

Continuous Quality Improvement: Operational Drivers & Clinical Impact

By Amy Newell & Kim Klima

With technology and practice advances increasing exponentially, quality transparency and program excellence will continue to garner the focus of hospitals and practices, governmental agencies, healthcare organizations, and regulating bodies. But achieving top-tier performance within cardiovascular (CV) services through clinical and operational success is no easy task. Who is accountable, what is the value, and how to sustain momentum are only a few of what are day-to-day challenges for many program leaders across the country. Part and parcel to the success of any CV service line is the ability to compete, so ensuring optimal outcomes has become paramount to achieving a competitive advantage.

This can also impact access to care with insurers (if a hospital cannot demonstrate quality). Thus, not only do program leaders need to ensure quality care is being PERFORMED, they must also be able to feel confident that the data collected is itself consistent and correct. Attention to the process and the accuracy of information cannot be understated. This is particularly important across a multi-site service line or at service lines across a health system.

A greater focus on consistently monitoring quality outcomes data from clinical registries is vital for a program's success. But why should a program care about outcomes data? What benefits does this regular review bring? At the most foundational level, quality outcomes data provides an objective means to measure performance. The benefits surrounding regular data reviews are bountiful and allow for the opportunity to reap continuous rewards, including increases to the return on investment in this important specialty area.

The Importance of Data Outcomes

Data outcomes provide the groundwork for sustainable growth in CV services by providing quantifiable benchmarks and comparators for certain key indicators that relate to the quality of care delivery. Monitoring data outcomes provides a program with the opportunity to establish continuous quality improvement (CQI) initiatives. The data also allows for monitoring the results of any implemented CQI initiatives that will, in turn, provide feedback on which initiatives were successful and which may need revision.

So, the question then becomes, who is responsible for the data, both for ensuring accuracy and monitoring the subsequent efforts to drive meaningful performance improvement? In Corazon's experience, one role we have seen change throughout the past decade is the data

collection/coordination role in cardiovascular services. In many mature cardiovascular programs, personnel within the base department (eg, cath lab, cardiac surgery, heart failure clinic, etc.) have assumed responsibility for the necessary data collection. Or, someone within the hospital's larger quality department overall can assume this task.

This outcomes-driven data navigation, or data integrity audit, is often accomplished by designating a portion of someone's role to this effort or by delineating a unique job description with a focus on data. Unfortunately, there is no one-size-fits-all answer as to the best tactic for this effort. However, Corazon strongly recommends that regardless of the approach, the responsibility cannot be relegated to a low-priority status, as in completing data collection and submission tasks only during "free" time. Rather, this task must be a priority, considered part of daily work for the person responsible, due to the considerable impact quality has across an entire program.

For instance, in the cath lab, data needs often fall to the bottom of the to-do list, which results in missed opportunities to correct clinical fallout in real time, as well as the ability to utilize the data to affect positive change through quickly-implemented process improvement efforts. The more up-to-date and accurate the data entry, the greater the opportunity to initiate change where necessary before the same incident happens again.

Corazon has worked with hundreds of programs across the country and has found that organizations that choose to invest in a dedicated data abstraction- integrity resource often perform at the highest level in terms of registry outcomes data. This then reflected within patient satisfaction and other less clinically or operationally focused measures as well. As eventual improvements across multiple areas of performance often result, team members begin to see this task as a necessary component of quality performance in their area. Additionally, in today's world of healthcare transparency, more and more insurers require specific outcomes to exceed national benchmarks in order to obtain maximum reimbursement.

Measures to Consider

Specifically for a cardiac catheterization laboratory, there are several key metrics that will most notably have a direct, severe, and longstanding impact on a patient's life and program outcomes. For example, for the American College of Cardiology's National Cardiovascular Data Registry (ACC-NCDR) CathPCI data, the metrics Corazon deem to be "critical" include:

- In-Hospital Risk Standardized Rate of Bleeding (All Patients)
- Proportion of PCIs within 90 Minutes (Patients with STEMI)
- Emergency/Salvage CABG Post-PCI
- Intra/Post-Procedure Stroke
- In-Hospital Risk-Adjusted Acute Kidney Injury (All Patients)
- Composite: Major Adverse Events (All Patients)
- In-Hospital Risk Adjusted Mortality (All Patients)

Patients that fall into any of these metrics have a greater chance of being in jeopardy during or following their procedure. In an effort to keep patient safety at the forefront, a program should constantly strive to be at or exceeding the 90th percentile. The cutoff values for these critical metrics can be seen in Table 1.

Table 1. Cutoff values for critical metrics in the ACC-NCDR CathPCI Registry.	
<i>Source: Values taken from the 2019 Quarter 2 Dashboard Report from the ACC-NCDR CathPCI Registry.</i>	
Critical Metric	90th Percentile
In-Hospital Risk Standardized Rate of Bleeding (All Patients)	1.55%
Proportion of PCIs within 90 Minutes (Patients with STEMI)	100%
Emergency/Salvage CABG Post-PCI	0%
Intra/Post-Procedure Stroke	0%
In-Hospital Risk-Adjusted Acute Kidney Injury (All Patients)	3.08%
Composite: Major Adverse Events (All Patients)	0.62%
In-Hospital Risk Adjusted Mortality (All Patients)	1.04%

Consistently being below the 90th percentile indicates the need for a deeper dive into the data and related processes. Is this a trend? Is there a process, communication, or data integrity issue that needs to be resolved? An investigation into the information and the specific cases that caused a program to fall out of the 90th percentile can be a trigger to update existing policies and procedures, or can provide the perfect opportunity to create new ones addressing the specific issues that directly contribute to quality patient care.

For instance, a program could notice that they are not performing ST-elevation myocardial infarction (STEMI) intervention within 90 minutes 100% of the time. A good measure to review is whether patients are getting an electrocardiogram (EKG) within 10 minutes of arrival. If a facility has a door-to-EKG (D2EKG) time that exceeds 10 minutes, this gives the catheterization team less time to ensure that intervention is performed within the optimal timeline. It is a ripple effect that can happen at any point along the care pathway. For some lower-volume programs, just one intervention performed outside the 90-

minute window can drop their performance below the 90th percentile in this metric.

Realizing that the D2EKG time may be a contributing factor, a facility can further look into the root cause (of a particular case or of several) and then subsequently update existing policies, create new ones, and/or educate staff to ensure that all appropriate patients receive an EKG within 10 minutes — compliance with the first step in the process. Moving forward, the facility can monitor all D2EKG and subsequent D2B times to ensure compliance with the timing of the case overall. This is just one scenario as to how quality data outcomes can be the driver for overall performance improvement.

Another measure gaining momentum as a significant indicator, though not always reflected within the outcomes data, is focused on patients who present to a hospital's emergency department with unknown "down time" from the field. This alone complicates the decision-making of all physicians involved. Corazon experience reveals that many programs make what may seem to be a hasty decision to move such a patient directly to the cardiac cath lab without taking the time to confer with another physician if necessary or involving the family as to the potential outcome for the patient. As Corazon continues to accredit programs across the country, we find this particular scenario causes angst, but can also be an opportunity to initiate greater dialogue across providers as to the best way to approach this challenge.

Formal Quality Program Development

Not all programs have the financial or other resources to commit to and invest in a dedicated internal data administrator, in fact; some hospitals decide to "outsource" this effort, engaging a third party to abstract and push data into the required registry. Corazon encourages programs to fully investigate the process and clearly understand the third party's commitment to accuracy. In other words, can they guarantee a greater than 90-95% data integrity? Is there turnaround within the required time limits/constraints of the specific registry? Often programs choose a third-party resource as a fiscal decision, though Corazon recommends that programs consider all aspects within the full picture and cost/benefit, regardless of the decision being made. As with any decision, there are pros and cons with each option, and understanding the particular needs of the program will help to determine which option will be best.

The Quality Committee

The implementation and execution of a formal cardiovascular quality committee is essential and should function as the basis for driving performance improvement initiatives, beyond having a dedicated resource. Certainly, the decision to drive program quality in order to achieve stellar outcomes goes well beyond the investment in a dedicated data resource. Performance improvement initiatives must be owned by the overall team responsible for these clinical services. Members of this team should include the following, with each having particular

accountability in driving performance improvement (PI) efforts:

- Medical director of the specific service, and/or service line;
- Service line administrator;
- Front-line providers such as EMS, local fire rescue, and flight;
- Management and front-line staff from the emergency department, cardiac cath labs, surgical suite and/or pre- and post-procedural care unit(s);
- Quality department designee;
- Data abstractor;
- Data analyst.

The creation of this committee is critical to the overarching PI effort and cannot be understated. Through frequent, consistent meetings, this team initiates all important communication to problem-solve and make changes in process across all cardiovascular patient areas. This team must have a well-defined purpose, structure, and membership, with involvement from both key administrators and physicians.

Another component of this formalized structure is a focus on troubleshooting frequent issues. Challenges to meet this measure are many, but they can be resolved with diligence. Corazon has assisted hospitals with the development of tracking tools as a means to determine each step of the process from first arrival of the patient through the inflation of the balloon in the cath lab. Engaging EMS providers to the team on an ad hoc basis will provide additional insight on improving pre-hospital acute MI care. Close evaluation of timelines and participant feedback will then enable the cardiac cath lab team to pinpoint areas of delay in patient care that can be resolved using the data collected as a foundation for making needed change.

In Conclusion

As Corazon has grown its accreditation services across the country, we have noted that those programs with a dedicated data resource, such as a registry outcomes data analyst or outcomes integrity clinician, have a greater number of critical metrics measuring above the 75th and even 90th percentiles, compared to those that don't. Some may argue that a lower volume program may not require this dedicated role; however, even programs with cath volumes between 100–200 procedures annually would benefit from this resource, given that even just one patient falling out will have a significant impact on overall outcomes data. This, of course, can impact everything from patient access to performance ratings, community perception, and competitive advantage.

It is clear that quality outcomes data from national clinical registries provide CV programs the opportunity to implement and monitor continuous quality improvement initiatives. Successful programs are always working to develop people and processes, and even technology to support the delivery of quality, cost-effective care, all of

which can use data as a foundation for driving change. Leading programs have consistently reported exceptional value from accreditation services and processes in terms of driving continuous quality improvement efforts and providing a structure to achieve stellar outcomes. Choosing accreditation, regardless of state or agency-mandated requirements, could make the difference for clinical, operational, and financial success.

Quality Benefits of a Dedicated Resource

A Q&A with Cardiology Quality Improvement RNs, Ms. Nichole Pardo and Ms. Amber Thompson, both dedicated data resources at Corazon-accredited Beaumont Health facilities located in Michigan. According to them, the time and effort related to data collection is worthwhile as a means to collate trends and make change based on the data.

How does having a resource dedicated to data collection help to drive performance improvement at your organization?

Most significant is the opportunity to monitor data on a constant basis, and therefore see when trends emerge — whether good or bad. Then, when new processes are implemented (as a result of data intel), the dedicated resource can monitor whether these new processes are positively impacting results.

How does outcomes data help to drive quality meetings?

Once abstracted, data is reported and then entered into a database that's shared among a multidisciplinary team. We present data by quarters, adding every three months until the year is complete. This format allows us to see how various measures or data points are progressing/declining over the year by quarter. The sharing of the information leads to very productive discussions about what can be done to better serve patients.

How has registry outcomes data been used to effect change?

Across the system, we noticed opportunity for improvement in our discharge meds (aspirin, statin, P2Y12). At the hospital level, we implemented staff education from the cath lab to the nursing team. A best-practice checklist was created, as well as pharmacy rounding on post-PCI patients to ensure they receive appropriate meds upon discharge. As a system, we also had hard stops built into our EHR system as a means to alert the physicians if and/or when these medications needed to be addressed. This outcomes information was gathered, analyzed, and shared as part of the process, and alerted us to an issue before too many patients were impacted. After making a few simple changes, the discharge meds measure has significantly improved in just a short time.



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