The Use of Patient Sitters to Reduce Falls: Best Practices

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ABSTRACT

Using patient sitters to directly observe patients at high risk for falls is a practice suggested as part of several evidence-based falls prevention guidelines. However, the clinical and cost-effectiveness of sitter programs has been questioned. Analysis of data from 75 hospitals participating in the Hospital and Healthsystem Association of Pennsylvania Hospital Engagement Network Falls Reduction and Prevention Collaboration revealed a statistically significant correlation ($p < 0.05$) between low rates of falls with harm and the use of sitter programs. A statistically significant correlation ($p < 0.05$) was also identified between low rates of falls with harm and three specific sitter program design elements: defining criteria for sitter qualifications, providing a training program for sitters, and establishing a pool of sitters. Analysis of falls reported to the Pennsylvania Patient Safety Authority by hospitals from across the commonwealth in which sitters were identified as being present at the time of the fall suggests that the use of sitters may be associated with a higher percentage of assisted falls and a lower rate of falls with harm. A review of the literature exploring the use of sitters as part of falls prevention programs, along with suggested strategies for sitter program design, is presented. A tool is provided to help hospitals make the business case for implementing and maintaining a sitter program. (Pa Patient Saf Advis 2014 Mar;11[1]:8-14.)

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INTRODUCTION*

Patient sitters (also called patient safety assistants, companions, and one-to-one or constant observers) are staff or volunteers assigned to provide direct observation of patients at risk to harm themselves or others. Patient sitters are used in a variety of care settings, including for patients who are assessed to be at high risk for a fall;[1] in psychiatric crisis, including those who have attempted suicide or with suicidal ideation, or at risk for harming others;[2] substance-abusing with behavioral problems;[3] or experiencing delirium, confusion, or agitation.[3]

Patient sitters have been suggested in several evidence-based falls prevention guidelines[4-7] and have become part of an arsenal of interventions used by healthcare institutions to provide close monitoring of patients at high risk to fall. The level of evidence supporting the inclusion of sitters in these evidence-based guidelines is expert opinion, which is generally considered less rigorous than evidence from systematic reviews and randomized controlled trials.[8-10] Research into the clinical effectiveness of sitter programs has produced inconsistent results. In addition, the cost-effectiveness of these programs has been questioned due to the high costs associated with their maintenance.[11]

While the evidence base to support the use of patient sitters may be challenged, analysis of data from 75 Pennsylvania hospitals participating in the Hospital and Healthsystem Association of Pennsylvania Hospital Engagement Network (PA-HEN) Falls Reduction and Prevention Collaboration has found a statistically significant correlation between lower rates of falls with harm and the use of sitter programs, as well as specific sitter program design elements. Hospitals seeking to implement or sustain a patient sitter program that is both clinically effective and cost-effective are encouraged to incorporate specific sitter program design elements and consider existing strategies to structure sitter programs.

PATIENT SITTER USE AND FALLS-WITH-HARM RATES IN PENNSYLVANIA

Information about sitter program implementation and rates of falls with harm is available from 75 hospitals participating in the PA-HEN Falls Reduction and Prevention Collaboration. As part of the collaboration, hospitals completed the Hospital Engagement Network Falls Reduction and Prevention Collaboration Self-Assessment Tool (SAT) survey from July 5, 2012, through August 31, 2012. The falls SAT survey was designed to evaluate the current structure and content of hospital falls prevention programs compared with evidence-based, best-practice guidelines. The intent of the falls SAT survey was to assist hospitals in creating action plans targeted to the best-practice elements that were identified as missing or in need of improvement in their current falls prevention programs.

Hospitals completing the falls SAT survey were asked to report the level of implementation (i.e., no implementation, partial implementation, or full implementation) for individual falls prevention practices and falls prevention program elements across 17 categories of falls prevention practices. The use of patient sitters was the third lowest scoring category of practices. Forty-eight of the 75 hospitals reported having sitter programs, of which 21 reported full implementation of six specific sitter program design elements:

1. A process for requesting and discontinuing sitters

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2. Patient eligibility criteria
3. A pool of sitters
4. Criteria for sitter qualifications
5. A sitter job description with expectations for sitter behavior and responsibilities
6. A training program for sitters

Rates of falls with harm were calculated for hospitals participating in the PA-HEN collaboration using the number of falls with harm (i.e., any fall requiring more than first-aid care[12]) as reported to the Pennsylvania Patient Safety Reporting System (PA-PSRS) and total facility patient-days as reported to the Pennsylvania Health Care Cost Containment Council (PHC4)[13] for the period of January through June 2012. Analysis of falls SAT survey responses alongside rates of falls with harm revealed a statistically significant correlation ($p < 0.05$) between the use of sitter programs and lower rates of falls with harm. In addition, meta-regression analyses revealed statistically significant correlations ($p < 0.05$) between three specific practices and lower rates of falls with harm: the sitter program includes (1) criteria for sitter qualifications, (2) a training program for sitters, and (3) a pool of sitters.

The Pennsylvania Patient Safety Authority has previously published a full analysis of the falls SAT survey results identifying best practices associated with higher or lower rates of falls with harm. Although cause and effect cannot be established based on these analyses, the correlation between sitter programs and specific sitter program practices with lower rates of falls with harm were found to be statistically significant. In light of this correlation, as well as the low levels of full implementation for these practices reported on the falls SAT survey, the Authority has suggested that hospitals carefully consider sitter program implementation and incorporation of best practices in sitter program design.[14]

SITTER USE ASSOCIATED WITH INCREASE IN ASSISTED FALLS AND DECREASED HARM

Falls are one of the events most frequently reported to the Authority.[15] A query of the PA-PSRS database identified 54,289 falls events reported by hospitals across Pennsylvania from January 2012 through June 2013, of which 323 were identified as occurring with a sitter present. Assisted falls is one of the 13 PA-PSRS falls event types that hospitals are instructed to assign to falls that occur when a caregiver sees a patient about to fall and intervenes, lowering him or her to a bed or the floor. The percentage of falls labeled as assisted was much higher for falls occurring with a patient sitter present (54 of 323 falls, 16.72%) than for falls occurring without a sitter present (4,523 of 53,966 falls, 8.38%). Of note, none of the assisted falls with sitters present were reported as falls with harm (see Table 1). This suggests that using patient sitters may increase the chances of a fall being assisted, which in turn may prevent falls with harm from occurring.

The following are examples of PA-PSRS reports of falls assisted by patient sitters:

Patient was sitting in a wheelchair with patient sitter in attendance. Sitter states patient was leaning forward in chair and sitter attempted to guard patient from fall, but patient proceeded to lean forward and was assisted onto floor.

Patient sitter stated the patient was sitting on toilet and started to lean to the left. [The sitter] grabbed the patient and eased him to the floor. The sitter called out for help, and the patient was found lying on the bathroom floor. His head was elevated off the floor.

Sitter reported patient was sitting in chair and lost balance when patient went to get up. Sitter assisted patient to the floor.

FAILURE MODES EVIDENT IN REPORTS OF FALLS WITH SITTERS PRESENT

While sitter programs may reduce the likelihood of injury from falls, like many safety practices, they are not error-proof. Table 2 shows the percentage of falls occurring with sitters present as reported for each PA-PSRS falls event type. Assisted falls represented the most common falls event type assigned to these falls, but other falls event types (e.g., ambulating, toileting, found on floor) were reported

Table 1. Falls Reported to the Pennsylvania Patient Safety Authority, January 2012 through June 2013

EVENT TYPE	FALLS WITHOUT HARM (% OF EVENT TYPE)	FALLS WITH HARM (% OF EVENT TYPE)	TOTAL BY FALLS EVENT TYPE
Falls without sitter present	52,340 (96.99)	1,626 (3.01)	53,966
Unassisted	47,853 (96.78)	1,590 (3.22)	49,443
Assisted	4,487 (99.20)	36 (0.80)	4,523
Falls with sitter present	312 (96.59)	11 (3.41)	323
Unassisted	258 (95.91)	11 (4.09)	269
Assisted	54 (100.00)	0 (0.00)	54
Total	**52,652 (96.98)**	**1,637 (3.02)**	**54,289**

at frequencies that suggest the need for clarification of sitter behavior responsibilities and expectations, as well as a sitter training program. Failure modes evident in falls reports involving sitters include the following:

- The sitter was not within reach of the patient when the patient fell off a chair, wheelchair, or side of the bed.
- The patient tripped on an item in the path of walking to the bathroom.
- The sitter left the patient's room with no designated backup staff, and the patient was later found on the floor.
- The patient's legs became weak while ambulating, and the sitter was in the patient room or in the hallway.
- The patient was reaching for an item unassisted while sitting in a chair or wheelchair.
- The patient was found on the floor after being left unattended in the bathroom while toileting or showering.
- The patient slid to the floor while sitting on the edge of the bed.

Information derived from the event reports suggests that a successful patient sitter program effective in reducing the number of falls that occur when a patient sitter is present includes specific sitter program design elements.

Table 2. Falls with Sitter Present Reported to the Pennsylvania Patient Safety Authority, January 2012 through June 2013, by Falls Event Type

FALLS EVENT TYPE	NO. OF REPORTS	% OF REPORTS
Assisted fall	54	16.72
Ambulating	51	15.79
Toileting	43	13.31
Found on floor	37	11.46
Lying in bed	36	11.15
Other/unknown	32	9.91
Sitting in chair/wheelchair	26	8.05
Sitting at side of bed	20	6.19
Transferring	11	3.41
Hallways of facility	7	2.17
From stretcher	3	0.93
In exam room/from exam table	3	0.93
Total	**323**	**100.02***

*Total percentage does not equal 100 due to rounding.

SITTER PROGRAM DESIGN

Patient sitter guidelines vary among hospitals, including but not limited to guidelines regarding the duties of the patient sitter, when a patient sitter is requested, the method used to request a sitter, who can request a sitter, and when the sitter is discontinued. Hospitals may also differ in whether they allow the role of a patient sitter to be filled by clinical or nonclinical personnel, including nurses, nursing assistants, hospital staff, volunteers, or family members.[1]

For example, in a multihospital study by Torkelson and Dobal, a lack of collaboration and shared decision making was identified between caregivers and family members on when to begin, continue, and discontinue a patient sitter. The study concluded that sitter programs should be developed that (1) include policies and procedures clearly identifying the responsibilities of the staff nurses and the sitters, (2) provide clear instructions for the sitter, and (3) use psychiatric consults.[2]

Specific Sitter Program Design Elements

Facilities may be able to decrease patient sitter use while helping to reduce rates of falls with harm by incorporating the following specific patient sitter program design elements:

- Designate staff responsible for overseeing the sitter program and/or assessing patients prior to initiating one-to-one observation (e.g., psychiatric liaison nurse, geriatric clinical nurse specialist).[16-19]
- Outline a process for requesting and discontinuing sitters.[2,8,16,20,21]
- Define patient eligibility criteria.[8,16,20,22]
- Designate a pool of sitters.[23]
- Outline criteria for sitter qualifications.[21,24]
- Outline expectations for sitter behavior and responsibilities[2,8,21,24,25] that include the following:
  - Reviewing pertinent clinical information, the reason for observation, and the plan of care with the nurse assigned to the patient and communicating regularly throughout the shift to report observed behaviors indicating either continued need for, or ability to discontinue, use of one-to-one observation[2,23,25]
  - Documenting observed behaviors and interventions provided in the course of performing one-to-one observation[23,25]
  - Maintaining toileting schedules for patients able to use the toilet or bedside commode[5,19,25]

- Remaining with patients while in the bathroom[4,25]
- Staying within arm's reach of patients whenever appropriate (the nurse and the patient sitter will need to assess when remaining within close proximity to the patient may be inappropriate because it may increase agitation in some patients)[25]
- Ensuring a safe environment (e.g., remove clutter, keep items within patient's reach)[4,5,6,7,19,25]
- Providing a proper handoff to another staff member, completed in the presence of the patient, when patient sitters must leave the patient[25]
- Focusing on observation of the patient and avoiding non-work-related activities that may distract from care of the patient (e.g., personal calls, cell phone use, reading)[25]

– Design a training program for sitters[2,19,21,23,24] that provides education on the following:
  - Safe patient handling techniques[4,7,25]
  - Behavior management strategies for de-escalating agitated patients[19]
  - Diversional activities (e.g., activity aprons, crafts, magazine reading) to engage patients, particularly those with cognitive impairment[19,23,25]

Strategies to Structure Patient Sitter Programs and Control Costs

Patient sitters can be one of the costliest falls prevention methods, especially since the associated costs are not reimbursable from third-party payers.[2] According to one national survey of 355 general medical-surgical hospitals conducted in 1996, annual expenses for patient sitters ranged from several thousand to a half-million dollars.[26] In 2007, the Chester County Hospital, a 220-bed facility in West Chester, Pennsylvania, reported an unbudgeted cost of $515,480 in overtime and agency-hired nursing assistants attributable to the sitter program.[23] These cost estimates may prove to be conservative, as more recent costs for sitter programs are not available in the literature.

Several strategies to structure patient sitter programs in order to reduce patient falls and control costs have proven to be effective for some healthcare facilities. Three of these strategies are outlined as follows:

Psychiatric liaison nurses. In an 800-bed Minnesota hospital, a lack of psychiatric resources for medical nurses who were not adequately trained in caring for patients with an underlying mental illness was identified as causing unnecessary use of patient sitters. In response, the hospital employed psychiatric liaison nurses (PLNs) who acted as consultants for medical patient care areas in the use of patient sitters.

PLNs facilitated day-to-day problem solving, provided education and support, and closely collaborated with the nursing staff on a management plan. A 50% reduction in sitter use was noted without increasing restraint prevalence, falls, or other adverse outcomes. The project also strongly suggested that a PLN can benefit medical nurses by "role modeling, teaching, encouraging, and supporting more effective and confident management of patients' psychiatric needs."[27]

A SAFE unit. Scripps Mercy Hospital, a 500-bed level I trauma center in San Diego, California, developed a "Specialized Adult-Focused Environment" (SAFE) unit. With the exception of acutely suicidal patients, patients who require frequent or constant observation are placed in this unit. Patients who do not require one-to-one attention and observation are placed in cohorted rooms next to or across from each other.

Newly hired employees are required to attend an eight-hour SAFE class and are called a "constant observer" or "therapeutic companion," since their roles are viewed as more active than just sitting with a patient. After the first unit was established, other floors in the hospital established their own SAFE units. Falls rates were not reported, but a decline in sitter use and cost was noted.[19]

Patient sitter staff position. The Chester County Hospital created a new position of a patient safety assistant after realizing that their sitter expenses were increasing due to staff overtime and use of agency-hired nursing assistants. The average number of staff used to sit with the patients per month was 15.5 full-time equivalents (FTEs).[23]

At times, nursing assistants needed to be taken away from their assignments on patient care units to sit with a patient, causing the unit to be short-staffed, according to Angela R. Coladonato, MSN, RN, NEA-BC, senior vice president/chief nursing officer, the Chester County Hospital.[23] "It caused huge dissatisfaction with the nursing staff," Coladonato said in a telephone interview. "Their support person was now gone."

She decided to "think outside the box" and formed a task force to identify ways to reduce the use of patient sitters. In the first phase, several initiatives were implemented, including the use of activity boxes, enactment of a new alcohol withdrawal order set with assessment guidelines, combining policies for constant observation of suicidal and nonsuicidal patients, instituting volunteer rounding, and establishing a mandatory sitter approval form initiated by nursing.

Coladonato worked closely with human resources and applicable managers, directors and educators to establish the patient safety assistant position. She started with 12 new FTEs and is currently budgeted for 16.23 FTEs. In order to minimize staffing costs, the position is designed to be part-time and does not include benefits.

When the patient safety assistant is not providing continuous observation, their

duties may include restocking supplies for the department, delivering specimens to the lab, transporting patients, and responding to call bells. Table 3 outlines expectations for patient safety assistants compared with nursing assistants at the Chester County Hospital. (For more information, see "The Chester County Hospital Orientation Manual, Patient Safety Assistant, Nursing Staff Development," available on the Authority's website at http://patientsafetyauthority.org/EducationalTools/PatientSafetyTools/falls/Pages/home.aspx.)

FALLS-WITH-HARM SAVINGS CALCULATOR

The Authority has developed a falls-with-harm calculator (available at the web page listed above) for hospitals that may be helpful in justifying the costs associated with implementing a sitter program, as well as other falls reduction initiatives. Hospitals enter their current rate of falls with harm, and the calculator provides the estimated average additional cost and length of stay associated with the current rate, along with estimates of cost savings that could be achieved with 10%, 25%, 50%, 75%, 90%, and 100% reductions in the rate of falls with harm.

The costs used in this calculation are operational costs incurred by hospitals both in treating injuries sustained in a fall and as a result of extended lengths of stay for these patients. These costs do not include additional costs related to malpractice claims or costs associated with subsequent outpatient care or readmissions.[28] Such additional costs are not to be underestimated. A recent case was highlighted in the media[29] that draws attention to the additional costs that

Table 3. Patient Safety Assistant and Nursing Assistant Role Expectations at the Chester County Hospital

ROLE EXPECTATIONS	PATIENT SAFETY ASSISTANTS	NURSING ASSISTANTS
Documents on continuous observation form	X	Only when assigned to 1:1 observation
Handles patient positioning	X	X
Assists patients to bathroom	X	X
Changes bed linen for 1:1 patient (unoccupied bed)	X	X
Assists patient with meals as needed	X	X
Assists with bed-to-chair transfer (if applicable)	X	X
Transports patients	Escorts patient when assigned to 1:1 observation or serves as a transporter when not assigned to 1:1 observation	X
Attends to general patient comfort needs	X	X
Engages patient with activity, if applicable	X	X
Reports patient behavior/movement to registered nurse	X	X
Assists clinical staff as requested for bathing/turning	X	X
Bathes patients		X
Performs patient assessment (skin care/intake/output)		X
Takes vital signs		X
Provides incontinence care		X
Data entry		X
Restocks supplies for department	Only when not assigned to 1:1 observation	X
Delivers specimens to lab	Only when not assigned to 1:1 observation	X
Responds to call bells	Only when not assigned to 1:1 observation	X

Adapted with permission from the Chester County Hospital in West Chester, Pennsylvania.

may be incurred by hospitals that fail to provide sitter programs. The California Department of Public Health fined a hospital $100,000 in a case involving the death of a patient from intracranial hemorrhage following a fall because "there was no nursing supervision provided to the patient to ensure the patient was safe after the nursing staff had identified the patient had increased risk for falls and needed a sitter to prevent falls."[30]

LIMITATIONS

Falls identified as occurring with sitters present was determined through analysis of PA-PSRS report narratives. Of the 54,289 falls events reported by hospitals across Pennsylvania from January 2012 through June 2013, 666 reports included the term "sitter." Of these, 323 report narratives described falls occurring with a sitter present at the time of the fall. It is therefore possible that this is an underestimate of the number of falls occurring with sitters present.

Data used in calculating rates of falls with harm is dependent on accuracy and consistency in reporting falls and identifying injury level within PA-PSRS. The 75 PA-HEN hospitals included in this analysis have agreed to a consensus definition for falls and falls with harm as a condition for participation in the PA-PSRS Falls Reporting Program; therefore, this limitation should be minimized. This data is also dependent on accurate and complete reporting of total facility patient days to PHC4.

Information on the implementation level for best practices in falls prevention was gathered from self-reporting hospitals completing the falls SAT survey. Designation of implementation level (i.e., no implementation, partial implementation, or full implementation) is subjective to the respondent.

Lastly, while meta-regression analyses have identified a statistically significant correlation between the use of sitter programs (and specific sitter program practices) and lower rates of falls with harm in 75 Pennsylvania hospitals, cause and effect cannot be inferred.

IMPLICATIONS FOR FURTHER STUDY

Hospitals participating in the Hospital and Healthsystem Association Hospital Engagement Network Falls Reduction and Prevention Collaboration completed the falls self-assessment tool survey for a second time in 2013. The results of the follow-up survey are being analyzed to assess whether or not the correlations found in 2012 persist between low rates of falls with harm and falls prevention practices, such as those for sitter programs.

CONCLUSION

Patient sitters are one of many interventions that facilities can use to reduce falls. When implementing a patient sitter program, hospitals are encouraged to incorporate specific best practices in sitter program design. To structure patient sitter programs, hospitals can engage in strategies found to be successful in reducing falls and controlling costs in other organizations. The cost savings achieved in decreasing rates of falls with harm, both in terms of money saved and decreased severity of injury, may justify the costs associated with implementing and maintaining a sitter program.

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