



# Northeastern Health System Improves Clinical and Financial Outcomes in Nine Months Through a Comprehensive Patient Blood Management Program

## Putting Patients First

This Pennsylvania-based, 500-bed health system serves over a half-million patients each year through its physician groups, hospitals, specialty clinics, and patient focused programs. In addition, the healthcare organization employs over 5,000 clinical and non-clinical staff, and over 450 physicians who are committed to providing quality patient care.

Like many health systems in 2020 and 2021, this Pennsylvania facility was exploring new opportunities to improve patient outcomes, generate revenue, and reduce unnecessary costs. Around this time, the health system became aware of several hospital reports on the clinical and fiscal impact of a comprehensive patient blood management (cPBM) program. PBM is a national patient safety initiative focused on optimizing a patient's blood health. It is patient centered, not product centered, meaning its scope includes more than merely optimal blood product management. PBM's core components include patient centered decision making, blood conservation, coagulation management, and anemia management.

The health system's leadership began to research PBM program implementation strategies and solutions.

Through its due diligence and with guidance from its Chief Medical Officer, this healthcare organization selected Accumen as their partner to implement a comprehensive PBM program. The partnership scope included program implementation services and resources from Accumen's team of nationally recognized experts, PBM analytics software through the Accumen Performance Suite (APS), and Accumen's virtual anemia management program, MyBloodHealth® (MBH). The Accumen cPBM program has been successfully implemented in 400+ hospitals across the country and uses a proven methodology for success.

## Establishing a Successful, Sustainable Program Infrastructure

One of the Accumen PBM fundamentals focuses on establishing a strong program infrastructure. For the hospital, this included establishing a clinical executive sponsor, project lead, a multidisciplinary PBM Committee, and physician stakeholders in all high blood use specialties. The health system's PBM Committee adopted an impressively detailed charter, including oversight and responsibility for the overall program implementation plan.

## Implementing Clinical Best Practices

The Patient Blood Management committee met in March of 2022, and the team immediately began working on implementation recommendations based on the Accumen's five PBM fundamentals.

1. Establish a clinically driven, multidisciplinary PBM program infrastructure
2. Develop and distribute meaningful PBM reports that reflect clinical performance at the hospital, specialty, and provider level to drive ownership and accountability
3. Implement evidence-based transfusion guidelines and effective computerized physician order entry for blood components with clinical decision support
4. Rollout ongoing, customized clinical education and awareness campaigns focused on the most significant opportunities for improvement
5. Implement clinical strategies to improve the recognition and management of anemia and minimize bleeding and blood loss through an anemia management program)

## The Power of PBM Benchmarks and Analytics

The health system implemented the Accumen Performance Suite (APS), a cloud based PBM analytics suite capable of providing hundreds of meaningful clinical reports at the hospital, specialty, and provider level. The APS is used by hundreds of hospitals across the country to quickly identify outlier behavior, variation in practice, and opportunities for improvement based on Accumen's extensive benchmark dataset. In addition, the APS is vendor-agnostic, creating a smooth and seamless connection to its existing electronic medical record.

The APS enabled the healthcare system to perform a baseline analysis of hospital, specialty, and provider practice for several PBM performance metrics.

The APS and Accumen benchmarks were used to set organization targets for each metric. The metrics were carefully selected by clinical experts to drive clinical transformation. Examples of three red blood cell (RBC) metrics selected by the hospital include percentage of RBC units ordered with a pre-transfusion hemoglobin <7.0 g/dL, percentage of RBC units ordered with a pre-transfusion hemoglobin >8 g/dL, and single unit RBC orders. The software will be used prospectively to generate and distribute automated reports to clinical stakeholders throughout the health system regularly to reduce avoidable transfusions.

## Anemia Management Program

The health system implemented pre-surgical anemia management (PSAM) as part of a comprehensive PBM program by leveraging Accumen's innovative anemia management software tool, MBH. MBH is an enterprise-wide software tool that supports effective and efficient implementation of pre-surgical anemia management programs. Leadership identified the pre-surgical testing (PST) department as the champion for PSAM, leveraging existing resources (five PST nurses and three midlevel providers) to support the program. Key stakeholders evaluated current and future workflows to develop best practice process improvements, including adoption of a pre-surgical anemia algorithm and anemia management reflex lab test after approval from the PBM and medical executive committee.

***“Accumen’s cPBM program enabled us to standardize care and improve patient outcomes. With cPBM, we are driving better patient care, while also improving the bottom line,”*** said Chief Medical Officer, western PA health system.

## New Anemia Management Processes to Enhance Patient Care

During program onboarding, Accumen and the health system teams worked with key stakeholders from preadmission testing, surgery, pharmacy, billing/coding, infusion center, and lab to complete a detailed gap analysis with recommendations to better align with best practices. This ensured the program was custom built to best fit its culture and structure. The PST team was trained by Accumen's nationally recognized experts on how to use the MBH software as part of their daily patient review process to identify and manage anemic patients. Non-emergent, high blood loss, surgical procedures were mapped into the software to facilitate automatic patient enrollment.

While pre-admission testing is standard in most hospitals, the timing for lab testing and workup varies widely across the country, with some hospitals evaluating patients only days prior to surgery. This does not allow time to properly identify and treat blood health issues prior to surgery, leading to risk of surgery cancellation, unnecessary transfusion exposure, higher risk of hospital readmission, longer length of stay, and overall higher hospital costs. Part of the health system's new anemia management process was to work with the surgical teams to complete lab testing, including an anemia management reflex panel, often two to four weeks prior to surgery. This enabled the health care organization to evaluate and diagnose anemic patients, while potentially identifying previously unrecognized diseases or health issues to be properly worked up by a primary care provider.

## Speed to Value: Improving Outcomes and Profitability

In June 2022, twelve weeks after project kickoff, the hospital launched its anemia management program leveraging Accumen's MBH software solution.

Hospital clinicians began screening all high blood loss elective procedures and worked on improving its processes to ensure more patients were processed and optimized through the program. Over time, the anemia management program experienced an increasing patient load. Within six months, this healthcare leader was exceeding ROI goals and seeing improved patient outcomes with anemia management.

Within the first nine months of implementing the program, this health system attained the following results:

- 2,241 patients enrolled in MBH (anemia management program)
- 1,749 labs completed in MBH (73%)
- 651 patients identified as anemic in MBH (36%)
- 144 patients optimized with pre-operative treatment by PSAM (21%)
- \$330,000 in blood acquisition cost savings (18% reduction)

The health system initial projected impact was a conservative \$10,000 per month. However, margin improvement from implementing Accumen's cPBM program is currently at \$28,000 per month and increasing. The healthcare system is actively enhancing profitability, conserving scarce resources, and most importantly improving patient safety and clinical outcomes. As the anemia management program scope expands to include additional surgical procedures, women's health, and chronic anemia, this health system anticipates increases that are 3-5 times the current value creation associated with revenue and cost savings.

**Accumen's cPBM** program uses clinical expertise and services with the aid of technology and analytics to improve hospital and patient outcomes. Accumen offers skillful and professional planning, along with the knowledge needed to enable your teams to work through a complex, daunting process to achieve success for your health system.