J Nurs Care Qual
Vol. 30, No. 2, pp. 93–98

Innovations in Quality Improvement in Long-term Care

The purpose of this column is to discuss innovations and quality improvement advancements across the various long-term care settings. This column is coordinated by Marilyn J. Rantz, PhD, RN, FAAN, NHA rantzm@missouri.edu

Integrating Advanced Practice Registered Nurses Into Nursing Homes

The Missouri Quality Initiative Experience

Amy Vogelsmeier, PhD, RN; Lori Popejoy, PhD, APRN, GCNS-BC, FAAN; Marilyn Rantz, PhD, RN, FAAN; Marcia Flesner, PhD, RN; Annette Lueckenotte, MSN, RN, FNGNA; Greg Alexander, PhD, RN, FAAN

Author Affiliation: *Sinclair School of Nursing, University of Missouri, Columbia.*

This project is supported by grant number 1E1CMS331080 from the Centers for Medicare and Medicaid (CMS) Innovations Center and Medicare-Medicaid Coordination Office. The Initiative to Reduce Avoidable Hospitalizations Among Nursing Facility Residents is focused on improving care and outcomes for Medicare-Medicaid enrollees residing in nursing facilities (http://innovation.cms.gov/initiatives/rahnfr/). The content is solely the responsibility of the authors and does not represent the official views of CMS.

The authors acknowledge the participation of 16 nursing homes in the St Louis area and other staff of the MOQI Initiative.

Supplemental digital content is available for this article. Direct URL citations appear in the printed text and are provided in the HTML and PDF versions of this article on the journal's Web site (www.jncqjournal.com).

The authors declare no conflict of interest.

Correspondence: *Amy Vogelsmeier, PhD, RN, S314, Sinclair School of Nursing, Columbia, MO 65211 (vogelsmeiera@missouri.edu).*

DOI: 10.1097/NCQ.0000000000000114

THERE are nearly 1.5 million older adults residing in nursing homes (NH) across the United States.[1] Reducing avoidable hospitalizations among vulnerable NH residents has become a national priority. Estimates suggest more than $14 billion of Medicare funding is spent annually on hospitalizations for this vulnerable population. The most common causes of avoidable hospitalizations are conditions of septicemia, pneumonia, congestive heart failure, and urinary tract infections.[2] Experts identify that NHs have limited capacity for early illness detection and/or prevention to avoid the need for hospitalization.[3] As such, it is vital that NHs improve their capacity to identify and treat acute illness in their residents to avoid hospitalization.

Evidence suggests that advanced practice registered nurses (APRNs) improve NH outcomes including reducing avoidable hospitalizations.[4–7] Moreover, major health care cost savings have been measured when

APRNs work in NHs.[5] This improvement appears to be related to the APRNs expertise in clinical management of health conditions, early detection of illness, and problem solving with NH staff to provide the needed care to manage clinical conditions within the NH.[7]

Despite evidence that APRNs improve resident outcomes, little evidence exists to describe how APRNs actually integrate their advanced practice role into NHs to influence care delivery. This article reports on a series of 3 focus groups held with APRNs who were embedded full-time in 16 Missouri NHs. The purpose of the focus groups was to describe the integration of APRNs into the NH setting including their perceived challenges and successes.

OVERVIEW OF THE MISSOURI QUALITY INITIATIVE

The APRNs were hired as part of a larger demonstration project called the Missouri Quality Initiative (MOQI), funded by the Centers for Medicare and Medicaid Services (CMS). The goal of the Initiative is to reduce avoidable hospitalizations using a multifaceted intervention that includes an APRN working directly within each NH. Key elements of the Initiative include the use of the INTERACT III processes,[7] improved health information exchange through technology, and an expert MOQI support team including a care transitions coach, INTERACT/quality improvement (QI) coach, health information coordinator, and medical director. In addition, members of the research team have extensive experience in NH care delivery, technology implementation, and QI. Additional details about the MOQI can be found in Rantz et al.[8]

The APRN's role as defined by the Initiative, includes working directly with residents, families, physicians, nursing staff, and leaders to influence resident care, modeling best practices for decisions about care delivery and early illness recognition, and using evidence based tools to support clinical decisions and communication to the health care team. These activities require APRNs to be strong leaders, flexible and autonomous in their care delivery practice. However, due to Missouri's advanced practice rules, APRNs in the Initiative were not able to develop collaborative practice agreements despite their advanced practice credentialing in the state. It should be noted that collaborative practice agreements and changes in practice rules are currently being pursued as part of the sustainability efforts of the Initiative.

RESEARCH DESIGN AND METHODS

The purpose of the focus groups was to better understand how each APRN integrated into the NH. Three focus groups were conducted with 15 APRNs; each group had 5 participants. Focus groups were conducted within 6 months of each APRN's start date in the NH, which varied. Approval for the study was obtained from the institutional review board.

Data collection procedure and sample

Interviews were conducted by 2 PhD-prepared facilitators and a doctoral student. All interviews were conducted using the same set of semistructured interview questions (Supplemental Digital Content, Table, available at http://links.lww.com/JNCQ/A163). Each focus group discussion was audiotaped and transcribed verbatim for analysis.

The majority of participants were nurse practitioners with varying specialties, including adult/gerontology, family, and mental health. Only 1 APRN was an adult clinical nurse specialist. Previous practice experience included primary and acute care, and only 1 had experience in NH. There were 2 APRNs who were new graduates. The graduate APRNs had a background primarily in hospital-based nursing. Thirteen APRNs were masters prepared and 2 were doctorally prepared.

Analysis

Transcribed data were placed into Dedoose, a qualitative software program used to organize the transcript data and facilitate

coding. Transcripts were analyzed individually by 3 PhD-prepared researchers. Transcripts were first read in their entirety without coding. Then, each member read and individually identified codes in the transcript. Codes are tags or labels used to denote some meaning to chunks of text.[9] Each code was given a description to facilitate consistency in coding between team members. Next, 2 of the 3 researchers reviewed the codes and associated quotes specifically checking for consistency in coding. If codes were similar, they were reduced to a single code, and code names, and definitions were amended to more accurately describe the data. Codes were further reviewed and organized as parent and child codes. Child codes are related to the parent code, meaning they describe data similar to the parent code but it is a nonhierarchal relationship.

FINDINGS

Data analysis identified 3 primary themes representing how the APRNs described their integration into each NH. These themes included (1) learning about the environment while changing the environment, (2) building legitimacy, and (3) making a difference. Salient quotes have been selected to represent the 3 themes.

Learning about the environment while changing the environment

When each APRN began the Initiative, they acknowledged their primary responsibility was to improve care delivery with the goal to reduce avoidable hospitalizations. However, because the majority of APRNs had never worked in a NH, they quickly recognized the complexity of this new environment, thus creating a sense of feeling unprepared for the work ahead: "All of the sudden it was the first time that I found myself in a clinical setting that I didn't totally feel prepared for." Another APRN stated: "Where I felt my weakness was is that a lot of things that happen in long-term care are not anything that I've done in a long time."

Two of the APRNs were recent graduates, and they had the added challenge of transitioning into a new advanced practice role in addition to an unfamiliar and complex setting. They explained: "I think mine's been personal because I didn't work as a nurse practitioner . . . it's like I have the information but I question myself sometimes." and "You don't get to call the doctor . . . you have to decide what you're going to do with that assessment."

Perhaps one of the greatest challenges for experienced APRNs was transitioning away from the traditional collaborative practice role with prescriptive privileges. One of the APRNs stated: "I feel like I could fix things better if I could go ahead and make adjustments without having to wait for their PCP [primary care physician]."

In addition to learning about themselves, APRNs were also learning about others in the NH. Specifically, they spoke about the leadership team comprised of the administrator and director of nurses (DON). They talked about how this dyad either supported or hindered the Initiative's goals. Supportive leaders were focused on the goal to improve resident care, whereas those unsupportive were cited as paying "lip service" without a commitment to change their current NH practices. Three comments from the APRNs were as follows: "[The administrator] is very committed and the [DON] . . . the message is out that, that we're gonna [sic] do this"; "My leadership at the nursing home gives lip service to being supportive of the process . . . they pretty much eye roll and they don't have time for it"; and "I think some people have fairly good intentions . . . but they don't want to do the steps to get there."

The APRNs quickly recognized how important the administrator and DON were to their success. The APRNs who did not have leadership support shared concerns about feeling like an outsider, being invisible, or even being on their own to achieve the Initiative's goals. "I call it the invisible wall . . . like a dog with an invisible fence. You don't know when you're gonna [sic] get shocked until you walk around

the perimeter." Another APRN stated: "[Leaders] told me . . . We just aren't gonna [sic] do that right now. So I just focus on what I can do kind of on my own, and what I can do right now."

Despite initial feelings of being an outsider, APRNs commented that over time they learned to work with frontline staff to build momentum for the Initiative. The APRNs day-to-day presence was viewed as important to relationship building and improving overall care: "bonding with the staff has been crucial for me to work with the residents."

Building legitimacy

As APRNs spent time in the NH, they began to see their role accepted by NH staff. They described building relationship first with certified nursing assistants (CNAs), and then with licensed nurses as a way to move from being an outsider to an insider. One APRN stated: "since I first came, the CNAs have been the people that have talked to me and told me the things that I should know." Another explained that the "CNAs and the CMTs [certified medication technician] are starved for information and they love being included." In another focus group, the APRN stated: "I go to every single [resident care] division, and even if the nurse says I'm too busy for that right now, I'll just say 'anybody that you're concerned about?" And then she'll say "Oh, yeah, go look at so and so."

The APRNs' daily presence resulted in their working alongside staff to educate staff and model behaviors for staff to improve their knowledge and skills. Importantly, APRNs focused on improving the limited assessment skills of the nurses, particularly licensed practical nurses (LPN) who are the predominant licensed nurse in the NH. For example, "[The LPN] will say 'I thought their lungs sounded great,' and then I listen . . . so I got the double sided stethoscope and [I say] hear that? That's not normal." Another APRN stated: "What are the themes out there that I can teach to . . . I don't want them to read x-rays . . . but I want them to be able to talk to the doctor better."

Because the primary goal of the Initiative is to reduce avoidable hospitalizations, APRNs described educating staff to reconsider hospitalization as the first option when a resident is ill. Some APRNs educated NH staff to better understand what will happen once the resident is transferred. A strategy used by 1 APRN was to "play it forward:"

> So I'll say, let's play it forward . . . I tell them what life in the ER [emergency room] is like and what would happen there that we could not have done here. I tell them there's no magic there.

In addition to working with frontline staff to improve direct resident care, APRNs were also charged to work with leaders to influence system-level change. Nursing homes were required to adopt INTERACT III for early illness recognition and management. A strategy APRNs used to influence change was sharing INTERACT QI data and hospitalization data with the leadership team to validate the need for change:

> One of the biggest risk factors for hospitalization is previous hospitalizations. So I look and say . . . that's where those [INTERACT III] QA/QI [quality assurance/QI] forms really do help out.

Another APRN explained: "We've gone from 14 to 9 to 3 hospitalizations . . . I'm getting them to understand how to use data versus just making a statement."

As NH leaders and medical directors worked with APRNs, their perceptions of the APRN role shifted to that of a legitimate member of the team. This acceptance allowed APRNs to view their role as valuable and credible to the NH team: "My executive director tells me all the time, it just makes me feel better that you're in the building and you're so approachable and that people are so comfortable with you" and "I think we've also changed some of the way the doctors are thinking about what they need to do."

Making a difference

Despite their many challenges, APRNs spoke openly about their many successes including the opportunity to problem solve to make real change happen.

My background was critical care so I love that real intense kind of environment, but it doesn't have to be ICU with bells and whistles and all that going off, just an intense kind of think tank thing, problem solving. I love that role.

Perhaps the APRNs' greatest sense of satisfaction came from their relationships with residents and their families, and feeling like they are making a difference. One commented: "I look forward to seeing the people every single day, all of the people, the staff and the residents particularly." Another commented: "The best thing about my job is when the families come back and say 'I really did not want my mom to go to the hospital anymore. I really didn't realize there was an alternative.'"

DISCUSSION

Whereas evidence supports that APRNs improve outcomes across many settings,[4–7] this study furthers our understanding of how APRNs integrated their advanced practice role into the NH to influence care delivery. Importantly, this study describes the challenges and successes experienced by APRNs during their first 6 months of working within this complex environment.

There are important lessons to be learned from the challenges faced by the APRNs. The majority of APRNs were not familiar with NHs. Experienced APRNs came from primary care settings and new APRNs previously practiced as hospital nurses. The NH environment is different from other health care settings. Nursing homes are highly regulated, which makes them less nimble and perhaps more resistant to change. Each NH in the Initiative agreed to participate, but when a new type of team member, APRN, was brought into the facility to influence practice change, it led to uncertainty about how to incorporate that person into the organization to improve outcomes.

In the initial stages of integrating in the NH, APRNs were acutely aware that they were the outsider. The APRNs understood they needed to rapidly build relationships to become an insider so they could influence change. As clinical experts, APRNs are knowledgeable and add value to the care process. However, working alongside NH leaders, providers, and staff to demonstrate their expertise became critically important so they could influence day-to-day behaviors to rapidly reduce avoidable hospitalizations.

The Initiative required that APRNs move outside the role of traditional primary care. As a result, they were now expected to make changes at the organizational level by improving NH systems to achieve better resident outcomes. The APRNs who were experienced were able to adapt to working with staff to get resident care done. The APRNs who were less experienced struggled to understand their role, and how their skills could be useful to residents for whom they were not taking primary health care responsibility.

Ultimately, challenges turned into opportunities. The APRN accounts of moving from being an "outsider" to an "insider" are particularly salient to understanding the process of becoming enculturated into the NH setting. The APRNs recognized early on the value of relationship building with NH staff, leaders, and medical directors and described how they strategically worked alongside frontline staff to better understand how to work with these leaders to improve care delivery. They recognized that CNAs know residents intimately and often see the subtle changes in condition or functioning that precede illness in older adults. The APRNs listened to the CNAs, giving them their time and attention, which likely contributed to building a trusting relationship. Through the CNA, APRNs identified ill residents earlier, giving them a reason to communicate about their condition change with others in the NH. They leveraged the relationship with the CNAs to build other relationships within the NH.

The APRNs influenced positive change by supporting licensed nurses to consider new ways to address resident problems. The APRNs have the advanced clinical skills that many NH nurses may lack, particularly LPNs.[10,11] Working together, APRNs enhanced the assessment skills of licensed nurses to subsequently improve their ability

to detect early illnesses. Without these enhanced skills, increased hospitalizations were the norm.[3] The APRNs successfully improved nurse competence and modeled how to thoroughly and accurately assess residents. These enhanced skills in turn developed trust from medical providers to understand that NH staff are capable of managing ill residents.

To reduce avoidable hospitalizations, early illness detection and effective management of ill residents are essential. The APRNs facilitated the use of the INTERACT III process and led system-level change using QI methods. This study confirms that leadership support of the administrator and DON is necessary for systems-level change to occur.[12] Nursing home leaders must be open to change because they will be increasingly challenged to think about how to deliver care more effectively, particularly as payment to health care systems moves to value-based reimbursement. Programs such as the CMS Innovations Center are systematically exploring ways to improve care and examine new models of care delivery.[13]

CONCLUSION

Changes to health care systems are the norm, and there is little reason to think that the rate of change will slow down in the future. Nursing homes can expect to be increasingly involved in national initiatives, and APRNs can lead the way to effect positive change. However, they must be integrated effectively into the NH. This article describes how 15 APRNs, the majority of whom were new to NH practice, became knowledgeable and functional in the NH. The only certainty in health care is change, and APRNs are in a good position to support change at the resident and system level in NHs.

REFERENCES

1. Nursing Home Data Compendium 2013 Edition. Centers for Medicare and Medicaid Web site. http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/downloads/nursinghomedatacompendium_508.pdf. Accessed November 10, 2014.
2. Office of Inspector General. Medicare nursing home hospitalization rates merit additional monitoring. http://oig.hhs.gov/oei/reports/oei-06-11-00040.pdf. Accessed November 1, 2014.
3. Ouslander JG, Bonner A, Herndon L, Shutes J. The Interventions to Reduce Acute Care Transfers (INTERACT) quality improvement program: an overview for medical directors and primary care clinicians in long term care. *Am Med Dir Assoc*. 2014;15(3):162-170.
4. Intrator O, Zinn J, Mor V. Nursing home characteristics and potentially preventable hospitalizations of long-stay residents. *J Am Geriatr Soc*. 2004;52(10):1730-1736.
5. Kane RL, Keckhafer G, Flood S, Bershadsky B, Siadaty MS. The effect of evercare on hospital use. *J Am Geriatr Soc*. 2003; 51(10): 1427-1434.
6. Oliver GM, Pennington L, Revelle S, Rantz M. Impact of nurse practitioners on health outcomes of Medicare and Medicaid Patients. *Nurs Outlook*. 2014;62(6):440-447.
7. Ouslander JG, Lamb G, Tappen R, et al. Interventions to reduce hospitalizations from nursing homes: evaluation of the INTERACT II collaborative quality improvement project. *J Am Geriatr Soc*. 2011;59(4):745-753.
8. Rantz M, Alexander G, Galambos C, et al. Initiative to test a multidisciplinary model with advanced practice nurses to reduce avoidable hospitalizations among nursing facility residents. *J Nurs Care Qual*. 2014;29(1):1-8.
9. Miles MB, Huberman AM. *An Expanded Sourcebook: Qualitative Data Analysis*. 2nd ed. Thousand Oaks, CA: Sage Publications; 1994.
10. Corrazini KN, Anderson RA, Mueller C, Thorpe JM, McConnell ES. Licensed practical nurse scope of practice and quality of nursing home care. *Nurs Res*. 2013;62(5):315-324.
11. Vogelsmeier A, Scott-Cawiezell J, Pepper G. Medication reconciliation in nursing homes: thematic differences between RN and LPN staff. *J Geron Nurs*. 2011;37(12):56-63.
12. Rantz M, Zwygart-Stauffacher M, Flesner M, et al. Challenges of using quality improvement methods in nursing homes that "need improvement." *J Am Med Dir Assoc*. 2012;13(8):732-738.
13. The CMS Innovation Center. Centers for Medicare and Medicaid Web site. http://innovation.cms.gov/. Accessed November 10, 2014.