

## Cardiac Cath Lab Performance: Strategies to Measure Up

By Lorraine Buck

Industry sources reveal that the direct and indirect cost of heart disease between 2013 and 2014 totaled \$204.8 billion. Of that, heart attacks accounted for over \$12 billion, while coronary heart disease reached \$9 billion, making these conditions two of the 10 most expensive to be treated. And unfortunately, by 2030, medical cost estimates of coronary artery disease are projected to increase 100%.<sup>1</sup>

As a result of these startling statistics, providers will no doubt continue to be pushed by insurers to accelerate policies and programs aimed at cutting costs, such as value-based programs, which reward providers with incentive payments for offering better quality care at a lower cost. Meanwhile, coupled with this ever-increasing competitive landscape is the increase in patient demands, especially for transparent pricing matched by quality outcomes. Now, and well into the future, providers must be tuned into the services they provide and how well they are performing in order to compete amid these outside pressures, all while working to increase their market share and preserve positive margins. A tall order indeed!

Corazon believes more than ever that providers must have a handle on cardiac catheterization laboratory performance, as it will be invaluable to creating a competitive edge in terms of clinical, operational, and financial performance. The first step is an assessment of current operations.

Many programs are increasingly considering formal accreditation of services (including diagnostic cath, percutaneous coronary intervention [PCI], electrophysiology [EP], chest pain center [CPC], peripheral vascular interventions [PVI] and/ or even open-heart services [OHS]) as a strategy for achieving, then maintaining and subsequently promoting, top performance. Accreditation offers programs the ability to focus on quality, operations, and performance improvement through the process, thus impacting overall costs and quality associated with a specific service. In fact, Corazon's E3 approach (Evaluate. Enhance. Excel.) offers a "best practice" seal of approval that speaks to the ability of a hospital or program to set and achieve performance goals for clinical, operational, or financial measures.

With any effort to ensure a program 'measures up' to not only best practice standards but also the local, regional, or national competition, **the first step is an assessment of current operations.**

### How to Begin

Identifying the key metrics that will drive improvements is critical. Metrics should include those that track efficiencies, review quality outcomes, and focus on overall healthcare costs and profitability. Whatever metrics chosen, they should reflect and align with hospital based strategies. Results of these metrics should provide a view as to how the lab is performing and where improvements can be made in order to reach target goals. Providing a definition for each of the metrics allows everyone to clearly understand the expectations. For example:

Percent of first case of the day on time start: Unless 'first case of the day' or 'on-time start' is defined, employees may create their own interpretation of what this means. Hospitals may stipulate that within 10 minutes of the "actual" scheduled time is acceptable. This detail is often overlooked, but without it, clinicians would not have a good sense of the goal. To set up processes or organizational metrics, Corazon recommends the following five steps:

#### 1) Define your metrics.

All metrics should be clearly defined. This includes establishing types of cases considered, establishing benchmarks, and determining the target and/or goal to be achieved. It is important to keep in mind that metrics should be measurable, achievable, relevant, and timely. Without measurable and achievable potential, staff will become frustrated with the process even before starting.

#### 2) Gain buy-in from physicians and staff.

Obviously, the key to successfully implementing a new process is to secure buy-in from the key players. All stakeholders need to have a sense of ownership in order to feel they are leading the way for change. Be aware, however, that change can be difficult and some will most likely exhibit some resistance. It is best to consistently communicate early and then throughout the process in order to keep everyone on board while moving forward.

#### 3) Determine data needed and how to collect it.

Once metrics are determined, detailing how the data will be collected (and by whom) is the next step. Both the data and the collection process need to be very straightforward and standardized so the information can be collected the same way

at any time, by any qualified team member. The data should be from factually driven sources and not subjective to anyone's interpretation. Investing the time and effort into this process won't be meaningful unless the results themselves are reliable.

**4) Establish a process to measure, analyze, and share results.**

Corazon believes it is critically important to have processes in place that allow for results to be shared. Organizations will often implement a data collection process but never fully realize the value, because collating results and communicating them to those involved can be a daunting task. Corazon has found that hospitals either overwhelm themselves with too many metrics, or simply have not prioritized this important follow-up step. Simply said, data is worthless if you do not communicate it. The process of disseminating results will help gain support from staff and physicians, while also helping to generate enthusiasm about the positive

results and motivation to improve the not-so positive results. No doubt, placing the data in the hands of the right person will drive process improvement.

**5) Establish ongoing quality and process improvement strategies.**

Corazon believes quality improvement is essentially about process management. In order for process improvement to work, the clinicians need to be engaged. The clinicians are the frontline workers that understand how to manage and/or change processes to improve clinical outcomes, enhance the patient experience, or decrease costs. It is not simply telling the physicians and staff what to change, it is about them embracing the process, determining the necessary changes, and enforcing them to the rest of the team. With data in hand and the autonomy to make change, cath lab leadership can quickly work to resolve any process- and/or clinical-related issues.

**Table 1. A sample cardiac catheterization laboratory dashboard for data collection.**

Category	Metric	Cases	Benchmark	Target/ Goal	Collection Method	Definition
<b>Operational</b>	First case of the day on-time start	All cases	90% of cases will start within 10 minutes of scheduled time	90%	Scheduling system/ hemodynamic system	The first procedural case in the cath lab starts within 10 minutes of scheduled start time and the actual case start time as documented in the patient's medical record is considered on time. An actual start time >10 minutes of the scheduled start time is considered a delay. Procedural time is defined as the actual time the physician gains vascular access.  <b>Calculation: # of 1st case of day on-time starts / # of all 1st cases of day</b>
<b>Financial</b>	Average length of stay (LOS) per inpatient PCI procedure	PCI	2.9	2.9	Hospital inpatient financial data	FY18 CMS weighted average geometric mean (GM) LOS for PCI DRGs 246-251.  <b>Calculation: sum of cases / sum of days</b>
<b>Clinical</b>	Hospital 30-day readmission rate for acute myocardial infarction (AMI) "all cause"	AMI	Expected "all cause" readmission rate as per Center for Medicare and Medicaid Innovation (CMMI) hospital-calculated	16.3%	Hospital quality improvement (QI) department	The number of patients that had an AMI on "index" admission, discharged, and then re-admitted within 30 days "all-cause". Readmission rate based on hospital's "expected" / calculated rate.  <b>Calculation (provided by QI department): total 30-day re-admissions / total discharges</b>

Table 1 provides an example on how to set up a cardiac cath lab dashboard following the steps outlined above. The rationale of the metrics used in Table 1:

➤ **Operational: First case of the day on-time start**

Failure of the first case to start on time contributes to a significant amount of lost productivity and causes further delay in subsequent scheduled cases. This variability in start time and lack of schedule predictability also contributes to staff, physician, and patient dissatisfaction. Overall, this metric should provide a framework for scheduling guidelines, as well as drive physician performance. Meeting this metric can lead to better satisfaction scores (leading to on-time case starts throughout the day) and increased efficiencies. And conversely, knowing when this metric is not consistently met can help with root cause discovery, which may otherwise have been overlooked.

➤ **Financial: Average Length of Stay [ALOS] per Inpatient PCI procedure**

The ALOS in hospitals is often used as an indicator of efficiency. All other things being equal, a shorter stay will reduce the cost per discharge and shift care from inpatient to less expensive, post-acute settings. However, shorter stays tend to be more service-intensive and more costly per day. Too short a length of stay could also cause adverse effects on health outcomes, or reduce the comfort and recovery of the patient. If this leads to a greater readmission rate, costs per episode of illness may fall only slightly, or even rise. Understanding this metric likewise can uncover opportunities for ways to improve efficiencies, and with appropriate levels of care delivered up until discharge, patient satisfaction could again increase, along with more efficient use of space and care coordination.

➤ **Clinical: Hospital 30-Day Readmission Rate for acute myocardial infarction (AMI) “all-cause”**

In the interest of promoting high-quality, patient-centered care and accountability, the Centers for Medicare & Medicaid Services (CMS) and Hospital Quality Alliance (HQA) began publicly reporting 30-day mortality measures for acute myocardial infarction (AMI). Publicly reporting these measures increases the transparency of hospital care, provides useful information for consumers choosing care, and assists hospitals in their quality improvement efforts. When patients have the ability to choose a provider, this data can make or break the decision for one or another hospital. While hospitals may not have a choice in the

decision for this measure to be available, they DO have a choice to make improvements when necessary — which can't or won't happen if the data isn't known.

Just these few metrics can bring great value as hospitals begin (or continue) to analyze cath lab performance. While gaining confidence in the data collection process, analysis, and reporting, additional metrics can be gathered and more ambitious goals can be set. Continual improvement in varied categories should always be the goal, with better patient care overall as the desired result. Corazon advocates starting small and then gaining momentum as time goes by — even little strides early on can lead to major improvements with consistent and continual dedication to the goal. Starting the process can feel rather daunting; however, keep in mind that Rome wasn't built in a day.

**Reference**

1. Benjamin EJ, Virani SS, Callaway CW, et al American Heart Association Council on Epidemiology and Prevention Statistics Committee and Stroke Statistics Subcommittee. Heart disease & stroke statistics—2018 update: a report from American Heart Association. *Circulation*. 2018 Mar 20;137(12):e67-e492. doi: 10.1161/CIR.0000000000000558.



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