The Hustler Award Program

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Abstract

**Problem:** Hospitalized adults are at increased risk of falling due to multiple aspects, including but not limited to changes in health status, the environment, pain, weakness, confusion, and prolonged immobility. This project focused on the question: How will the utilization of the Hustler Award Program decrease fall rates in an adult inpatient medical-surgical unit?

**Method:** A prospective quality improvement pilot study focused on a 24-bed medical-surgical unit in a Midwest, 487-bed metropolitan-based facility.

**Results:** The results captured are for the evaluation period occurring from September through November 2021. The staff responded to 52-bed exit alarms, which yielded a response rate for September of 15.4% (n=8), October 73% (n=38), and November 11.6% (n=6). There were 14 falls from the bed, during the evaluation period, September (n=3; 21.4%), October (n=4; 28.6%) and November (n=7; 50%). There were ten falls from the bed before the evaluation period, June-August 2021. However, before the evaluation period, the number of falls resulting in injuries was one, and during the evaluation period, there were no fall-related injuries. The average number of monthly patient days prior to the program evaluation was 762. The average post-program evaluation was 780, resulting in approximately a four percent increase in patient days during the post-program evaluation compared to the pre-program evaluation period.

**Implications for Practice:** Utilization of a fall program in conjunction with bed alarms could be beneficial in addressing falls, which can improve quality and performance while meeting the requirements for reimbursement by the Center for Medicaid and Medicare.

**Keywords:** falls, fall prevention, bed exit alarms, medical surgical units, adults
The Hustler Award Program

Falls are defined as events resulting in patient inadvertently coming to rest on the ground (Johnson et al., 2015). According to the Center for Medicare and Medicaid Services [CMS] (2020a), approximately 700,000-1,000,000 hospitalized individuals in the United States (U.S.) experience falls annually. CMS estimates a rate of 3.56 falls/1000 patient-days with approximately 26 percent of falls resulting in injury (CMS, 2020b). Fall reduction has become the focus of many healthcare systems, and one way of reducing fall rates has been the utilization of alarms such as bed, exit, and fall alarms in conjunction with the Hester Davis Fall Program. Patient falls have been identified as a safety concern and leading cause of adverse events occurring to inpatient adults and as a major source of injury, disability, and death (CMS, 2020b). Due to the nationally increasing numbers of falls with or without injuries, CMS requires hospitals to report fall rates at the unit and system levels. Each hospital reports its fiscal year for fall percentage to CMS, who then publicly aggregates this information by October 1st of each year. Medicare and Medicaid requirements for hospitals to report fall rates allow consumers and stakeholders to make informed healthcare decisions and incentivize improved quality and performance. CMS (2020c) endorsed public reporting of falls and fall-related injuries to improve healthcare decision making for the stakeholders (such as insurance companies, employers, pharmaceutical companies, and the government) and consumers (such as residents and patients).

Many healthcare facilities are working to improve fall rates and their related injuries to improve reimbursement and attract more consumers and stakeholders (CMS, 2020c). Hospitals who fail to report their fall rates to the CMS by the required deadline
receive a two percent decrease in their annual increase factor, hence receiving an annual reduction in reimbursement (CMS, 2020c). Essentially, quality reporting incentivizes hospitals to standardize healthcare delivery and improve care coordination and patient outcomes by providing a national standardized reimbursement plan for health systems. Cutting hospital costs and improving patient outcomes, including decreasing the rates of falls, is a focus of many hospital systems (Galet, Zhou, Eyck, & Romanowski, 2018).

The need to prevent falls is a strategic priority for the facility to which this program evaluation occurred. The facility is in a large metropolitan facility in the Midwest of the U.S. The medical-surgical units for this facility have faced an increase in falls and fall-related injuries. In the year 2020, the cardiac telemetry unit had 42 falls, the neuro-telemetry unit had 48 falls, and the medical-surgical unit had 75 falls in the facility of choice. In comparison to the 2019 data, there were 18 falls on the cardiac telemetry unit, 57 falls on the neuro-telemetry unit, and 45 falls on the medical-surgical unit. Data collected in 2020 from the facility and analyzed for trends showed the most commonplace of falls were from the patient’s bed and occurred between noon to three in the afternoon. This time frame is particular because most patients are either getting ready for lunch or attempting to go to the bathroom after lunch and can have an increase in falls if staff members did not place belongings and call light within reach. Given these findings, this quality improvement project focused on reducing bedside falls.

The primary strategy of this project was to reduce falls occurring at the bedside by reinforcing the staff’s response to bed exit alarms. Response to alarms has been a focus of other nursing programs in the U.S. To improve response time to alarms (bed or exit), the nursing staff at the University of Texas Southwestern (UTSW) Medical Center
conceptualized the Hustler Award Program (HAP). The program requires educating the nursing staff about bed alarms based on the Hester Davis Scoring (HDS) Scale, how they are used based on vendor instructions, and the imperative to promptly respond to alarms (HD Nursing, 2020). The facility of choice has established protocols concerning the utilization of the HDS scale for all patients. Fall risk assessments are done on admission, every shift, with changes in patient status, and after every fall event. Once the staff has been educated, the HAP was implemented, and a box labeled “Hustler Award Program” was placed at the nurse’s station. When a bed and exit alarm sounds, the first nurse to respond had his/her name placed into the box and received credit for the “hustle”. Weekly, the nurse with the most “hustles” received an enamel pin identifying his/her dedication to keeping patients safe and the total monthly number of falls prevented was recorded for data collection. This strategy was also synergistic with Joint Commission’s 2021 National Patient Safety Goal NPSG.06.01.01 which addressed how improvements could be made using safe alarms and ensuring medical equipment are heard and responded to on time (The Joint Commission, 2021).

Nationally increasing inpatient fall rates and fall-related injuries is a nursing concern and should be addressed (CMS, 2020c). The IOWA model of evidenced based practice guided this program evaluation. In this program evaluation, the question asked is; In adult patients receiving care on a medical-surgical unit, will the implementation of the HAP, compared to the traditional alarm response system, result in a 10 percent reduction of falls and fall-related injuries over a three-month period? The program evaluation aimed to implement the HAP and enhance the units’ existing fall prevention
program. The program already included the use of bed and exit alarms for specific patients based on their fall risk scoring using the HDS.

**Review of Literature**

A comprehensive literature review was conducted using PubMed, Ovid, and EBSCOHost search engines. The terms utilized were “bed alarm”, “exit alarms”, and “fall alarms”. The preliminary results yielded 154 sources from PubMed, 20 sources from Ovid, and 149 sources from EBSCOHost. One Boolean operator, AND, was used during the literature search. Once computed, the total number of articles were 323. The inclusion criteria included articles published within the past five years, adults, free full text, and English abstracts. The exclusion criteria included video-based bed exits, pediatric populations, and non-English abstracts. After considering both the inclusion and exclusion criteria, 10 articles were formally reviewed, and all 10 articles were included. The articles included were from the U.S., with two of the articles collaborating with European countries. Out of the 10 articles there was one single-subject design, one evidenced-based practice design (EBP), one observational retrospective design, one quality improvement design, one secondary data analysis, one pre- and post-design, two mixed-method designs, and two randomized control trials (RCT). The literature yielded many classifications for fall prevention programs, such as the use of traditional alarms, advanced technology, nursing leaders and staff involvement, multifactorial interventions, and appropriate documentation of implemented fall preventions. From the literature reviewed, key terms and approaches for implementing fall prevention programs are categorized below.
The utilization of traditional alarms has been classified as one of the interventions for fall preventions (Staggs et al., 2020; Sun et al., 2020). Another approach used to encourage proper classification of fall preventions involves using advanced technology such as smartwatches and Sensable Care Systems in the prevention of falls (Ali & Li, 2019; Balaguera et al., 2017). Nursing leaders and staff members’ involvement was analyzed as another approach in fall prevention (Melin, 2018; Oster & Braaten, 2017; Sun et al., 2020). The implementation of multifactorial interventions in the acute care setting for fall prevention was investigated (Cameron et al., 2018; Francis-Coad et al., 2020; Fehlberg et al., 2020). The last approach for the prevention of falls analyzed in the literature review investigated the implementation of timely and proper documentation of fall preventions by the nursing staff (Johnson et al., 2015).

In reviewing the literature, several approaches highlighted the importance of analyzing fall prevention. Stagg et al. (2020) analyzed the importance of bed alarms, exit alarms, and fall alarms. This analyzation used alarms in varying units and medical-surgical units accounting for approximately two-thirds of 66% of alarm usage. The results exceeded the expected alarm use on the medical surgical units. Another approach analyzed bedside shift reporting and hourly rounding by the nursing staff to implement fall alarms and reduce fall rates (Sun et al., 2020). Stagg et al. (2020) and Sun et al. (2020) provided similar reasons for alarm usage including changes in vital signs, limited mobility, decreased safety awareness, changes in the patients' mental status, toileting needs, and a previous history of falls. It is imperative for the nursing staff to frequently assess the need to use alarms for the reasons given above to diminish the rate of falls (Sun et al., 2020; Staggs et al., 2020). The results of this literature review support the
initiation of the HAP program development because nursing leaders and staff members are incentivized to respond to programs, bed alarms and HDS, set in place to improve patient safety and outcomes.

The next approach examined in the prevention of falls was advanced technologies with the use of smartwatches and padded alarm systems such as the SensableCare System (Ali & Li, 2019). Advanced technologies such as web-based applications for medication reminders and alerts are widely used in the healthcare industry with limited usage in fall prevention programs (Ali & Li, 2019). Ali and Li (2019) designed a smartwatch-based notification and communication for the nursing staff, which integrated several alarms and alerts in a facility. The integration provided the staff members with alerts from the call light systems, wander guards, and bed alarms.

Smartwatch based notifications were compared to the traditional call light systems and staff members’ response to them. According to Ali and Li (2019), the response time to call lights, bed and chair alarms, and bathrooms was significantly lower than the traditional call light system. Most facilities have implemented the use of smartwatches or other portable call light devices to improve the response time of nursing staff, and decrease falls from beds, chairs, and bathrooms. Balaguera et al. (2017) utilized the Sensable Care System, a pad placed between the mattress and the top sheet, which connects to a nursing staff’s portable mobile device. Due to the different technological ways of monitoring patient movements, the smartwatch prevents patients from falling out of bed by alerting the nursing staff who will then respond quickly. According to Balaguera et al. (2020), there were no falls from beds after implementing Sensable Care during the 11-month of the study. The total falls, time for nursing staff to reach the bed
alarm and turn it off, and the amount of attempted bed exit occurrences were computed and measured by Balaguera et al. (2020).

Nursing leaders and staff members’ involvement constituted another approach by evaluating the nursing staff’s response to bed alarms and the involvement of nursing leaders in response to increased fall rates within the hospital systems. Fehlberg et al. (2020) assessed fall prevention through the nursing staff’s decision-making in the acute care setting and divided those responses into nine themes of fall prevention responses. Staff members found bed alarms to be useful in preventing falls and fall-related injuries (Fehlberg et al., 2020). A response to the bed alarms by the staff members was immediate action and an attempt to prevent the patient from falling (Fehlberg et al., 2020).

The application of a multifactorial approach for fall preventions was encouraged for hospital systems to improve their increased fall rates (Fehlberg et al., 2020). In comparison to the other studies reviewed (Sun et al. 2020; Staggs et al. 2020; Fehlberg et al. 2020) Camron et al. (2018) were unsure of the certainty of fall alarms nor staff involvement in the prevention of falls but encouraged the multifactorial fall preventions approaches. While Cameron et al. (2018) maintains the uncertainty of fall alarms and staff involvement in preventing falls, Francis-Coad et al. (2020) asserts staff implementation of bed alarm alone was not effective but encouraged implementing a combination of interventions such as early detection of fall risk factors, bed alarms, low beds, and patient sitters as a priority to decrease fall rates.

Another approach for fall preventions examined proper and immediate documentation of fall prevention attempts by the nursing staff. Fall prevention strategies are ongoing in many facilities, yet documentation of the implemented prevention
strategies was not evident within the patients’ electronic medical records (EMR) (Johnson et al., 2015). Nursing staff members are encouraged to timely document all implemented fall precautions, including the use of bed alarms. Among the seven prevention strategies noted by Johnson et al. (2015), all showed improvement in preventing falls with the inclusion of bed alarms. The consistent utilization of bed alarms for patients with increased risk of falling and pre-existing risk factors of falls resulted in a 44.5% decrease of falls per month (Melin, 2018). Melin (2018) modified the facility's pre-existing fall prevention protocols and involved the staff in the change for improving patient outcomes. Fall prevention implementation may seem impossible and daunting to the nursing staff, but with the appropriate assistance and purposeful aim ‘for higher levels of performance’ (Oster & Braaten, 2017, p. 1), the impossible can be achieved. Oster and Braaten (2017) encourages a culture of safety and the involvement of every individual within a healthcare system, such as nursing leaders, managers, and bedside staff members in the prevention of falls. Fall program initiation and implementation require nursing leadership engagement for its success and maintenance (Sun et al., 2020).

Fall prevention programs exist to keep patients safe and improve health outcomes and are an essential duty for the nursing staff. In identifying patients’ fall risk factors early in the admission process and throughout the patients' hospital stay as a priority to decrease the likelihood of falls (Fehlberg et al. 2020; Francis-Coad et al. 2020; Oster & Braaten, 2017; Sun et al. 2020; Staggs et al. 2020). Fall prevention programs should be utilized with the implementation of the 4P’s (Pain, Position, Placement, and Personal needs), hourly rounding, and fall mat placements to lower the rate of falls and fall-related injuries (Fehlberg et al. 2020; Francis-Coad et al. 2020). The literature review also
supported the effectiveness of promptly responding to alarms was key to assisting the nursing staff in the prevention of falls. Given this review’s findings and the current status of practice at the project site, implementing a program to increase staff response to bed exit alarms was selected for this project.

The IOWA model of Evidenced Based Practice (EBP) framework guided this program evaluation toward the improvement of patient care in the clinical setting. The problem focused-trigger is the noted decrease in the nursing staff’s response to bed alarms and the increase in fall rates. An interdisciplinary team was formed consisting of nursing leaders, vendors, environmental services, and the mobility team (a physician, physical therapist, occupational therapist, nurses, and PCT). This team evaluated the need to implement a pilot HAP to explore “In adult patients receiving care on a medical-surgical unit, will the implementation of a HAP, compared to the traditional alarm response system, resulting in a 10 percent reduction of falls and fall-related injuries over a three-month period?” The literature search provided sufficient evidence to support the implementation to evaluate the HAP. The results will provide sufficient data to the decision-makers to continue the program evaluation, adopt the change, or re-evaluate.

Methods

Design

A prospective, observational design was utilized for this non-experimental quality improvement project. The data collected assessed the number of timely responses to alarms made by all staff members from September 2021 through November 2021.

Setting

The program evaluation took place on a medical surgical unit in a 487-bed metropolitan facility situated in the Midwest of the US. The unit is 5 South, a 28-bed
medical-surgical unit with one clinical support nurse (CSN), five staff nurses, and three clinical partners if the unit is full and adequately staffed. Approximately 90% of all patients admitted daily to 5 South are moderate to high fall risk using HDS.

Sample

The patients with moderate to high HD scores were placed on bed alarms and the staff monitored and promptly responded to bed alarms. A convenience sample of all reported timely responses to bed alarms from all staff members through the utilization of HAP was recorded September 2021 to November 2021. The results of fall rates from the three months study were compared to those of June 2021 through August 2021.

Participants included core nursing staff (registered nurses and patient care technicians), administrators, team leaders, and service staff who were in-serviced on the HAP. Inclusion criteria are bed alarms and fall risk assessment based on the HD Scoring Scale. The exclusion criteria include chair alarms, pediatric populations less than 18 years of age, and video-based bed exit alarms.

Procedures

In-services were provided by the project team to help core nursing staff further understand the pilot study and its expected requirements. There were meetings with the HD Nursing team concerning the implementation of the Hustler award on medical-surgical units at the facility. This team monitored the use and progress of the HAP at UTSW Medical Center in Dallas, TX (HD Nursing, 2020).

This pilot study focused on the use of the HAP, which included equipment in-service concerning the proper use of bed exit alarms for fall prevention and the imperative to respond quickly. A sealed box labeled the Hustler Award was placed at the
nurse’s desk. Each time there was an exit/bed alarm activated, the staff nurses were encouraged to each do their best to reach the alarm first. Once the first staff member reached the alarm, charge nurse will report and place the staff member’s de-identifying number in the sealed box labeled the Hustler Award Program (HAP). At the end of each week the results were tallied and the winner received an enamel pin to wear on their badge to outwardly identify the staff member’s dedication to patient safety.

Data Collection and Analysis

The data collected to evaluate the impact of this project did not include any patient information. Data included fall and injury rate outcomes from 2020 before implementing HAP and fall and injury rates during the HAP intervention period for both intervention and control units. A $t$-Test was anticipated to be used to analyze the significance, if any, of the findings. The data collected did not provide specific patient information and did not allow for a descriptive statistic to be completed hence, no $T$-Test was utilized for statistical analysis. The data collected was to promote patient safety, satisfaction, and create a culture of proactivity for the staff members. The projected outcome for this pilot study was to lower both the fall and injury rates of the intervention unit. The Hester Davis Scale was used to determine fall risk for every patient. This tool also determined which patients should be placed on bed alarms based on the final scores. This is the standard of care at the project site and will not be a deviation from how this validated tool was used. What was different was the HAP intervention incentivized the nursing staff to quickly respond to all bed exit alarms.

Approval Processes
The required approval for this program evaluation came from the facility chief nursing officer (CNO), the quality improvement manager, the designated unit manager, committee chair and members, and the university IRB approval board. There was no need for consent from the patients nor the staff members. The staff members were encouraged to participate in the program as the study intervention involved usual care and minimal risk to nursing staff participants. The DNP committee for this program evaluation reviewed and approved this proposal. To ensure compliance with ethical principles in quality improvement and research, the principal investigator completed the online eCompliance through the IRB training website provided by the college of research at a midwestern university in the United States. The training was completed in November 2021.

**Results**

The results captured is for the evaluation period occurring September through November 2021. The staff responded to \(N=52\) exit bed alarms, which yielded a response rare in September 15.4% \((n=8)\), October 73% \((n=38)\) and November 11.6% \((n=6)\) (see Figure 5). There were \(N=14\) falls from the bed alarms, during the evaluation period, September \((n=3; 21.4\%)\), October \((n=4; 28.6\%)\) and November \((n=7; 50\%)\). Prior to the evaluation period June-August 2021, there were \(N=10\) falls. The number of falls for June \((n=1; 10\%)\), July \((n=5; 50\%)\) and August \((n=4; 40\%)\) (see Figure 6). However, prior to the evaluation period the number of falls resulting in injuries was \(N=1\) and during the evaluation period was \(N=0\) (see Figure 7). The average patient days prior to the program evaluation \(N=762\) and average post program evaluation \(N=780\) which
resulted in approximately \((n=28; 4\%)\) extra patient days in the post program evaluation as compared to the preprogram evaluation period (see Figure 8).

When answering the question “In adult patients receiving care on a medical-surgical unit, will the implementation of a HAP, compared to the traditional alarm response system, result in a 10 percent reduction of falls and fall-related injuries over a three-month period?” The data analysis shows that there was a 1.64 per 1,000 patient days increase in fall rates during the post implementation period of the HAP as compared to previous months as seen in Figure 8. In summary, although there was an increase in number of falls there was more than a 10 % decrease in the number of falls with injuries. It is possible that the HAP can be utilized in decreasing fall related injuries and with further trials HAP may be able to decrease the rate of fall rates for the designated units.

**Discussion and Recommendations**

The increased in patient days in October caused an increased in responses to bed exit alarms. A few contributing factors for the increase in fall rates include the use of float pool and agency staffing, inadequate staffing ratios, and poorly communicated plans for the program evaluation during shift huddles by charge nurses. Liang, Wei, Ma and Hsiao (2020) stated that increased in patient days can become burdensome on staffing needs and places hospitalized patients at an increased risk of falling.

Moreover, with the increase in patient days the unit in which this project took place may need to review their staffing demands. Normal staffing for the unit of choice is one charge nurse, five staff nurses, and three care partners but this has been fluctuating due to the increase in patient days, which requires more staffing. Inadequate staffing can cause a tremendous burden on other teams requiring assistance from the charge nurse.
Inadequate staffing is never a good practice in maintaining appropriate patient safety. Due to the nursing shortage and crisis occurring in the nation, many facilities are utilizing nursing agencies to assist in accommodating their staffing needs and care for patients (Lamphier, 2021). In attempting to provide proper staffing many facilities have fluctuating staff members and keeping all staff members informed has become an issue. Many policies and procedures are not well known by float pool or agency nurses, which can be difficult in educating staff members concerning the HAP. The recommendations for the facility from this program evaluation are consistent shift huddles concerning proper scoring of the patients’ fall risk utilizing the HDS scale, implementing proper interventions based on the HDS, and proper staffing accommodations based on unit staffing needs and nurse to patient ratio.
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Figure 1: the IOWA of Evidence-Based Practice is used in identifying the problem and its interventions.
Figure 2: Cumulative inpatient fall events occurring at DePaul Hospital in the year of 2019, with each unit’s name and total number of falls listed above.
Figure 3: A review of patient activities at the time of fall in 2020 with 130 patients falling from the bed.
## Appendix D

Table 1. Types of alarms

<table>
<thead>
<tr>
<th>Source</th>
<th>Bed Alarms</th>
<th>Exit Alarms</th>
<th>Fall Alarms</th>
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<td>Ali &amp; Li, 2018</td>
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<td>Balaguera et al., 2017</td>
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*Table 1:* Sources with their associated alarm types. X= alarm mentioned during review of literature.
Appendix E

Figure 5. Staff response to bed alarms during program evaluation (nursing participation during the program evaluation)
Appendix F

Figure 6. The number of falls occurring from the bed pre and post program evaluation
Appendix G

Figure 7. The number of falls and injuries occurring pre and post program evaluation
Appendix H

Figure 8. The average patient days pre and post program evaluation