Vital Signs Project*

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* Project name; does not reflect technology name

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*Note: The is an example of the accompanying Business Case PowerPoint Template filled out with a business case for a sample safety project. Use this tool in conjunction with Optimizing a Business Case for Safe Health Care: An Integrated Approach to Finance and Safety. © Institute for Healthcare Improvement, 2017. All rights reserved.

This sample project is adapted from a project implemented at the Hospital Corporation of America (HCA). Data and project details, including project name, are illustrative and provided as examples only.
Executive Summary

**Objective:**
Reduce preventable mortality and morbidity and improve care coordination by implementing an innovative, cost-effective solution to provide near real-time information flow of vital signs from the bedside into the current electronic health record (EHR) for clinician notification.

**Recommendation:**
- Install innovative vital signs middleware technology throughout all non-critical care units of the hospital.
- Enable Clinical Decision Support (CDS) utilizing Modified Early Warning Scores (MEWS).
- Transmit MEWS alerts to Rapid Response Team.
Key Decision Points

• Approve funding to replace fully depreciated monitoring equipment

• Provide resources to ensure safety and support implementation of technology, decision support, and improved workflow
Current Challenge/Problem

• Failure to recognize patient deterioration on a timely basis is a significant safety issue

• During the last 12 months:
  – XX patients have died as a result of failure to identify deterioration on a timely basis
  – XX patients have been admitted (or readmitted) to the ICU
  – Timely detection and response has been identified as a common root cause of this problem

• Improving detection and response times will reduce these undesirable outcomes and is explicitly aligned with our strategic commitment to improve safety and reduce harm to patients
Vital Signs Project: Benefits

• Patient Safety
  – Reduce morbidity and mortality
  – Patient data error avoidance (i.e., transcription errors)
  – Timely vital signs available for physicians and clinicians to improve patient care decisions

• Improved Outcomes
  – Increase timeliness of Rapid Response Team activations
  – Decrease Code Team activations
  – Improve failure to rescue metrics

• Workflow Efficiency
  – Reduce charting steps
  – Average time for vitals available <1 min (changed from previous 41 min)
  – Provides more direct care time supporting improved patient care and satisfaction
Financial Estimate

- Overall implementation cost (pilot + hospital-wide implementation) = $xxx,xxx

- Equipment costs balanced by improved nursing productivity and decreased care costs

- Potential impact on pay for performance

Note: Appendix C provides more detail about financial estimates and resource impacts
Vital Signs Project
Workflow Impact Analysis and Pilot Results

**Before**

2460 sec (average)

Available for Physician & Clinician Use

**After**

23 sec (average)

Available for Physician & Clinician Use

<table>
<thead>
<tr>
<th>Facility</th>
<th>Go Live</th>
<th>Utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Surgical Unit</td>
<td>8/15/16</td>
<td>Average 86%</td>
</tr>
<tr>
<td>Behavioral Health Unit</td>
<td>8/16/16</td>
<td>Average 91%</td>
</tr>
</tbody>
</table>
Appendices

- Appendix A: Value Drivers
- Appendix B: Project Assumptions
- Appendix C: Estimated Financial Impact
- Appendix E: Implementation Timeline
Appendix A: Value Drivers

- Reduce mortality and morbidity from failure to rescue by improving timeliness of team response to patient deterioration
- Faster access to critical patient data with timely alerting to intercept and minimize risk of patient deteriorations
- Timely, safer, and more effective care
- Better utilization of nursing time, Rapid Response Teams
- Decreased care costs with earlier intervention
- Potential impact on pay for performance if failure to rescue is added to payer contracts; reduced liability and reputational risk
- Staff satisfaction, more time to spend on other patient care activities
Appendix B: Project Assumptions

• Wireless infrastructure is sufficient to support new technology on all units
• Rapid Response Team beepers will be able to receive alert messages
• Current Rapid Response Team staffing will be sufficient to meet increased demand
• Current biomed processes and resources will be sufficient to maintain new devices
• Performance dashboard available to monitor impact
## Appendix C: Estimated Financial Impact

<table>
<thead>
<tr>
<th>Expenses</th>
<th>Description</th>
<th>Amount</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating Expenses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Labor (pilot)</td>
<td>Training (pilot)</td>
<td>$xxx (1 hour)</td>
<td>23 employees</td>
</tr>
<tr>
<td>• Labor</td>
<td>Training</td>
<td>$xxx,xxx</td>
<td>324 employees</td>
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<tr>
<td><strong>Total Operating</strong></td>
<td></td>
<td>$xxx,xxx</td>
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<tr>
<td><strong>Capital Expenses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(pilot)</td>
<td>Technology &amp;</td>
<td>$xx,xxx</td>
<td>$x,xxx/unit(4)</td>
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<tr>
<td></td>
<td>equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Expenses</td>
<td>Technology &amp;</td>
<td>$xxx,xxx</td>
<td>$x,xxx/unit(34)</td>
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<tr>
<td></td>
<td>equipment</td>
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<tr>
<td><strong>Total Capital</strong></td>
<td></td>
<td>$xxx,xxx</td>
<td></td>
</tr>
<tr>
<td><strong>Total Expenses</strong></td>
<td></td>
<td>$xxx,xxx</td>
<td></td>
</tr>
</tbody>
</table>
Appendix E: Implementation Timeline

• Anticipated start date: October 1, 2017
• Go Live: January 10, 2018
• 60 day check point: March 10, 2018
• Data Analysis: April 2018
• Estimated 2-year tracking period and ongoing Resuscitation Committee reports