Problem

- 39,000 alarms in a 30-day period or 1300 alarms per day, or one alarm sounding every 66 seconds.
- Approximately 600 alarms per patient per day.
- The Joint Commission sentinel event alert estimated that between 85% and 99% of alarm signals do not require clinical intervention.
- The clinical alarms are on ECI institute “Top Ten” Health Technology Hazards.
- Audible alarms on a cardiac unit at Boston Medical Center averaged 87,823 weekly.
- Pre-intervention data collected from March 16, 2014 to April 29, 2014 showed that 8,326 clinical alarms signals were sent to the nursing staff’s wireless phones.

Significance

- Nuisance alarms have led to caregivers taking inappropriate actions to manage alarms. These inappropriate actions have led to patients’ deaths. 
- Every 89-year-old male patient found unresponsive and apneic in his hospital bed; the monitor did not alarm for a lethal arrhythmia because patient’s cardiac monitor’s volume was turned off.

Purpose

To educate nursing staff on current evidence-based practices on alarms management and thereby, decreasing nuisance alarms, preventing staff’s desensitization to clinical alarms, and maintaining patient safety in a progressive care unit.

Method

Clinical alarms survey: A survey was developed, implemented, and analyzed to assess the level of frustration of the nursing staff regarding extreme clinical alarms. The survey was completed anonymously within seven days.

Staff education: Nurses were educated on evidence-based practices regarding clinical alarms management. False alarms or alarms that do not require clinical interventions are sources of great frustrations for the nursing staff.

Interventions

- Change of alarm volumes
- Programing changes
- Nuisance, silent, other: alarms
- Use of alarm policy
- EKG leads (repositioning)
- Oxygen saturation level alarms
- Verbalizes when to change faulty devices (O2 oximetry sensors and EKG leads)
- Demonstrates how to acknowledge alarms even while RN troubleshoot the issue

- Decrease use of default heart rate parameters, depending on the monitor settings
- Change of alarm frequencies

Results

- Twenty percent of respondents reported that they sometimes ignore an alarm because they feel overwhelmed and/or frustrated with nuisance alarms.
- Fifty-four percent of respondents reported that they have at least once in the past ignored an alarm so that they can finish a task.
- Thirty-three percent of respondents reported that they ignored an alarm before it was confirmed a false alarm separately.
- Sixty percent of respondents agreed that clinical alarms have caused them severe anxiety and/or had negatively interfered with the delivery of patient care.

Post-interventions Data Interpretations

- Low oxygen saturation level alarms reduced by 12.7% from baseline data.
- Total clinical alarms increased by 10.4% from baseline data.

Recommendations

- Department or the hospital develops a process that will give nurses the authority to raise or drop the default heart-rate parameters, depending on the condition of the patient.
- Use time delay technology to help improve alarm sensitivity and specificity. This will absolutely help with the low oxygen saturation alarms caused by apnea.
- Department should be held accountable for maintaining a zero-tolerance for nuisance alarms and troubleshooting these alarms as soon as they occur.

References


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