducing costs and potentially increasing revenues due to the influx of more profitable interventional cases.

A Proven Approach

Naturally, the cornerstone of any successful angioplasty program is a proven implementation process. Regardless of where care is provided, establishing and maintaining the highest possible quality must be the over-arching goal. Using Corazon's first-ever e-learning program guides the user through each step of the angioplasty implementation process, ensuring no important program development components are overlooked.

This internet-based product was developed in partnership with Dr. Thomas Wharton, the Chief of Cardiology at Exeter Hospital in New Hampshire, and Medical Advisor to Corazon. Working together with Uniontown Hospital in Uniontown, Pennsylvania, this hospital-physician-consultant development team created a proven, start-to-finish implementation plan for angioplasty that can be completed using internal hospital resources and established timelines.

In some states where Certificate of Need laws do not exist, implementing a PCI program can be a preferred alternative to implementing a costly open heart surgery program, depending upon market demand. The combination of the need to develop more PCI centers for the health and welfare of cardiac patients and the financial significance of cardiac services' contribution to the

dwindling bottom line of many facilities has hospital administrators searching for ways to provide high-quality low-cost angioplasty to the community.

This process must be completed from start to finish with a number of major program components in mind. Corazon highlights the following 11 categories as critical to a successful implementation of angioplasty, regardless of the size or scope of current cardiac services.

Industry Trends

A comprehensive review of the relevant published industry literature that focuses on the safety and effectiveness of performing PCI without open heart surgery backup on-site is invaluable preparation for discussions with the hospital staff, community, organization leadership, medical staff and Board of Directors. All of these stakeholders will need to understand the how safe this service is to offer and the extensive benefits in improved patient outcomes.

Program Development

Implementation of a PCI program is very complex because every department within the hospital will need to enhance or change ancillary service support services to some degree or another. A robust planning framework that utilizes multidisciplinary workgroups to manage the implementation according to the budget and timeline is essential. Using sample work plans that identify and sequence the implementation activities as well as sample agenda outlines for workgroup meetings and updates can streamline this process.

Documentation

There are a host of new forms and documents required to support regulatory compliance, patient safety, and standards of care for a quality PCI program. Policies and procedures, clinical protocols, consent forms, and standing orders are the documents that form the backbone of any clinical program. Achieving “best practice” for a successful PCI program start-up can involve the creation of these key documents from scratch. But to save substantial staff time from reinventing the wheel, the collection of documents included in Corazon Essentials Online are ready for review and customization. Time and effort of the leadership and staff can be re-directed to implement these essential processes and protocols instead of researching and writing them.

Operations

Bringing a high-quality program to fruition relies heavily on the operating platform to achieve consistent outcomes and compete effectively. Draft patient flow algorithms, staffing models, and management structures provide the foundation for effective delivery of PCI patient care, while

patient flow diagrams for chest pain patients, elective and emergent PCI patients, and emergent open heart surgery transfers across the continuum (pre-admission to post-discharge) are all very important to the operations of a successful PCI program. In consideration of location, personnel, hospital efficiencies, clinical acuity, and patient and family needs, there are various steps a program must take to effectively complete the operational framework of a start-up angioplasty program. Sample transfer agreements with a tertiary care provider, work flow processes, patient selection and stratification protocols, and patient care pathways are just a few.

Facility, Supplies, and Equipment

A new angioplasty program will no doubt require comprehensive capital and operating budgets with particular attention to supplies and inventory in order to ensure a cost-effective initiative. While expensive purchases can be intimidating for an expanding program, other smaller, relatively inexpensive items can be just as difficult to manage. With a new service, the staff will likely be unfamiliar with the supplies and equipment needed to perform coronary intervention. Understanding current inventory levels, equipment lists, and facility modifications can provide a benchmark for any future materials management and facility investments that will be necessary.

Education

There are various education components necessary when implementing an interventional program. Firstly, readying the entire organization for an advanced service like angioplasty is essential to assure patient safety and professional competency. Extensive curricula, teaching manuals, competency checklists, pre- and post-exams, and presentation materials should be used to educate and train the staff in the cardiovascular patient care areas and cardiac catheterization laboratory. In addition, a more generalized educational program with presentation materials targeted to various clinical and administrative areas will raise the entire organization's awareness and can alleviate some of the skepticism with offering this new service. Also, training specifically related to the implication of PCI on billing and coding practice is necessary for the finance and coding experts. And lastly, patient and family education cannot be ignored. Making sure that your potential patients and their families are aware of the availability of intervention at your facility can have a strong impact on self-referral volume, while also

Medical Staff

Support and input from the cardiology physicians and other medical leadership such as PCPs and ED physicians is central to a new PCI program. Discussions with the medical staff stakeholders to formulate the credentialing guidelines, risk stratification criteria, and medical coverage model can be a challenge. But, prompting medical leadership input and decision-

making will assure that patient safety, clinical quality, and access to care are the established priorities in the PCI program development initiative.

Quality

Establishing a PCI program often demands a remodeling of the quality management structure to address the added clinical complexity and the need to integrate reporting across the continuum. Utilization ratios should be evaluated to assure that patient care and resource use are in keeping with industry standards. Examples of dashboards, benchmarks, tools used to track and report PCI program success, quality indicators, quality review forms, and data collection metrics can save time and effort while assuring that clinical quality is a primary goal from the start.

Finance

The financial aspect requires diligent attention to optimize the financial return, given the added costs of expensive pharmaceuticals, devices, and supplies that will be used regularly in the cath lab and recovery areas. Using sample budgets, charge guidelines, charge masters, and coding information will provide a strong framework for moving forward.

Marketing

Marketing is an important aspect of implementing a new service, not only after implementation, but also during the program development process as well. A solid marketing plan that targets both internal and external stakeholders can bring success to a new PCI program, even before doors open for care. Offering interventional services close-to-home will greatly benefit the community, but only if they are aware this service is available. Customizing a marketing approach that best fits the organization's niche in the market will result in high level of community awareness. Angioplasty either with or without on-site open heart surgery can be a differentiator, depending upon your region, so promoting this advanced level of care can not only increase revenue and volumes, but local and regional image as well.

Site Visits

Visiting a facility that has already implemented an angioplasty program from the ground-up can be invaluable for understanding the intricacies of this major process. Start-up programs can provide lessons learned about successes and failures with the process and share insights about what went right or wrong, or about what would have been approached differently from their perspective. Site visits can also provide views of facility design, patient flow processes, and the various equipment of the unit and lab, which can be very helpful for an organization unfamiliar with coronary intervention.

Coronary artery disease is the number one cause of death and disability in the United States for persons over 65. More than 1.2 million Americans will suffer an acute myocardial infarction this year, and more than half will die. Furthermore, 60% of these patients will present to rural and community hospitals without PCI services – the new standard of care for these patients.

Clearly, e-consulting for a PCI program implementation is a new and exciting alternative that can meet the quality and cost mandates of healthcare organizations. Therefore, moving forward with advanced PCI services by taking advantage of this new implementation concept can only help increase the access to care, while raising the bar of healthcare in rural and suburban areas of the country.

References

1. Rodgers WJ, Canto JG, Lambrew CT, et.al., for the Investigators in the National Registry of Myocardial Infarction 1, 2 and 3. Temporal trends in the treatment of over 1.5 million patients with myocardial infarction in the US from 1990 through 1999. *J Am Coll Cardiol.* 2000;36:2056-2063 (NRFMI 1, 2, & 3)
2. Brodie BR. Primary percutaneous coronary intervention at hospital without on-site cardiac surgery: Expanding the use of mechanical reperfusion for acute myocardial infarction *J. Am. Coll. Cardiol.* 2004;43:1951-1953.
3. Khadour FH, Fu Y, Chang WC, Ma X, Mark D, Granger CB, Topol EJ, Califf RM, Armstrong PW, for the GUSTO IIb Investigators. Impact of on-site cardiac interventional facilities on management and outcomes of patients with acute coronary syndromes. *Can. J. Cardiol.* 2003;19;257-263.