



# Increasing the Efficiency and Effectiveness of the Blood Bank Management System

INDUSTRY BRIEF



## AT A GLANCE:

Learn How Blood Banks:

Optimize blood availability

Conduct performance benchmarks

Monitor and manage

Mitigate risk

Reach objectives

Blood units represent a critical aspect of healthcare. Yet, it should be of no surprise that blood units often get wasted due to the inability to store them under appropriate conditions.

A successful blood management process works through an evidence-based approach that optimizes patient safety and improves management and outcomes through measurable enhancements. Such an effort also can result in hospital or blood bank cost savings. However, the creation and implementation of a comprehensive technology-driven blood bank management program requires an investment with the right mix of resources — including support at the highest levels, leadership, and staff education and empowerment. While no two institutions are alike, there are many common challenges to overcome. This paper will help demonstrate the benefits derived from a technology-driven blood bank management program.



The principal goal of a technology-driven blood bank management program is to optimize the effectiveness of a blood bank through measured steps. A successful program involves:

- ◇ Increasing awareness about best practices
- ◇ Reducing the likelihood of blood samples becoming unusable
- ◇ Minimizing blood loss
- ◇ Improving blood availability
- ◇ Continuously educating clinicians
- ◇ Standardizing operations through workflows

## OVERCOMING BLOOD BANK MANAGEMENT ISSUES IS THE CHALLENGE

Blood banks so far have focused on improving the donor experience and in enhancing storage capacity to deal with the shortage of blood units. Instead of being driven by compliance mandates, blood banks can use a proactive approach towards managing their operations. In order to move towards a more efficient means of blood bank management, banks need to deploy a holistic approach that includes:

- ◇ Adopting technology best practices
- ◇ Incorporating end-to-end management with comprehensive insights
- ◇ Deploying specialized technological elements for specific needs
- ◇ Enhancing the knowledge capacity of blood bank managers and technicians
- ◇ Conducting a functional audit at periodic intervals to figure out areas requiring intervention

### Performance Benchmarking

A number of benchmarking best practices should allow comparisons of metrics with similar blood banks, hospitals, and labs. This information can reveal blood management shortcomings and identify opportunities for improvements and savings. Such benchmarking data may be helpful in identifying areas for early targeted small projects. Furthermore, measurable improvements in pilot activities can provide insight and drive additional investment. Even when baseline data are not available, including an explanation of the metrics that will be used to measure the performance

*“Healthcare providers often run short of the blood units that are critical for various medical procedures. The significance of deploying technologies to encourage efficient management of blood banks cannot be understated.”*



of the program going forward can be extremely insightful. Some of the metrics that can be considered include:

- ◇ Overall transfusion rates compared with that of comparably sized hospitals
- ◇ Transfusion rates for specific cases (e.g., hip replacement, cardiac surgery) compared to national data
- ◇ Percentage of transfusions that fall outside of hospital or professional transfusion guidelines
- ◇ Transfusion administration compliance
- ◇ Transfusion reaction rates
- ◇ Budget (inventory, supply costs, product)

### Monitoring and Managing

Without having a data gathering strategy that works on monitoring the blood bank on a 24x7 basis, any project will be incomplete. There is a need to automate the process so as to free employees from having to monitor refrigerators and storage equipment continuously, as well as saving time and effort on cumbersome paperwork. We have seen that a gap analysis in many hospitals invariably leads to the discovery of a lack of monitoring and measuring equipment, which, in the long run, is a significant, and dangerous, drawback.

## Risks and Mitigation

A true business case of technology-led blood bank upgrades includes a well-etched discussion of the risks and potential challenges of program implementation. Solutions must have reasonable mechanisms to meet challenges. Consider using a “SWOT” analysis (Strengths, Weaknesses, Opportunities, and Threats), which is one way to organize these ideas in a standardized language. Also, consider identifying internal stakeholders who can support program implementation risks.

## Objectives / Expected Benefits

As we have seen above, the case for a monitoring and measuring mechanism that is institutionalized across the blood bank can serve as a starting point for a modernization project. The business case for a blood bank monitoring solution rests on the following advantages:

- ◇ Deriving data-based goals
- ◇ Measuring progress towards goals
- ◇ Ensuring use of a transparent monitoring framework
- ◇ Avoiding cumbersome paperwork
- ◇ Raising alerts if the temperatures vary outside a set range
- ◇ Monitoring blood bank refrigerators on a 24x7 basis and storing relevant data

The business case should include specific, measurable goals for the program that will benefit the patients and the hospital. Baseline data should be included in the business case because it provides both a means to measure how well the program meets goals and demonstrates a commitment to data-driven reporting. Also, the current state of various measures can help identify existing gaps that can become program improvement targets. And baseline measurement data should be available from a number of sources from both within and outside your organization.



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