Centralized Video Monitoring: Its Impact on Patient Safety, Staff Satisfaction, and Labor Expense

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FEB 2013
Presentation Objectives

- **Objective 1**: Describe the planning and implementation of a centralized video monitoring (CVM) program.
- **Objective 2**: Identify the patient safety, quality, and staff satisfaction associated with the program.
- **Objective 3**: Demonstrate the cost savings due to replacement of 1:1 sitters with centralized video monitoring (CVM) program.
This integrated system serves as a model for our nation!
Reason for Action

- Labor expenses escalating and 1:1 sitters were commonly used for fall prevention
  - Range of 20-30 sitter patients daily
  - 50% require 1:1 of CNAs (FTE) and agency CNAs

- Above NDNQI National Benchmarks for falls
  - Projected costs for falls in 2020 more than $43.8 billion nationally (Quigley)

- Lean Black Belt project opportunity – cost avoidance for CNA sitter staffing
Target State

Build a Centralized Video Monitoring (CVM) Program that would…

- Decrease 1:1 sitter observation by a minimum of 50% per day
- Reduce personnel expenses associated with 1:1 sitter utilization
- Decrease hospital fall rates to under NDNQI National Benchmarks
- Provide monitoring capabilities in all Acute Care nursing units
Program Discovery

- **Literature search of camera surveillance technology**
  - Off site visits
  - Telephone conversations with hospitals
  - Webinars

- **Technology selection**
  - Equipment trial to support purchase decision
  - Integration with Nurse Call system
  - Supportable operations structure

- **Staffing Decisions**
  - Video monitoring technicians from Float Pool
  - Staff concerns (Big Brother!)
Implementation Planning

- Construction of CVM room
  - Limited space, small footprint
  - Ergonomics – chairs, monitor placement
  - Equipment to support video display
  - Call system communication with patients and nursing staff

- Initial Camera installations
  - 168 patient rooms
  - No impact to census/patient flow

- Interdisciplinary committee meetings
  - CVM signage
  - Staff and Patient education
Communication Planning

Increase program awareness throughout the organization

- House-wide education
  - Open house (CVM room)
  - Huddle sheets

- Video Monitoring Tech (VMT) education
  - VMT Resource Guide and Log
  - VMT competencies
  - Escalation criteria/improved communications between VMT’s and clinical staff
CVM Program Today!

- 176 cameras placed above acute care beds
- Live stream monitoring – no recording
- Central monitoring room with two 24/7 VMTs
- No need for a physician order or separate consent
  - Administrative Procedure developed with Legal
  - Patient’s Nurse and Charge Nurse make decision
  - Patient is informed and has right of refusal
  - Separate consent not required
CVM Room
Calls report to VMTs twice daily
- Indicates the reason for CVM
- Confirms patient is being monitored

VMTs are informed when patient is leaving the room and when patient returns

Nursing reports monitoring status during report

Document and include in PSN if patient fell
Handoff to oncoming VMT shift

Provides interventions directly to patient using Nurse Call system

For escalations/patients that are not redirectable, use overhead page
  - “Monitor alert to Room XXX”
  - All Hands respond

Use VMT Log to record near misses and interventions

Documents in the electronic record, general interventions and if an incidence occurs
CVM Program Outcomes

- Prior to implementing program – estimate of 1:1 sitter use ranged to 30 sitter patients per day average of 11- 1:1 sitter rooms /day
- The number of sitters decreased from an average of 11 to approximately 7- 1:1 sitter rooms /day
- Within first quarter of operation the $392,000 cumulative video monitoring technician deferred staff savings exceeded the original estimate of $305,000 passing the breakeven point.
As of December 2011, the CVM program has affected more than $1.5 million in deferred cost savings.

Within first 3 months, 57 falls were prevented with a potential minimum savings of $24,225.

75% of the acute care units met or exceeded the NDNQI fall benchmark mean in the second quarter of 2011 - the best performance in two years.
Patient Safety Monitoring Utilization Weekly Summary

Number of Distinct Rooms Where Monitored Patients had a Safety Attendant in the Room or were Only on Monitor

"Monitor Only" (green line) reflects the number of 24hr periods (two 12hr shifts) when an in-room CNA was replaced by remote monitoring.

"Monitor Only" line is ROOMS on the left axis and Dollars on the right axis. (Rooms * 24hrs * avg rate $14.51)

*Stiers* = number of CNAs assigned as safety attendant based on the nursing supervisor’s shift report (Stiers for Acute Care Units Only). "Monitor Only" rooms based on the monitor tech log.

Cost of Monitor Techs ($4,875/wk) is Subtracted from the Weekly Estimated CNA Savings
2 year Program Survey

- Top Reason - Fall prevention 50.5%
- Results moving in the right direction...

### Reasons for Requesting Camera Surveillance

<table>
<thead>
<tr>
<th>Reason</th>
<th>%</th>
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<tbody>
<tr>
<td>Elopement, Fall &amp; Patient Pulling at Lines</td>
<td>1.0%</td>
</tr>
<tr>
<td>Fall Prevention</td>
<td>50.5%</td>
</tr>
<tr>
<td>Fall and Safety</td>
<td>2.0%</td>
</tr>
<tr>
<td>Fall / OOB / Forgetful</td>
<td>2.0%</td>
</tr>
<tr>
<td>Falls and Patient Pulling Tubes / Drains</td>
<td>1.0%</td>
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<tr>
<td>Patient Safety</td>
<td>1.0%</td>
</tr>
<tr>
<td>Prevention of Elopment</td>
<td>1.9%</td>
</tr>
<tr>
<td>Staff Safety</td>
<td>2.9%</td>
</tr>
<tr>
<td>All of the Above</td>
<td>7.8%</td>
</tr>
</tbody>
</table>

### Falls / 1000 Patient Days:
% of units that meet or exceed the benchmark

- Top Reason - Fall prevention 50.5%
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### Injury Falls / 1000 Patient Days:
% of units that meet or exceed the benchmark
“Patient about to get out of bed, monitor alert called and staff ran to the rescue. They were in the room within 3 seconds. Patient saved from falling.”

“Patient was leaving out of side of bed trying to get food tray, staff called and responded in seconds stopping patient from falling out of bed”.

“Patient took tape from rail and taped the soft wrist restraint to feet like a Greek sandal. He proceeded to start skating around room. We called nurse/front desk/ patient. Patient redirected before he could fall”.

VMT Great Saves!
Implications for Practice

- Staff must be reassured their practice is not being evaluated
- Legal Department must be included in program planning
- Increased need for more monitors
  - Determine threshold for maximum patients on CVM
  - Determine staffing models to support CVM expansion
- Look for additional program benefits
  - Staff safety
  - Elopement reduction - camera view is static
- Communication challenges
It Takes a Village!
A Special Thank You

Kathy Boyle – Chief Nursing Officer
Pat Tillapaugh – Manager, 8A
Hillarie Goetz - Clinical Nurse Educator, 7A
Joe Gerardi – ACNO – Acute Care
Sharon Jeffers – Sr. Project Manager
Phebe Searcy – Clinical Nurse Educator, Nursing Support Svcs.
Polly Nelson – Program Manager, Nursing Support Svcs.
Kim Carroll – Nurse Manager, 7A
Susan Van Dyk – Manager, Center for Patient Flow
Wayne Strubinger – Manager of Biomedical Technology
Carol Herring – Quality Initiatives Coordinator
Scott Factor, vendor representative
LeeAnn Kane - Director, Nursing Ed and Staff Development
Quin Davis – Nursing Support Services Coordinator
Kathleen Lester – Clinical Nurse Educator, 8A
Rachel Gutierrez – CNA – Monitoring Tech
Kelly Murphy, CNA – Monitoring Tech
Jacob Pratt, CNA – Monitoring Tech
Mike James, CNA – Monitoring Tech
Lauren Corray, CNA – Monitoring Tech
Joseph Hall – Desktop Team Lead
Chris Burnett – Cabling Team Lead
Questions?

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