Healthcare Organization Commitment

Contact Details

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Position
Yih-Jang Chang, Clinical Engineer, Clinical Engineering Service

Organization Name
Johns Hopkins Medical Institute

Commitment Details

How many hospitals are represented in this commitment?

<table>
<thead>
<tr>
<th>Last Report</th>
<th>Current</th>
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<td>1</td>
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Action Plan
Reduction of total monitor alarm load. We have trended and evaluated all inpatient unit monitor alarms. We have adjusted alarm default parameters for each unit based on the units geography, patient population and nurse to patient ratio. We send weekly reports to each designated area to review there alarms and look for opportunities for further adjustments. We encourage our staff to adjust alarms based on patient need. Additionally, we developed an evidence-based, unit-specific, parameter-specific daily report for all monitored units in The Johns Hopkins Hospital. The goal is for this data to be used for patient specific customization opportunities. Nurse Engagement Our alarm committee encourages unit specific use of the real-time alarm reports which are sent out daily to a unit representative.
and includes bed number/#of alarms/type alarm. This report is used by various committee members to encourage alarm customization for patient specific need and as a teaching tool for new nurses learning how to adjust monitor alarms based on patient need.

**Commitment Update**

This initiative has been ongoing since 2007 and we have accomplished many things.

1. **Alarm safety is a hospital priority which executive leadership has focused much attention.**

   • A Comprehensive Unit Safety Program (CUSP) team from the Medical Progressive Care Unit began this work in 2008 and the lessons learned have been spread hospital-wide.
   • These lessons and other quality improvement efforts have been presented internally and in publication.
   • The Alarm Management Committee reports to the Critical Care Committee which is a subcommittee of the JHH Medical Board.

2. The Alarm Management Committee has identified the most important alarm signals to manage based on:

   • A review of and prioritization of equipment with alarm capability
   • Input from clinical staff and departments
   • Risk to patients if the alarm signal is not attended to or if it malfunctions
   • Determinations whether specific alarm signals are needed or unnecessarily contribute to alarm noise and fatigue
   • Potential for patient harm and internal incident/near miss history

3. Monitor alarm default settings have been pre-set for all units by the Alarm Committee and Clinical Engineering to assure actionable alarms.

   • In situations where patients require individual customization, nurses are encouraged to review alarm events and alarm settings each shift and/or with nursing handoff, discuss with prescriber and customize settings to best meet the patient’s needs.

   • Guidance for alarm customization is provided in the alarm-enabled medical device protocol.

4. On most units, middleware and wireless phones are used for secondary alarm notification to alert clinicians of actionable alarms.

   • This supports reliability of response in larger units and enables the use of specific algorithms for caregiver alarm notification and alarm escalation schemes.

5. Hallway waveform screens have been strategically placed throughout units for enhanced monitoring.

   • Many units have integrated monitor and nurse call system alarm signals to go to the caregiver’s Wi-Fi phone.

6. In ICUs, split screens on bedside monitors enable the ability to visualize additional patients while in a specific a patient’s room.

   • All units have enabled auto-view on alarm (AVOA) to ensure critical, high priority monitor alarms are not missed.

7. A high risk, cardiac step down unit has incorporated human monitor surveillance 24/7.

8. Weekly alarm reports are provided to Alarm Committee members for performance improvement.

9. Daily alarm flood reports, including but not limited to total number of alarms per bed per day, are sent to Alarm Committee members, upon request, for use in customizing alarms for patients with high alarm rates.

10. Ventilator, bed/chair, and lavatory alarms have been incorporated into the patient call system to ensure audibility and provide an improved patient safety element by improving alarm notification.

11. Telemetry initiation and discontinuation criteria have been developed and incorporated into the electronic order entry system.

12. Telemetry is supported by electronic clinical decision support.

13. The hospital has developed a clinical alarm policy and incorporates specific alarm management into alarm-enabled medical device protocols to control who can set, change or disable alarms.

14. Large units (such as our ICUs) have divided into alarm zones to better match equipment
limitations and for better situational control. 16. Alarm Committee members have participated in leadership roles in professional organization (i.e. AAMI, AACN, ANA) meetings to stay abreast of best practices for alarm management. 17. Medical device competency assessment tools have been developed for education of new employees and to provide consistency in educating staff on high risk devices such as monitors and ventilators.

- Additionally, staff are educated on alarm management in annual reviews and information has been added to the patient handbook on how patients/families should respond to alarms.

Your commitment aligns with APSS
Alarm Management

Please describe any best practices your organization has learned through your commitment and share valuable lessons or challenges that were overcome

1. Don’t use manufacturer monitor default settings. Every unit needs to be examined to determine the best alarm settings based on patient population, geography of the unit and nurse:patient ratio. 2. Data reports help drive the necessary changes to reduce non-actionable alarms. 3. An alarm committee is needed to drive meaningful change. 4. 80/20 rule- Eighty percent of alarms are caused by 20% of patients. Thus it is necessary to customized alarms for specific patient needs.

Impact Details

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<tr>
<th>Initial Commitment</th>
<th>Commitment Update</th>
<th>Project Next Year</th>
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<tr>
<td>Lives Lost 0</td>
<td>Lives Lost 0</td>
<td>Lives Lost</td>
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<tr>
<td>Lives Spared Harm Target 0</td>
<td>Actual Lives Spared Harm in last 12 months</td>
<td>Lives Spared Harm Target for following calendar year</td>
</tr>
<tr>
<td>Lives Saved Target 0</td>
<td>Actual Lives Saved in last 12 months (might differ from initial target)</td>
<td>Projected Target of Lives Saved for following calendar to try to finish commitment</td>
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Acknowledgement

Yes, I acknowledge that this commitment may be used for external communication and
publicly announced at the World Patient Safety, Science & Technology Summit. Furthermore, I agree that this commitment may appear on the website of The Patient Safety Movement Foundation or the Masimo Foundation. I also give permission for my commitment to be used in support of the promotion of the World Patient Safety, Science & Technology Summit as well as The Patient Safety Movement initiative.