



Cerner Solution

The Challenge

- maxIT was contracted by a client with 44 campuses across 10 states to help them with a CPOE rollout, including decision support and meds integration
- A standardized repeatable process and build had to be employed to ensure likely adoption and high utilization across multiple campuses in multiple states
- Highly skilled implementation resources in short supply would be required to supplement client team members with experience and subject matter expertise in a very fast paced environment

The Solution

- maxIT, on behalf of the client, **provided many of the major implementation responsibilities** including education, build, testing, and design guidance based upon experience and existing methodology
- **Assisted the client with resolutions** to issues that made the product an overall better fit with acute care facilities as well as in the ambulatory care setting
- **Held multiple design sessions with individual departments** to improve overall product quality, including issue resolution with current system, the design of 550 order sets, and testing of alerts for high risk intervention.
- **Contributed to the development of the training** products and curriculum which trained over 4000 users on the use of CPOE

The Results

- 4 and ½ month implementation cycles with 90 day readiness for CPOE deployment
- 17 hospitals live on CPOE with 14 more expected to convert in 2011
- 34 alerts per 100 medication orders (1.3 million in 2010) changing physician ordering behavior 52% of the time
- Integration of evidence based CDS that measured a 94% reduction in pharmacy interventions and 55% reduction in errors that could lead to potential patient harm



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The Challenge

- The client was concerned about an increase in the number of unexpected allergic reactions to specific medications. Devise a way to alert the CPOE physician or pharmacist to a possible allergic reaction to the medication excipient (delivery vehicle).

The Solution

- The maxIT Consultant worked with the client pharmacy council and PharmNet team to identify the 6 major food allergies and the corresponding medication excipient; develop a system rule to alert the ordering user of the patient's potential for injury.

The Results

- Alerts for over 260 medication synonyms with an excipient that may react to one or more of the 6 most common food allergies. The alert fires multiple times a day for this 40+ hospital system, indicating avoidance of probable allergic reactions that may not otherwise be caught..



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The Challenge

- Alert the patient Providers and Pharmacist when the maximum acetaminophen 24 hour intake is approaching the 4 Gram recommended limit. One issue is the number of compound medications that contain acetaminophen but do not identify the actual dose separately. How do you quantify a dose of a combination drug of 2 tablets or 1 teaspoonful?

The Solution

- A maxIT rules expert and a maxIT CCL expert worked the client Pharmnet and Office of Clinical Excellence teams to design a rule/CCL combination to alert the ordering user if the current order first dose will exceed the 4 gram limit when added to that already administered from any medication. It also alerts the user if the dose ordered, added to the potential doses from existing orders would exceed 4 Grams if all were administered within the next 24 hours, including PRN frequencies.

The Results

- Audits of alerts and user actions after alerted indicate many instances of potential and actual overdoses avoided for improved quality of care and reduction of risk to the patient.



Cerner Solution

The Challenge

- How to proactively identify and then prevent patients with undiagnosed new onset diabetes or transient, persistent hyperglycemia from going into hyperglycemic crisis.

The Solution

- The maxIT Consultant worked with the client's Office of Clinical Excellence to develop a system of rules to alert appropriate providers and Nurses of the potential crisis. Working with a 12 hour window for non-ICU patients and a 6 hour window for ICU patients the first time a patient, not on insulin, results a blood glucose from any of multiple sources (bedside, laboratory, etc.) greater than 180 a timer is set for either 6 or 12 hours depending on the patients location. This timer will check for follow-up results and notify the Nurse and Attending physician if no action is taken within the appropriate time window. If follow-up has been accomplished and 2 or more consecutive results exceed 180 mg/dL, a provider order is sent to the Nurse and a notice is sent to the Attending physician and the Pharmacy to alert all to a potential hyperglycemic crisis developing. If at any time the patient is placed on insulin, the patient would be excluded since s/he is now falls under the insulin administration protocol.

The Results

- Notification analysis and subsequent physician treatment modification indicate many potential hyperglycemic crisis episodes have been averted. Improved quality of care through a proactive response.