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

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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.*

HIT

Employed Physicians

Rocky Mtn Center for Medical Response to Terrorism

911

Denver Health Medical Center

Rky Mtn Regional Trauma Ctr

Public Health

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Regional Poison Center & Nurseline

Family Health Centers

School-based Health Centers

Correctional Care

Denver Cares

Denver Health Medical Plan

This integrated system serves as a model for our nation!

3

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

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- *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!

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- *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

Standard Work and Documentation - Nursing

- *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*

Standard Work and Documentation - VMTs

- *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

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- *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.*

Outcomes continued…

- *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*
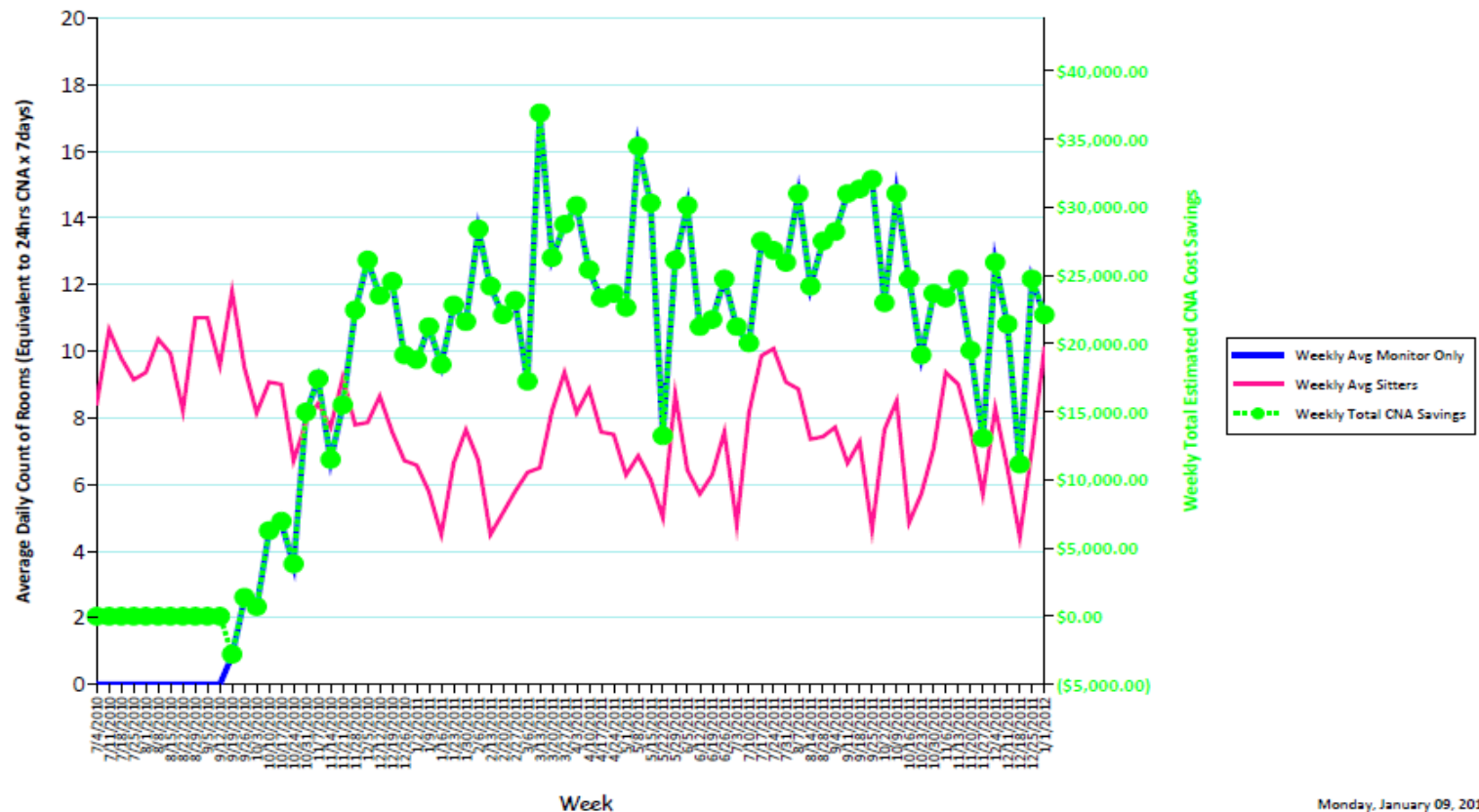
Monitoring Utilization Weekly Summary

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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)*

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

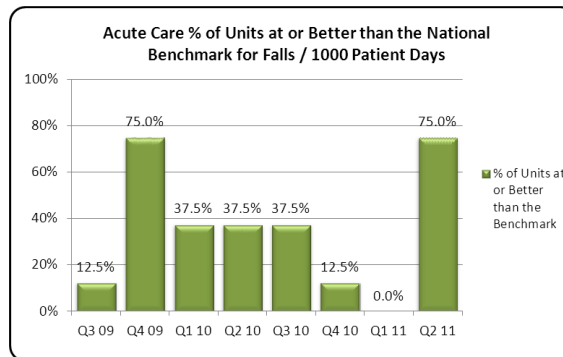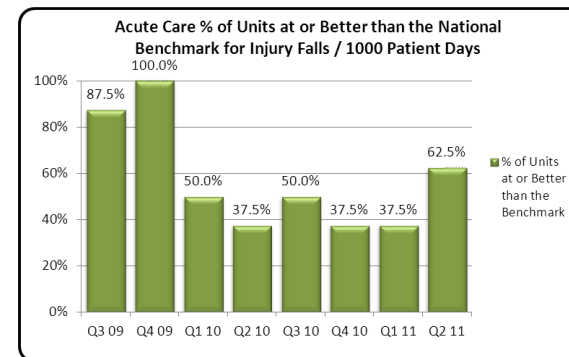*Cost of Monitor Techs ($4,875/wk) is Subtracted from the Weekly Estimated CNA Savings*

Legend:
- Weekly Avg Monitor Only
- Weekly Avg Sitters
- Weekly Total CNA Savings

Monday, January 09, 2012

2 year Program Survey

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

Reasons for Requesting Camera Surveillance	
Elopement, Fall & Patient Pulling at Lines	1.0%
Fall Prevention	50.5%
Fall and Safety	2.0%
Fall / OOB / Forgetful	2.0%
Falls and Patient Pulling Tubes / Drains	1.0%
Patient Safety	1.0%
Prevention of Elopment	1.9%
Staff Safety	2.9%
All of the Above	7.8%

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

Acute Care % of Units at or Better than the National Benchmark for Falls / 1000 Patient Days

Q3 09: 12.5%
Q4 09: 75.0%
Q1 10: 37.5%
Q2 10: 37.5%
Q3 10: 37.5%
Q4 10: 12.5%
Q1 11: 0.0%
Q2 11: 75.0%

% of Units at or Better than the Benchmark

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

Acute Care % of Units at or Better than the National Benchmark for Injury Falls / 1000 Patient Days

Q3 09: 87.5%
Q4 09: 100.0%
Q1 10: 50.0%
Q2 10: 37.5%
Q3 10: 50.0%
Q4 10: 37.5%
Q1 11: 37.5%
Q2 11: 62.5%

% of Units at or Better than the Benchmark

16

VMT Great Saves!

- *"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".*

17

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

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Questions?

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