



Improving the Handoff Process for Certified Nursing Assistants in an Assisted Living Facility by Implementing a Handoff Tool

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Keywords: Bio root RCS, Incisor's, Trauma, Bioactive Sealer's

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Citation: Teresa Cating et al. (2018), Improving the Handoff Process for Certified Nursing Assistants in an Assisted Living Facility by Implementing a Handoff Tool. *Int J clinical & case.* 2:5, 47-53.

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Received: July 05, 2018

Accepted: July 15, 2018

Published: August 01, 2018

Introduction

This QI project represents a practice change in an assisted living facility with certified nursing assistants (CNAs) on a handoff tool for their end-of-shift report.

Main Introduction

Communication problems account for 60-70% of sentinel events in health care, largely due to the numerous handoffs of significant patient information between staff (Hohenhaus et al., 2006; Adamski, 2007). The term "handoff" is synonymous with handover, shift report, end-of-shift report, and sign-out, and it describes the process of exchange of information during transitions in care (Manias and Street, 2000). Although this may seem a simple task, the handoff report is significant and critical for patient safety and care (Birmingham et al., 2014). The Joint Commission International Center for Patient Safety reported that communication problems are the number one cause of sentinel events stating that handoffs are defective 37% of the time (Stefferman et al., 2012). The National Academy of Medicine's *Crossing the Quality Chasm* report reiterated the need for health care organizations to

standardize the procedure for handoffs since inferior, inadequate and poorly performed handoffs lead to delays in care and discontinuity in patient safety (Institute of Medicine, 2001).

In assisted living facilities (ALF), certified nursing assistants (CNAs) have a critical role in the care of residents (Zheng and Temkin-Grenne, 2010). Nearly 90% of direct resident care in ALFs is provided by CNAs (Bonner et al., 2009). CNAs are typically the first to observe and report changes in the residents' functional and mental status (Zheng and Temkin-Greene, 2010). For this reason, CNAs are of particular importance in establishing safety culture in ALFs. Safety culture and patient safety climate (PSC) are often used interchangeably (Lydon, et al., 2016). Handoff from the CNA is important to the oncoming shift because it ensures the safety and well-being of the resident (Lyhne, et al., 2012). Based on the recommendations of the Institute of Medicine and The Joint Commission (TJC), patient safety, including the measurement of patient safety climate, has become a top priority for US health care organizations (Bonner et al., 2009).

Benefits of Standardized Handoff

Formal handoffs in nursing improve the shift handoff and lead to a more consistent and congruent report (Butler-Williams et al., 2010; Kasinathan et al., 2012; Klee et al., 2012; Holly and Poletick, 2014). Handoffs increase the CNA's confidence with reporting patient changes in condition, with increasing patient satisfaction, and with increasing staff satisfaction (Athwal et al., 2009). Furthermore, handoff is an important part of safer care practice, reducing handoff-related errors as well as reducing patient falls from 1-2 falls per month to 1 fall every 6 months (Athwal et al., 2009; Croos, 2014; Zou and Zhang, 2015).

Standardized tools used in end-of-shift communication have increased the focus and consistency of the shift report while making the reports more comprehensive and patient-centric (Cornell et al., 2013). Therefore, a standardized procedure and tool is the most effective process for handoff (Frieitag and Carroll, 2011).

Problems Due to Lack of Standardized Handoff

At an ALF in rural North Carolina, omissions in report, lack of clarity in report, frustration and dissatisfaction with the current reporting system were observed among the CNAs in their current reporting process. The CNAs' end-of-shift report might be enhanced with a formal tool to report on any changes in residents' condition as well as

any other concerns about the resident. Thus, the goal of this QI project was to implement a practice change that would include introducing and educating the CNAs on a standardized handoff tool to use during their end-of-shift report.

Aims

The aims of this QI project were 1) to improve facility safety climate as evidenced by an increase in scores on a safety climate survey; 2) to improve CNA end-of-shift communication as evidenced by an increase in scores on an end-of-shift communication survey; 3) to decrease resident falls in the facility as evidenced by a post-project chart review; 4) to measure CNAs’ fidelity on the use of the standardized handoff tool during the project period; 5) to determine the impact of this project on resident care via focus groups.

Methods

Design

This QI project featured a mixed-methods design with pre-post surveys and two focus groups. The project was approved by the institutional review board at the participating institution as well as the Executive

Director and Director of Nursing (DON) at the facility.

Setting

The QI project was completed on the second floor in a 120 apartment ALF located in a rural northwest town in North Carolina. The second floor consisted of 46 private apartments with the average age of the resident equaling 88 years old. The nursing staff consisted of one registered nurse (RNs), 10 licensed practical nurses (LPNs), 20 CNAs and the Director of Nursing (DON).

Sample

Six of the CNAs working on the second floor in the facility participated in the project. Two LPN team leaders and the DON participated as fidelity monitors. All resident fall data from the second floor residents were included in the analysis. Anonymity of all participants was guaranteed as no personal identifiers were collected on the CNAs, focus group participants, or residents.

Measures

A pre- and post- satisfaction with end-of-shift communication survey was completed by the CNAs (Table 1).

	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied
Questionnaire Item	1	2	3	4	5
Ease of end-of-shift report					
Quality of end-of-shift report					
Current reporting tool					
Overall satisfaction with end-of-shift report					

Table 1: Pre-and Post-Implementation CNA Satisfaction Survey

To measure the CNAs’ perception of safety climate in the facility, they were given a safety climate survey pre- and post-project. The one-page safety climate survey consisted of 19 questions about their feel-

ings regarding the safety climate in the facility (Table 2). It was offered by the Institute of Healthcare Improvement and has been found to be reliable and valid (Kho et al., 2005).

Date: _____

Survey Number: _____

Please answer the following items with respect to your specific unit or clinical area. Choose your responses using the scale below:

	A	B	C	D	E	X
	Disagree Strongly	Disagree Slightly	Neutral	Agree Slightly	Agree Strongly	Agree Strongly
1. The culture of this clinical area makes it easy to learn from the mistakes of others.						
2. Medical errors are handled appropriately in this clinical area.						
3. The senior leaders in my facility listen to me and care about my concerns						
4. The nurse leaders in my areas listen to me and care about my concerns.						
5. Leadership is driving us to be a safety-centered institution.						
6. My suggestions about safety would be acted upon if I expressed them to management.						
7. Management/leadership does not knowingly compromise safety concerns for productivity						
8. I am encouraged by my colleagues to report any safety concerns I may have.						
9. I know the proper channels to direct questions regarding patient safety						
10. I receive appropriate feedback about my performance						
11. I would feel safe living here as a resident.						
12. Briefing personnel before the start of a shift is an important part of safety.						
13. Briefings are common here						
14. I am satisfied with the availability of clinical leadership (pleas respond to all three): Physician/NP Nursing Pharmacy						
15. This institution is doing more for patient safety now, than it did one year ago.						
16. I believe that most adverse events occur as a result of multiple system failures and are not attributable to one individual's actions.						
17. The personnel in this clinical area take responsibility for patient safety						
18. Personnel frequently disregard rules or guidelines that are established for this clinical area.						
19. Patient safety is constantly reinforced as the priority in this clinical area.						

Table 2: Pre/Post Implementation Safety Climate Survey

Experience in Position:

< 6 months _ 6 to 11 months _ 1 to 2 yrs _ 3 to 7 yrs
_ 8 to 12 yrs _ 13 to 20 yrs _ 21 yrs or over

Experience in Specialty:

_ < 6 months _ 6 to 11 months _ 1 to 2 yrs _ 3 to 7 yrs
_ 8 to 12 yrs _ 13 to 20 yrs _ 21 yrs or over

Experience in Organization:

_ < 6 months _ 6 to 11 months _ 1 to 2 yrs _ 3 to 7 yrs

_ 8 to 12 yrs _ 13 to 20 yrs _ 21 yrs or over

Age:

_ < 30 _ 30 to 34 _ 35 to 39 _ 40 to 44 _ 45 or over

Ahrq.gov. (2017). Nursing Home Survey on Patient Safety Culture | Agency for Healthcare Research & Quality. [online] Available at: <https://www.ahrq.gov/professionals/quality-patient-safety/patient-safety-culture/nursing-home/index.html> [Accessed 27 Feb. 2017].

Fidelity to use of the I-PASS was monitored by direct observation and recorded on the fidelity monitoring record by the DON and the nurse team leaders during the CNA change of shift in the nursing department. The fidelity monitoring record was created by the QI coordinator and kept by the nurse team leaders and the DON for fidelity monitoring purposes.

Each resident's fall in the ALF is documented on a communication form that the nurses use to document sentinel events. The data for analysis of falls was obtained via chart review for one month pre-implementation, during the four-week implementation of the new handoff tool and for one month after implementation.

Post-project process measures were obtained by two focus groups consisting of 1) CNAs who participated in the project and 2) the Executive Director and DON and the team leader nurses who had

participated in fidelity monitoring of the CNA end-of-shift reporting. (See Tables 3 and 4 for focus group questions.)

Implementation and Data Collection

During Week One of the project, the participating CNAs completed the pre-implementation satisfaction survey (Table 1) measuring perceptions of their current end-of-shift reporting method. In addition, the CNAs were given the pre-implementation safety climate survey (Table 2).

During changes of shift in Week One, the QI coordinator trained the CNAs on the new end-of-shift communication tool called I-PASS (Starmer, et., 2014). The I-PASS tool (Figure 1) was chosen after literature had shown a positive effect in handoff and patient care (Starmer, et al., 2014). Minor modifications were made to the tool that did not pertain to CNAs in the communication of the care of residents in an ALF.


		
I	Illness, Severity, Diagnosis	<ul style="list-style-type: none"> Stable, "watcher", unstable
P	Patient Summary	<ul style="list-style-type: none"> Summary Events leading up to admission Facility course Plan
A	Action List	<ul style="list-style-type: none"> To do list What might happen next shift
S	Situation Awareness and Contingency Planning	<ul style="list-style-type: none"> Know what's going on Plan what might happen
S	Synthesis by Receiver	<ul style="list-style-type: none"> Receiver summarizes what was heard Asks questions Restates key action/to do items

Figure 1: CNA Handoff Tool

Starmer, A., O'Toole, J., Rosenbluth, G., Calaman, S., Balmer, D., West, D., Bale, J., Yu, C., Noble, E., Tse, L., Srivastava, R., Landrigan, C., Sectish, T. and Spector, N. (2014). Development, Implementation, and Dissemination of the I-PASS Handoff Curriculum. *Academic Medicine*, 89(6), pp.876-884.

After training the CNAs, they began using the handoff tool at the end of their shift while giving their end-of-shift report. During the CNA handoff report, fidelity monitoring was completed by the DON and the LPN team leaders.

After a period of four weeks of using the new reporting tool, a post-intervention survey measuring satisfaction with end-of-shift reporting (Table 1) was given to the CNAs. In addition, a second safety climate survey was given to the CNAs to complete (Table 2).

Results

A total of 6 CNAs, 5 female and 1 male, participated in the project. Five (81%) participants were over 35 years old and four (66%) had been in their position with the facility for more than one year. There were 44 resident charts reviewed for falls data for this project. To determine if CNA end-of-shift communication was improved, a t-test was performed to compare the total scores between the pre- and post-groups for CNA satisfaction with end-of-shift report. A statistically significant increase in the CNA satisfaction with the end-of-shift report was found after using the I-PASS tool ($t(5.07) = -4.47, p < .01$).

To determine if CNAs' perceptions of facility safety climate were increased, a t-test was performed to analyze the total scores between the pre- and post-implementation safety climate scores. The results revealed a non-statistically increase in climate safety for pre- to post-implementation ($t(10) = -1.61, p = .138$). Descriptive and inferential statistics determined there was an increase in falls throughout the project with data analysis showing a 7% fall rate one month prior to the project, an 18% fall rate during the project and a 27% fall rate post project.

Focus groups involving ten staff members revealed positive themes as both the CNAs and administrators favored the use of the tool and saw it as an improvement to the CNA end-of-shift reporting process and in the safety climate of the facility. The primary themes of using the new handoff tool that were derived from the CNA focus group data included improving safety, practicality, and improving CNA preparedness (Table 3). The primary themes derived from the administrator and nurse team leader focus group data included sustainability, safety awareness and efficiency (Table 4).

Question	Theme	Definition	Text Examples
1) Did use of the I-PASS support resident care?	IPASS offers practical advantages	IPASS is detailed, specific, timesaving	1)"There is no guesswork with the IPASS tool." 2)"The tool is very specific." 3)"It gives a good one-one-handoff with no clutter."
2) Did the I-PASS tool improve safety in this facility?	Seen as improving safety	IPASS passes needed information to oncoming shift	1)"I know who the priority residents are." 2)"I know who the wanderers are." 3)"I know who the 'fall risks' are."
3) What challenges did you experience when using the I-PASS tool?	Challenges of new tool	None	None
4) Suppose you had ONE MINUTE to speak with the DON/ ADMINISTRATOR about end-of-shift communication--What would you say?	Usefulness of tool	How it impacts your job	1)"I have a better idea of what I'm walking into." 2)"I'm definitely getting a better report." 3)"It makes me feel like I'm better prepared to do my job." 4)"I know what's going on when I start my shift." 5)"I can do my job better with this tool." 6)"We need to communicate better and this helps us".

Table 3: CNA Focus Group Data

Question	Theme	Definition	Text Examples
1) What challenges did you experience as part of the quality project?	Challenges for CNAs	New knowledge, Time management	1)"Time management is a challenge for the CNAs." 2)"I think with more time the efficiency and use of the tool will improve." 3)"The learning curve of the CNAs in a short timeframe."
2) Do you think the I-PASS communication tool increased safety awareness in the facility (2nd floor) and/or for the CNAs involved?	Safety Awareness	Increased awareness for safety in the unit involved	1)"I now hear the CNAs giving a face-to-face report." 2)"One example was how a possible fall was avoided due to using the new reporting tool and the face-to-face communication of 'instability' in a resident led to discovery of a UTI in the resident."
3) Do you think the I-PASS communication tool improved CNA end-of-shift communication?	Improved CNA communication	Improved end-of-shift report; improved communication	1)"Rather than having to look-back in a book, the tool provided a more timely communication."
4) Suppose you had ONE MINUTE to speak with the DON/ ADMINISTRATOR about end-of-shift communication--What would you say?	Sustainability	Ideas for continued use of innovative tool	1)"Incorporating the IPASS components into our new online format." 2)"We plan to continue using the tool."

Table 4: Administrators Focus Group Data

Fidelity

Fidelity monitoring of I-PASS use was 100%.

Discussion

The goal of this QI project was to implement a handoff tool to improve CNAs' satisfaction with their end-of-shift reporting protocol as well as improve the facility's safety climate. There was improvement in satisfaction with end-of-shift reporting and while not statistically significantly, there was an increase in the safety climate. However, employee satisfaction with handoffs has a positive association with job performance, and job performance has been positively correlated with patient safety (Streitenberger et al., 2006). The results of this QI are consistent with previous literature, supporting the benefits of handoff in nursing, increasing the CNAs' confidence with reporting patient changes in condition and increasing staff satisfaction (Athwal et al., 2009).

The one outcome that did not improve during the QI was resident falls. Previous literature has shown that increasing facility safety climate may decrease falls (Athwal et al., 2009; Croos, 2014; Zou and Zhang, 2015). There are several reasons why resident falls may have increased during this project. One reason may be that the CNAs were more aware of safety climate and therefore were reporting falls more frequently during the QI project. In addition, there were CNAs who may not have been involved in the training but crossed over in the care of the 2nd floor residents during the course of the project and any subsequent fall data were recorded in our results. Finally, the QI project was implemented during a holiday period when residents are usually up and out of their rooms more often. Hopefully, the results of this QI will provide support for a practice change for CNAs and handoffs, acknowledge TJC's communication goals (Jointcommission.org, 2017) and encourage further research.

Key Sentences

Communication problems account for 60-70% of sentinel events in health care, largely due to the numerous handoffs of significant patient information between staff. The handoff report is significant and critical for patient safety and care. There is no literature existing on handoffs with CNAs in ALFs. Nearly 90% of direct resident care in ALFs is provided by CNAs and they are typically the first to observe and report changes in the residents' functional and mental status.

A standardized procedure and tool is the most effective process for handoff, increasing the CNA's confidence with reporting patient changes in condition, increasing patient satisfaction, increasing staff satisfaction, reducing handoff-related errors as well as reducing patient falls from 1-2 falls per month to 1 fall every 6 months.

References

1. Adamski, P. (2007). [Implement a handoff communications approach. Nursing Management, 38\(1\), pp.10-12](#)
2. Ahrq.gov. (2017). Nursing Home Survey on Patient Safety Culture Agency for Healthcare Research & Quality. [online] Available at: <https://www.ahrq.gov/professionals/quality-patient-safety/patient-safety-culture/nursing-home/index.html> [Accessed 27 Feb. 2017].
3. Athwal, P., Fields, W., and Wagnell, E. (2009). Standardization of change-of-shift report. *Journal of Nursing Care Quality, 24(2)*, pp.143-147.
4. Birmingham, P., Buffum, M., Blegen, M. and Lyndon, A. (2014). [Handoffs and Patient Safety: Grasping the Story and Painting a Full Picture. Western Journal of Nursing Research, 37\(11\), pp.1458-1478.](#)
5. Bonner, A., Castle, N., Men, A., and Handler, S. (2009). [Certified nursing assistants' perceptions of nursing home patient safety culture: is there a relationship to clinical outcomes? Journal of the American](#)

[Medical Directors Association, 10\(1\), pp.11-20.](#)

5. Butler-Williams, C., James, J., Cox, J. and Hunt. (2010). [The hidden contribution of the health care assistant: a survey-based exploration of support to their role in caring for the acutely ill patient in the general ward setting. Journal of Nursing Management, 18\(7\), pp.789-795.](#)
6. Cornell, P., Gervis, M., Yates, L. and Vardaman, J. (2013). [Improving Shift Report Focus and Consistency With the Situation, Background, Assessment, Recommendation Protocol. JONA: The Journal of Nursing Administration, 43\(7/8\), pp.422-428.](#)
7. Croos, S., (2014). [The practice of clinical handover: a respite perspective. British Journal of Nursing, 23\(13\), pp.733-37.](#)
8. Freitag, M. and Carroll, S., (2011). [Handoff communication: using failure modes and effects analysis to improve the transition in care process. Quality Management in Health Care, 22\(2\), pp.105-09.](#)
9. Hohenhaus, S., Powell, S. and Hohenhaus, J. (2006). [Enhancing patient safety during hand-offs. American Journal of Nursing, 106\(8\), pp.721-722b.](#)
10. Holly, C. and Poletick, E. (2013). [A systematic review on the transfer of information during nurse transitions in care. Journal of Clinical Nursing, 23\(17-18\), pp.2387-2396.](#)
11. Simmons, J. (2006). Joint Commission International Center for Patient Safety. Strategies to Improve Hand-off Communication: Implementing a process to Resolve Questions. Retrieved from <http://www.jcipatientsafety.org/show.asp?durki=10742&print=yes>
12. Kasinathan, S., Ang, E., and Lee, J. (2012). [Patient handover in the oncology setting: an evidence utilization project. International Journal of Evidenced Based Healthcare, 10\(4\), pp.369-76.](#)
13. Klee, K., Latta, L., Davis-Kirsch S., and Pecchia, P. (2012). [Using continuous process improvement methodology to standardize nursing handoff communication. Journal of Pediatric Medicine, 27\(2\), pp.168-173.](#)
14. Lydon, S., Cupples, M., Hart, N., Murphy, A., Faherty, A. and O'Connor, P. (2016). [The safety climate in primary care \(SAP-C\) study: study protocol for a randomised controlled feasibility study. Pilot and Feasibility Studies, 2\(1\).](#)
15. Lyhne, S., Georgiou, A., Marks, A., Tariq, A. and Westbrook, J. (2012). [Towards an understanding of the information dynamics of the handover process in aged care settings—A prerequisite for the safe and effective use of ICT. International Journal of Medical Informatics, 81\(7\), pp.452-460.](#)
16. Manias, E. and Street, A. (2000). [The handover: uncovering the hidden practices of nurses. Intensive & Critical Care Nursing, 16\(6\), pp.373-383.](#)
17. Starmer, A., O'Toole, J., Rosenbluth, G., Calaman, S., Balmer, D., West, D., Bale, J., Yu, C., Noble, E., Tse, L., Srivastava, R., Landrigan, C., Sectish, T. and Spector, N. (2014). [Development, Implementation, and Dissemination of the I-PASS Handoff Curriculum. Academic Medicine, 89\(6\), pp.876-884.](#)
18. Starmer, A., Spector, N., Srivastava, R., West, D., Rosenbluth, G., Allen, A., Noble, E., Tse, L., Dalal, A., Keohane, C., Lipsitz, S., Rothschild, J., Wien, M., Yoon, C., Ziqmont, K., Wilson, K., O'Toole, J., Soken, L., Aylor, M., Bismilla, Z., Coffey, M., Mahant, S., Destion, L.A. Everhart, J., Patel, S., Bale, J., Spackman, J., Stevenson, A., Calaman, S., Cole, F., Balm, D., Hepp, J., Lopreciato, J., Yu, C., Sectish, T., and Landrigan, C. (2014). [Changes in medical errors after implementation of a handoff program. New England Journal of Medicine, 371\(19\), pp.1803-12.](#)
19. Siefferman, J., Lin, E., and Fine, F. (2012). [Patient Safety at Handoff in Rehabilitation medicine. Physical medicine and rehabilitation clinics of North America, 23\(2\), pp.241-257.](#)

20. Streitenberger, K., Breen-Reid, K. and Harris, C. (2006). *Handoffs in Care—Can We Make Them Safer?*. *Pediatric Clinics of North America*, 53(6), pp.1185-1195.
21. Jointcommission.org. (2017). *National Patient Safety Goals | Joint Commission*. [online] Available at: https://www.jointcommission.org/standards_information/npsgs.aspx [Accessed 27 Feb. 2017].
22. Zheng, N., and Temkin-Greene, H. (2010). *End-of-life in Nursing Homes: The Importance of CNA Staff Communication*. *Journal of American Medical Director Association*, 11(7), pp.494-499.
23. Zou, X. and Zhang, Y. (2016). *Rates of Nursing Errors and Handoffs-Related Errors in a Medical Unit Following Implementation of a Standardized Nursing Handoff Form*. *Journal of Nursing Care Quality*, 31(1), pp.61-67.