

**ARTICLE**

# Hourly Rounding and Fall Prevention among the Elderly in Long Term Care: A change Process

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ABSTRACT

Long term care facilities have a rising rate of falls and fall related injuries with increasing cost and more hospitalization. Hourly rounding® is an evidenced based intervention that is proactive for nursing staff to be able to identify patient's needs. This helps with positive fall prevention outcome. This project focused on process improvement efforts for 10 weeks and examining the education and implementation of an evidenced-based hourly rounding program that assisted in reducing the number of falls in the pilot unit. The implementation of the intervention took place in a long-term care facility located in Dallas, Georgia. The hourly rounding tools used in this project were the Studer Group hourly rounding log and competency checklist with permission. Twenty staff members were included in the sample, age 18 years and 60 years. The unit has 41 residents who were included in the pilot case study design. Staff members were first educated regarding hourly rounding and documentation on the hourly rounding log was done two days before implementation and the pre and post fall rate was retrieved from the facilities fall database. Competency checklist was completed prior to implementation and post implementation to evaluate staff understanding of the main tenets of the 4 P's (potty, pain, possession, and position). For this project, descriptive statistics was used to help determine fall rates. Minitab was used to analyzed data and to determine if it was clinically significant. In the ten weeks following the hourly rounding implementation, participants performed hourly rounding by incorporating it to each resident's daily routine and documented their rounds on the log sheet. The results indicated that it is statistically significant and with a P-values = <0.0001 and t-value = -5.81.

## 1. Introduction

Long term care (LTC) staff face a difficult task of keeping residents from falls and falls-related injuries daily. Residents in these facilities are 65 years and older. They have had longer stay in the facility, multiple comorbidities, cognitive and functional decline capabilities that put them at risks for falls. According to the CDC (2016).<sup>[1]</sup>, older adults residing in long term care facilities account

for about 30% of deaths from falls. With increasing frequency, patient fall account for the number one cause of injury and deaths from the entire older adult population. In these LTC facilities, yearly reported falls are over 100 among the older adult group. Twenty percent of fatal falls happen at long-term care facilities and these injuries can be detrimental with long term effect on the overall health of this group of adults with the average cost of hospitalization to treat an injury of \$30,000 (CDC, 2016).<sup>[1]</sup>

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There is the need for organizations to develop and continue to enhance a culture of safety because patient safety is the cornerstone of high-quality healthcare (Mitchell, 2008).<sup>[2]</sup> The safety of the residents in these facilities must be guarded by nursing staff to prevent falls and fall-related injury. It is very important for fall prevention strategies to be multifactorial to help address the physical, psychological, functional, and educational components of the problem at hand. Nursing staff must be engaged in a collaborative and interdisciplinary manner in addressing ways to reduce falls and injuries related to falls (Wexler & D'Amico, 2015).<sup>[3]</sup>

### 1.1 Purpose

The purpose of this project was to improve resident's safety by decreasing the total number of falls as well as evaluate the effectiveness of education post implementation of hourly rounding® with the pilot unit's fall rate. The implementation of this quality improvement and evidence-based hourly rounding program allowed nursing staff to be more proactive resident's needs. One of the main objectives was to assess staff's compliance with performing the 4 P's as the main tenets of hourly rounding and documenting on the rounding log. During the pandemic, inconsistencies with documentation and floating of staff was taken into consideration. This project considered alternative outcomes from expected goals using clinical reasoning and changes were made accordingly. According to Simmons (2010),<sup>[4]</sup> clinical reasoning involves a complex process of utilizing formal and informal thinking methods intended to evaluate summed up patient information to determine whether alternative actions were valuable.

### 1.2 Local Knowledge of the Problem

According to the Georgia Department of Health (2016), from 1999 through 2014, an average of 1166 Georgians died from fall-related injuries which accounted for about 389 per year. Persons 65 years and older accounted for 75% of fall related deaths. (Georgia Department of Health, 2016).<sup>[5]</sup> The unit fall and fall with injuries is higher than the state and the national average of 3.8%. Based on monthly fall audits and data from facility's quality manager, the average number of monthly falls was 15 falls with injuries ranging from minor skin tears to fractures.

### 1.3 Significance of the Problem to Nursing and Healthcare

In implementing hourly rounding program in the Nursing center, the significance would include the involvement of creating a healthcare arena allowing for a reduction of falls and fall-related injuries. In the pilot unit there is a

lack of a structured and multifactorial fall prevention program has led to an increase in falls thus residents' safety needs are not being met. Using the 4 P's during hourly rounding, is one of the common outcome measures.

### 1.4 Benefits of the Project to Practice

It is important that staff feel empowered and included in the decision-making process, as well as being educated on the importance of hourly rounding and fall reduction. Reducing the rates of falls in LTC has become a significant patient safety and quality initiative. Nurses can value the use of evidenced based intervention of hourly rounding for positive outcomes, thus decreasing falls and fall with injuries and costs. Implementing a structured hourly rounding protocol will allow the staff to be proactive in attending to resident's needs while addressing the 4 P's.

### 1.5 PICOT

The following is the PICOT question developed for this project:

For adult residents in LTC units aged 65 years and older (P) does education on hourly rounding provided to nursing staff (I) compared to no education on hourly rounding (C) reduce the number of falls among resident in the LTC units (O) over a ten-week period (T)?

## 2. Methodology

This project evaluated whether education and the implementation of an hourly rounding program impacted the number of resident falls in the pilot unit. The hourly rounding tools were the Studer Group hourly rounding log (see Figure A) and hourly rounding competency checklist (see Figure B). These tools were used to determine whether education and the implementation of hourly rounding interventions will affect the number of falls.

The form is titled "HOURLY ROUNDING LOG" and includes fields for "Date", "Room #", "Bed #", and "Stamp Patient Information". It features a grid with columns for "TIME PERIOD", "PATIENT INITIALS", "RN", "PAIN", "HYDRATION", "POTTY", "PERSONAL CARE", and "COMMENTS". The grid is divided into two sections: "EVENING HOURS ROUNDING (6 AM - 10 PM)" and "EVENING HOURS ROUNDING (10 PM - 6 AM)". Below the grid, there are fields for "RN Name (Please Print)" and "In" for each section, and a note: "This is not part of the permanent medical record". The footer includes the Studer Group logo and copyright information: "© 2007 Studer Group".

Figure A. Hourly Rounding Log (Studer Group, 2007)

HOURLY ROUNDING COMPETENCY CHECKLIST

DATE			
NAME			
DEPARTMENT			
EVALUATOR		COMMENTS	
<b>INTRODUCTIONS</b>			
Knock on door prior to entering - ask permission			
Manage up your skill or that of your co-worker			
Use good eye contact			
<b>EXPLAIN HOURLY ROUNDING UPON ADMISSION</b>			
Explain the purpose of hourly rounding (initial visit)			
Use key words "very good" care			
Describe rounding schedule (6am-10pm q1hr, 10pm-6am q2hr)			
<b>UPDATE WHITE BOARDS</b>			
Place name on white board			
Update nursing plan of care/goals for patient			
<b>ADDRESS 3P'S PAIN, POSITION, POTTY</b>			
How is your pain?			
Are you comfortable?			
Do you need to go to the bathroom?			
<b>ASSESS ENVIRONMENT</b>			
Move items within reach (table, call bell, phone, water)			
<b>PERFORM SCHEDULED TASKS</b>			
Complete MD ordered treatments, procedures			
Complete nursing care as needed			
Administer scheduled medications			
<b>CLOSING</b>			
We will round again in about an hour			
Is there anything else that I can do for you? I have the time			
Document your rounding on rounding log			

Give Welcome Cards to introduce hourly rounding to all patients (new admissions and transfers)  
 We round hourly on our patients to assure that you receive "Very Good" care. We round every hour between 6am - 10pm q1 every two hours between 10pm - 6am. We will not wake you if you are sleeping unless we need to. If anytime during your stay, you feel you are not receiving "Very Good" care, please let us know immediately so that we can address your concerns.  
 Complete Self Assessment, practice and then have a Leader observe you

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**Figure B.** Hourly Rounding Competency Checklist. (Studer Group, 2007)

### 2.1 Overview of the Design

The study design for this project is a case study design. This was achieved by observing effects of education and the implementation of hourly rounding in conjunction with addressing safety in terms of fall interventions measures of the residents in this unit. Education was provided to staff in the unit on hourly rounding and how to complete hourly rounding log sheets.

### 2.2 Sample/Setting

The residents in the selected unit are age 65 years and older male and female and are included in the population sample. The inclusion criteria for this project are resident's medical condition, age, assistive device usage. The project evaluated a unit in the facility, a 41 bed LTC unit that is experiencing an increase in the number of falls and explored how education and implementation of an evidence-based hourly rounding process combined with other multifactorial fall prevention strategies impacted the nursing-sensitive indicator of falls. There are 20 staff in this unit, Nurses (LPNs, RN,s) and Certified Nurse Assistance (CNAs). With education and implementation of evidenced-based proactive hourly rounding, this project aims at reducing falls in this unit to improve quality of life.

### 2.3 Methods

The hourly rounding tools used in this project was the Studer Group hourly rounding competency checklist and hourly rounding log. All 20-nursing staff in the unit

attended a briefing session, capstone topic was presented including the implementation of hourly rounding. A day of education/teaching lasting two hours was provided to staff prior to implementing hourly rounding using the 4 "Ps" interventions. (Potty, Positioning, Pain and Possession). Education to staff included defining of the 4 "Ps" in hourly rounding, use of the Studer Group hourly rounding tools [6] and how to document in the hourly rounding log. Staff used the hourly rounding tool on a 24-hour basis for all residents in accordance with the 4 "Ps" and facility policy. After staff documentation, the hourly rounding logs were reviewed following a ten-week implementation period. Data collected from the hourly rounding log and fall audit log were analyzed.

### 2.4 Data Collection Procedures

Hard copies of the hourly rounding log spreadsheet were used to evaluate staff compliance and the impact of each hourly rounding component. Data for this study were collected from hard copy hourly rounding log sheets. On the 5<sup>th</sup> and 10<sup>th</sup> week period, hourly rounding competency checklist was completed to assess staff knowledge of hourly rounding. The hourly rounding log was used by trained/educated staff who were assigned unique identification code, P1 to P20 on a 24-hour basis for all residents. Each staff was educated to use their unique identification code to document on the hourly log indicating tasks completed based on the 4 Ps.

### 2.5 Data Analysis

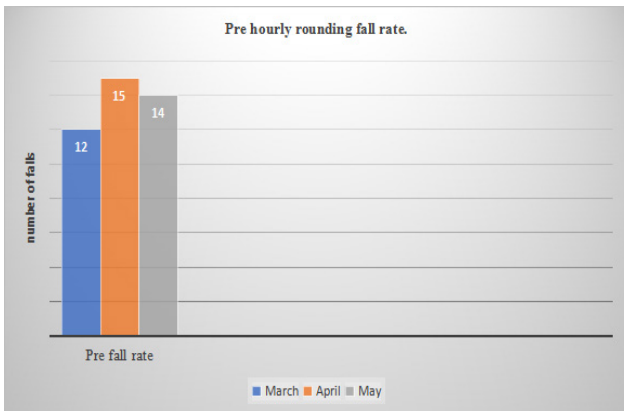
Data was analyzed using Minitab statistical software. The paired t-test was used for this study. For this project, descriptive statistics were used to determine pre- and post- intervention, evaluate staff's understanding of the intervention and to determine staff readiness to change. Data reported included the shift when the fall occurred, location of fall and total number of falls for a 10-weeks period. No resident identifiers were included in the fall audit reports. For data analysis, descriptive analysis was performed to compare pre- and post-fall data before and after the education and implementation of hourly rounding. Post competency evaluation was done by observation of all twenty participants and compiling of data done. A percentage score was given to each participant based on observed tasks completed.

### 3. Results

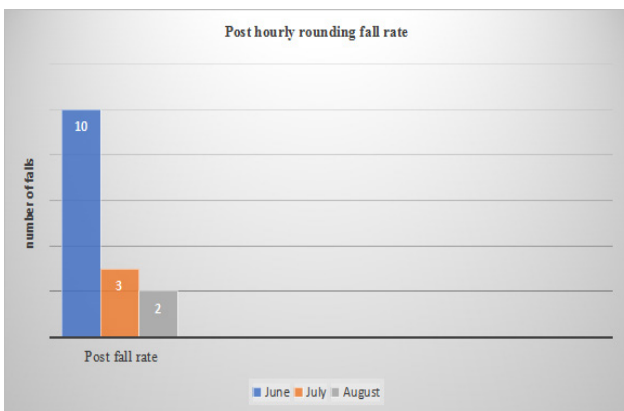
In the ten weeks following the hourly rounding implementation, participants performed hourly rounding by incorporating it to each resident's daily routine. Table 1

shows the pre-intervention fall rate data for the months March, April, and May. The post-intervention fall rates for the months June, July, and August are listed in Table 2. The number of falls were reduced in the months following post-intervention (see Table 3). The three months pre-fall data totaled 41 falls and three months post fall data totaled 15 falls, hence a gross decrease of 36% (15/41) for the reviewed months. Minitab statistical software was used for analysis and a paired t-test was used to compare effectiveness of education pre- and post- implementation. A paired t-test of the 20 participants was performed and the results indicated that there was a statistically significant improvement in the number of falls post-intervention ( $t=-5.81$ ,  $p.<0.0001$ ) (see Table 4). A paired t-test indicated that there was a statistically significant improvement in participant knowledge on hourly rounding post-implementation. ( $t=18.76$ ,  $p.<0.0001$ ) (See Table 5). Based on the results, the null hypothesis is rejected. The results are statistically significant and with a P-values below the significant level, this indicated change and improved knowledge with the participants.

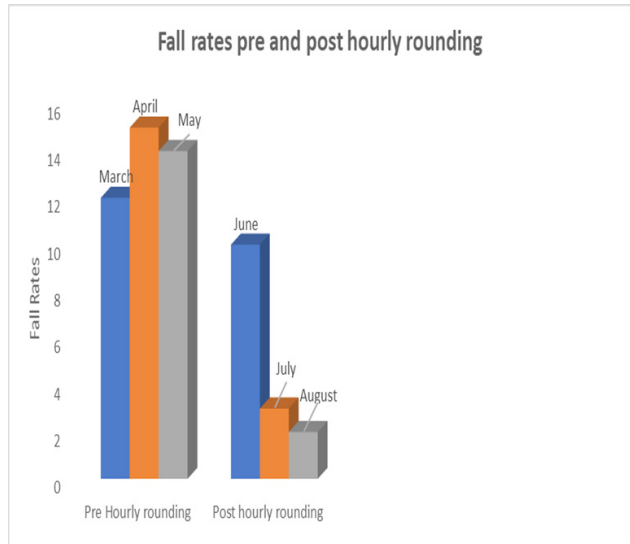
**Table 1.** Pre-hourly rounding fall rate for March, April, and May



**Table 2.** Post-hourly rounding fall rate for June, July, and August, showing significant decrease in fall



**Table 3.** Fall rates pre and post hourly rounding (Comparison Table)



**Table 4.** Paired t-test Fall rate

Paired t: pre, post

Descriptive Statistics

Sample	N	Mean	StDev	SE Mean
pre	20	72.800	7.252	1.622
post	20	85.050	6.716	1.502

Estimation for Paired Difference

Mean	StDev	SE Mean	95% CI for $\mu_d$
-12.250	9.425	2.107	(-16.661, -7.839)

$\mu_d$ : mean of (pre - post)

Test

Null hypothesis  $H_0: \mu_d = 0$   
 Alternative hypothesis  $H_1: \mu_d \neq 0$

T-Value	P-Value
-5.81	<0.0001

**Table 5.** T-test rounding Competency Checklist

Paired t: Pre, Post

Descriptive Statistics

Sample	N	Mean	StDev	SE Mean
Pre	20	41.700	10.423	2.331
Post	20	80.250	7.390	1.653

Estimation for Paired Difference

Mean	StDev	SE Mean	95% CI for $\mu_d$
-38.550	9.191	2.055	(-42.851, -34.249)

$\mu_d$ : mean of (Pre - Post)

T-Value	P-Value
-18.76	<0.0001

## 4. Discussion

The main purpose for this project was to determine if education and the implementation of hourly rounding would decrease the number of falls. According to Rapp et al., (2010),<sup>[7]</sup> in LTC falls are a major health concern among the elderly. Hourly rounding serves as a monitoring tool for the nursing staff to proactively meet the needs of the residents thereby maintaining safety and comfort. There was an improvement in staff performance involving change in behavior and practice. During data analysis it was noted that the first month showed inconsistencies with documentation in the log as well as appropriate use of unique assigned codes. Staff initials were occasionally noted on the log. Re-education was done on completing the hourly rounding log with the use of assigned codes. During the data collection phase, the CDC guidelines implemented during the pandemic played a role in changes with documentation. However, though there were many changes during this period, it was noted that staffing needs in the unit were consistent with little or no floating of staff.

## 5. Conclusions

This performance improvement project was successful in applying evidenced based practice with great outcome to decrease falls in the pilot unit of the nursing home. Based on the results, the number of falls were reduced in the months following post intervention. The three months pre-fall data totaled 41 falls and three months post fall data totaled 15 falls, hence a gross decrease of 36% (15/41) for the reviewed months. Though, the implementation of hourly rounding is mostly instituted in the hospital, the outcome of this project indicated a positive outcome. Performing hourly rounding gave staff an understanding of being proactive rather than being reactive to the needs of the residents. Staff awareness was one of the changes noted in documenting of the actions in the hourly rounding log sheet and in attending to the resident's needs. The morale of the staff in implementing hourly rounding was heightened, and thus indicated a receptive attitude. Education provided before implementation created awareness, and therefore highlighted the importance of a fall prevention protocol that changed staff behavior when providing direct care.

## References

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## Glossary

4 P's = Potty, Pain, Possession, and Position

LTC = Long Term-Care

CDC = Center for Disease Control

PICOT = Population, Intervention, Comparison, Outcome, Time

CNA = Certified Nursing Assistant

RN = Registered Nurse

LPN = Licensed Practical Nurse

## Funding

It is worth noting that this project received Institutional review board (IRB) approval number IRB00009705, and this manuscript is not presently under consideration for publication. There are no co-authors for this project.

There is no conflict of interest and no grant was received for this project. A written consent was received from participants prior to the project.