

St. Vincent Indianapolis improves blood management, utilization using Quality Manager



Ascension Health hospital network reduces blood utilization by 30 percent, improves patient outcomes, decreases blood costs

With the help of Premier Quality Manager, St. Vincent Indianapolis Hospital has dramatically improved its approach to blood utilization and management. By analyzing and comparing blood usage practice patterns, St. Vincent has, in fact, reduced total blood use by 30 percent, decreased iatrogenic blood loss in critical care settings by 86 percent, and documented \$4.4 million in blood acquisition cost savings over five years with an estimated \$35 million in total cost savings when fully accounting for labor, supplies, and reduction in adverse events—all as a direct result of improvements in blood management.

“The Quality Manager solution enables St. Vincent’s blood management program to take a quantum leap over standard blood utilization review processes and committees, which are often developed without regard for the realities of blood acquisition and use and are inadequate to meet real-world needs. Without administrative support from a product like Quality Manager, this program would not have been as successful.”

*Timothy Hannon, MD, MBA
Medical Director, Blood Management Program
St. Vincent Health System*

St. Vincent, a 720-bed hospital, is part of the St. Vincent Health network, Indiana’s largest healthcare employer

with 16 hospitals serving 45 counties in central Indiana. St. Vincent Health is a part of the larger Ascension Health group of hospitals, the nation’s largest nonprofit and Catholic healthcare system.

Since 2002, St. Vincent has leveraged the reporting tools in Quality Manager for quarterly evaluation of trends in blood usage for high utilization disease groups. St. Vincent’s uses evidence-based transfusion guidelines and Quality Manager data to identify specific disease groups that have areas for improvement within their facility, and to compare their performance to other Ascension and Premier hospitals.

INCREASING PATIENT SAFETY AND REDUCING COSTS: BLOOD UTILIZATION AT ST. VINCENT

In 2001, St. Vincent Indianapolis transformed its transfusion committee to a blood utilization committee and began to examine its blood utilization and management practices. The action came as a response to the rising cost of blood products, the high variable costs of transfusions and research that indicated that more liberal use of blood transfusions increased the risk of complications. The blood utilization committee was charged with increasing transfusion safety through appropriate blood conservation, utilization and management, reducing costs and blood demand while also increasing blood supply.

“With Quality Manager, all the data we needed to make evidence-based decisions was right there at our fingertips, allowing us to spend more time working with clinicians to implement new processes and procedures that would benefit our patients and maximize our resources.”

**— Mila Walker, MSN, RN, senior consultant, Quality Management,
St. Vincent Indianapolis Hospital**

Initially, the blood utilization committee gathered and analyzed its data using a random selection of patient charts and manual data collection, and individual blood orders were reviewed for appropriateness. This process not only took a significant amount of time and manpower, but given the small sample size (approximately 5 percent of all relevant patient charts), the effort was seen to provide an ineffective, limited and sometimes accusatory view of the spectrum of blood utilization.

The limited view spurred Bonnie Tuttle and Mila Walker, registered nurses and the quality management representatives on the blood utilization committee for St. Vincent, to search for a more efficient way to collect and analyze patient data. Any such solution would need to:

- ▶ Streamline and speed data collection and analysis
- ▶ Allow for comprehensive population analysis
- ▶ Provide physician specific practice pattern information
- ▶ Allow for more accurate outcome measurement
- ▶ Allow for tracking of blood utilization and patient population outcomes, which could be used to generate reports for the executive team and decision-making

UNDERSTANDING BLOOD UTILIZATION, PATIENT OUTCOMES, AND AFFECTING POSITIVE CULTURE CHANGE

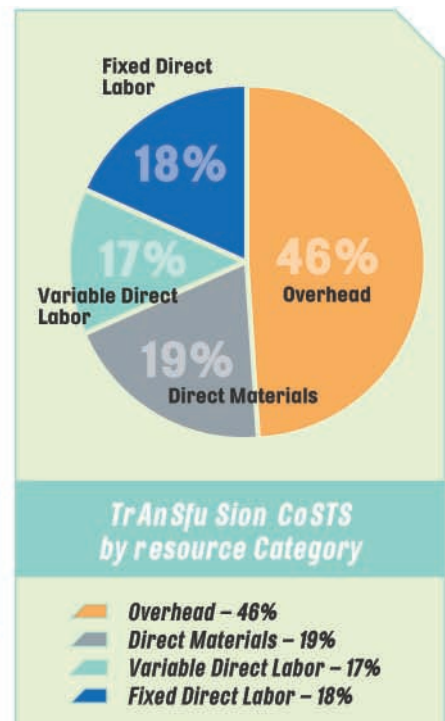
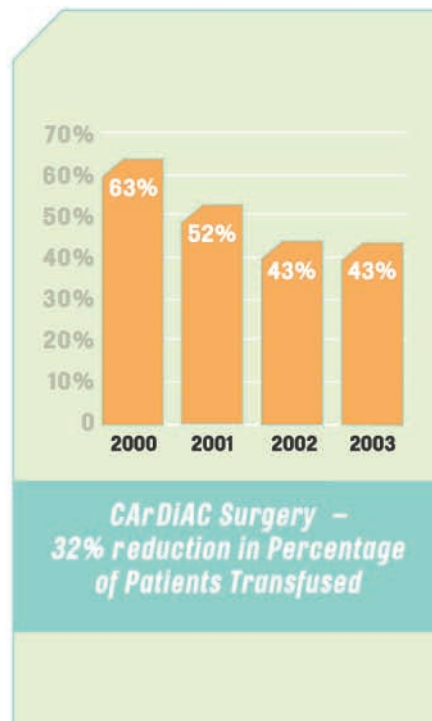
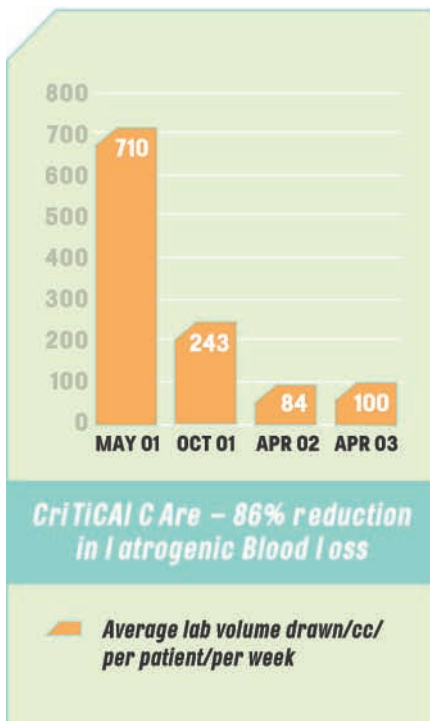
After surveying potential solutions, Bonnie suggested using Quality Manager as an effective solution based on the blood utilization committee's needs. Quality Manager allowed the blood utilization committee to access consolidated patient data from various sources from a single repository via an easy-to-use Web-based interface. They were able to identify the disease group populations with the highest utilization and

evaluate the use of specific blood products such as red blood cells, platelets and fresh frozen plasma. Quality Manager provided reports to the committee on the overall percentage of patients who received specific blood products, the number of units they received and variation in practice patterns not only by disease group, but also across departments and physicians involved in the care of these patients.

In addition, because Quality Manager's clinically focused risk assessment methodologies incorporate each patient's unique characteristics and risk factors, the team had the capability to evaluate the impact that blood transfusions had on clinical outcomes, including mortality, complications and length of stay. Armed with this information, the committee was able to garner support from hospital executives and physician leaders and justify the changes that the team was requesting of physicians and other clinical staff.

With Quality Manager, St. Vincent's blood utilization committee was able to automate the collection of transfusion data from all patients in identified disease groups, in contrast to the previous practice of random sampling. Quality Manager's reporting capabilities enabled the committee members to change their culture from data review to data analysis. With accurate and actionable information at their fingertips, the already resource-constrained group was able to eliminate manual review of transfusion orders and redeploy resources to more effective uses.

During the initial months of use, the information provided by Quality Manager showed significant opportunities for improvement in the hospital's blood utilization, particularly in the area of cardiac care. As a result of this information, one of the committee's key members, Timothy Hannon, MD, medical director of the Blood Management Program



at St. Vincent, recognized the need for a culture change. The committee began shifting its focus from a narrow perspective of transfusion review and tracking the use of blood on-hand, to a goal of blood conservation, utilization and management—which evaluates the broader spectrum of blood use over time. The organization utilized both global and targeted blood conservation strategies to achieve its goals, including the implementation of evidence-based transfusion guidelines, education, peer review and working with multidisciplinary teams.

IMPROVED DECISION MAKING LEADS TO IMPROVED CARE AND LOWER COSTS

Through the hard work and dedication of the quality department and the use of Quality Manager, St. Vincent now has unequaled control over its blood supply network and efficiently monitors blood usage across 12-month periods to detect patterns requiring proactive intervention. This in-depth analysis has resulted in a more accurate assessment of blood utilization—eliminating the accusatory nature of the review and replacing it with evidence-based information and recommendations—which has earned the quality department the respect of the physician staff.

“We’ve made tremendous progress in blood utilization and management as a result of having detailed, comprehensive reports made available to us by Quality Manager. Previously, we were manually reviewing copies of transfusion orders and 5 percent of patient charts, which was not only time consuming, but didn’t give us the complete picture of blood utilization that we needed to accelerate the program’s impact and success.”

— **Bonnie Tuttle, RN, BSN,**
senior consultant, quality management, St. Vincent Indianapolis Hospital

Quality Manager also allows the hospital the ability to explore detailed blood usage data from the network level to the individual physician level—and every point in-between. By comparing physicians both within and outside the St. Vincent Health network, the blood utilization committee and department chairs can help physicians to better understand their actions and help them to make more informed decisions for their patients. These actions are contributing to faster recovery times and shorter patient stays.

St. Vincent was also able to reduce blood loss and the chance of infection within the hospital by reducing the frequency and quantity of blood needed for blood testing in selected areas. This was particularly important in the case of ICU patients.

In the four years that St. Vincent Indianapolis has used Quality Manager, the hospital has realized:

- ▶ \$4.4 million in blood acquisition cost savings over five years, with an estimated \$35 million in total cost savings when fully accounting for labor, supplies, and reduction in adverse events
- ▶ Reduced transfusion risk of 32 percent in the cardiac surgery unit through the use of evidence-based transfusion guidelines
- ▶ 29 percent reduction in red cell usage hospital-wide
- ▶ 26 percent reduction in platelet usage hospital-wide

- ▶ 32 percent reduction in the number of blood transfusions in cardiac surgery patients
- ▶ 64 percent reduction in autologous pre-donations for orthopedic patients
- ▶ An 86 percent reduction in iatrogenic blood loss in the ICU
 - ▶ Achieved by using a more strategic approach to blood testing in an effort to reduce the number of lab tests being drawn per day and the quantity of blood needed for that testing
 - ▶ This practice has since been adapted throughout the facility on all nursing units
- ▶ Establishment of a set “trigger” for ordering blood for patients
- ▶ Less blood usage and improved patient outcomes
- ▶ Reduction in length of stay

Owing to the overwhelming success of the program, St. Vincent Health management has embraced the use of Quality Manager and the St. Vincent blood utilization committee’s methods. As a result, other Ascension hospitals are investigating the program, and Dr. Hannon, medical director of the Blood Management Program, is assisting other facilities and organizations to improve quality and safety of blood transfusion practices at their institutions.





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