

# Performance Strategies



Use CPOE to Lead the Way in Safe, Effective Healthcare

Vol. 3, Issue 4, 2009

## CEO Outlook: Leadership is Key to Integrating IT into the Organization's Vision



*By Mike Green  
A 2009 Modern Healthcare CEO IT Achievement Leader  
President and CEO, Concord Hospital*



### **A Means to an End**

After years of being compared to other industries that have made impressive gains in quality and efficiency using information technology (IT), healthcare is finally catching up. Information-rich online portals for physicians and patients are becoming commonplace, and more and more hospitals are tapping into the safety benefits of solutions such as bar-code medication administration and CPOE.

But as we progress in this journey, we must keep in mind that IT is a means to an end, not an end in itself. "The end" is achieving the mission of better outcomes, patient safety and financial stability.

As leaders, we need to integrate IT into what our organization does clinically and financially every day. IT can help us achieve excellence by instilling repeatable and sustainable clinical and financial outcomes. IT helps us systematize best practices and share guidelines across the enterprise.

### **Engaging Stakeholders at All Levels**

Concord has always been an early adopter of health IT. We were one of the first hospitals in the nation to implement bedside computing in the early 1990s, and the first hospital in New Hampshire to implement CPOE. We've learned that the key to successful IT integration is engaging stakeholders at all levels of the organization. To succeed, you must have buy-in, adoption and shared responsibility, all coupled with accountability. Here are some of the strategies we've used to engage our key stakeholders:

- **Board of Trustees** – I work with our Board of Trustees to establish priorities, with IT consistently among the most important. Each IT investment must support our strategic objectives. My CIO attends the meetings and educates Trustees on the initiatives.
- **Finance Committee** – The committee reviews each IT project that requires an investment of more than \$500,000. Any project endorsed by the Finance Committee is voted on by the full Board.
- **Senior Management** – I ensure that senior management understands the benefits of the proposed IT opportunity, gain their agreement on the investment decision, and communicate accountability for successful implementation of the initiative. Key strategic IT initiatives are considered team initiatives in the senior management incentive compensation plan. In addition, some senior leaders have IT projects as a component of their individual compensation goals.
- **Physician IT Leadership** – We established a full-time role for a Chief Medical Information Officer who provides leadership for medical staff adoption of IT. The CMIO is supported by four physicians six days per week. The physicians represent family practice, internal medicine, the family practice residency and pulmonology.
- **Physician Steering Committee** – For each health IT project, a physician steering committee guides the implementation process. By involving multiple medical specialties, physicians contribute to the success of IT projects that affect medical staff.
- **Physician Staff** – To promote patient safety and care quality, Concord has established annual pay-for-performance quality targets for all employed physicians.

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## CEO Outlook: Leadership is Key to Integrating IT into the Organization's Vision (Cont.)

### Accountability at the Project Level

Concord Hospital routinely prepares formal project charters for all IT-related projects. These charters identify the project objectives, metrics, executive sponsor and team, risks, scope, communication plan and post-implementation evaluation timeframes. For IT projects where the investment is greater than \$50,000, formal reviews occur after completion to determine whether the objectives outlined for the project have been achieved.

Effective leadership requires continual scanning of the horizon for new ways to improve performance. Our next major health IT project is focused on implementing [McKesson's next-generation enterprise revenue management system](#) to support our financial performance goals. Because of the successes we have achieved – and proved through our results — it has become easier to convince all of the stakeholders to commit the funds and effort to continue to invest in IT to support our strategies.

*Mike Green has been in healthcare management for more than 30 years in a variety of positions throughout New England and the East coast. He has served as President and CEO of Concord Hospital since 1992. Concord Hospital has won numerous awards, including multiple Most Wired awards from Hospitals & Health Networks, the journal of the American Hospital Association; a National Association of Medical Directors of Information Systems (AMDIS) award, and the top honors in McKesson's 2008 award for use of its CPOE.*

### Results from Concord's CPOE Implementation

For the last two years, we've focused on implementing McKesson's [computerized provider order entry \(CPOE\) solution](#), which has yielded remarkable improvements in quality of care.

- Using the CPOE system, we built in evidence-based reminders for appropriate care for venous thromboembolism (VTE) — and achieved 100% compliance.
- Concord also used CPOE to help ensure best clinical practice for 42 other conditions.
- We increased radiology exam reason documentation from 47% to 100%, enhancing clinical and financial performance.
- More than 50% of all orders are now entered by physicians using CPOE. This milestone is recognized by KLAS as world-class adoption. We have completed Stages 1 through 5 of the Clinical Transformation model outlined by HIMSS Analytics.

## Events

Share Strategies at McKesson's  
[Executive Leadership Summit for CEOs](#)

July 12-15, 2009  
San Francisco

**Register by June 9**

[What Are Your Top Challenges?](#)

# 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



By Michael Zia, M.D.  
Chief Medical Officer and Vice President of Quality Management  
Decatur Memorial Hospital



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.

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## 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.

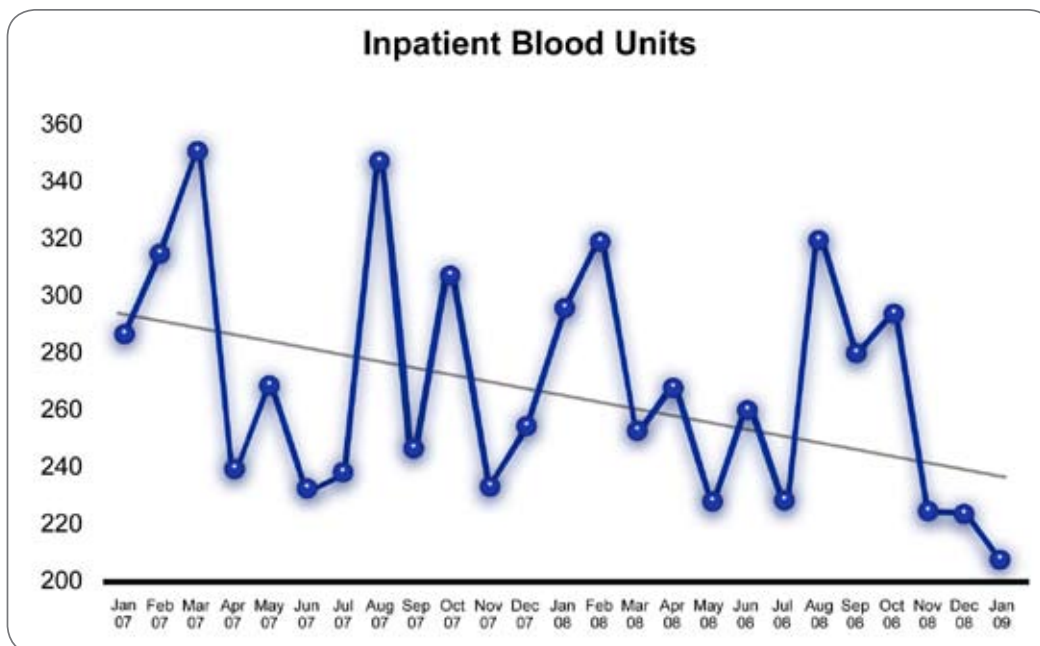
### Exceeding Expectations

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](#)

# Performance Strategies



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## CPOE Delivers at Dupont with Safety and Efficiency Gains



By Matt Sprunger, M.D., FACOG  
Medical Director of Clinical Informatics  
Dupont Hospital



### Exceeding Patient Expectations

[Dupont Hospital](#) in Fort Wayne, Ind., has a long history of embracing technology to enhance patient care and services. While our obstetrics unit has consistently achieved a high level of patient satisfaction, we are always trying to achieve our mission – to create a five-star experience by exceeding individual expectations for all patients who enter our doors – especially those who arrive in active labor and need immediate assistance. The executive and administrative staff recognized that technology could enable us to improve our processes even more, with a greater emphasis on safety and efficiency.

The leadership at Dupont Hospital identified our Birthplace unit (labor & delivery, postpartum, newborn nursery and neonatal intensive care) as a great starting place to further reduce the potential for medication errors and improve the timeliness and efficiency of care.

We determined that a computerized provider order entry (CPOE) system could significantly reduce the time staff spent transcribing medication orders, faxing them to the pharmacy, and attempting to decipher illegible handwriting. In addition, reducing the number of steps in the ordering process would mean reducing the time from when the physician ordered the medication to when the patient received it. At Dupont, we refer to it as computerized *patient* order entry, since ultimately it is about how we can improve care to our patients.

### Team-Championed Implementation

The first step in our journey was selecting McKesson's [Horizon Expert Orders™](#) as our CPOE solution, followed by an intensive planning period. Our approach was governance-based and championed by an interdisciplinary team that initially included both executive management and physician advocates.

As the project proceeded to the mapping and implementation phases, the team was expanded to include staff members in nursing, registration, clinical informatics, respiratory therapy and pharmacy. This group drove the critical aspects of customization that would provide the essential functionality needed for practical, everyday use in a clinical setting.

Smaller physician teams were responsible for some of the most important factors in the success of our CPOE implementation: establishing core rules and protocols that were defined, owned and accepted as standard best practices.

### Transforming the Culture

For the CPOE system to succeed in relation to management methodology and goals, we needed to transform our patient care processes on individual, cultural and organizational levels. Guided by John Kotter's principles for change, as well as the Lean approach, we established specific goals, including:

- Increase safety and avoid medication errors.
- Reduce STAT medication overrides.
- Eliminate issues of illegible handwriting.
- Decrease medication turnaround times.
- Improve timely patient care by freeing nurses from administrative tasks.
- Enhance quality of care with established best practices and protocols.
- Gain bottom-line results through methodology efficiency.

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## CPOE Delivers at Dupont with Safety and Efficiency Gains (Cont.)

### Overcoming Barriers

Our team chose to mandate full adoption upon go-live in the Birthplace unit. We understood that this decision would take physicians and staff outside their comfort zone. To overcome this barrier, we focused on training the nursing team and bringing them live with CPOE first. This enabled them to be the front-line support for physicians.

Standardization was an additional challenge. With so many possible variations for treating the same medical condition during various phases of treatment, it was a huge win when we agreed upon best practice content for the CPOE system. Creating consistent order sets that added value and promoted ease-of-use was another hurdle that we conquered through teamwork. During our CPOE journey, we learned:

- **Start early** by looking at the whole process in relation to Lean methodology and find ways to eliminate unnecessary procedures and practices.
- **Establish best practices** and a standardized model for care that is repeatable for other hospitals in the network.
- **Create an interdisciplinary team** to advocate and lead the CPOE project.
- **Help ensure safety** is a key focus by deploying foundational solutions such as bar-code medication administration and a true closed loop medication use process along with CPOE.
- **Focus on patients**, because the ultimate goal is to enhance their safety and care.

### Achieving Outcomes

Dupont went live with physicians using the CPOE system in May 2007. We currently have 127 physicians and mid-level practitioners using the system, with an average of 60,000 orders entered into the system each month. Universal adoption continues to be our goal across the enterprise.

The electronic ordering system has:

- Improved Dupont's speed of care by eliminating delays caused by illegible handwriting from nearly 50% to negligible.
- Reduced by 49% the time from when a physician orders a medication to when it's administered to the patient.
- Reduced by 24% the need for nurses to use STAT overrides in medication cabinets by getting medications to expectant mothers quicker — a key factor in improving patient safety.

Streamlining the process has given our nurses more time to spend on caring for our patients, and it got the medication to the patient quicker — a critical improvement for expectant mothers who are ready to deliver.

*Dr. Matt Sprunger has been a practicing OB-Gyn for more than 20 years and is currently practicing at Women's Health Advantage in Fort Wayne, Ind. In addition to his current role as the Medical Director of Clinical Informatics at Dupont Hospital, he served as a Board Member for seven years. A single acute-care facility consisting of 131 beds, Dupont Hospital, a member of northeastern Indiana's Lutheran Health Network, delivers approximately 2,400 babies each year and has approximately 20,000 ER visits.*

### Dupont's Safety and Efficiency Gains

- ▶ **Signature Confusion**  
Nearly eliminated care delays previously caused by illegible handwriting in nearly 50% of orders.
- ▶ **Order Turnaround Time**  
Reduced by 49% the time from when a physician orders a medication to when it's administered to the patient.
- ▶ **Overrides**  
Reduced by 24% the need for nurses to use STAT overrides in medication cabinets by getting medications to expectant mothers quicker — a key factor in improving patient safety.
- ▶ **ROI**  
Dupont has reaped savings in pharmacist time and reduced the length of stay in the ED by 40 minutes, enabling better use of staff time.

## Learn More

[MTC/NEHI: Saving Lives, Saving Money: The Imperative for CPOE](#)

[Study: Florida Adoption of IT Improves Patient Safety](#)

[H&HN: Seeing the Light with CPOE](#)

# Performance Strategies



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## WellStar Health System: Fighting Sepsis and Saving Lives with CPOE



By Jonathan Morris, MD, FACEP, MBA  
Medical Informatics Officer  
WellStar Health System



### The Technology of Better Care

At [WellStar Health System](#), we have long recognized the power of information technology to improve patient safety and drive greater efficiency. This belief guided our initial deployment of a computerized provider order entry (CPOE) system in the emergency department (ED) at our Kennestone facility in Georgia.

This implementation not only created a paperless environment in a busy suburban hospital emergency department, which provides care for 110,000 patients annually, but enabled us to effectively battle sepsis infections. The result was a successful campaign that not only saved lives, but also achieved far-reaching efficiencies and cost reductions.

Improving care of sepsis patients began as a hospital-based initiative to implement guidelines approved by the [Surviving Sepsis Campaign](#) — a partnership of the Society of Critical Care Medicine, the European Society of Intensive Care Medicine and the International Sepsis Forum. Teamed with the Institute for Healthcare Improvement, the Surviving Sepsis Campaign set a goal of reducing sepsis mortality by 25% within five years of its inception in 2004.

- As the tenth-leading cause of death globally, sepsis has a mortality rate of 30-50% and up to 60% when shock is present.
- There are approximately 750,000 new sepsis cases each year, with at least 210,000 fatalities in the U.S. alone.
- Challenges in prompt diagnosis mean that more than 10% of sepsis patients experience delays in treatment, with a resulting increase in mortality.

### The Power of Decision Support

To ensure that patients received the right care at the right time, we incorporated sepsis bundles (groups of interventions related to a disease process) and a comprehensive clinical process within McKesson's [CPOE](#) system. We created order outlines for these interventions to put best practices and clinical content at the clinician's fingertips.

By building outlines that provide appropriate clinical decision support, we enabled physicians to order the correct antibiotic regimen. The physician selected an order outline corresponding with the patient's clinical condition, eliminating the need for printed texts or relying on memory. With a single click, a physician could order the right antibiotic and the right dose, coupled with support that would warn of allergies or drug interactions.

Consensus-driven content developed by the Surviving Sepsis initiative, combined with guidelines developed by our own sepsis committee, ensured these interventions continued without interruption when the septic patients moved into the intensive care unit.

Leveraging the decision support we provided in the outlines, we increased the effectiveness of emergent interventions, ensuring that all required diagnostic measures were initiated upon each patient's arrival. By taking a systematic and evidence-based approach to diagnosing and treating this deadly and often under-recognized condition, WellStar achieved significant improvements in patient safety.

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## WellStar Health System: Fighting Sepsis and Saving Lives with CPOE (Cont.)

### Measuring Results

The CPOE system not only enabled us to easily implement the Surviving Sepsis program, but provided us with the data to accurately assess how well the program was working and the impact to our patients. The data also helped drive compliance with the program by demonstrating the effectiveness of the guidelines.

The most important result of incorporating sepsis guidelines within our ED care processes came in improved outcomes and saved lives. By implementing sepsis bundle outlines in the CPOE system, WellStar:

- Saved 11 lives, reflecting a 14% decline in the ratio of observed-to-expected deaths.
- Reduced our risk-adjusted mortality index for septic shock by 17%.
- Reduced length of stay (LOS) for severe sepsis and septic shock by 10%.
- Decreased the cost per case for severe sepsis and septic shock by 4%.

For WellStar, information technology has proven to be a powerful tool that enables our physicians to practice more effectively. The results speak for themselves in terms every physician and caregiver understands — improved care, reduced costs and lives saved.

*Jonathan Morris, MD, FACEP, MBA has served as an emergency department physician for more than 28 years, joining the staff of WellStar Health Systems in 1986. He became Medical Informatics Officer to WellStar in 2006, helping to guide the development and implementation of information technology at the five-hospital system based in Marietta, Ga. WellStar Health was a finalist in McKesson's 2009 award competition for use of its CPOE system.*

### Results of Surviving Sepsis Campaign with CPOE Implementation

- ▶ Saved 11 lives, reflecting a 14% decline in the ratio of observed-to-expected deaths.
- ▶ Reduced our risk-adjusted mortality index for septic shock by 17%.
- ▶ Reduced length of stay (LOS) for severe sepsis and septic shock by 10%.
- ▶ Decreased the cost per case for severe sepsis and septic shock by 4%, with a total cost savings of \$328,000.

## Learn More

[Archives of Internal Medicine: Study on Clinical IT and Inpatient Outcomes](#)

[Healthcare Informatics: Wired for CPOE](#)

[AHRQ Patient Safety Primer: CPOE](#)

# Performance Strategies



Use CPOE to Lead the Way in Safe, Effective Healthcare

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## CPOE Still a Vital “Leap” for The Leapfrog Group



By Leah Binder  
Chief Executive Officer  
The Leapfrog Group



### Improving Care for 20 Million Lives

The [Leapfrog Group](#) was formed in 2000 by a number of large employers and public healthcare purchasers. Its mission? To help healthcare providers improve the safety, quality and efficiency of care delivered by the nation’s hospitals for the estimated 20 million lives covered under the purchasers’ health benefits.

### Timing is Everything

If you look at the timing, it’s no surprise to learn the impetus for forming The Leapfrog Group — the landmark 1999 Institute of Medicine report. Employers were alarmed by the report’s evaluation of the state of patient safety in U.S. hospitals. They quickly recognized that they didn’t understand the quality of care their employees were receiving.

The first priority was to gather detailed information so employers could not only monitor patient safety, but also use that information in a transparent fashion to encourage employees to use the highest performing hospitals. The Leapfrog Group conducts an annual hospital survey to gather this evidence-based data.

While we work in harmony with quality and measurement organizations such as The Joint Commission, the survey gives us a “dashboard” view of what we believe are the most salient measures of quality and efficiency in hospitals. We also use this information to endorse core measures, safety guidelines and other quality improvement efforts.

### Making the Leap

Since the beginning, The Leapfrog Group has endorsed computerized provider order entry (CPOE) as one of our three core “leaps” for improving patient safety. We now have four “leaps,” but we still consider CPOE one of the most important. Frankly, we’ve received a lot of criticism over the years for insisting that hospitals adopt CPOE — despite solid evidence that CPOE can improve safety by reducing medication errors by 50% to 85%, depending on the study.

In fact, research shows that if all urban hospitals in the nation implemented the first three leaps (CPOE, intensive care unit physician staffing and evidence-based hospital referral), we could save up to 65,341 lives, prevent as many as 907,600 serious medication errors ([Birkmeyer, 2004](#)), and save \$41.5 billion ([Conrad, 2005](#)).

The other major criticism we hear about CPOE is that it’s just too much work for hospitals. With only 2% of hospitals using CPOE in 2000, clearly only the most progressive were willing to implement it. But we’ve always believed that Leapfrog’s mission was to set the quality and safety bar for hospitals. Given the ever-growing body of evidence on the benefits of CPOE, you might expect great strides since 2000. However, Leapfrog data shows that only 6% of hospitals are currently using CPOE. The good news: the number has tripled. The not so good news: U.S. hospitals have a long way to go.

### An Ongoing Need for Data

Our need for evidence-based data never ends, so we implemented a new tool with our 2008 hospital survey. All hospitals that fully met our CPOE adoption standard – 75% of orders entered electronically – were asked to take our CPOE evaluation test. The

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## CPOE Still a Vital “Leap” for The Leapfrog Group (Cont.)

one-of-a-kind tool, which enables hospitals to assess if their CPOE implementation is meeting organizational goals, was developed by industry experts and funded through a multiyear investment of hundreds of thousands of dollars.

Only around 100 hospitals in the nation qualified to take the four-hour test. Hospitals entered “dummy” patients and “dummy” orders into their CPOE system. After scoring, Leapfrog then reported the results back to the participating hospitals. The [results](#) were disappointing. Generally, hospitals did not score well in detecting allergy and dosage interactions. A good many hospitals even missed a “fail” order that was built into the order sets.

### Continuing the Journey

As noted earlier, CPOE is one of our original leaps, and we still stand behind it. But the results from our CPOE evaluation clearly demonstrate an industry-wide need for best practices for implementing CPOE effectively.

In partnership with industry groups and vendors such as McKesson, we are launching a consortium to identify the barriers to effective CPOE deployment — and how to overcome them. We plan to identify:

- Common hurdles to adoption.
- Methods for engaging leadership, nursing, physicians and other key stakeholders.
- The dos and don'ts of decision support.
- Resources and literature.

With the recent passage of the economic stimulus legislation, the White House and other policy makers are placing greater scrutiny on the effective use of healthcare technology. In the hospital setting, CPOE is a critical component. Working together, we can help every hospital in America get CPOE right.

*Leah Binder joined The Leapfrog Group in 2007 as Chief Executive Officer. Prior to that, Binder was vice president of the Franklin Community Health Network (FCHN) based in Farmington, Maine, where she oversaw operations for the system involving marketing, planning and public health outreach. She also served as executive director of the Healthy Community Coalition (HCC) and Franklin Health Access. She has also served as senior policy advisor to New York City Mayor Rudolph W. Giuliani, where she developed programs to improve care of the uninsured, among others. She began her career in health policy with the National League for Nursing where she was the public policy director.*

### Updated CPOE Requirement for 2009 Leapfrog Survey

The requirement to access Leapfrog's CPOE Evaluation Tool has been updated in the 2009 Leapfrog Survey. For 2009, the hospital CPOE system must be implemented in at least one inpatient unit to receive credit towards CPOE implementation and to access the tool. Hospitals no longer will receive credit for CPOE systems only implemented in their emergency department or outpatient units.

For 2009, the results scored by the hospital on the CPOE Evaluation Tool test will be combined with its CPOE implementation status to determine their overall score on the Leapfrog CPOE Leap. The survey timelines for the Leapfrog Hospital Survey also apply to testing against the Leapfrog CPOE Evaluation Tool.

Review all of the [changes for the 2009 survey](#).

## Events

### [Clinical Leadership Webinar Series](#)

June 4, 2009

2:30 p.m. - 3:30 p.m. ET

Impact of the EHR on Risk Management:  
The Road to a Paperless Record

### [National Patient Safety Foundation \(NPSF\)](#)

Leadership Day and Annual Congress

May 20-22, 2009

Washington, D.C. area

### [AMDIS Physician-Computer Connection Symposium](#)

July 14-17, 2009

Ojai, Calif.

# Performance Strategies



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## CPOE Reaches Tipping Point for Adoption and Use



By Bill Christopher  
VP/Solution Line Manager, Horizon Clinicals®  
Physician and Pharmacy Solutions  
McKesson Provider Technologies

### Achieving the Full Potential of Healthcare

Healthcare is an extraordinarily complex enterprise that's practiced in teams. It's not about one physician, one nurse, one pharmacist or one phlebotomist. It's about making sure every patient gets the highest quality and most cost-effective care possible. And it starts by creating a collaborative and safe environment.

### Helping to Ensure Safety

Because errors predominantly occur at hand-offs, the healthcare environment must include tools to help patients safely cross those care interfaces. One such tool is computerized provider order entry (CPOE). It's a process improvement tool that's about minimizing the potential for errors even before the care process begins. When hospitals embed best practices into their CPOE system and make that information actionable for physicians, it becomes a tool for achieving the full potential of healthcare.

While healthcare has been slow to move to CPOE, the industry finally appears to be close to a "tipping point" for adoption and use. In fact, within our customer base, we've seen phenomenal growth in just a few short years, including:

- 5 times growth in terms of hospitals live on CPOE from 2004-2009.
- 200% increase in physician adoption in 2008 alone.

Our customers are also achieving much more than adoption and use. They're seeing tangible return on investment (ROI) — both clinical and financial. For example, with a CPOE system:

- **Decatur Memorial** [improved the blood prescribing habits of its providers](#), reducing risk for patients, while reducing cost for the hospital.
- **Dupont Hospital** [improved patient safety and efficiency in its obstetrical unit](#) by improving medication/order turnaround times, reducing STAT medication overrides, and freeing nurses to spend more time in direct patient care.
- **WellStar Health System** [increased compliance with the national "Surviving Sepsis Campaign"](#) and decreased the risk-adjusted mortality index and cost per case.
- **AnMed Health** [improved the number of community-acquired pneumonia patients receiving antibiotics within recommended guidelines](#), reduced the average length of stay, lowered the cost of care, and reduced the mortality index.
- **Concord Hospital** [achieved 100% prophylaxis compliance to prevent venous thromboembolism](#) by presenting physicians with evidence-based reminders.

These kinds of successes are not isolated to McKesson customers. A Texas study titled Clinical Information Technologies and Inpatient Outcomes was recently published in the Archives of Internal Medicine. The study looked at 41 hospitals and 160,000 patients. The conclusion: hospitals with CPOE and clinical decision support have fewer complications, lower death rates and reduced costs. These hospitals also saved \$538 per patient and saw a 16% reduction in patient complications.

### Stimulating Deployment

With a growing body of evidence that validates the numerous quality and safety benefits of CPOE, the question for many healthcare organizations is no longer if they'll deploy CPOE, but how soon can they do so. In addition, the passage of the

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## CPOE Reaches Tipping Point for Adoption and Use (Cont.)

[American Recovery and Reinvestment Act](#) is expected to accelerate the pace of health IT deployment — especially electronic ordering as part of the electronic health record (EHR) in the inpatient setting.

There's still much to be sorted out regarding how physicians and hospitals will qualify for the economic stimulus funds. We do know that just implementing technologies will not be enough. Funding, and success, will require demonstrating what the government terms "meaningful use," which many believe will be tied to clinical quality measures. We believe that in order to qualify for the maximum amount of funds available under the stimulus, hospitals will need to accelerate their implementation and use of CPOE now.

As we've partnered with our customers to successfully implement CPOE, we've learned that it's not easy to travel this journey alone. McKesson is committed to patient safety and helping our customers use technology to make clinical practice better and more consistent with evidence-based care.

*Bill Christopher is Vice President and Solution Line Manager for McKesson Provider Technologies. He is responsible for product direction and overall operations for many of the Horizon Clinicals® product lines. Bill has 18+ years of experience leading planning, design, and deployment of enterprise systems in healthcare companies.*

### Massachusetts Report: Saving Lives, Saving Money in Practice

The Massachusetts Technology Collaborative (MTC) released reports in 2003 that identified computerized provider order entry (CPOE) as having the potential to improve patient safety and reduce costs. Since then, the Massachusetts Hospital CPOE Initiative has been working with the state's hospitals to implement and optimize the use of CPOE.

A January 2009 study, *Saving Lives, Saving Money in Practice: Strategies for CPOE in Massachusetts*, reports on the operational challenges of six community hospitals in implementing a CPOE. The five areas of focus are: ongoing user support, optimization of CPOE, ongoing management of clinical decision support (CDS), medication reconciliation, and management of IT downtime. The 28-page report is meant to serve as a tool to assist those involved in the effort to implement CPOE in their organization.

**Ongoing user support** – Study hospitals provide a mix of user support for physicians. All of the hospitals have support teams that include nurses, physician CPOE advocates, and CMIOs. The team is involved in training new physicians, rolling out upgrades and maximizing ease of use and workflow. Most effective training is delivered through coaching during rounds or in dedicated locations like the physician lounge

**Optimization of CPOE** – Work on CPOE and related applications continues after implementation. All of the hospitals have a defined process for managing program changes and updating the system. The system is continually enhanced in a series of small projects to improve the usability and content (order sets, alerts, etc.) of the system for physicians.

**Managing Order Sets and CDS** – Managing the content in the system is an ongoing process that requires feedback, discussion and change. The hospitals reported that they underestimated the complexity and resources required, were moving to more formalized management of the order sets, developed their own content (except for one hospital), eliminated or discouraged the use of personal order sets by physician, and introduced additional decision support over time as they became familiar with medication checking.

**CPOE and Medication Reconciliation** – The challenges of medication reconciliation vary within the hospital setting— admission, transfer, and/or discharge. The hospitals all enter a patient's home medications on admission, document completion of medication reconciliation, and provide patients with medication instructions on discharge.

**Management of IT Downtime** – The hospitals have developed formal procedures for clinical operations to minimize the impact to clinical care from planned and unplanned downtime. For example, ready access is provided to needed forms and patient data, and clinical support staff is available to assist physicians. Communications alert affected staff of the downtime.

Read the [full report](#) on the e-Health Web site.

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