

## Market Transformation – A Case for Clinical Delivery Standardization: Returning the Cath Lab to Profitability

### INTRODUCTION

Entering 2015, Terumo Interventional Systems, a market leader in transradial education, training and product solutions, engaged MedAxiom Consulting to visit five cardiovascular programs across the country in order to determine the best practices in the deployment of a cardiac catheterization clinical pathway that employs utilization of transradial access. MedAxiom is the nation's largest cardiovascular business network, with over fifteen years of benchmarking data and consisting of former cardiovascular service leaders. MedAxiom was uniquely positioned to bring these learnings together and additionally work with Terumo to educate the broader cardiovascular market. Currently, there is little information or guidance provided to hospitals that enables them to navigate these complexities.

Over the course of the five visits, MedAxiom found significant variation within and across programs with regard to the full realization of, and deployment around, a transradial care pathway. While the clinical deployment of the transradial technique within the catheterization procedures was consistent, predict-able, and standardized, the engagement of patients in the clinic, hand-offs with the cath lab, and prep, recovery, and discharge were highly variable and found to represent significant cost saving opportunities.

### BACKGROUND

The healthcare marketplace is transforming at an unprecedented rate. Entering 2016, risk is being shifted from payers to providers in a new way, which requires not only a focus from healthcare leaders, but new strategies to optimize care delivery in terms of quality, patient outcomes, and the cost of delivery.

Over the last five years, cardiovascular provider organizations have integrated into healthcare systems in order to align the economic interests and organize more efficient delivery models. Today, more than 70% of cardiovascular providers nationally are integrated with healthcare systems, meaning that either direct employment or financial alignment such as management service agreements are in place.<sup>1</sup> At the same time, as hospitals have been organizing and maturing service lines, there has been extraordinary headwinds facing the healthcare market: declining reimbursements from both Medicare and commercial payers, decreasing Disproportionate Share Hospital (DSH) payments, increasing patient out-of-pocket expenditures, and a skyrocketing patient debt expense. Additionally, regulatory changes, such as the two-midnight rule, increased Recovery Audit Contractor (RAC) activity, changes in observation status, and introduction of advanced payment models have challenged systems' solvency, resulting

in a rate of hospital closures as never seen before.

Cardiovascular services remain among the top clinical areas of healthcare expenditures nationally. When cardiologists were independent, many ran their own cath lab, nuclear program, etc., and most, if not nearly all, were highly profitable. Today, however, with the significant financial forces impacting payment and site of service, as well as changing reimbursement guidelines, many cath labs across the country are no longer strong and positive contributing forces to a hospital's bottom line; rather, cath labs have become a cost center rather than a profit center.

At the same time, the rate of adoption of transradial services has more than doubled in the United States. Today, approximately 40% of patients receiving cardiac catheterization receive their treatment through transradial access.<sup>2</sup> Transradial access has been widely studied and results have been published showing a significant decrease in risk of patient bleeding, enhanced patient mobility post procedure, reduction in post-procedural complications, improved length of stay, and an overall reduction in the total cost of care.<sup>3</sup>

A convergence of market forces is driving healthcare toward a new normal of transparency, consumerism, and risk. To this end, leaders must identify meaningful strategies that align focus around healthcare provider job satisfaction, large patient populations, and the improvement of patient care through reducing complications and improving patient outcomes, and all in a manner that enhances the profitability of the

healthcare system while managing the economics of the entire healthcare system — a Quadruple Aim.<sup>4</sup>

## **DATA**

MedAxiom engaged five large interventional programs from different markets across the U.S., visiting community, academic, private, and not-for-profit settings. The common feature of each program was the high adoption rate of transradial technique; the average among the five programs exceeded 65% of interventional procedures. Additionally, each program believed they had achieved significant savings with the adoption of transradial access. Upon spending several days interviewing providers and nursing staff, and observing practices across the process and sites of care, it was determined that there continued to be significant variation in care delivery.

Patients were often not educated in the same fashion or advised what to expect in the clinic. Patients were not prepared for their procedures and in the cases where they were told that they would be receiving a transradial approach, nurses continued to prep patient's groins and perform pre-op assessments that are clinically required for femoral access. Patients who received radial procedures, in many cases, were kept overnight for observation and in most cases, medical necessity may not have been clearly established.

In August of 2013, Amin et al published results from a five-center economic evaluation on the impact of transradial

procedures. This group's findings showed an unadjusted cost savings of \$1,541 and an adjusted cost savings of \$830 per case.<sup>5</sup> It is important to note that these data came from over 7000 procedures performed in 2010 and 2011. Since this time, there has been further impact of reimbursement cuts, shifting outpatient procedures, and increased RAC focus on observational status. "Cost savings from transradial access for percutaneous coronary intervention (PCI) are just the tip of the iceberg," says Dr. Amin. "We now know that when you factor in efficient and patient-centered same-day discharge protocols for inpatients and outpatients after PCI, costs reduce quite dramatically. At our institution, we have seen \$3,000 to \$5,000 lower costs per case when transradial intervention is combined with our patient-centered, same-day program.<sup>6</sup> The potential for reducing costs in STEMI patients is even greater."

### **TRANSFORMATIONAL OPPORTUNITY**

Cardiovascular service lines across the country have adopted the transradial technique for their interventional patients; however, data would suggest that a full programmatic approach to operationalizing transradial procedures has not yet been achieved on a consistent basis. Thus, Terumo and MedAxiom are excited to announce a partnership focused on supporting cardiovascular groups in achieving the full clinical and operational benefits associated with transradial procedures. Combining Terumo's expertise in transradial and MedAxiom's cardiovascular operational knowledge, the Transradial Care Pathway

Program is being offered as a means to assist programs in fully implementing a care pathway.

There may be no other area of clinical medicine that aligns the interest of today's healthcare requirements for success:

Impact to a large patient population—

- Improving quality of care
- Improving patient outcomes
- Reducing the total cost of patient care
- Reducing the cost to deliver care
- Improving the overall financial outcome

A fully operationalized transradial program additionally addresses the following categories of cardiovascular focus:

- Problem – Bleeding costs
- Problem – Cost of anticoagulation
- Problem – Variation in care
- Problem – Capacity
- Problem – Shifting reimbursement
- Problem – Full-time employee (FTE) constraints
- Problem – Cost ownership

This transformational engagement will allow hospitals and practices to successfully navigate the complexities of current healthcare reform. The recent announcement by the Centers for Medicare & Medicaid Services regarding acute myocardial infarction (AMI) bundles makes the job of providing economic and quality-driven PCI even more imperative for today's cath lab.

Working together, MedAxiom and Terumo Business Edge bring decade upon decade of experience in the cath lab environment. Our collective team will bring a level of expertise and experience to

analyze, assess, implement, and monitor the necessary operational changes to achieve meaningful cost reductions, with a focus on metrics and dashboards that will provide your cath lab operation ongoing measurements for success.

The term “risk” has taken on a new meaning for healthcare leaders. Today, there continues to be new ways in which stakeholders are working together to align risk. Payer and providers, providers and hospitals, hospitals and employers: the focus on working together to achieve shared goals and success continues to expand across the market. Terumo is bringing further innovation to the market in the form of aligning risk with the implementation of the transradial pathway. Upon completion of each site’s assessment, Terumo will review contractual terms and metrics of programmatic success, providing an opportunity for health systems to assess risk sharing around this change management effort.

## CONCLUSION

The healthcare marketplace is transforming and solutions are emerging that focus on standardizing the clinical delivery of care, which will improve patient outcomes and quality, and bring program profitability within reasonable reach. These efforts are targeting large patient populations and are sharing best practices from peers throughout the healthcare community. The Transradial Care Pathway Program is perhaps the most focused, achievable, and significant

opportunity healthcare systems can pursue to achieve success today. Our team would be pleased to engage your institution in an evaluation of this opportunity and assess the potential impact that this program offers.

## REFERENCES

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