Implementing a Video Surveillance Monitoring System

Greenwich Hospital

Priscilla P. Sterne, RN, DNP
Nursing Administration
Current Statistics

- > million inpatient falls occur in U.S. hospitals per year
- National Fall Rate: 0.562 fall/1000 discharges (CMS)
- 1-3% of falls result in fracture
- Injuries cause distress & delay in rehabilitation
- 45% of falls R/T toileting
- 31% of Falls R/T impulsivity
- Potential for increase LOS
- Financial Implications
Why Do Patients Fall?

- Impulsivity
- Dementia/Delirium
- Polypharmacy
- Unfamiliar environment
- Toileting
- Independence/Autonomy
- Hypotension
Greenwich Hospital
Fall Prevention Program
Patient Demographics

Gender
51% Female
49% Male

Average Age 84

Average LOS 4 days
Our Focus: Our Patients
Implementation

- Interdisciplinary Team formed
- Facilities involvement - installation of equipment
- Policy & Procedure developed
- Legal review of Policy obtained
- Downtime Procedures created
- Inclusion/Exclusion / Discontinuation Guidelines developed
- Patient Information formatted
- Roles & responsibilities for staff established
- Daily Log for data collection created
- Signage installed
Video Monitoring Program

Video Surveillance Monitoring: The use of a video camera placed in a designated area to observe a patient’s activities related to risk for fall.

Video Monitor Team: A rotation of staff members assigned to view surveillance monitor and round on patients.
Video Monitoring Guidelines

**Inclusion Criteria**

- Fall Risk Score >10*
- History of a fall
- Impulsive behavior
- Impaired cognitive function
- Unsteady gait
- History of wandering
- Moderate Addiction withdrawal

**Exclusion Criteria**

- Committed Behavioral Health
- Inability to follow direction
- Severe Addiction withdrawal

*CPM Fall Risk Assessment
Discontinuation Of Video Monitoring

- Demonstrates appropriate communication skills
- Follows direction and responds accordingly
- Daily Log review indicates a decrease in staff interventions
- Demonstrates stable gait
- Delirium clears and demonstrates alert behaviours
Video Monitoring Suite Design
Video Monitor Tech
Patient and Family Notification
Audio Intervention
Rounder
Fall Alert
Daily Log Definitions

- **Occupancy Rate:** The number of occupied beds at 0700
- **Monitored Beds:**
  - Ten (10) on Medicine
  - Four (4) on Telemetry
- **Verbal Reminders:** Video monitoring staff communicates to patient via intercom and offers verbal instructions
- **Staff Intervention:** Video monitoring staff member communicates to Rounder via spectralink phone
- **Fall Alerts:** Fall alert signals overhead for additional staff assistance
## Daily Data Collection Log

### Video Monitoring Record

Date: ______________________

#### 7-3

<table>
<thead>
<tr>
<th>Rm/Pt name</th>
<th>Verbal reminders</th>
<th>Staff Intervention</th>
<th>Fall alert</th>
<th>Comments/Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-184</td>
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<td>3-186</td>
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**Totals:** 3-11

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<th>Verbal reminders</th>
<th>Staff Intervention</th>
<th>Fall alert</th>
<th>Comments/Initials</th>
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**Totals:** 11-7

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<th>Verbal reminders</th>
<th>Staff Intervention</th>
<th>Fall alert</th>
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<td>3-190</td>
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**Totals**

#### Time

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<th>Signature/Print name</th>
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#### Signature/Print name

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## Data Collection Sample Period

<table>
<thead>
<tr>
<th>Video Surveillance Monitor Program June 2012</th>
<th>Occupancy Rate: Patients in VMP at 0700</th>
<th># Patient Falls in VMP</th>
<th>Verbal reminders in VMP</th>
<th>Staff interventions in VMP</th>
<th>Fall Alerts activated in VMP</th>
<th># Falls on unit in Non-video monitored beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 5-10, 2012 4 beds</td>
<td>100%</td>
<td>None</td>
<td>182</td>
<td>182</td>
<td>1</td>
<td>None</td>
</tr>
<tr>
<td>June 11-17, 2012</td>
<td>93%</td>
<td>None</td>
<td>127</td>
<td>97</td>
<td>5</td>
<td>1</td>
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<tr>
<td>June 18-24, 2012</td>
<td>93%</td>
<td>None</td>
<td>178</td>
<td>169</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>June 25-July 1, 2012</td>
<td>100%</td>
<td>None</td>
<td>151</td>
<td>126</td>
<td>1</td>
<td>1</td>
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<tr>
<td>July 2-8, 2012</td>
<td>93%</td>
<td>None</td>
<td>136</td>
<td>100</td>
<td>1</td>
<td>1</td>
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<tr>
<td>July 9-15, 2012</td>
<td>94%</td>
<td>None</td>
<td>93</td>
<td>213</td>
<td>0</td>
<td>2</td>
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<tr>
<td>July 16-22, 2012 8 beds</td>
<td>91%</td>
<td>None</td>
<td>182</td>
<td>217</td>
<td>7</td>
<td>0</td>
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<tr>
<td>July 23-29, 2012 Low unit census</td>
<td>76%</td>
<td>None</td>
<td>119</td>
<td>159</td>
<td>1</td>
<td>0</td>
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<tr>
<td>July 30-Aug. 5, 2012</td>
<td>94%</td>
<td>None</td>
<td>183</td>
<td>131</td>
<td>2</td>
<td>1</td>
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<tr>
<td>August 6-12, 2012</td>
<td>87%</td>
<td>None</td>
<td>116</td>
<td>130</td>
<td>0</td>
<td>0</td>
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<tr>
<td>August 13-19, 2012</td>
<td>98%</td>
<td>None</td>
<td>234</td>
<td>220</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>August 20-26, 2012</td>
<td>98%</td>
<td>None</td>
<td>178</td>
<td>169</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Aug 27-Sept 2, 2012</td>
<td>91%</td>
<td>None</td>
<td>237</td>
<td>181</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>September 3-9, 2012</td>
<td>92%</td>
<td>None</td>
<td>186</td>
<td>165</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>3 Month Totals</strong></td>
<td><strong>92% avg</strong></td>
<td><strong>None</strong></td>
<td><strong>2,302</strong></td>
<td><strong>2,259</strong></td>
<td><strong>26</strong></td>
<td><strong>7</strong></td>
</tr>
</tbody>
</table>

VMP = Video Monitoring Program

**Occupancy Rate:** \# beds occupied ÷ 7 days = weekly occupancy rate

**# Beds available:** June 5<sup>th</sup> = 4 beds. July 16<sup>th</sup> = 8 beds

**Verbal Reminders** = staff tells patient to sit down

**Staff Interventions** = monitor calls staff member to go into room

**Fall Alerts** = Emergency called overheard for staff to assist patient immediately
Results- 6 Month Sample Period (June 12-December 12)

- Average Bed Occupancy rate: 95-100%
- Verbal Reminders: > 4500
- Staff Interventions: > 4000
- Fall Alerts: <1 per week

- Patient Satisfaction
Outcome: June 2012-June 2013

Over a 12 month period in 14 monitored rooms

Only One fall has occurred

* March 2013 ONE fall occurrence.
As of this date there has not been any further falls in this program.
Installation Costs

The total cost for installing 14 cameras with strobe lights and intercom system:

$52,650.00.
Impact of Program

- Verbal and staff interventions have prevented numerous fall opportunities and increased LOS

- Financial savings:
  Sitter staffing requirements resulted in reduction of FTEs
Annual Cost Saving Analysis

Average Sitter usage per bi-weekly payperiod:

2011-2012
25 FTE per payperiod
$18/hour x 1950 hours/yr
$33,150 x 25 FTEs = $877,500

2013
18.5 FTE per payperiod
$18/hour x 1950 hours/yr
$33,150 x 18.5 FTEs = $613,275

Savings annualized 2013 = $264,225
**Additional Expense Savings**

Registry Aides (Sitters) were utilized by the Float Pool: Outside contracting fees

Annualized saving = $158,000

Total Expense savings:

$158,000
$264,000

$422,000
Enhancement to Nursing Practice

Development of the patient selection in the video monitoring program

Accountability for staff interventions required

Integration of Huddle initiative in the morning and afternoon unit planning

Observable accountability and pride from staff involved in daily success of program
Interdisciplinary Implementation Team

- Susan Brown, SVP Patient Care Services/CNO
- Barbara Leafe, Director of Nursing Operations
- Priscilla Sterne, NDNQI Site Coordinator/Nursing Administration
- Spike Lipshutz MD, CMO
- Jeremy Barowsky MD, Director of Addiction Medicine
- Loretta Jacobs, Education Specialist
- Kim Acevedo, Nurse Manager, Medicine
- Anna DiPaola, Clinical Coordinator, Medicine
- Dawn Schupp, Clinical Coordinator, MSICU
- Pauline Morgan, Clinical Coordinator, Telemetry
- Nancy Ulrich, Nursing Administration, Office Manager
- Joanne Bellantoni, Nursing Administration, Staffing Secretary
- Guerline Villard, Sophia King, Carrie Gorski, Dieter Meadows, CNAs