

Performance Strategies



Use CPOE to Lead the Way in Safe, Effective Healthcare

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Realizing the Full Potential of CPOE to Improve Care



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At [Decatur Memorial Hospital](#), we believe that computerized provider order entry (CPOE) is a better, safer, more effective way to take care of patients. If you take that view, then clearly it's not beneficial to your organization or patients if you only have 10% or 20% of physicians using it. So getting every unit and every physician live on CPOE was a vital first step. That's why we pushed for and achieved universal adoption in just nine months.

The hospital also realized significant results along the way:

- 60% reduction in transcription errors.
- 94% decrease in incomplete medication orders.
- 80% slash in legibility errors.

But the safety and efficiency benefits of CPOE were more apparent to other care team members than to physicians. It was time to deliver on our promise to physicians and evolve the clinical capacities of the computer into a higher level of guiding best practices to deliver the best care possible.

Appropriate Use of Blood

As we searched for that next step to realize the full potential of CPOE, we decided to revisit a project we conducted in 2006 around the appropriate utilization of blood. Because blood transfusions have saved countless lives, it has typically not been evaluated or restricted in clinical practice. However, there are compelling reasons to carefully monitor and guide the use of blood products related to patient safety and cost. In short, if patients don't need blood transfusions, they shouldn't get them.

Lessons Learned

During our 2006 project, we developed evidence-based guidelines for blood transfusions. Our goal was to reduce the use of blood in patients who had a pre-transfusion hemoglobin of 8 or more. After transfusion, a patient's hemoglobin should not exceed 10.

We implemented a paper-based transfusion order form that requested the hemoglobin value. While we achieved some initial success, it was not sustained because physicians did not fill out the form. The lack of the project's effectiveness underscored the importance of creating better tools to guide physicians in the transfusion process. We felt strongly that our electronic systems would be the key to changing physician practice.

Driving High Performance

[Horizon Expert Orders™](#), [McKesson's CPOE system](#), was the keystone for our revamped blood project. Initially, we created simple transfusion order sets in the system. To help ensure that patients only received additional blood if needed, the order sets included the "option" to order one unit at a time and obtain new blood counts before ordering more.

Since physicians could still order blood without using the order sets, little change was achieved. Then we created an interactive iForm that was designed to be more appealing to physicians. The iForm required the clinical reasons for transfusion and set a threshold of 8 grams per deciliter to guide physician decisions around the need for transfusion.

CONTINUED ON PAGE 2

Realizing the Full Potential of CPOE to Improve Care (Cont.)

Again, our results were mixed. Physicians used the standard order form sometimes and the iForm other times. We gained agreement from our Medical Executive Committee to require the use of the iForm for all blood transfusions. We also required explanations for blood use when the initial hemoglobin exceeded 8.

Initially, some physicians worked around the system. Physicians would indicate hemoglobin of less than 8, but our clinical queries and performance analytics solution showed otherwise. Our iForm designer then made it possible to automatically import the most recent laboratory values into the iForm, giving the physician the most current information at the time of ordering.

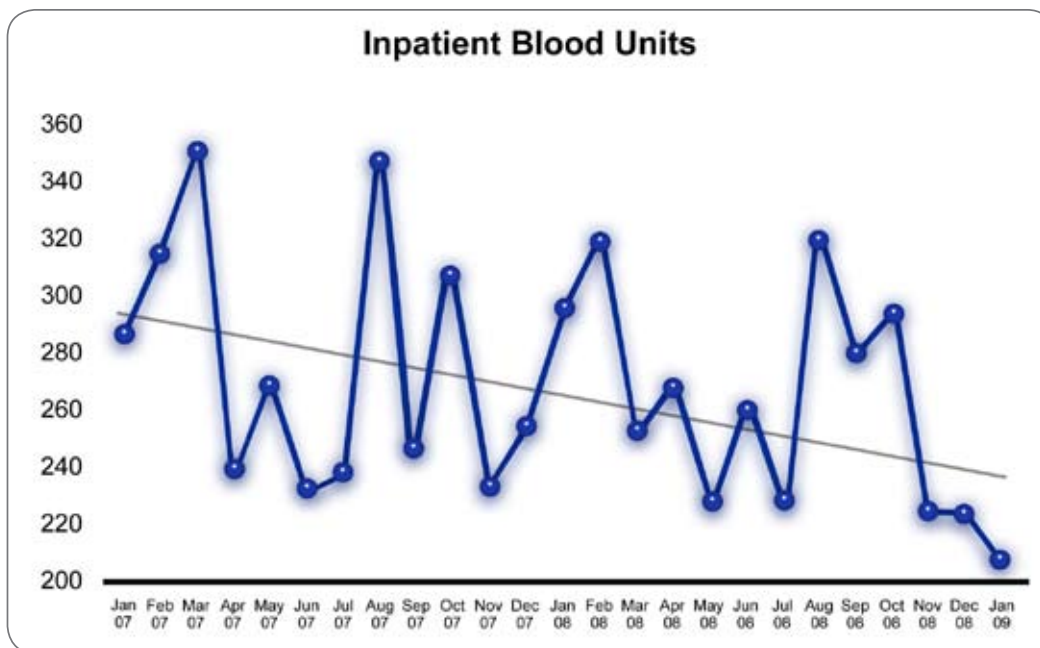
Exceeding Expectations

With these changes, we achieved universal use of the transfusion iForm — a tool that provides physicians with easily retrievable lab data for clinical reasoning. We have embedded logic, with branch chain division, to justify ordering blood, and we have a feedback loop to determine if additional units are needed. We saw the following results over a two-year period:

- The number of inpatients transfused per month has dramatically decreased.
- Blood use dropped from an average of 290 to 245 units per month.
- Our mean hemoglobin value dropped from 8.25 to 7.9.
- Hemoglobin after transfusion dropped from 10.1 to 9.7.
- Data shows patterns of blood usage by patient type and physician, for continuous process improvement.
- Financial savings of \$126,000-\$270,000 per year.

Technology has enabled Decatur Memorial to monitor and improve the transfusion process. We now have timely, accurate, comprehensive and actionable information that previously was resource intensive or not available. It has improved patient care and safety, and we've seen financial benefits. Furthermore, it has created enthusiasm with the medical staff. They now understand how our technology can expedite and improve patient care in more sophisticated ways than ever possible before.

Dr. Michael Zia is a specialist in Pulmonary Medicine and Critical Care with a long-time interest in occupational lung disease as well as medical informatics and administrative medicine. In his current position as Chief Medical Officer and Vice President of Quality Management, he has led the implementation and adoption of a computerized provider order entry system at Decatur Memorial Hospital, a 365-bed community hospital in Decatur, Ill. Decatur Memorial Hospital won top honors in McKesson's 2009 award for usage of its CPOE solution to improve patient safety.



Decatur Memorial Hospital was able to reduce the number of inpatient blood units administered from an average of 290 to 214 per month. There was also a dramatic decrease in the number of inpatients being transfused.

Learn More

[*Health Data Management: CPOE, It Don't Come Easy*](#)

[Decatur Gains 100% Adoption in Nine Months](#)

[Health Systems Use McKesson's CPOE to Enhance Outcomes](#)