biome

Innovative Partnerships in Healthcare IT

In 2023, hospitals seeking to improve outcomes, reduce costs, and expand access to quality care are advised to partner with digital health providers that utilize leading information system modules to leverage data for targeted performance improvement.

Healthcare systems increasingly rely on advanced data analysis to improve outcomes, reduce costs, and expand access to quality care. But every year, they find themselves grappling with more complex and higher-volume datasets. In a recent survey, more than one third of hospital stakeholders cited inaccessible information (including disorganized EHRs) and analytics (extracting actionable insights from clinical and operational data) as areas of pressing concern for their institutions.[1]

These factors pose a unique challenge for IT teams. As hospitals transition to more advanced clinical systems, IT teams find that they are responsible for not only implementing critical healthcare solutions, but also integrating and making the data from those system available for a wide variety of clinical, operational, and research needs.

How do teams working under cost and time constraints deal with these challenges, and meet their organization's goals? They leverage experienced partners. In today's difficult labor market, top information systems providers recommend that hospitals consider using expert consultants when upgrading their electronic health records (EHR) system.[2] These partners must be able to collaborate with the existing team and act as a force multiplier, using unique skillsets to help achieve success.

Systems Migrations with Biome: A Recent Partnership

Most hospital IT teams have the expertise to conduct effective data analysis. But Biome expedites and simplifies the process of extracting performance narratives from masses of unruly data and using it to drive clinical improvement. Initiatives and projects that would involve years of training, preparation, and millions of dollars invested, can happen smoothly, often in a matter of months, with a minimum of resource output.

Biome Analytics places a high value on collaboration. Biome's client services team has worked with some of the leading IT teams and cardiovascular (CV) centers in the country, assisting them with quality improvement (QI) projects, data integration, and system migrations. Biome has decades of healthcare leadership and clinical experience and the deep technical knowledge to produce high-impact outcomes for our clients.

Biome recently partnered with one of the top ranked CV centers in the country, working closely with the hospital's Associate Director of Data Science (ADDS) to plan and execute two large systems transitions. Like many healthcare projects, the goal sounded straight forward: migrate two standalone systems. In reality, the scope of this kind of transition was massive. The process had serious risks, including interruption to essential systems. In the high-pressure environment of a CV center, a single system migration is considered difficult — two is ambitious.

How did Biome and this CV center collaborate to handle this project?

Step-by-Step Planning: When it comes to difficult operations, such as systems migrations, Biome's client services team understands the necessity of thorough planning for every step of the process. Biome worked closely with the ADDS to define roles for all employees involved in the project, and came to a detailed understanding of how our people would dovetail with his team. We performed an extensive evaluation of the legacy systems, conducted a risk assessment, and created a detailed roadmap, which included key details for the migration of each individual field, as well as definitions for new destinations. We created an ambitious but realistic timeline, a detailed recovery plan, and identified workflow steps that ensured a smooth transition between the old and new data structures.

Structuring and Conversion: The next generation non-invasive system was significantly more complex than the legacy system. The new system collected multiple values per field and identified whether single values were being used to generate reported outputs, or an aggregation of those values. The legacy system supported the ability to record one value per measurement. The new system allowed the user to collect an array of those values, then decide to use a single value, or an aggregate value. This function is incredibly useful in the CV service line, where a single datapoint may vary from heartbeat to heartbeat, and mean / median, and min / max aggregates are the best way of representing the underlying data.

Migration: Biome's client services team has access to a wide variety of skill and experience, and are qualified to work with multiple systems. This, combined with unique access to machine learning and natural language processing, allows the team to extract real-world value from data regardless of its structure or complexity. For example, even in environments where data is mainly collected in structured formats, resulting in free text formatting, Biome can work with partners to abstract useful knowledge and make it available for analysis.

Despite Biome's emphasis on careful planning and execution, we also understand that in healthcare, things do not always unfold predictably. The experienced Biome team is able to quickly and efficiently adjust to unforeseen hurdles. For example, we often quickly provide data in an alternative format for a last-minute meeting, or provide technical and design support to find a solution for an unanticipated problem.

Improvements that Stick: Biome follows scientific QI philosophy, emphasizing Lean and DMAIC methodologies, which means we're heavily invested in continuous learning and quality improvement. Biome's client services team is deeply versed in a wide variety of IT systems and their clinical applications, meaning that we can have meaningful conversations with both clinicians and IT teams.

With Biome's help, the ADDS's team completed the migration on time and on budget. Maintaining the CV center's operational and data reporting during the process was a complex undertaking. Lead by the center's IT leadership, Biome was able to make sure that everything went according to plan.

The Broader Context: Toward High Value Care

The goals of the systems migrations at the top rated CV center were broad. The hospital needed to leverage their data in order to provide care teams with concrete recommendations for improving outcomes at the clinical level, as well as driving down costs and readmission rates. Because the CV Center is already a national leader, moving the needle on these outcomes required incredibly precise insights. Finally, the hospital hoped to reduce variation and increase institutional alignment by encouraging effective collaboration between care team members and between physicians, administrators, and IT.

Biome partners with hospitals in order to help achieve these — and other — ambitious goals, using leading information system modules to leverage data for targeted performance improvement. With Biome, high performance care is in reach for any institution.

---

[1] Farah J, Oguntuga A, Sudaria T, et al. How Electronic Health Record Data Enrichment Can Generate Insights into Clinical Challenges and Therapeutic Opportunities. :17.

[2] Kurtenbach H. *Hiring an Epic Team? Start with a plan.* Healthcare IT Leaders. Published May 12, 2022. Accessed July 3, 2022. https://www.healthcareitleaders.com/blog/2022-epic-hiring-guide/

About Biome

Biome is the leading cardiovascular performance company dedicated to helping doctors and health systems deliver the best care, to the most patients, at the lowest cost. Biome partners with ambitious enterprise heart centers and cardiovascular teams looking to achieve superior clinical and financial performance.

Biome Analytics

1160 Battery Street East
Suite 100
San Francisco, CA 94111

info@biome.io

+ 888 246 6330