Challenges

Alarm fatigue can occur when clinicians are exposed to an excessive number of clinical alarms, causing alarm desensitization and leading to missed alarms or delayed response. As the frequency of alarms used in healthcare rises, alarm fatigue has been increasingly recognized as an important patient safety issue.

Nearly a decade ago, The Joint Commission approved a new National Patient Safety Goal on clinical alarm safety (NPSG.06.01.01). The Goal requires hospitals to establish alarm safety as an organizational priority and identify the most important alarms to manage based on their own internal situations.

Owensboro Health Regional Hospital (OHRH) leadership were mindful of the detrimental impact that high exposure to medical device alarms can have on clinicians’ cognitive load. They decided to leverage technology to achieve clinical interoperability and streamline alarm management.

OHRH leadership wanted to make it easy for clinicians to identify when, from where and why infusion pumps were alarming. They also wanted a solution that would send notifications from the electronic health record (EHR) and other clinical systems to a single clinical communication application with context about the patient, care team and event.

“The tricky thing about infusion pumps is that when they alarm, there is no central monitoring place for those alarms to be routed to,” said Jacob Kittinger, RN, MSN, Manager of Clinical Support at Owensboro Health. “Before we implemented our Vocera solution, it was challenging to know which pumps were going off and why, unless you happened to be in the same room as the pump, which caused unnecessary noise and chaos.”

Vocera Solution

OHRH decided to utilize the Vocera Engage intelligent workflow engine to connect a multitude of its clinical systems and deliver filtered, prioritized alarm and event notifications to the Vocera mobile app. Vocera Engage contains Engage Medical Device Alarm Notification (EMDAN), FDA 510(k)-cleared middleware, to deliver secondary alarm and event notifications.

The hospital was the first in the United States to integrate ICU Medical’s IV smart infusion pumps with EMDAN, part of Vocera Engage, to enable nurses to receive IV pump alarm notifications on their Vocera app. The notification provides care team members with invaluable details about why the pump is alarming, such as an empty bag or an occlusion, which wouldn’t be available otherwise. The integration provides near real-time, contextual notifications and helps improve clinical awareness, staff response times, patient safety, and patient and staff satisfaction.
“When infusion pumps are administering high-priority medications, it’s crucial for clinical staff to know when and why the IV drip stops,” said Kittinger. “With the Vocera integration, intelligent alarm notifications with vital information about medications are routed directly to a nurse’s Vocera app, which helps improve safety and save time.”

To further help reduce alarm fatigue and other nursing interruptions, OHRH also leveraged its Vocera solution to send notifications from the EHR, physiologic monitors, patient surveillance systems, real-time locating systems, ventilators and nurse call systems to the Vocera app.

**Results**

The alarm management capabilities of the Vocera system allow the hospital to intelligently triage and route notifications with context to the appropriate OHRH clinicians, helping reduce alarm fatigue. Only actionable notifications are sent to the right caregivers on their Vocera app.

Bringing together voice calling, secure messaging and alarm notifications in a unified experience helps care team members stay focused, connected, and allows them to collaborate productively using one app with the same contextual information.

“Without leveraging the Vocera system for our infusion pump integration, an IV pump alarm would sound until a nurse walked by, heard it and turned it off. Or, when a patient notified staff using the nurse call button,” explained Kittinger. “The integration makes alarm management faster and easier. Interoperability between our many clinical systems and the Vocera app helps improve the healthcare experience for both patients and nurses by helping create a quieter environment with fewer nuisance alarms.”

Reference


For More Information
Visit vocera.com, email info@vocera.com or call +1 888 9VOCERA

Vocera, now part of Stryker
3030 Orchard Parkway
San Jose CA, 95134
t: +1 408 882 5100
toll free: +1 888 9VOCERA
vocera.com

*In addition to Vocera technology, the facility’s results may reflect the additional training, policies, procedures and specific configuration parameters implemented by the facility. The results are not necessarily representative of what another facility may experience.

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