California Heart Institute Reduces PCI Bleeding-Event Rate by >69% With Biome Analytics

Front-line Physicians Lead Care Decision-Making, Reducing Costs & Improving Outcomes Simultaneously

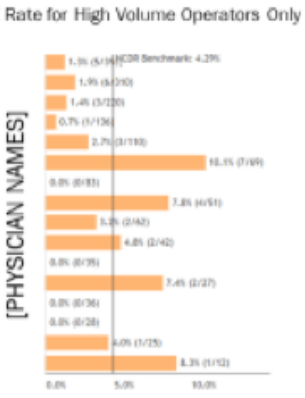
[San Francisco, CA] — [August 2019] – Biome Analytics announced today that one of its clients, a major California Heart Institute, has reduced its PCI bleeding event rate by over 69% with Biome Analytics applications, while simultaneously reducing costs. Physicians at the client organization are now leading organizational decisions around performance measurement and best practices, resulting in increased clinician engagement, improved patient outcomes, and realizing millions of dollars in cost reduction opportunities.

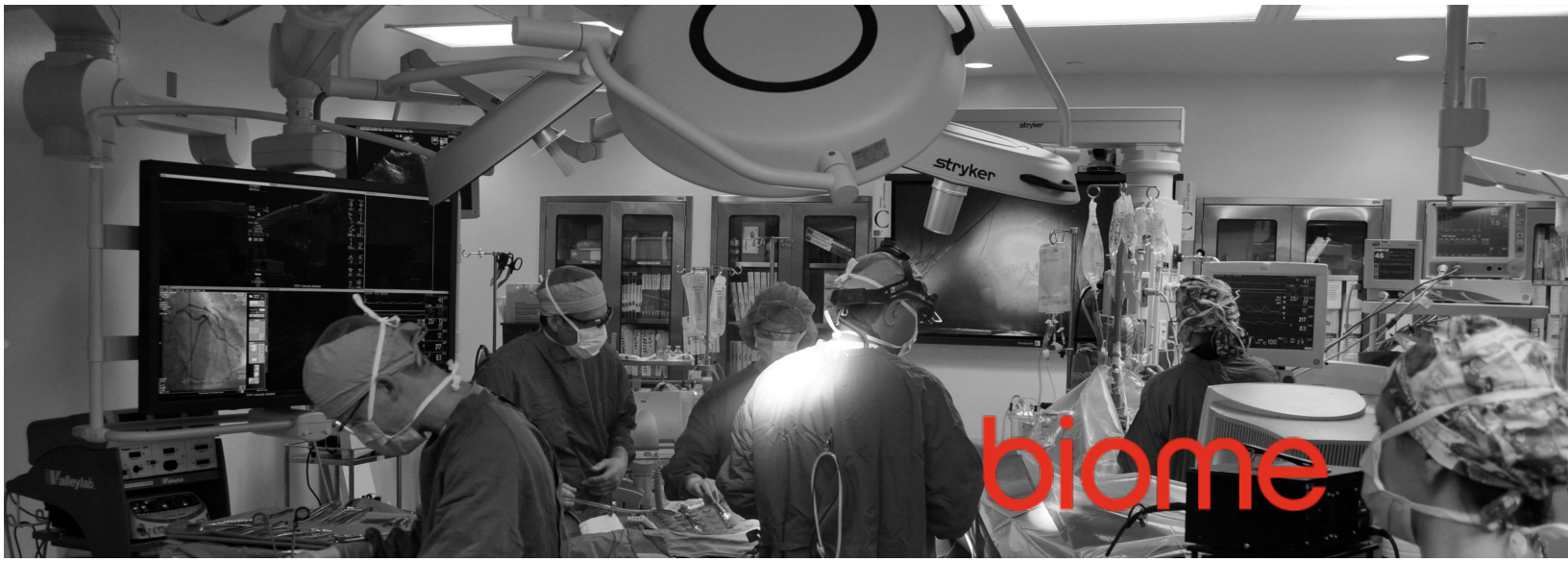
Leading healthcare systems are using Biome Analytic applications to bring practicing physician insights to the decision-making table, identify organizational best-performers, and enable peer-coaching to elevate practice patterns across the system.

The NCDR risk-adjusted bleeding event rate was above the 50th percentile at this leading institution, and the organization's Quality Council mandated that bleeding events needed to be reduced. However, the individuals on the Quality Council were removed from the day-to-day of practicing medicine in the Heart Institute, and physicians felt that the bleeding event rate was misrepresented because of the complexity and high risk in the served patient population. Practicing physicians wanted to show others in their organization the misrepresentations while seeing if improvement was possible. Aware that traditional performance improvement approaches and system-wide analytic vendors weren't effective, cardiovascular physician leaders brought in Biome Analytics to find a pragmatic, evidence-based solution to the bleeding event rate problem.

Biome Analytics gives cardiovascular physicians the tool to unearth the most high-impact process improvement opportunities, get all stakeholders on the same page using physician-validated, trusted models, and improve clinical & financial outcomes quickly. The Biome solution presents valuable, signal-driven insights from blended clinical, administrative, and cost data. Physicians can now quickly test hypotheses using the granular, actionable, 200+ CV-performance specific analytics library: slicing and dicing at the physician, device, drug, facility, and **process** level, among other views.

Physician-Led Decision-Making *– California Heart Institute's Cardiovascular Care Quality Improvement initiative uses Biome Analytics' applications to analyze process performance, then uncover and elevate physician-led best practices.*





Finally, **physicians are empowered** to make cost-effective decisions at the point of care without compromising care quality or adding to cognitive overhead. For instance, during the PCI bleeding-event decrease initiative, physicians also identified a PCI patient cohort that could be discharged same-day. The change resulted in a **>$1.7M** annual direct cost improvement.

California Heart Institute uses Biome's proprietary multi-integer programming data science models to analyze cardiovascular processes and practices to create innovative improvements based on the best practices of peer physicians. Individual physicians see where they lead their organization and identify high-value opportunities for personal practice improvement, with only those opportunities that do not impact patient care quality highlighted. Physicians use Biome to track performance, uncover trends, and analyze an array of variables that cannot be monitored by internal IT teams or other vendors. Biome's models allow physicians to evaluate outcomes by start time, site, patient risk score, treatment method, among over 200 criteria available in the application library.

Use of Biome Analytics has expanded greatly over the past six years, with over 48 cardiovascular facilities leveraging the applications in 2019. Work is now beginning to expand to related circulatory areas, including vascular, stroke, and neuro, at the behest of existing clients, who have all achieved an over 8% average annual direct cost savings benefit, with several moving into (or improving) the Top 10 of the U.S. News & World Report best hospital and/or Cardiology and Heart Surgery rankings.

In the last six years, Biome has invested millions of dollars into building a cardiovascular analytics library, validated the analytics and models with hundreds of practicing physicians at leading healthcare providers, and provided a **>3x ROI** for every client during the first year of use. Today, Biome is working with more than 48 facilities on cardiovascular analytics, including 30% of the top 10 Best Hospitals, 20% of the top 10 Best Cardiology & Heart Surgery Hospitals and has over 200 new facilities ready to join the physician-led improvement movement.

"Our clients are really transforming their physician engagement models. By leveraging the knowledge of their practicing physicians, and using data that the physicians can trust, clients are achieving success with more strategic initiatives at a faster pace than ever before. This creates a flywheel within their organizations to ask new questions, look for improvement opportunities, and benefit from implementing performance improvements, resulting in improved hospital rankings and patient attraction. In becoming more agile through the use of the cardiovascular analytic applications, Biome clients are truly achieving the quadruple aim."

Rakan Khaki, MPH
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