Physiologic Monitor Alarm
Burden at Children’s Hospitals

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Background

"Whether specific alarm signals are needed or unnecessarily contribute to alarm noise and alarm fatigue"
Proposed Study

• **Study design:**
  – Multi-center point prevalence study of physiologic monitor alarm frequency in hospitals and units within hospitals caring primarily for children

• **Data collection:**
  – Collect alarm data, census data and number of monitored patients for all units caring primarily for children for 24 hours
Study Outcomes

• Describe alarm frequency from vital sign monitors in a variety of care settings for pediatric patients

• Develop a benchmark for vital sign monitor alarm frequency in units and hospitals caring for children based on a representative sample
Eligibility

- Children’s hospitals or units within hospitals caring primarily for children

- Presence of infrastructure to capture, and temporarily store bed- or unit-level physiologic monitor alarm data

- Identification of a study site champion to ensure data collection is carried out
Alarm Data

- Alarm data needed by room or unit
  - Alarm cause (e.g., high heart rate)
  - Alarm source (e.g., pulse oximetry probe)
  - Start time of alarm

- Example:

<table>
<thead>
<tr>
<th>Location</th>
<th>Category</th>
<th>Alarm Name</th>
<th>Time Posted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room 1</td>
<td>System</td>
<td>LEADS FAIL</td>
<td>6/25/2014 0:01</td>
</tr>
<tr>
<td>Room 2</td>
<td>Warning</td>
<td>RSP HI</td>
<td>6/25/2014 0:03</td>
</tr>
<tr>
<td>Room 2</td>
<td>Warning</td>
<td>HR HI</td>
<td>6/25/2014 0:03</td>
</tr>
<tr>
<td>Room 3</td>
<td>Warning</td>
<td>RSP LO</td>
<td>6/25/2014 0:04</td>
</tr>
<tr>
<td>Room 1</td>
<td>System</td>
<td>LEADS FAIL</td>
<td>6/25/2014 0:04</td>
</tr>
<tr>
<td>Room 2</td>
<td>Warning</td>
<td>RATE HI</td>
<td>6/25/2014 0:04</td>
</tr>
</tbody>
</table>
Study Group

• Cincinnati Children’s Hospital Medical Center
  – Amanda Schondelmeyer, MD
  – Pat Brady, MD, MSc

• The Children’s Hospital of Philadelphia
  – Chris Bonafide, MD, MSCE

• Lucile Packard Children’s Hospital Stanford
  – Veena Goel, MD
  – Chris Longhurst, MD, MS
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