Root-Cause Analysis and Improvement Plan

Learner's Name

Capella University

Improving Quality of Care and Patient Safety

Root-Cause Analysis and Improvement Plan

March, 2019

Root-Cause Analysis and Improvement Plan

According to Spath (2011), root-cause analysis is a methodical approach that aims to discover the causes of adverse events and near misses for the purpose of identifying preventive measures (as cited in Charles et al., 2016). A root-cause analysis of falls in geropsychiatric patients was conducted at an inpatient mental health unit. The paper describes and analyzes falls and discusses evidence-based strategies to reduce falls and determine a safety improvement plan based on the utilization of existing organizational resources to address these falls.

## Root-Cause Analysis of Falls in Geropsychiatric Inpatients

According to Murphy, Xu, and Kochanek (2013), the Centers for Disease Control and Prevention reported that falls were a leading cause of unintentional injury death in adults aged 65 and above (as cited in Powell-Cope et al., 2014). Fall-related injuries that can lead to serious head trauma are common among older adults. Injury falls are serious and could lead to fractures, head injury, and intracranial bleed. According to the National Quality Forum (2011), injury falls in older adults are almost always preventable (as cited in Powell-Cope et al., 2014). Fall-related injuries prolong the stay of patients at the hospital and aggravate their health conditions (Powell-Cope et al., 2014).

Considering the adverse implications of falls in such patients, a root-cause analysis was conducted on the 20 cases of falls reported over a period of one year at a geropsychiatric inpatient facility. The aim of the analysis was to understand the causes of falls in geropsychiatric patients at the unit. The analysis was conducted by a team of five experts including clinicians, supervisors, and quality improvement personnel. The cases reported had been registered by a team of nurses who collated the data related to the falls. All the falls were described as cases of slipping or tripping, and patients mostly sustained injuries involving pain, mild swelling, and abrasions, with only two of the cases involving minor

fractures. It was also observed that all the falls occurred near the beds of patients and during the evening or night shifts when nursing teams were more likely to be understaffed.

Geropsychiatric patients are known to be susceptible to falls under the influence of drugs such as antidepressants and antipsychotics. Orthostatic hypotension (decrease in blood pressure within three minutes of standing), ataxia (lack of voluntary muscular control caused by injury to the central nervous system), and extrapyramidal slowing (impaired motor functions) due to the use of drugs such as antidepressants, antipsychotics, sedatives, hypnotics, alpha-blockers, and non-benzodiazepines are often found to be linked to these kinds of falls (Powell-Cope et al., 2014). The team of experts reviewed the reports of falls and noted that in over 50% of the cases, patients had been ambulating under the influence of drugs. It was also noted that 80% of the patients who fell while ambulating under the influence of drugs had been prescribed zolpidem.

At least 40% of the falls could be attributed to generalized weakness, disorientation, and difficulty with mobility. Fall and injury risks are often complicated by behavioral circumstances such as anger, anxiety, hyperarousal, and the inability to call for help or to remember to call for help. Physical conditions that occur with substance abuse (such as malnourishment and dehydration) co-exist with psychiatric disability and cause further complications (Powell-Cope et al., 2014).

Another factor that plays a role in patient safety is infrastructure in hospitals. This was particularly noteworthy as all the falls studied had occurred when patients ambulated near their beds. The use of beds with adjustable height, bed- and chair-exit alarms, and nonskid footwear are known to prevent fall-related injuries in psychiatric patients (Powell-Cope et al., 2014).

### Application of Evidence-Based Strategies to Reduce Falls

Considering that all the falls reported occurred near the patients' beds, infrastructural changes such as the installation of bed- and chair-exit alarms are recommended. Falls from beds are common in patients with cognitive impairments. Installing electronic alarm systems was found to be a feasible and effective fall prevention strategy in such cases (Wong Shee, Phillips, Hill, & Dodd, 2014).

Strategies such as team engagement and proactive planning to avoid falls can be implemented in inpatient geropsychiatric wards. Forming a quality and patient safety team can serve as an essential safety net and drive a proactive approach rather than a reactive one toward reducing sentinel events. Such a team could include existing staff in the unit that are selected based on their skills and experience. The primary focus of the team would be to identify, evaluate, measure, and improve processes and activities related to patient safety within the unit (Serino, 2015).

Better management of medication must be implemented to reduce falls that occur under the influence of drugs. Administering melatonin instead of zolpidem reduces the level of sedation. Lower levels of sedation reduce the frequency of patients' visits to the bathroom at night as well as the aftereffects of sedatives in the morning (Powell-Cope et al., 2014).

### Improvement Plan

The improvement plan involves a two-pronged approach: improving staff effectiveness and coordination and implementing environmental modifications. The first part of the plan focuses on increasing the effectiveness of patient monitoring and staff coordination through intentional rounding, one-to-one observation of patients, and increased communication among staff. *Intentional rounding* is a system wherein the nursing staff conduct structured routine checks on patients at regular intervals. The duration of intervals is decided based on the needs of patients in the unit. Intentional rounding is known to be

particularly effective in reducing falls (Morgan et al., 2016). One-to-one observation is recommended for high-fall-risk patients. One-to-one observation of patients by moving them close to the nurse's station aids effective monitoring and reduces the risk of falls. Sentinel events can be prevented by promoting interdisciplinary collaboration in health care. Good communication and collaboration between physicians, therapists, kinesio therapists, and occupational therapists are essential in monitoring patient activity (Powell-Cope et al., 2014).

The second part of the improvement plan focuses on environmental modifications to existing infrastructure in the unit to reduce falls. Installing chair- and bed-exit alarms to alert staff when a patient attempts to leave the chair or bed has proven to be effective in reducing falls. These alarms can be attached to the patient directly or to the chair or bed the patient uses (Wong Shee et al., 2014). Other recommended environmental modifications include using creative display signage beside patients' beds. This could be magnets next to the name of a fall-risk patient on a white board or the sign of a leaf on a patient's bedroom door. Such displays alert staff and visitors of the risk involved with each patient. The use of nonslip strips on floors (especially in bathrooms) and the installation of geriatric-friendly sanitary ware such as handrails, assist bars, shower chairs, and raised toilet chairs enhance patient safety (Powell-Cope et al., 2014). The attending staff in the unit would have to be trained to facilitate and monitor the use of environmental modifications such as electronic alarms to ensure their successful implementation.

It is crucial to identify and leverage existing organizational resources when implementing the improvement plan. The first part of the improvement plan involves utilizing the skills and expertise of existing staff members rather than hiring new members to assist in fall prevention. To improve monitoring of patients, the staff members are trained on intentional rounding techniques and one-to-one observation. The environmental interventions suggested in the second part of the plan involve the installation of additional components to

existing hospital fixtures such as chairs, beds, doors, and floors. Leveraging existing resources reduces the overall cost and effort involved in implementing the plan and ensures minimal disruption to ongoing patient routines and staff-led fall-prevention practices within the unit.

## Conclusion

Falls are the leading cause of unintentional injury deaths in geropsychiatric patients and are largely preventable. A root-cause analysis of falls in such patients was conducted at an inpatient mental health unit. Infrastructural gaps and ambulation under the influence of drugs were found to be primary factors that precipitated the falls reported in the unit. The paper discusses evidence-based strategies such as medication management, installation of electronic alarms, and formation of a quality and patient safety team that would help reduce falls. A two-pronged improvement plan was formed to systematically reduce falls in the unit. The plan involved improving staff effectiveness and coordination and implementing environmental modifications.

References

Charles, R., Hood, B., Derosier, J. M., Gosbee, J. W., Li, Y., Caird, M. S., . . . Hake, M. E.

(2016). How to perform a root cause analysis for workup and future prevention of

medical errors: A review. *Patient Safety in Surgery, 10*.

http://dx.doi.org.library.capella.edu/10.1186/s13037-016-0107-8

Morgan, L., Flynn, L., Robertson, E., New, S., Forde-Johnston, C., & McCulloch, P. (2016).

Intentional rounding: A staff-led quality improvement intervention in the prevention

of patient falls. *Journal of Clinical Nursing, 26*(1-2), 115–124.

http://dx.doi.org/10.1111/jocn.13401

Powell-Cope, G., Quigley, P., Besterman-Dahan, K., Smith, M., Stewart, J., Melillo, C., …

Friedman, Y. (2014). A qualitative understanding of patient falls in inpatient mental

health units. *Journal of the American Psychiatric Nurses Association*, *20*(5), 328–339.

https://doi.org/10.1177/1078390314553269

Serino, M. F. (2015). Quality and patient safety teams in the perioperative setting. *AORN

Journal, 102*(6), 617–628. https://doi-

org.library.capella.edu/10.1016/j.aorn.2015.10.006

Wong Shee, A., Phillips, B., Hill, K., & Dodd, K. (2014). Feasibility, acceptability, and

effectiveness of an electronic sensor bed/chair alarm in reducing falls in patients with

cognitive impairment in a subacute ward. *Journal of Nursing Care Quality, 29*(3),

253–262. http://dx.doi.org/10.1097/NCQ.0000000000000054