

## UNVEILING THE SECRETS OF TOP-PERFORMING CARDIOVASCULAR CENTERS: PILLARS OF EXCELLENCE



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Many cardiovascular (CV) programs that are thriving in today's increasingly difficult landscape have embraced a comprehensive strategy to ensure high-quality care and long-term financial viability. In a recent interview with NEJM Catalyst, Cynthia Barnard, Vice President of Quality at Northwestern Memorial HealthCare in Chicago, pointed out that the most successful programs embrace a systematic approach that's well suited to their organizational structure. "Your improvement methodology is more than a wrench you pull out for a single improvement," she explained. "It's a language that becomes part of the culture."

Hospitals currently face a host of difficulties: declining reimbursements, increasingly complex comorbidities, rising inflation, competition with outpatient surgery centers, and difficulties retaining and recruiting clinicians. With Medicare insolvency on the horizon, healthcare is approaching a critical juncture. Industry leaders must find creative ways to reduce costs and improve outcomes.

This paper lays out a broad approach for overcoming the challenges of today's landscape and excelling into the future. Healthcare providers, administrators, and policymakers will find valuable ideas here about how to build and sustain a high-performing CV program. There are no quick fixes in healthcare. But hospitals can take inspiration from the country's top-performing cardiovascular centers. Each of the following "five pillars"—just culture, commitment to excellence, resiliency, professional engagement, and prospective vision—is a key characteristic of these programs' success. By using proven analytical technology as part of a comprehensive performance improvement (PI) methodology, top-performing cardiovascular centers have strengthened their essential architecture, making excellent and cost-efficient care second nature.



For over 10 years, we've been partnering with ambitious cardiovascular centers who want to maximize clinical, financial, & operational performance across the service line.

Our mission is to provide health systems with leading solutions that enable robust performance improvement projects & optimize value of care.

**Stuart Jacobson**  
CEO

## JUST CULTURE

A “just culture” is a workplace environment where employees feel empowered to voice their concerns when they see or make mistakes. In contrast to the punitive approach, errors are viewed as opportunities for improving workflows and enhancing patient safety protocols. By cultivating psychological safety among care teams, this approach reduces the activation energy, and galvanizes team members to participate in the ongoing pursuit of continuous improvement and high-value healthcare delivery.<sup>3</sup>

It is acknowledged among healthcare leaders that punitive response to error is a top patient safety issue.<sup>4</sup> Despite this recognition, many hospitals find it difficult to establish a genuinely just culture. Recent studies indicate that punitive practices persist even in hospitals that are actively promoting psychological safety for their employees.<sup>5</sup> And meanwhile, preventable harm still exists nationwide at unacceptable levels.<sup>6</sup> In the face of an escalating influx of cardiovascular patients burdened with increasingly complex combinations of diseases, CV programs must equip themselves to swiftly and effectively address safety concerns while drastically reducing preventable harm. The stakes are already high—but they’re only going to get higher.

Exemplary CV programs are transcending the challenges associated with building a just culture by finding concrete ways to move blame away from individuals to systemic practices. Commonly ascribed clinician errors are frequently underpinned by deeper systemic triggers. Hospitals that can identify root causes quickly and accurately are able to proactively minimize the chance of error. Once an institution has the necessary tools, and has embraced this new approach to PI, team members are less likely to feel like scapegoats and more likely to see themselves as essential contributors to serving their patient population. Research indicates that a sense of pride in one’s work and institutional engagement significantly increase employee productivity while also curbing employee burnout rates.<sup>7, 8</sup>

Many leading cardiovascular centers rely on experienced industry partners to provide them with a comprehensive analytic apparatus essential for accurately identifying the root cause of system process and condition faults. With a decade-long track record of close collaboration with clinicians and leadership, Biome Analytics has the solution to find and address preventable medical errors—shifting CV programs from being reactive to proactive. Biome’s approach naturally steers organizations toward a just culture by alleviating the need to point fingers. Instead, cutting-edge technology exposes the true culprits—faults in system workflows—simultaneously reducing direct costs and improving outcomes in the process. As hospitals adopt and nurture a just culture in this way, a positive feedback loop of improvement emerges. From here, a continuum of sustainable, low-effort clinical improvement quickly becomes the established norm.

## COMMITMENT TO EXCELLENCE

Hospitals that are committed to excellence prioritize exceptional quality of service for their patients. These organizations embrace best practices and proven innovations and set high standards for improving processes, systems, and outcomes. They consistently exceed the expectations of patients, staff, and stakeholders.

All this may seem a high bar. But there is research suggesting that simply by establishing ambitious expectations on an institutional level, hospitals improve on workplace culture and patient safety measures.<sup>9</sup> Many top CV programs are already following the model of high reliability organizations (HROs), relying on process management strategies that have been used to transform businesses in almost every industry in the world, from Japanese car manufacturers to Silicon Valley startups. These organizations use precision data and advanced analysis techniques to drive improvement. This approach repositions “excellence” away from a set of checkboxes and compliance measures, toward a genuine team-commitment to providing excellent care at all times.

Ambitious cardiovascular centers have achieved this shift using three elements most other programs lack: 1) a nuanced and accurate picture of their baseline performance, 2) achievable but ambitious goals for improving care across a variety of measures, 3) evidence-based, cost-efficient strategies for meeting these goals. These programs rely on technology and clinical data experts to take overloads of disjointed data and quickly turn them into meaningful narratives about the current state of care. These narratives become the basis for goal-forming, PI planning, and the efficient application of proven interventions.

Biome Analytics supports a commitment to excellence by taking data that hospitals are already collecting and—in a matter of days—generating an accurate assessment of the institution’s current state of care. Our team of performance improvement experts works with leadership to set goals based on benchmarks set by other, similar institutions, and ranks opportunities so that hospitals can zero in on interventions that they know will be profitable and lead to meaningful change. Finally, Biome provides CV programs with a comprehensive library of shared best-practices and PI strategies. These tools—which are intuitive and targeted to user roles—not only save money and drive improvement in the short term, they also form the basis for a culture in which excellence becomes the everyday.

## RESILIENCY

In recent years, hospitals have had trouble navigating the many challenges created by the global pandemic. They will likely face new public-health crises in the near future. Resilient hospitals are prepared to deal with these unexpected challenges while maintaining their core function of providing high-quality care.

A recent analysis by the U.S. Centers for Medicare & Medicaid Services emphasized the importance of proactive preparation on the part of hospitals, underscoring that such readiness should take precedence before the next public health emergency.<sup>10</sup>

CV service lines treat increasingly large patient populations that present with complex diseases and high levels of morbidity and mortality. This makes any delays in their treatment unacceptable, even during times of instability or crisis. The country's leading healthcare programs are already ensuring that employees at all levels of their organization know how to respond to different situations and are taking concrete steps to build a culture of preparedness, adaptability, and collaboration among clinicians, leadership, and stakeholders. These initiatives capitalize on centralized sources of dependable information concerning best-practice protocols, thus building a strong defense against turnover among medical professionals and PI experts. Finally, they're putting provisions in place to make sure leadership has a reliable stream of up-to-date information about ongoing developments within their facilities.

Amid the backdrop of the COVID-19 pandemic, Biome emerged as a valuable ally for several ambitious CV programs, assisting them in designing effective patient triage systems and developing strategies for prioritizing elective procedures. With this experience in hand, our performance improvement team is well-equipped to guide hospitals as they ready themselves for public emergencies and patient-overflow situations. Biome's expertise also extends to capacity planning, helping hospitals increase the number of patients they are able to safely treat under normal operational conditions. This focus on operational efficiency prepares staff to meet increasing demand without compromising the quality of care.

## PROFESSIONAL ENGAGEMENT

Professional engagement is a measure of the involvement, commitment, and satisfaction that healthcare professionals have with their organization. Engaged employees are motivated by both extrinsic and intrinsic factors—that is, they feel they're appropriately compensated for their work, but they also believe that the work they do meaningfully contributes to a worthy cause. Engagement is particularly vital in the CV service line, where complexity of care makes clinicians' jobs especially difficult, and necessitates seamless collaboration between care teams.

However, crafting an environment of professional engagement is no simple task in today's landscape. By 2025, the United States could see a deficit of up to 450,000 registered nurses available for direct patient care.<sup>11</sup> The demand for cardiologists will soon exceed availability by a significant margin.<sup>12</sup> A recent survey suggested that more than half of healthcare leaders are worried about poor communication delaying care and inadequate technology negatively effecting team member collaboration.<sup>13</sup> And despite new attention to the psychological wellbeing of clinicians, burnout levels are still at an all-time high.<sup>14</sup> Hospitals that want to succeed in today's competitive market must earn the enthusiasm, hard work, and willing engagement of all employees.

Leading CV centers are already working hard to do this. Primarily, they have begun providing evidence to clinicians that the new care strategies they are asked to adopt actually make a difference in patient outcomes, in this way promoting an important intrinsic motivation—clinicians' inherent drive to better their patient populations. They've also begun strengthening communication pathways by more clearly articulating institutional and clinical goals, which then become a point of collaboration between clinicians and leadership. To empower clinicians further, top-tier CV programs are ensuring easy access to precise performance data and impartial benchmarking information, tapping into their desire to match or exceed peer outcomes.

Biome is well positioned to help hospitals increase professional engagement. Biome's technology gives healthcare teams easy access to accurate data demonstrating the tangible impact of PI projects. Additionally, Biome empowers leaders by handing them tools to identify and remedy flaws in care processes and find areas where staff may be experiencing high levels of dissatisfaction. Finally, by relieving key hospital employees of the routine responsibilities of collating and analyzing abstracted data and researching interventions, Biome allows those team members to work at the top of their licenses.

## PROSPECTIVE VISION

A hospital with prospective vision has a well-defined strategy for achieving its long-term goals. Its leadership is proactive about identifying emerging trends and challenges, and it takes steps to improve operations to meet the changing needs of patients, staff, and the wider community. This may involve investing in new technologies and equipment, expanding service lines, developing new care models, or collaborating with other healthcare organizations to achieve shared goals and deliver the highest quality care to its patients.

Healthcare is changing rapidly. New techniques and technologies are redefining CV care. The possibilities for new investments and PI measures are endless and daunting. Lawmakers are opening the door for more complex procedures to be performed in outpatient facilities.<sup>15</sup> Patients are becoming more discerning about the experience of care. Price transparency is increasing competition and forcing hospitals to critically evaluate cost-effective ways to care for patients.<sup>16</sup> These are just a few of the ways in which healthcare is rapidly evolving.

Top CV programs are working hard to figure out which technical advancements, care delivery innovations, and market strategies are worth the investment. This endeavor requires accurate and detailed information about what is working elsewhere and how well those investments might transfer to different markets and patient populations. Leaders at these programs are reconfiguring their institutional goals based on the shifting realities of healthcare, taking into account new kinds of payer agreements, stakeholder roles, competition from private practices, and the increasing influence of private equity.

Biome can help cardiovascular centers be proactive in planning for the future of healthcare. Our technology allows hospitals to anticipate future demand and capacity by analyzing historical data and making accurate predictions about future trends. With this information in hand, leadership can adjust staffing levels, allocate resources, and plan investments. Biome also helps hospitals improve population health management by identifying high-risk patients, tracking health outcomes, measuring the impact of interventions, and fine-tuning improvement initiatives. By analyzing data from clinical trials and other industry sources, Biome also helps hospitals make data-driven decisions about which new technology to adopt and how to integrate it into their operations.

## CONCLUSION

In his essay about the future of patient safety, Allen Kachalia articulates the thorny path facing healthcare systems: they must try to increase the quality of care while maintaining financial solvency and dealing with staff turnover.<sup>17</sup> All too often, these aims are depicted as conflicting priorities. But leading CV programs are taking a new approach to high-quality care, and making inroads into a wide array of seemingly intractable problems. Biome is committed to helping programs across the country achieve this kind of clinical and operational excellence by providing cutting-edge data handling and smart PI approaches that work continuously to strengthen each of the five pillars.

## ABOUT BIOME

For over a decade, clients have relied on Biome's proprietary machine learning, human-enabled technology, and community-driven knowledge network to activate their data assets, engage physicians, and accelerate performance improvement. The UCSF Digital Health awards recently recognized Biome as a "Top 10 Best Patient Cost Savings" solution.

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