

# CPOE plays critical role in safety initiative

## Penn State Milton S. Hershey Medical Center

Penn State Milton S. Hershey Medical Center enhances quality of life through improved health, the professional preparation of those who will serve health needs, and the discovery of knowledge.

Increasingly, the organization views healthcare information technology (HIT) as an important enabler in achieving this mission. Penn State Hershey Medical Center has turned to Cerner and the unified *Cerner Millennium*® architecture to deploy a comprehensive electronic medical record (EMR), which the Medical Center named “Connected.”

“The Cerner system was a driver for change and organizational redesign.”

**Dr. Ali Bahadori**  
Physician Champion  
and Hospitalist

### Client at a Glance

**Location:** Hershey, Pa.

**Beds:** 479

**Cerner solutions:**

Electronic medical record, CPOE, pharmacy, nursing, HIM, emergency

### Launching a “Connected” system

The Medical Center’s leadership recognizes the importance of a steady evolution toward an EMR to enhance care delivery while maintaining employee satisfaction and improving retention and recruitment. To achieve these complex objectives, executives play a visible sponsorship role.

“We help resolve issues, hold teams accountable for their schedules and deliverables, and facilitate information-sharing throughout the group,” said Donna Reck, chief nursing officer and a key champion of Connected. “It is our role to provide guidance, coaching and support through difficult decisions, and to all who will be impacted by this significant cultural shift.”

### The central role of CPOE

Penn State Hershey Medical Center views a transformed healthcare system supported by unified HIT and CPOE as a central driver of safety and efficiency improvements. As a level one trauma center, efficiency in the emergency department (ED) and throughout the facility is critical. To support these goals, the Connected system features clinical provider order entry (CPOE) and online documentation.



Since implementing Connected, the organization has accelerated the medication management process: In a nursing survey, the average perceived time from order to meds cabinet access decreased from 90 minutes to 45 minutes.

With patients receiving medications more quickly, Connected helps elevate patient safety and satisfaction. Staff now enter nearly 100 percent of orders via the system, eliminating handwritten orders, verbal orders and order-entry-related transcription errors.

Medical Center staff place approximately 12,000 orders a day. Verbal orders occur only when a physician must place orders at a time they cannot access the Internet via a high-speed connection or is performing a procedure, or a patient is in a critical code situation. These situations together constitute less than 3 percent of all orders.

“The true benefit of order entry is its integrated care approach, where nurses, physicians and pharmacists all see and share the same information,” said Dr. Christopher DeFlicht, physician champion, director and vice chair of emergency medicine. “When you have a hybrid environment, where one person sees one thing and another sees something else, that’s risky.”

Despite the significant cultural shift, clinicians have adapted well to the unified Connected system.

“Cerner is very reliable,” said Connie Ross, nurse manager. “When an order is placed for radiology, you can trust that it will be received and completed by radiology.”

### EMR and CPOE improve efficiency

Through transformed workflows and new tools, Penn State Hershey Medical Center has achieved efficiency gains via elimination of redundant documentation, reduction of phone calls to unit secretaries, and consistent availability of the electronic chart. These improvements have allowed the Medical Center to revise its staffing model to emphasize service and patient care. The organization has reduced unit secretaries by half, and enabled those remaining to spend more of their time performing customer-service-related activities.

“With Connected, real-time nursing documentation has improved,” said Darla Shehy, R.N., process lead for clinical documentation. “Nurses used to complete documentation after their shifts, but now, they complete documentation closer in time to the actual delivery of care.”

Connected contributes to the Medical Center’s overall performance. The organization has demonstrated a 40 percent reduction in the elapsed time between dictation and physician signature. It also has reduced the code-to-bill time by nearly 30 percent.

The emergency department enjoys greater efficiencies. It replaced its old-fashioned, non-integrated board with state-of-the-art integrated plasma monitors. With 100 percent CPOE in the ED, communications of bed availability and reports to the floors have improved, enabling more seamless continuity of care from the emergency department to the inpatient setting.

“Integration is definitely a benefit,” said Dwayne Gallagher, Pharm.D., process lead for medication management. “We now have the chart at our fingertips.”

### A catalyst to patient safety

CPOE and the use of proven order sets—350 disease-specific order sets at the department level and nearly 600 common order sets—have facilitated dramatic improvements in patient safety.

“There is no question that the use of order sets enhances patient safety,” said Dr. Steven Wassner, physician champion and pediatric nephrologist.

Real-time documentation has helped the staff achieve significant improvement with JCAHO standards, including advanced directives, verbal orders signed within 24 hours, and nutrition screening and pneumococcal screening standards. For example, prior to Connected, ED staff documented allergies about half the time; now, they achieve nearly 100 percent compliance.

The system also promotes the identification of patients with illnesses that require isolation. Now, staff promptly place 100 percent of required patients in isolation, as compared to previous delays of up to five days.

Both physician and allied health consults exhibit greater accuracy and timeliness. Advance directive compliance has significantly improved, as has compliance with height, weight and allergy documentation. These improvements have ensured that caregivers know the right information at the right time to make the most effective decisions.

### A long-term partnership

Cerner and Penn State Hershey Medical Center continue to work toward a ground-breaking partnership that will place the Medical Center at the forefront of healthcare transformation and HIT innovation. The Medical Center values the collaborative relationship of give and take in the effort to successfully implement solutions that drive safety and efficiency imperatives.

## Key Benefits

- Achieved nearly 100 percent compliance with JCAHO nursing standards in ED
- Reduced time between dictation and physician signature by 40 percent
- Decreased time from order to meds cabinet access by 50 percent
- Reduced code-to-bill time by 30 percent