Alarm Management at the University of Vermont Medical Center: *Focus on Education*

June 7, 2015

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THE University of Vermont MEDICAL CENTER

TSP Technical Services Partnership

The University of Vermont

Alarms Improvement Actions: *University of Vermont Medical Center*

- Efforts started in 2003
  - TJC National Patient Safety Goal
  - Alarms inventory and prioritization
- Current efforts 2013-Present
  - Revised determination of alarm prioritization - 84 units
  - Enterprise and unit policies and guidelines
  - Changes in alarm default settings
    - Example 50 bed Cardiac Telemetry Unit (Medical)

Alarm Name	*Prior Setting*	*Revised Setting*	*Prior Alarms/ patient/day*	*Revised Alarms/ patient/day*
V Tach	>100 bpm & run of 5 PVC or >	>120 & run of 5 PVCs or >	7.4	0.6
BRADY Extreme	<45	<35	6.5	1.2
Tachy Extreme	>140	>160	5	0.2
High Heart Rate	>120	>140	6.3	1.7
Low Heart Rate	<50	<40	5.2	0.6
		Total	115	18

    - Alarm to Event – 10 non-actionable arrhythmias

Why Education?
Joint Commission Input

TJC's Sentinel Event database analysis

- Reports of 98 alarm-related events between January 2009 and June 2012
- Alarm signals inappropriately turned off most common cause
- Other factors reported
  - Alarm settings that are not customized to the individual patient or patient population
  - Inadequate staff training on the proper use and functioning of the equipment (e.g., inconsistent team training, response, and interpretation of alarm signals)

TJC Perspectives – May 2013

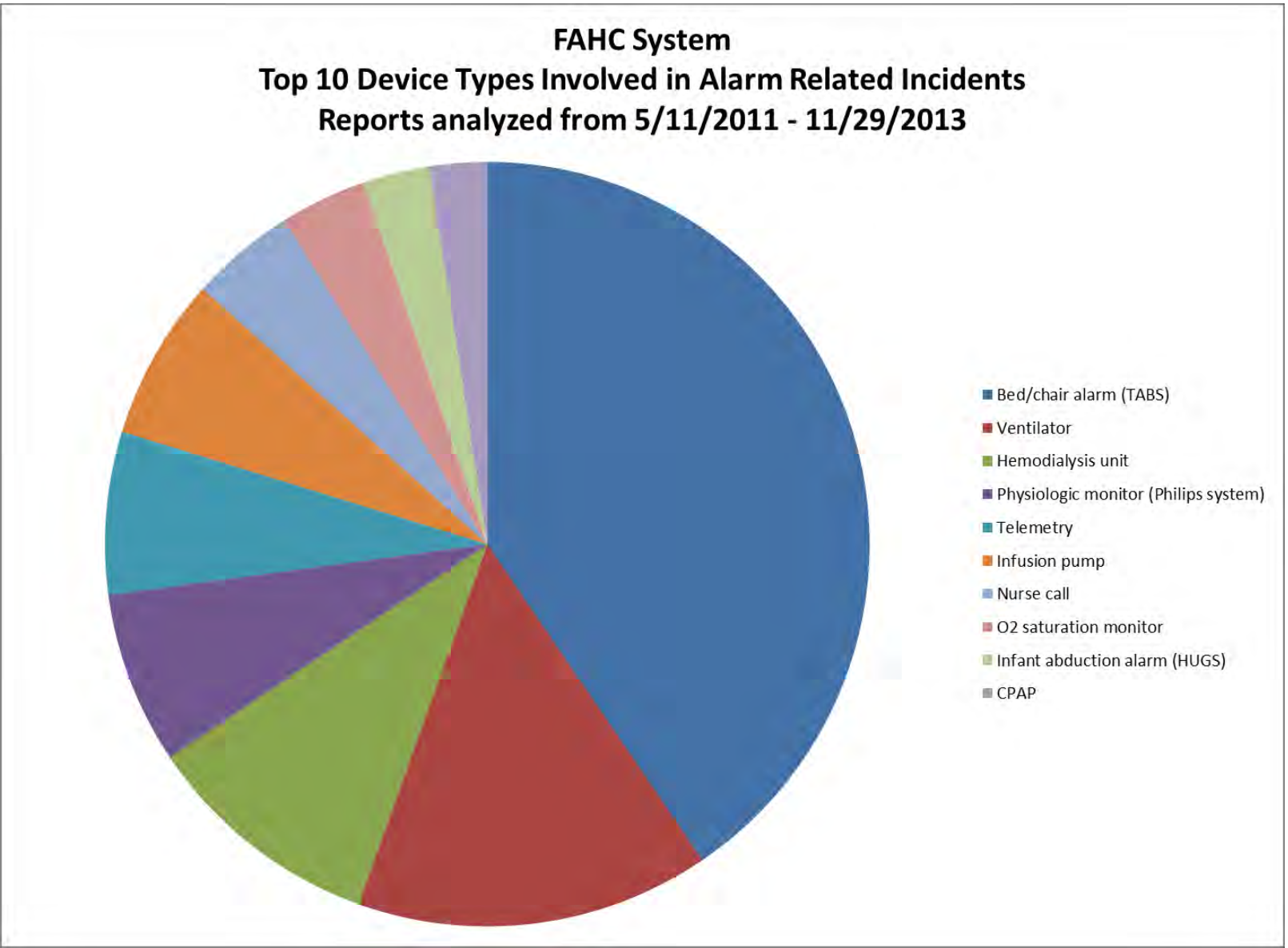
- Provide all members of the clinical care team with training on the organization's process for safe alarm management and response in high risk areas, and on the safe use of the alarmed medical devices on which they rely.
- Provide ongoing training on new alarmed medical devices and updates to alarmed medical devices, and
- Ensure that new members of the clinical care team receive training on the alarmed medical devices on which they rely.

Joint Commission NPSG:
Goal 6 - Reduce the harm associated with clinical alarm systems

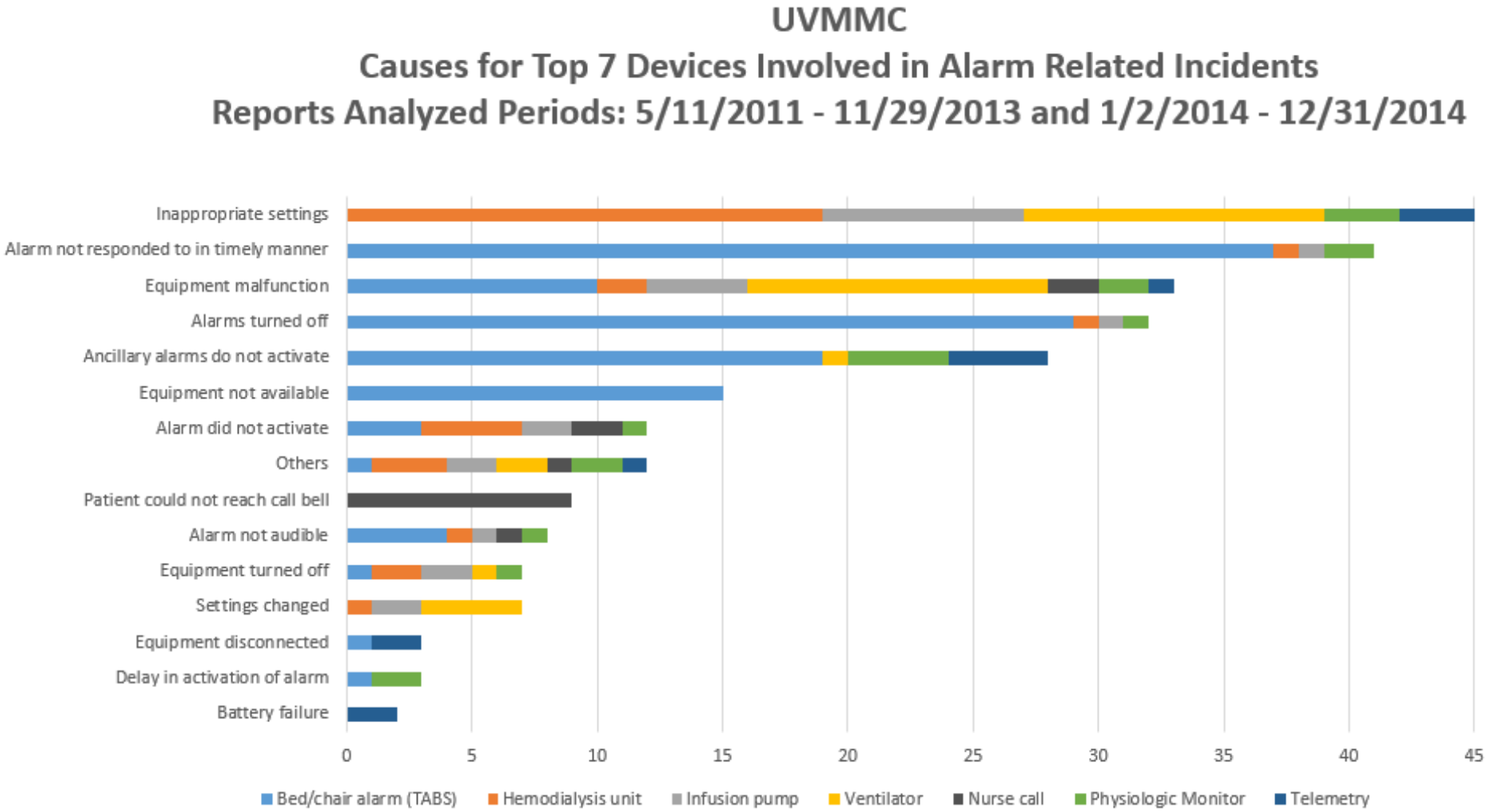
NPSG.06.01.01 – Improve the Safety of Clinical Alarm Systems

- 2014 - Leaders establish alarm safety as a hospital priority
- 2014 – Identify the most important alarm signals to manage
- 2016 – Establish policies and procedures for managing the alarms identified
- **2016 - Educate staff and licensed independent practitioners about the purpose and proper operation of alarm systems for which they are responsible**

Incident Review



Incident Review



Alarms Education Strategy

- Use alarm-related data to focus education
- Provide eLearn training and competency assessment at two levels
  - Part of all staff general Patient Safety
    - PPT and two key questions
  - More detailed in Nursing
- Unit based training
  - Orientation and ongoing unit based hands-on
  - *Online orientation training*

Online Alarms Education

- Online education
- Orientation training on high priority device alarms
- Unit based
  - Ten clinical units completed
- Equipment
  - Twenty-four device types
  - Six facilities alarms; multiple nurse call systems
- Sections
  - Importance of alarms
  - Device background & specific device guide
  - Alarm audio and video for all device alarms
  - Meaning and response / Evaluation

Online Alarms Education

- Ongoing clinical engineering internship project
- *Sample unit online orientation training*
- Neonatal Intensive Care Unit
  - 20 bed Level III NICU
  - NICU online training
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Questions & Discussion

Thank You!

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