

## CASE STUDY

### Leveraging a Common Nurse Call and Communications Platform to Improve Clinical Workflow and Patient Outcomes

#### **Nurse Call Technology Highlights:**

- Real-time patient surveillance
  - Customized clinical workflow codes
  - Computerized Provider Order Entry (CPOE) integration
  - Centralized nurse call triage with customized workflow requests
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#### **Project Scope**

When KishHealth System opened its new 94-bed Kishwaukee Community Hospital in DeKalb, IL, their leadership was committed to leveraging technology that would improve patient care and satisfaction, create workflow efficiencies and optimize staff productivity.

Kish Hospital designed its Medical, Surgical, Telemetry and Pediatric inpatient units in Y-shaped formats that replace traditional nurses stations with “huddle stations.” The goal was to get the right person to the patient right away. That meant finding a different kind of nurse call system that could support their plan to get away from standardized nursing units.

“We were looking for a nurse call system with a lot of features and functionality that would allow us to customize workflows and really push the envelope,” said Heath Bell, Kishwaukee Hospital CIO. “A system that could easily integrate into our electronic medical records was important, as well as one that could serve as the common path for a variety of clinical information and messaging.”

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#### **Kishwaukee’s Approach**

Critical Alert System’s CommonPath™ Centralized was the nurse call and clinical workflow technology solution chosen by Kish Hospital. All of the units, except for the ER, route patient requests to centralized operators for triage and staff assignments. Kish developed nine workflow requests that can be triggered by a patient request – each with its own staff assignment and escalation protocol:

- General Aide/CNA
- RN general
- RN stat (Med-Surg unit only)
- All staff on unit
- Equipment is beeping
- Food tray is ready
- Patient needs to use bathroom
- Catcher needed (Delivery eminent/Obstetrics unit only)
- Delivery emergency (Obstetrics unit only)

When patients press the bedside nurse call button, the centralized operator greets them by name and “How may we help you today?” The patient’s relevant data is automatically presented to the operator thanks to a CommonPath HL7 integration with the ADT (Admission, Discharge, Transfer) system. The specific nature of the request is determined – “I need another blanket” or “I’m in pain” – and that information is included in the message sent directly to the designated caregiver’s communication device.

Staff wears CommonPath locating badges that automatically transmit their location. When they enter the patient room, the system closes the workflow request and creates a detailed electronic record of the response. Escalations, customized for each workflow by Kish, are automatically triggered until the system registers that the workflow request has been fulfilled. The centralized operator has full visibility of the entire workflow and escalation process.

### **Deployment Highlights**

Kish has leveraged the CommonPath platform to integrate functionality beyond just nurse call. CommonPath’s software suite also eliminates third-party middleware providers and reduces the need for multiple servers to support that functionality. The resulting software-driven system is both highly configurable and scalable. And with Critical Alert, Kish has one dedicated source for all of its service and troubleshooting.

### Real-Time Patient Surveillance

Integration of Kish’s real-time surveillance software with CommonPath has created a robust tracking and alerting system that helps caregivers identify at risk patients and intervene early. Customized profiles developed by Kish, which include thresholds and combinations of patient vital signs, are at the heart of this integration.

The surveillance software scans Kish’s Electronic Medical Record (EMR) system at intervals for these profiles. If a patient’s real-time data meets the predefined profile, an alert is generated and sent via CommonPath to the proper care provider. According to Bell, the ability to stay on top of potential adverse events and intervene early has had big clinical implications and has helped improve patient outcomes.

### Customized Clinical Workflow Codes

Critical Alert’s CommonPath serves as the platform for a variety of customized clinical workflow code alerts:

- Code MTP: Mass Transfusion Protocol used for patients requiring or following significant blood transfusions. When triggered, the alerts include the pharmacist, blood bank and nursing supervisor.
- Code BAT: Brain Attack or stroke protocol designed to mobilize radiology technicians, CT technicians and nursing supervisor.
- Code Silver: If someone in the facility is seen with or is suspected to have a weapon, this code alerts staff that the protocol related to such an event should be implemented.

Simply pressing the call button on the nurse call patient station activates a code alert. Codes are triaged by the centralized nurse call operator and delivered within an average of nine seconds to the right staff.

This process is accomplished by CommonPath in three steps:

1. The assignment engine provides the right caregivers on the code team with the right alert
2. The workflow engine guides the response protocol and escalations
3. The messaging engine delivers the code alert to the team’s communication devices

“We’ve found the system provides a quicker response time to codes, with alerts transmitted directly to code teams via Voice Over IP to their XML phones rather than using overhead paging,” notes Bell.

#### CPOE Integration

Next, Kish went live on its inpatient units with a Computerized Provider Order Entry (CPOE) system that integrates with the CommonPath platform allowing custom profiles to be set within the system. The first such enhancement Kish is working on will alert a nurse when a physician enters a status order for a patient. For example – a physician orders neurological checks on a patient and the nurse caring for the patient receives a text alert of the new order.

“We started with a CPOE integration that impacts Medicaid/Medicare reimbursements as they relate to the tracking of patient status orders,” notes Bell. “With that in place, we’re looking forward to identifying more ways we can add functionality to CPOE through this integration with Critical Alert’s CommonPath.”

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#### **System Benefits Since Deployment**

Five years after opening their new facility, Kish Hospital was named as one of the “Most Wired Hospitals and Health Systems” in the Most Wired-Small and Rural category.

“With patients receiving an acknowledgement within nine seconds of initiating a call, patients say they feel more confident knowing someone has heard their request and is taking care of it. And once we receive that request, our average fulfillment time is 4.5 minutes.” adds Bell. “Nurses also tell us they appreciate the new technology when we can use it to clearly improve patient care.”

In addition to enhancing Kish’s patient-centered focus, CommonPath Centralized nurse call also gives the hospital data that can help identify opportunities for improvement. One such enhancement Kish designed is an approach to be more responsive to patients’ unresolved pain issues. With the changes instituted, Kish’s Med-Surg unit has been at the 98<sup>th</sup> and 99<sup>th</sup> percentiles for the HCAHPS rating “Staff doing everything they could to help with pain.”

“Kish is dedicated to being the best for patients and employees, and the data provided by the CommonPath nurse call system is helping us achieve this goal,” concludes Bell.