Fall 8-7-2018

Introduction of Communication Strategies to Decrease Patient Falls in an Acute Rehabilitation Setting

Alicia Joachim
ajoachim14@yahoo.com

Introduction of Communication Strategies to Decrease Patient Falls in an Acute Rehabilitation Setting

Alicia Joachim

University of San Francisco

Abstract

Background: Due to the lack of appropriate fall prevention measures in an acute rehabilitation unit, there has been a notable increase of patient fall occurrences within a 6 month period. The purpose of this practice improvement project was to reduce patient falls within a 36-bed unit, using visual aids and effective communication among nursing staff. The multi-disciplinary members involved licensed nurses, nursing assistants, nursing supervisors, director of nursing, and executive administrator.

Methods: The method used to implement this project included a literature search, informational interviews and staff surveys, and prioritization of interventions by the team. Project implementation was guided by the Diffusion of Innovation change theory of Everett Roger that underscores the need to assess different levels of staff engagement and readiness to change. An initial analysis of data related to patient falls was retrospectively reviewed over a period of 6 months. Upon review of the existing fall risk assessment tool, further interventions were suggested for improvement. ***Interventions****:* The nursing staff was questioned to evaluate their knowledge of fall prevention and their learning needs to provide more effective communication. As a result, staff huddles and visual aids were prioritized and implemented. ***Results:*** After educating the nursing staff on the prevention of falls and implementing new measures to decrease the occurrence of such events, the following results were attained. Over a 6 month period, the average monthly fall rate was 7.1. After the intervention over a 4-week period falls decreased by 30%. ***Conclusion:*** Preventative strategies, including huddles and visual prompts, were utilized to successfully reduce patient falls. Heightened awareness and consistent accountability by professional staff can result in a significant decrease of such events.

Keywords: staff huddles, visual aids, fall prevention, acute rehabilitation, communication

Problem Description

As defined by Mussi et al. (2013), a fall is an event which results in a person coming to rest inadvertently on the ground or at a lower level. Specifically, in the microsystem of a suburban, acute rehabilitation unit, there has been an increase of reported falls. Upon the assessment of this microsystem, baseline data revealed a rate of patient falls averaging 7.1 per month, from November 2017 to April 2018. After interviewing staff related to causes and incidents of patient falls, it is apparent there was an obvious lack of effective communication among the nursing professionals.

Communication is a key component in the assurance of patient safety. For instance, upon admission and/or continuum of care, the patient must be properly assessed for the degree of fall risks. Otherwise, the lack of proper assessment can result in patient harm and negligence of care. Negligence of care can extend to the inadequate or absence of communication. In addition, it became apparent that communication between shifts, identifying high fall risk patients, should be prioritized.

According to Mussi et al. (2013), annually, 60% of 246 surveyed elderly patients, 65 years or older, have experienced a fall, while residing in a skilled nursing facility. Associated with this evidence, the incidentce of falls occur on more than one occasion. Additionally, as cited by Mussi et al. (2013), the following types of falls were reported in this specific geriatric population: accidental (40.2%), medical (10.2%), dementia-related (12.6%), and unexplained, with no obvious cause (37.0%). The authors concluded that medicals costs, debilitating disease(s), and even death, can all be attributed to these injuries. As a result, it is imperative for nursing professionals to perform initial and ongoing patient assessments, in conjunction with

practical and productive communication. Safety as a priority of patient-centered care, can be directly impacted by the quality of communication (Ellison, 2015).

Rationale

In this specific setting, there was a high ratio of patients to nurses, i.e. 15 to 17 patients assigned to one licensed nurse. Many of these patients were in need of extensive staff assistance, which placed them at a higher risk of falls and injuries. Steinbinder (2016) found that there is a higher risk of falls in respect to age increase and inpatient settings. As a result, there is a need for accurate reporting of current patient health status between licensed nurses and nursing assistants. Many times, the lack of communication between nursing staff contributes to the risk and potential harm of these patients.

Using the framework of PICOT (Population, Intervention, Outcomes, Timeframe), the main objective of this practice improvement project was to demonstrate effective interventions for areas in need of change within this microsystem. Consequently, the following question arose: does a prospective communication tool and visual aids between nursing staff decrease the risk of patient falls compared to present staff assignments of the geriatric population in an acute rehabilitation unit over a four week time period?

Prior to the implementation of this change strategy, the assessment of a patient's risk of falls was not a high priority. Information regarding the assessment of a patient's high risk for falls, compiled at the time of admission, was not properly communicated among staff on a recurring basis. At times, pertinent communication can be overlooked or ignored due to the daily demands of one's work assignments. During the change of shifts, essential information can be disregarded, which impacts proper care to the patient. In the healthcare setting, poor and/or lack of communication resulted in more than 70% of facility care injuries or errors (Goncalves,

Rocha, Anders, Kusahara, & Tomazoni, 2017). It is evident that inadequate communication between staff members could account for patient falls. Hence, the implementation of a multifaceted change project, guided by a PICOT question and comprehensive literature search, provided the evidence base and rationale to address identified gaps in fall prevention.

Specific Aim

The goal of this project was to reduce the number of patient falls in a specific clinical setting. In addition, the purpose was to implement a strategic plan to establish effective communication at the change of shifts, resulting in improved patient safety. In particular, the specific aim was to reduce patient falls by 40% with staff huddles and visual cues within the acute rehabilitation unit over a four week timeframe from June 2018 to July 2018.

Context

Clinical microsystems are small units within an organization that are directly related to patient safety and quality improvement of healthcare. Specifically, a nursing unit of a skilled nursing facility is identified as a microsystem, where an interdisciplinary team of healthcare professionals work together to provide patient care. The functions of this specific nursing unit, as a clinical microsystem, are assessed and improved to provide high quality patient care and positive patient outcomes. According to Nelson, Batalden, and Godfrey (2007), all healthcare professionals play a specific, important role within the nursing unit clinical microsystem to improve and maintain a high performing microsystem. In order for the nursing unit to proceed with achieving goals and improving outcomes, a detailed assessment of the microsystem must occur. The following clinical microsystem assessment of this nursing unit was completed using the microsystem assessment tool from The Dartmouth Institute (2015). The assessment tool analyzes the above-mentioned microsystem using the following 5 Ps: Purpose, Patients,

Professionals, Process, and Patterns (See Appendix A: Microsystem Assessment: Acute Rehabilitation Unit Profile).

Purpose

The acute rehabilitation unit in a skilled nursing facility provides 24-hour nursing care and rehabilitation services to patients recovering from chronic and acute illnesses, as well as surgical procedures. The purpose of this microsystem assessment was to evaluate communication among nursing staff. In addition, data was collected on fall preventative measures. Assessments were compiled according to the patient's fall risk factors: mobility, cognition, and elimination needs. Staff was evaluated on their comprehension of fall precautions and interventions. Upon receipt of pertinent data collection of this particular setting, there was an acquired understanding of the patient care deficits and needs.

Patients

Patients who are admitted to the acute rehabilitation unit receive hands-on care from licensed nurses, physicians, physical therapists, occupational therapists, and speech therapists. This 36-bed unit has a daily census of approximately 30-35 patients. Care is provided to these patients who are recovering from a wide range of disorders and/or medical procedures, including orthopedic (43%), neurologic (14%), infection/wound care (14%), cardiovascular 20%), and metabolic/endocrine (9%). The majority of the patient population is 65 years and older. The gender of the patients is evenly distributed throughout the unit. Patients admitted to this unit are in need of extensive assistance with activities of daily living (ADL). With the assistance of rehabilitation services, the patients are expected to be discharged with limited or minimal assistance with ADLs.

Professionals

There is a team of professionals who provide care to the patients within this studied unit. Depending on the shift, the number of licensed nurses and nursing assistants may vary. Every shift, there are at least two licensed nurses who provide care to the patients, of which one is a registered nurse (RN). There are approximately three to four nursing assistants who are evenly assigned to the patients of this unit. In addition, two primary physicians attend and provide care to the patients. During the day, there are two occupational therapists, two physical therapists, and one speech therapists who attend the rehabilitative needs of the patient. There are on-call staff members and a float nurse, who is present during the night shift. For staffing patterns, there are approximately 15 to 17 patients assigned to one licensed nurse per shift. However, the nursing staff are the primary clinicians who are directly involved with patient care and the implementation of the change strategy.

Processes

Throughout each shift within this unit, there are many processes that take place to manage and provide care to the patients. The licensed nurses report diagnostic testing results to the physicians, provide phone advice, educate patients and their families, provide preventative measures, and provide chronic disease management and palliative care. The nursing assistants provide toileting care, ADL assistance and bedside care to patients, and directly report vital patient information to the licensed nurses. The therapists provide rehabilitative services to improve patient mobility, strength, and fine motor skills. The physicians manage patient care by examining the patients, prescribing medications, discussing patient needs, and following up with patient care. This unit is managed by a collaborative team of nursing supervisors.

Patterns

Upon review of the processes that occur within this specific unit, there are areas that need improvement. These areas of improvement are identified as patterns. The following patterns requiring improvement include: hand-off reports between shifts among all nursing staff, fall prevention protocol, reporting of abnormal diagnostic lab results to physicians, and proper education to patients/families upon admission and discharge. The above-mentioned patterns present a significant risk to the patient, and could potentially result in injury and/or harm to the patient. It is important that these patterns are addressed in order to improve patient safety and outcomes.

This clinical setting, which is a small unit of a healthcare organization, provides care to the patients. This microsystem includes an interdisciplinary team delivering patient care, along with ongoing processes that result in patterns of information. The functional building blocks of the organization comprise the microsystem, which relies on patient satisfaction, staff satisfaction, and linked processes.

Intervention and Methods

The identified area of improvement was reached during the process of assessment of the microsystem. Through observation and data collection, an increase of patient falls was reported. With such results, a staff survey to assess patient fall protocol and staff communication was provided to the involved team of nurses assigned to this unit (See Appendix B: Staff Survey). Consequently, there was a significant lack of staff knowledge concerning fall preventative measures, identification of these patients, and an effective communication method among staff. It was concluded there was an apparent need to provide safe, quality patient care and prevent

patient falls, which led to implementation of these strategies of change, i.e., visual cues and staff huddles. During the initial steps of the project, a Gantt Chart was used to track the progress of these new communication tools (See Appendix C: Gantt Chart- Acute Rehabilitation Unit). The useful tool of a Gantt chart tracked the improvement schedule while implementing the interventions.

Upon recognition of the problem, it was concluded that there was a crucial need to implement effective meetings among all nursing staff before shifts to identify high fall risk patients. As a result, the next step was to emplace staff huddles. According to Agency for Healthcare Research and Quality (2013), an evidenced-based and comprehensive systems-based approach to improving overall communication techniques across the continuum of care is the Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS). TeamSTEPPS is an evidence-based model for supporting a culture of communication that focuses on improved teamwork and patient safety. For example, the implementation of staff huddles is a crucial step toward achieving effective communication for the acute rehabilitation unit.

After determining that the unit was in need of improved communication techniques, the next step was to administer the necessary training to achieve improved exchange of information (See Appendix D: Educational Plan to Implement a Huddle). In addition, there was an introduction of a method to identify patients who were a high fall risk upon admission (See Appendix E: Catch a Falling Star). For improved patient safety, this communication tool was used to instruct the staff to comply with the steps necessary to identify high fall risk patients. As a result, there was a 4-6 hour in-service course to educate all nursing staff on the importance of communication and visual cues in a healthcare setting. At the beginning of the educational in-

service course, there was an outline of expectations and learning objectives related to TeamSTEPPS communication strategies and the implementation of a staff huddle before each shift. Once the staff was introduced to the learning objectives, the in-service course provided the fundamentals of TeamSTEPPS by leveraging active learning strategies, i.e., role play, exercises, and simulation. At the end of the training course, all nursing were expected to demonstrate at least one huddle as a collaborative team.

Throughout the few days following the educational in-service course, bulletin boards with an explanation of TeamSTEPPS communication techniques was placed at the nursing station and break room. Correct implementation is a critical step to ensure nursing professionals understand the purpose of TeamSTEPPS huddles. It ensured that the nursing professionals were able to competently perform effective staff huddles before shifts.

After the staff was educated on the importance of effective communication through huddles and visual cues, nursing managers observed staff to determine if staff members needed further training to demonstrate an efficacious use of standardized communication techniques. Specifically, after the teaching and simulation of training drills with above mentioned strategies, there was a debriefing of the nursing staff to assess the outcome. This opened the floor to constructive feedback, which promoted a thorough evaluation of various staff. In addition, it was an opportunity to provide further education on implementing and improving the TeamSTEPPS communication tools and visual cues. Most importantly, in order for the nursing staff to sustain behavior change, charge nurses and nursing supervisors continued to support and reward use of this change strategy.

Study of the Intervention

In order for the change strategy to be implemented within this specific unit, there was a need to bring about improvements with the assistance of a change model framework (See Appendix F: Everett Roger's Diffusion of Innovation Change Model). When a setting or environment is attempting to adopt a new idea, even when it has obvious advantages, is often difficult. As cited by Rogers (2003), Everett Roger's diffusion of innovations is a model for change that allows change agents to have awareness of the innovation, motivate and progress with change, implement the best solution for the problem, and evaluate for possible adoption. The five stages of Roger's change model are awareness, interest, evaluation, trial, and adoption (Mitchell, 2013). During the phase of awareness, the charge nurse and nurse supervisor of the unit collaborated to discuss the significance of patient falls due to lack of communication between the staff members at shift change. If the charge nurse and nursing supervisor agreed that the lack of communication resulted in an increased number of patient falls, then the change strategy would be adopted and implemented. During the stages of evaluation, the nursing staff implemented a change strategy of communication tools, which decreased the incidences of patient falls. Lastly, the nursing team ran trials of the strategic interventions to determine if the adoption of the change strategy was effective in decreasing patient falls and possibly be adopted by this particular microsystem.

This rehabilitative setting is a fast-paced environment that involves helping patients and their families deal with short-term, progressive, or long-term impediments and disabilities in ways that constructively facilitate the highest level of function possible. The team of nurses of this unit manage the care of patients, perform a wide array of nursing skills, respond to changes in condition, and bestow psychosocial support upon patients and their families. Roger's change

model incorporates the importance of group discussions and meetings held among the nurse supervisors and staff to explore perceptions concerning the relative advantage, compatibility, and complexity of actions to address the concern of effective staff communication to prevent patient falls. The nursing staff encounters multiple challenges, triumphs, setbacks, and successes during the course of a routine shift. Therefore, this microsystem has a team of nursing professionals that were adaptive to change and more likely to implement a change strategy.

Measures

Upon analysis of the evidence-based studies of patient falls in various settings, it has been concluded that this issue has become one of the top priorities of national healthcare safety concerns. According to the Joint Commission (2015), 1.1 million patients experience falls during inpatient stays, and these falls represent 6.3% of all *sentinel events*, which are serious medical mishaps/injuries involving inquiry and investigation. As cited by Groves, Manges, and Scott-Cawiezell (2016), annually, an estimated 7.3 billion dollars is allocated to medical costs due to preventable injuries. In addition, every year 400,000 hospitalized patients' deaths could have been prevented. As one can see, from the evidence compiled, patient risks of falls can be preventable with the appropriate, needed interventions.

Over several years, the Joint Commission has prioritized patient fall prevention as one of their main objectives. As a result, emphasis has been placed upon fall preventative measures after compilation of patient fall rates and contributing factors of a specific microsystem. These factors are ineffective communication means among nursing staff and inadequate recognition of these high risk patients. This studied microsystem, an acute rehabilitation unit, was found to have a baseline of 43 falls over a period of the following months, from November 2017 to April 2018.

In identifying the issue at hand, the nursing staff of the unit was provided with a survey to assess their level of awareness and need for fall preventative measures. During the implementation of this project, the data was compared on a monthly on-going basis. It had been found that a considerable decrease of falls occurred due to the utilization of staff huddles and visual prompts. It was reported that falls for one month, i.e., June 2018 to July 2018, was decreased by 30%, which totaled six falls.

Analysis

This project utilized qualitative approaches as methods of analysis. The first method used was the Ishikawa Fishbone Diagram, which involved a cause and effect outline that categorized contributing factors of patient falls (See Appendix G: Ishikawa Fishbone Diagram). The diagram allowed a visualization to identify the root causes of patient falls. The second method employed was a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis (See Appendix H: SWOT Analysis). This framework was used to evaluate the effects of this particular change strategy, i.e., staff huddles and visual aids. The benefits of these analytical tools allowed determination of the advantages, causal factors, and challenges related to patient falls for proper execution of this project.

Ethical Considerations

Unfortunately, in any clinical microsystem when there is an introduction of change, resistance is likely to occur. During evaluation of strategies to present new ways to improve outcomes, the following possible barriers were recognized: lack of teamwork acceptance, an inconsistency of performing directives, and lack of staff motivation. Initially, the staff, presented with a new procedure, appeared to be unreceptive and failed to carry out this prevention plan. In addition, once the staff members received pertinent patient information some staff deliberately

ignored to follow through with the appropriate directives. Furthermore, the potential lack of staff motivation may have manifested itself by the absence of staff attendance during meetings.

In order to address these barriers, the nursing professionals had to provide an accepting and non-judgmental work environment for the exchange of patient information among all staff members. Additionally, patient change of condition(s) and/or current patient status had to be addressed by all nursing staff. Consequently, the need to identify any possible power struggles among the staff was recognized. This conflict of authority was reduced and eliminated by allowing all staff members to participate equally while providing feedback. As a result, resolving these issues, empowered and motivated all nursing professionals to excel and to advocate for optimal, safe patient care.

Results

Over the course of the project, the effectiveness of the strategies employed for fall prevention was evaluated. Due to staff huddles and visual aids as preventative measures to reduce patient falls, there was a necessity to measure the number of fall occurrences on a monthly basis. According to Hartmann et al. (2013), the assessment and evaluation processes themselves actually become the tools for an effective change strategy, with little to no monetary cost. Specifically, the measurement of success of these communication tools fell upon the responsibility of the nursing management/supervisors.

With an objective of achieving a decrease of 40% of patient falls by July 2018, an expected measurement outcome would be four falls for the month of July. However, this specific goal was not attained but patient falls did result in a decrease of 30%, i.e. six falls. For the following subsequent years, the main purpose is to reduce patient falls on a continuous basis and improve overall patient safety.

Summary

In an acute rehabilitation setting, emphasis was placed on effective interventions that ensured adequate patient care and safety of the geriatric population, 65 years of age and older. This specific microsystem, a 36-bed unit, provides 24-hour skilled nursing care and rehabilitative services to the patients. The population of patients within this microsystem have conditions relating to the following: orthopedic, neurologic, infection/wound care, cardiovascular, respiratory, and metabolic/endocrine. The functional needs of the patients range from maximum/extensive assist to limited assistance, depending on the patient's current medical condition.

This microsystem unit is staffed with two licensed nurses, and four nursing assistants per eight-hour shift. On a daily basis, there are physical therapists, occupational therapists, speech therapists, and registered dieticians who provide rehabilitative care. In addition, there are two physicians who are the primary providers for the patients.

Microsystems are the synthesis of the individual, team of staff members, and patient. A clinical microsystem produces services and care, which can be measured as performance outcomes. It was observed that an outcome of ineffective communication was found to be a causal component of patient falls. Roger's diffusion of innovations provided a framework for the change strategy to be implemented effectively. This change model involves five stages: awareness, interest, evaluation, trial, and adoption.

Initially, in the first month of study, the nursing staff of the unit was assessed on their knowledge of fall prevention. This assessment allowed insight into areas of needed improvement. Performance issues among the unit's nursing staff was a result of deficiencies in patient care, as well as employee shortenings in knowledge, skills, and/or abilities. Specifically,

the primary flaw in patient safety was the lack of effective means of communication among nursing staff.

As a result, all nursing staff was educated on TeamSTEPPS huddles and visual prompts to bridge the gap within the microsystem. After the in-service educational meeting, consisting of a four-hour session, the nursing staff effectively collaborated and demonstrated safe patient care through the means of staff huddles. Additionally, high risk patients were identified with visual indicators, i.e., red stars designated on patient charts and patient rooms, upon admission. These above-mentioned interventions were utilized over a four week period.

With the educational teaching, and the introduction of staff huddles and visual reminders, communication among nursing staff was a primary focus to improve patient safety. This study was implemented over a six month period, November 2017 to April 2018, resulting in a 30% decrease of patient falls by the end of July 2018. Subsequently, evaluation of this project was a critical phase in determining its success and potential sustainability.

Conclusion

The role of the Clinical Nurse Leader (CNL) is instrumental in the desirable outcome of these purposeful communication strategies. According to American Association of Colleges of Nursing (2013), the role of the CNL, as an outcomes manager, can possibly maximize favorable results to improve patient safety. It is an on-going process of assessment and evaluation of data by the CNL to ensure quality patient care. A CNL is positioned to mentor or coach the interdisciplinary team within a microsystem to evolve and sustain a culture of safety. The role of the CNL is to establish the condition of the microsystem, identify areas that may need improvement, and provide solutions that are continuously evaluated by the team. As cited by Reid and Dennison (2011), fundamental aspects of CNL practice includes the following:

connections with key stakeholders, team involvement, participation in rounding, seeking feedback, clarifying expectations, and personal development planning. Undoubtedly, the CNL dramatically enhanced and improved the deliverance of patient safety within the microsystem by implementing ways to change the style of communication between staff members during the change of shifts.

In conclusion, studies have shown that lack of proper communication can result in injuries, medical complications, and extended length of stay in any health care setting, especially acute rehabilitation and long-term care facilities. Unfortunately, the patient suffers from these consequences, which can lead to unforeseen tragic outcomes. A simple conscientious effort by staff members to exchange pertinent patient information can avoid serious medical events. The implementation of staff huddles and visual prompts incorporate the processes and steps of Roger's change model. This model justifies the need for proper patient assessment and individualized patient care, along with the need for evidence-based change strategies within an acute rehabilitation unit. Effective communication is a critical component to prevent serious, costly medical mishaps, and in turn, to ensure patient safety. Clearly, teamwork and more effective communication to prevent falls in the acute rehabilitation setting benefited from microsystem reassessments, staff engagement, and structured improvement initiatives.

References

Agency for Healthcare Research and Quality. (2013). Module 14. Creating quality improvement teams and QI plans. Retrieved from https://www.ahrq.gov/professionals/prevention chronic-care/improve/system/pfhandbook/mod14.html

American Association of Colleges of Nursing. (2013). *Competencies, curricular expectations and role for clinical nurse leader education and practice*. (Note: pp. 15-16, and pp. 31-38). Retrieved from http://www.aacn.nche.edu/cnl/CNL-Competencies-October-2013.pdf

Ellison, D. (2015). Communication Skills. *Nursing Clinics of North America., 50*(1), 45-57. Retrieved from http://0www.sciencedirect.com.ignacio.usfca.edu/science/article/pii/S0029646514000784?via%3Dihub

Goncalves, M. I., Rocha, P. K., Anders, J. C., Kusahara, D. M., & Tomazoni, A. (2016). Communication and patient safety in the change-of-shift nursing report in neonatal intensive care units. *Texto Contexto Enferm*, *25*(1), 1-8. doi:10.1590/0104 07072016002310014

Groves, P. S., Manges, K. A., & Scott-Cawiezell, J. (2016). Handing off safety at the bedside. *Clinical Nursing Research*, *25*(5), 473-493. doi:10.1177/1054773816630535

Hartmann, C. W., Snow, A. L., Allen, R. S., Parmalee, P. A., Palmer, J. A., & Berlowitz, D. (2013). A conceptual model for culture change evaluation in nursing homes. *Geriatric Nursing*, *34*(5), 388-394. doi:10.1016/j.gerinurse.2013.05.008

Joint Commission. (2015). Goal 9: Reduce the risk of resident harm resulting from falls. NPSG.09.02.01. Long Term Care National Patient Safety Goals Medicare/Medicaid Certification-based Option. Retrieved from http://jointcommission.org/assests/1/6/2015 NPSG-LP2.pdf

Mitchell, G. (2013). Selecting the best theory to implement planned change. *Nursing Management, 20*(1), 32-37. Retrieved from http://home.nwciowa.edu/publicdownload/Nursing%20Department%5CNUR310%5CSelecting%20the%20Best%20Theory%20to20Implement%20Planned%20Change.pdf

Mussi, C., Salvioli, G., Galizi, G., Abete, P., Franco, R., Morrione, A., …Ghirelli, L. (2013). Unexplained falls are frequent in patients with fall-related injury admitted to orthopaedic wards: The UFO study (unexplained falls in older patients). *Current Gerontology and Geriatrics Research*, 1-6. doi:10.1155/2013/928603

Nelson, E. C., Batalden, P. B., & Godfrey, M. M. (2007). *Quality by design: A clinical microsystems approach.* San Francisco, CA: Jossey-Bass.

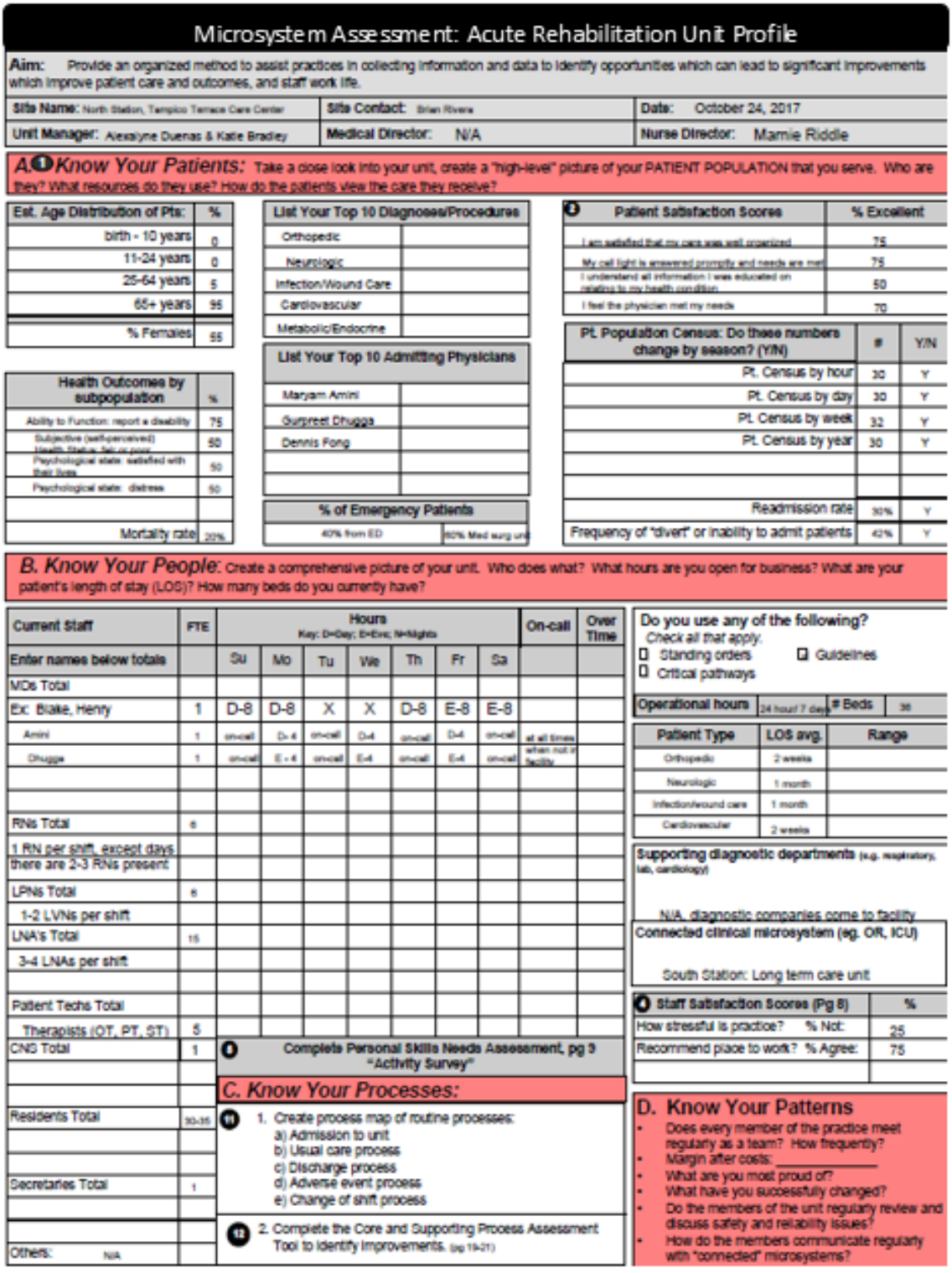
Reid, K. B., & Dennison, P. (2011). The Clinical Nurse Leader (CNL): Point-of-care safety clinician. *OJIN: The Online Journal of Issues in Nursing, 16*(3). doi:10.3912/OJIN.Vol16No03Man04

Rogers, E. M. (2003). Diffusion of Innovations, 5th edition. Free Press, New York, NY.

Steinbinder, A. (2016). Safeguarding patients: The courageous communication solution: how to confront colleagues about your safety concerns. *American Nurse Today, 11*(5), 33-35. Retrieved from https://americannursetoday.com/wp-content/uploads/2016/05/ant5 Safeguarding-Patients-420.pdf

The Dartmouth Institute. (2015). *Greenbooks*. [Data file]. Retrieved from http://clinicalmicrosystem.org/workbooks/

Appendix A



Microsystem Assessment: Acute Rehabilitation Unit Profile

Aim: Provide an organized method to assist practices in collecting information and data to identify opportunities which can lead to significant improvements which improve patient care and outcomes, and staff work life.

Site Name: North Station, Tampico Terrace Care Center	**Site Contact:** Brian Rivera	**Date:** October 24, 2017
Unit Manager: Alexalyne Duenas & Katie Bradley	**Medical Director:** N/A	**Nurse Director:** Marnie Riddle

A. Know Your Patients: Take a close look into your unit, create a "high-level" picture of your PATIENT POPULATION that you serve. Who are they? What resources do they use? How do the patients view the care they receive?

Est. Age Distribution of Pts:	%
birth - 10 years	0
11-24 years	0
25-64 years	5
65+ years	95
% Females	65

List Your Top 10 Diagnoses/Procedures	
Orthopedic	
Neurologic	
Infection/Wound Care	
Cardiovascular	
Metabolic/Endocrine	

Patient Satisfaction Scores	% Excellent
I am satisfied that my care was well organized	75
My call light is answered promptly and needs are met	75
I understand all information I was educated on relating to my health condition	50
I feel the physician met my needs	70

Health Outcomes by subpopulation	%
Ability to Function: report a disability	75
Subjective (self-perceived) Health Status: fair or poor	50
Psychological state: satisfied with their lives	50
Psychological state: distress	50
Mortality rate	20%

List Your Top 10 Admitting Physicians	
Maryam Amini	
Gurpreet Dhugga	
Dennis Fong	

% of Emergency Patients	
40% from ED	60% Med surg unit

Pt. Population Census: Do these numbers change by season? (Y/N)	#	Y/N
Pt. Census by hour	30	Y
Pt. Census by day	30	Y
Pt. Census by week	32	Y
Pt. Census by year	30	Y
Readmission rate	30%	Y
Frequency of "divert" or inability to admit patients	42%	Y

B. Know Your People: Create a comprehensive picture of your unit. Who does what? What hours are you open for business? What are your patient's length of stay (LOS)? How many beds do you currently have?

Current Staff	FTE	Hours (Key: D=Day; E=Eve; N=Night) Su	Mo	Tu	We	Th	Fr	Sa	On-call	Over Time
Enter names below totals										
MDs Total										
Ex: Blake, Henry	1	D-8	D-8	X	X	D-8	E-8	E-8		
Amini	1	on-call	D- 8	on-call	D-8	on-call	D-8	on-call	at all times when not in facility	
Dhugga	1	on-call	E - 8	on-call	E-8	on-call	E-8	on-call		
RNs Total	6									
1 RN per shift, except days there are 2-3 RNs present										
LPNs Total	6									
1-2 LVNs per shift										
LNA's Total	15									
3-4 LNAs per shift										
Patient Techs Total										
Therapists (OT, PT, ST)	5									
CNS Total	1									
Residents Total	30-35									
Secretaries Total	1									
Others: N/A										

Do you use any of the following?
Check all that apply.
- ☐ Standing orders
- ☐ Guidelines
- ☐ Critical pathways

Operational hours	24 hour/ 7 days	# Beds	36

Patient Type	LOS avg.	Range
Orthopedic	2 weeks	
Neurologic	1 month	
Infection/wound care	1 month	
Cardiovascular	2 weeks	

Supporting diagnostic departments (e.g. respiratory, lab, cardiology)

N/A, diagnostic companies come to facility

Connected clinical microsystem (eg. OR, ICU)

South Station: Long term care unit

Staff Satisfaction Scores (Pg 8)	%
How stressful is practice? % Not:	25
Recommend place to work? % Agree:	75

Complete Personal Skills Needs Assessment, pg 9 "Activity Survey"

C. Know Your Processes:

1. Create process map of routine processes:
   a) Admission to unit
   b) Usual care process
   c) Discharge process
   d) Adverse event process
   e) Change of shift process

2. Complete the Core and Supporting Process Assessment Tool to identify improvements. (pg 19-31)

D. Know Your Patterns
- Does every member of the practice meet regularly as a team? How frequently?
- Margin after costs: _____
- What are you most proud of?
- What have you successfully changed?
- Do the members of the unit regularly review and discuss safety and reliability issues?
- How do the members communicate regularly with "connected" microsystems?

Note. A microsystem assessment of the acute rehabilitation setting.

Appendix B

Staff Survey

Question	Yes	No
1. Is there an effective communication method to report patients who are a high fall risk?	20%	80%
2. Do you think there needs to be an improved strategies to identify high fall risk patients?	100%	0%
3. Do you think visual cues or staff huddles could decrease patient falls?	90%	10%
4. Currently, do you think high fall risk patients are properly identified?	0%	100%

Note. Results of nursing staff surveyed on fall prevention measures to decrease falls.

Appendix C

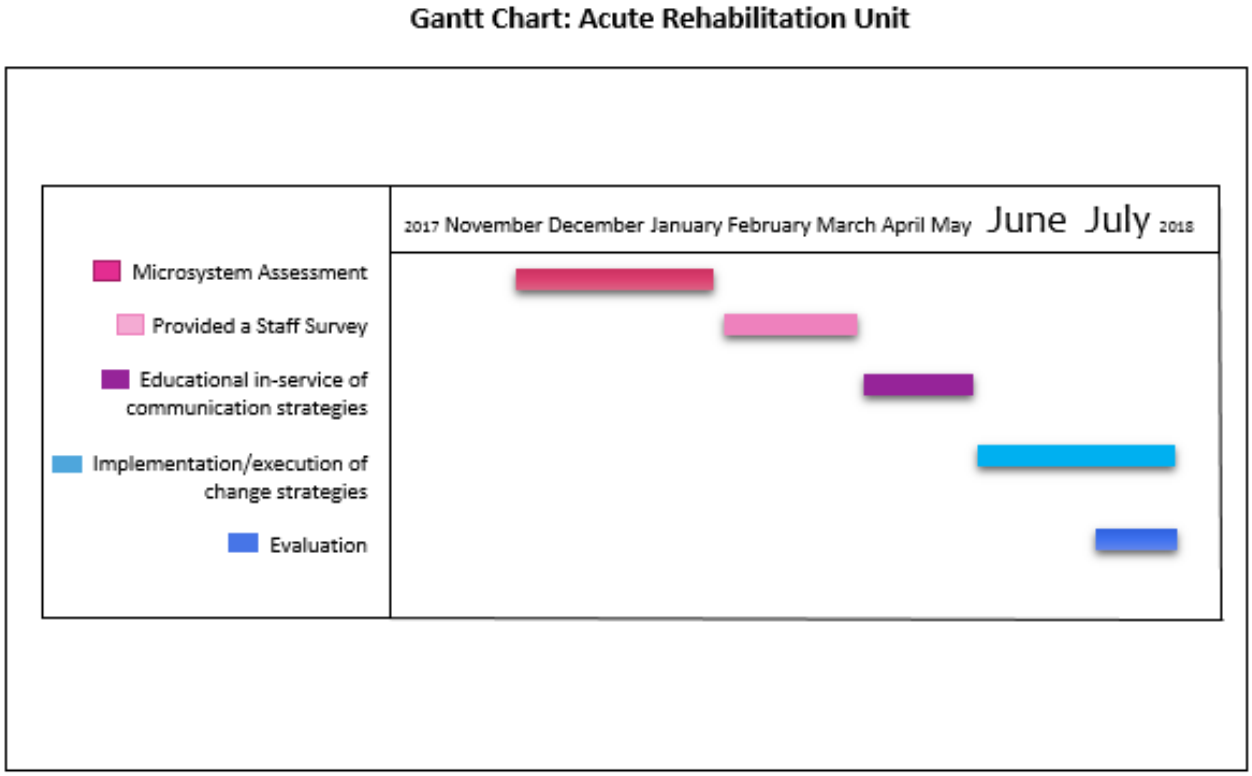


Figure C1. A Gantt Chart was used to schedule tasks and track progress of the fall prevention project.

Appendix D

Educational Plan to Implement a Huddle

I. Learning Needs Assessment

A. Identify Gaps:

1. Lack of communication between nursing staff
2. No involvement of nursing assistants in communication

B. Learning objectives

1. **Cognitive Objective:**
   The nursing staff of the unit should be able to teach back 100% of the benefits linked to effective communication among health care professionals.
2. **Affective Objective:**
   The nursing staff will be able to effectively collaborate and leverage each other's knowledge and skills to optimize patient care.
3. **Psychomotor Objective:**
   The nursing staff to successfully execute before-shift huddles within a month after the educational in-service meeting.

II. Implementation of Project: Huddle

A. Who?

1. Trainees: Nursing assistants and licensed nurses
2. Trainers: Director of Nursing, Executive Administrator, Unit Supervisor, Clinical Nurse Leader

B. What?

1. Implementation of a TeamSTEPPS communication strategy: Huddle

C. When? How?

1. **Training Management.** Involves a 1-day training course that involves the Director of Nursing, Executive Administrator, and Unit Supervisor to be trained on skills to educate and coach the North Station nursing staff members.
2. **TeamSTEPPS Educational In-Service**: This educational in-service course is 4 to 6 hours of interactive workshops for all licensed nurses and nursing assistants, who provide direct patient care.
3. Post bulletin boards in break rooms and at nursing station
4. Provide TeamSTEPPS pocket guides for all nursing staff

III. Evaluation of Project

A. Observe and assess the nursing staff's ability to perform and participate in a huddle.
B. Provide feedback to all nursing staff.
C. If unable to perform in a huddle, further training (in-service course of 4-6 hours) on TeamSTEPPS huddles.
D. Nursing supervisors will continue to support and reward use of staff huddles.

Appendix E

Patient Name: Room #:

Catch a Falling Star

The falls prevention process is initiated by the licensed nurse within the ***first 24 hours*** of admission.

Please answer the following three questions:	YES	NO
1. Has the patient had a fall in the last 3 months- an unintentional change in position resulting in coming to rest on the ground or at a lower level?		
2. Has the patient had a fall within the last 6 months that resulted in an injury?		
3. Does the patient have any additional risk factors- includes incontinence, cognitive impairment and/or functional impairment?		

If the answer is ***YES*** to any of the above questions, a **"red star sticker"** is placed on their chart and outside their room next to their name to further identify the 'high risk' patient while they are in the North Station.

Appendix F

Everett Roger's Diffusion of Innovation Change Model

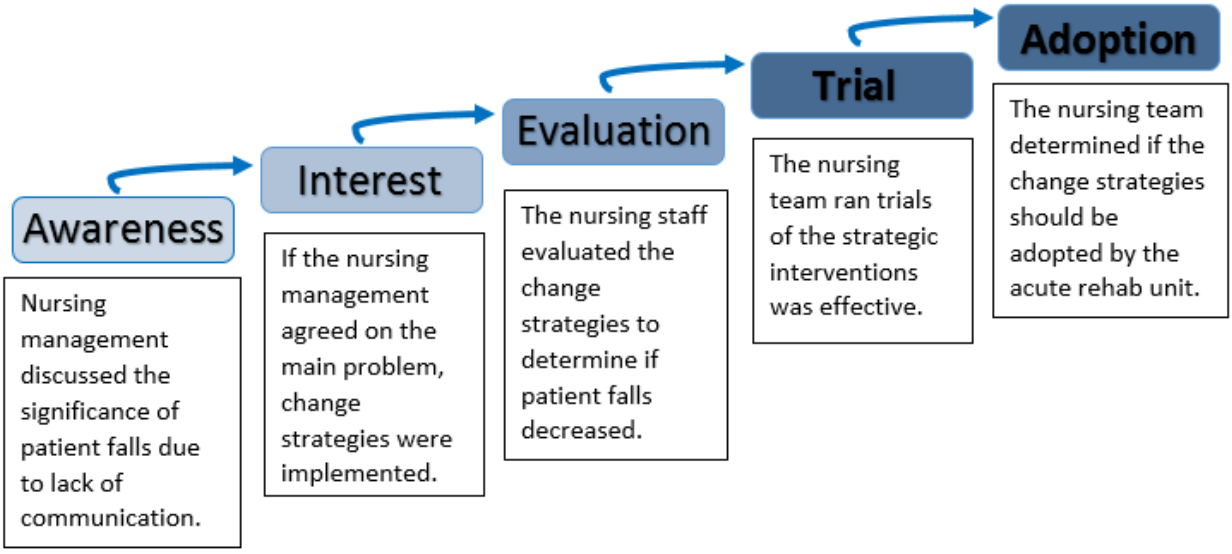
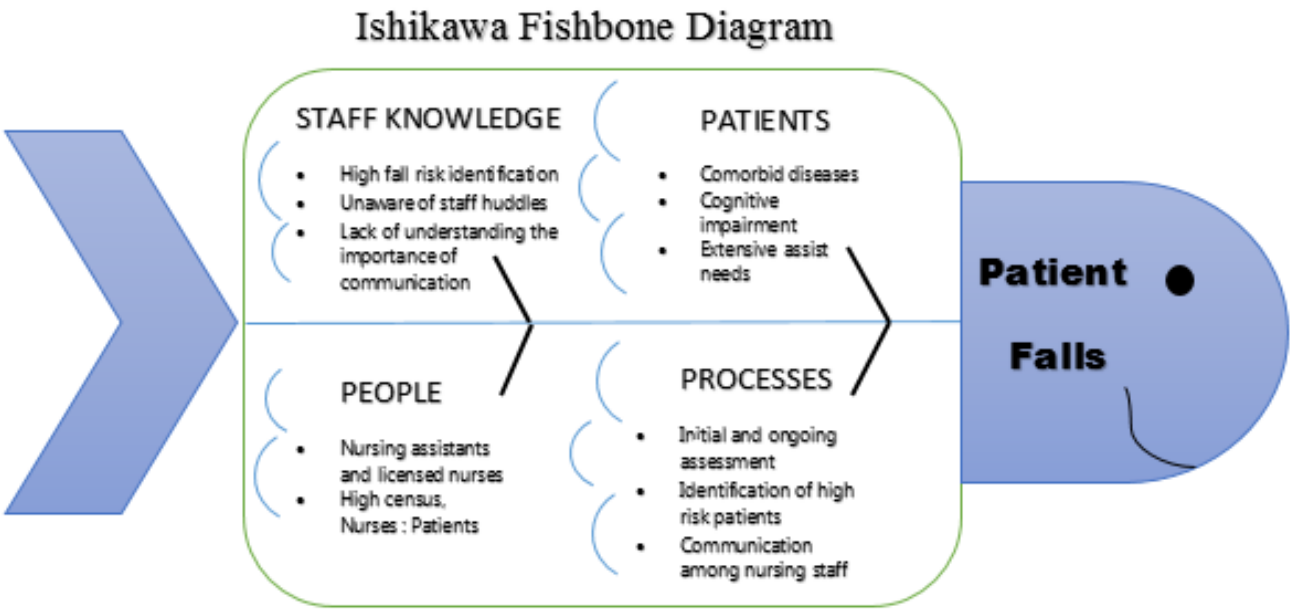


Figure F1. Everett Roger's Diffusion of Innovation is a five step process by which an innovation is communicated through certain channels over time among the members of a system.

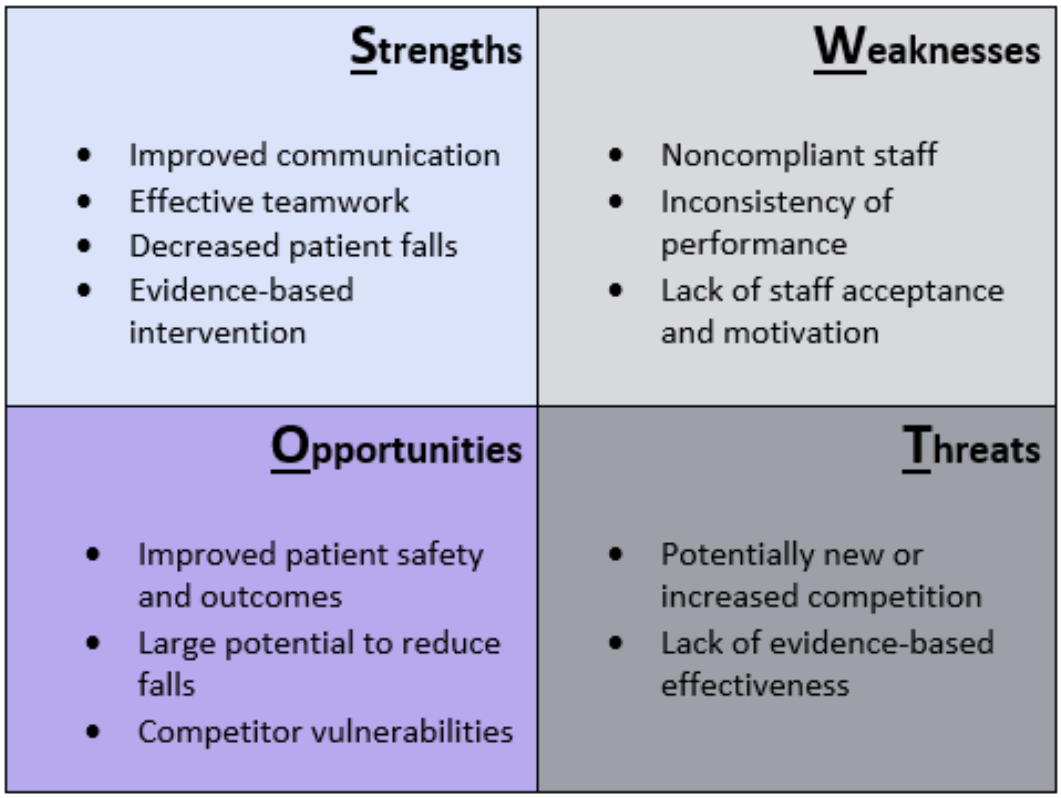
Appendix G



Note. Ishikawa Fishbone Diagram is a framework that was used to show factors contributing to patient falls in the acute rehabilitation unit.

Appendix H

SWOT Analysis



Note: A SWOT analysis of fall prevention measures implemented in an acute rehabilitation setting.