J Nurs Care Qual
Vol. 32, No. 3, pp. 196–201

The APRN Role in Changing Nursing Home Quality

The Missouri Quality Improvement Initiative

Lori Popejoy, PhD, APRN, GCNS-BC, FAAN;
Amy Vogelsmeier, PhD, RN, FAAN;
Colleen Galambos, PhD, MSW, ACSW, LCSW, LCSW-C;
Marcia Flesner, PhD, RN;
Greg Alexander, PhD, RN, FAAN;
Annette Lueckenotte, MS, RN, FNGNA;
Vanessa Lyons, PhD, RN; Marilyn Rantz, PhD, RN, FAAN

THE Centers for Medicare & Medicaid Innovations Centers partnered with 7 Enhanced Care and Coordination Provider (ECCP) sites across the United States with the goal to reduce potentially avoidable hospital transfers for nursing home residents. The University of Missouri Sinclair School of Nursing, 1 of the 7 ECCP sites, developed the Missouri Quality Initiative (MOQI) for nursing homes. The MOQI partnered with 16 nursing homes in the St Louis region to reduce potentially avoidable hospital transfers by implementing key elements to improve health condition management through prevention and early illness detection and treatment; use Intervention to Reduce Acute Care Transfers (INTERACT) tools and processes to communicate about resident condition change; improve end-of-life care; and expand use of health information technology.

The MOQI uses a combination of approaches to improve resident health outcomes. First, advanced practice registered nurses (APRNs) are embedded in each nursing home to work with existing nursing home staff and leadership to identify, assess, and manage ill residents, and influence changes in the nursing homes systems to improve resident outcomes. The APRNs are supported by the MOQI intervention team that includes (a) a registered nurse INTERACT/Quality Improvement Coach who assists each APRN in achieving implementation of INTERACT processes and quality improvement projects specific to the initiative goals[1]; (b) a social worker Care Transitions Coach assists the APRNs to improve the use of advanced health care directives and health care decision making, family interactions, and psychosocial care consultation, and troubleshoots problematic transfers using quality improvement methods;

Author Affiliation: *University of Missouri, Columbia, Missouri.*

This project is supported by grant number 1E1CMS331080 from the Centers for Medicare & Medicaid (CMS) Innovations Center. The content is solely the responsibility of the authors and does not necessarily represent the official views of CMS.

The authors declare no conflicts of interest.

Correspondence: *Marilyn Rantz, PhD, RN, FAAN, University of Missouri, Columbia, MO 65211 (rantzm@missouri.edu).*

Accepted for publication: March 7, 2017.
Published ahead of print: May 12, 2017.

DOI: 10.1097/NCQ.0000000000000264

(c) a health information coordinator works with APRNs to improve use of technology and transfer communication including the use of a health information exchange; (d) an MOQI Medical Director supports communication and practice change among providers and interfaces with APRNs and nursing homes; and (e) a project supervisor ensures that APRNs receive support for the transition to nursing home practice.[2] Finally, the APRNs and intervention team are supported by the study team that includes investigators specialized in nursing home systems, care coordination, and geriatric care.

In an effort to understand the evolution of APRN practice in MOQI nursing homes, the APRNs were asked to routinely document comments to a virtual learning environment describing actions they employed to improve the care system in the nursing home specific to the problems of mobility, hydration, continence, and use of advance directives, and stories about avoided hospitalizations. These responses gave the MOQI study team insight into how the nursing homes systems were evolving from the perspective of the APRNs. This column describes MOQI APRNs' self-reported efforts to improve nursing home care systems to reduce resident hospitalizations.

METHODS

Study design and setting

This was a qualitative descriptive study of APRN documentation about nursing home care system improvement efforts to a virtual learning environment. The 16 nursing homes were then further categorized according to their overall trends in achieving reductions in hospitalizations. Twelve nursing homes were meeting initiative goals and were showing declining rates of hospitalizations, and 4 had no change in hospitalization rates. APRN documentation from nursing homes that were meeting goals was compared with those that were not yet meeting goals comparing number and content of individual documentation, looking for differences in how care systems were changed.

Sample

Each of the 16 nursing homes was assigned 1 APRN employee of the initiative. Nursing home leadership participated in the hiring decisions for their facility. In addition, there was a float APRN who worked in nursing homes when there was an APRN absence because of vacation, illness, or turnover, and who also worked as a second APRN in one of the largest nursing homes in the initiative when not needed elsewhere. The majority of APRNs ($n = 16$) were nurse practitioners, and 1 was a clinical nurse specialist.

Data collection

APRNs were asked to document weekly on a virtual learning management system hosted at the university as an organization, not a course. This learning management system is available only to employees or students of the university and is a secure site that is password protected. Nearly 1500 posts were entered over a 1-year period (March 2014 to March 2015). Data were organized by APRNs assigned to each nursing home, converted to Word files, and uploaded to a web-based Qualitative Software Dedoose V. 7.0.23 for analysis. Each nursing home was then assigned a descriptor code of either meeting or not meeting hospitalization reduction goals.

Analysis

Guided by the purpose to identify how APRNs influenced improvement in the nursing home system, documentation was read with the intent of identifying actions taken by APRNs to manage residents' care in the nursing home associated with mobility, hydration, continence, and use of advance directives. These data were then further analyzed by comparing nursing homes that reduced hospitalization and those that did not. Specifically, the more an action was discussed was interpreted to mean that it had greater importance to reducing hospitalizations. Data were primarily analyzed first by a doctoral student,

then a single investigator verified coding, and finally a second investigator checked for coding consistency, ensuring results made sense within the context and did not overextend the data.

RESULTS

The health systems that were influenced by the APRNs included (1) taking care of the basics, (2) improving discussions about improving care and limiting treatment, and (3) improving health care team communication about treatment. Actions that occurred at least 10 times under each system change category were deemed to be important enough to influence the change (Table).

Taking care of the basics

This category included improving hydration and mobility, falls prevention, and medication management. APRNs working in homes that had lower hospitalizations had 112 quotes about hydration improvement versus 12 times in homes that did not show improvement. This is a 10-fold difference in how frequently this topic was discussed in homes that reduced hospitalizations, and is strikingly different from all other categories and actions (Table). The following quote demonstrates the APRN's challenge to implementing hydration programs in nursing homes and the need to stay diligent with both leaders and staff to make sustained change. The quote also is representative of the challenges experienced by study nursing homes.

> Another year in the books and we are still working on hydration! No one wants to take accountability for the cleaning, stocking, refilling of the hydration stations. We will not relent on this, and we mention it at every meeting, even if we have to work it into the conversations. We also spread the word about hydration and how anyone entering a resident's room can offer a drink of water.

The same APRN wrote several weeks later about perceived success in the program: "Hydration stations are in full swing now. The carts and cups are properly stocked . . . family and friends [are] helping the residents stay

Table. Health System Change Number of Quotes

Actions	Reduction in Hospitalizations (n = 12)	No Reduction in Hospitalizations (n = 4)
Taking care of the basics		
Improving hydration	118	12
Improving mobility	16	6
Preventing falls	13	3
Medication management	16	1
Improving discussions about comfort care and limiting treatment		
Advance directives	54	11
CPR	54	18
Hospice	35	11
Treatment limitations	29	9
Improving communication about treatment		
Counseling families about comfort care and limiting curative treatment	17	1
Working with staff	11	2
Working with families	22	4
Getting help from social work	26	4

Abbreviation: CPR, cardiopulmonary resuscitation.

hydrated. It has been an asset getting them more mobile, and the cart can be moved around to the locations where the largest area of residents gather."

Fall prevention and improvement of mobility in frail older people are related problems and are particularly difficult to manage in frail older adults. The APRNs used quality improvement methods to influence change in practice in this area as reflected in this comment:

> This week we had the same resident fall twice in one day so I did a fishbone RCA [root cause analysis] and worked with the DON [Director of Nursing] and ADON [Assistant Director of Nursing] on my findings. We ended up decreasing this resident's [sic] trazadone and getting a PT [physical therapy] evaluation.

Another APRN initiated fall huddles to identify falls risk and develop solutions. Yet another APRN reported advocating to nursing home leadership to stop removing restorative aides from their duties when staffing was low.

Another major area that it is notoriously difficult to influence change is medication management and reduction in polypharmacy. Each APRN was challenged through the initiative to address medication use and ensure that current standards of practice are followed. An APRN explains her work in this regard:

> I have been working on reducing polypharmacy. I have specifically been looking at monitoring blood pressures on those residents that have had falls and/or low post-prandial blood pressures. If the resident has several low blood pressures, we are asking to reduce blood pressure medications. I have also been looking at reducing the sliding scale insulin. Several doctors are on board, and there have been many changes in blood pressure medications and reducing the sliding scale insulin. Whether this will lower falls and hospitalizations remains to be seen.

Improving discussions about comfort care and limiting treatment

Increasing the number and quality of health care decision making in regard to residents' end-of-life wishes about treatment was a critical area for improvement across all 16 nursing homes. The APRNs varied greatly in their comfort level, with having complex conversations about improving comfort care and limiting treatments that would not improve resident outcomes. There was nothing substantially different noted in the quotes between the groups of homes; all APRNs discussed challenges to having discussions about improving comfort care and limiting treatment. For some the discomfort was related to their inexperience in leading these types of discussions. The stories reported by the APRNs usually involved a complex problem that unfolded over time and across discussions as illustrated by this quote:

> We had one hospital transfer this week. A 90-year-old resident's daughter came to visit the resident and found her to be a little sluggish . . . within half an hour, she became minimally responsive. I was called by the nurse to the bedside. We took a set of vital signs . . . Since she [sic] is relatively stable at this point, we plan to obtain orders to get stat labs and stat x-ray from provider. The daughter agrees with our plan. While the nurse went to call the physician with our plans, I got the opportunity to discuss the goal of care with the resident's daughter. She agreed that whenever her mother went to hospital, she seemed to be more confused. She prefers her mother to be treated here in-house. She said she would review her mom's advance directives and get back to us. At this point she still wants her to be full code. Soon the charge nurse came back and said the doctor wanted to send the resident to ER. When the daughter heard that, she changed her mind and wanted the resident to be sent to hospital. When the resident is back, I will continue the discussion of the goal of care with the family.

Improving health care team member communication about treatment

Improving communication about treatment in nursing homes is difficult to achieve. This category specifically addresses improving communication between the health care team including staff, providers, and social workers to facilitate the conversations that need to happen to influence care. This next quote is an example of how APRNs leveraged events to influence colleagues to respond differently to problem situations.

I had a lady who has diabetes, Lupus [sic], end stage renal disease, on dialysis 3 times a week. She came back from dialysis confused and agitated. The nurse called the doctor and asked for an anxiety pill to help; the doctor wanted staff to monitor. The resident became more agitated, wouldn't sit down, and was combative with staff. The doctor was called back and stated to send the resident out [to hospice]. I followed up with the nurse and talked about what happened that day, I am in the process talking with the social workers and figuring out a plan for deciding how future situations will be taken care of. I am also going to talk with the family about their wishes regarding the resident.

The story continued to unfold with the APRN serving to facilitate communication across events and shifts, generally working with others to ensure that realistic and quality care was given to residents as described by this APRN:

The resident whom I talked about finally getting on palliative care actually fell again from her wheelchair, and this time hit her head pretty hard. The daughter was on the fence about having her go out or not. We called the MD and he stated he would talk with daughter. The verdict was hospice, which is what I wanted for the resident a long time. I have gone to see her several times, and she finally looks peaceful with comfort measures being given.

DISCUSSION

To improve care for older adults living in nursing homes takes careful attention to improving the basics of care including hydration, mobility, fall reduction, and medication management. Perhaps equally important is improving communication with residents and families about health care planning, advanced health care directives, and end-of-life and comfort care.[3] It takes a health care team to meet these needs. Communication with grieving families and significant others takes time, and licensed social workers trained to work with people under stress can be beneficial to the team. Open communication between residents, families and caregivers, nursing home team members, and providers is essential to good outcomes.[3] We have found a team approach using both the APRN and licensed social worker to work though care preference discussions is an ideal way to address emotional reactions to transitions and change of condition. The earlier these discussions are made, the better the opportunity to avoid potentially avoidable hospitalizations.[4]

Many of the stories and events reported by the APRNs were complex and nuanced. At the core of the story were attempts to change practice within nursing homes. APRNs in this study did not have full prescriptive privileges because of the regressive practice laws in Missouri.[5] Yet, the APRNs worked around that limitation, using their excellent assessment and patient care management skills to change the clinical practice of nursing homes. They guided and directed nurses and other facility employees on how to manage complex resident situations. They built relationships with providers to improve care delivery practices throughout the organization.

APRNs, regardless of hospitalization outcomes, were using the similar processes to improve basic and end-of-life care, treatment discussions, and general communication between health care team members to achieve the goals of the study. The study team was helping to promote practice changes related to the MOQI project, but it was up to the APRNs to solve specific facility level problems and make recommendations for change. However, achieving improvement was difficult given the resistance by some leaders and staff to embrace systems change. Leadership support of the APRN was critical. Leaders were either a barrier to making effective change or a support. The relationship between the APRN and leadership team is critical to success.

Moreover, APRNs in this project were predominantly nurse practitioners with a background in primary care, and their ability to change practice at a system level was uncomfortable for some. With coaching and support by the MOQI intervention team, the majority were able to work through their limitations and began to actively embrace their role as quality improvement and practice change experts. In addition, the APRNs were

provided with Crucial Conversation training in year 3 of the initiative to improve conversation skills addressing proposed system changes when met by leadership and staff resistance.[6] The strength the APRNs brought into the nursing home was that of expert clinician, helping to guide staff members to think about problems differently and influence positive change.

CONCLUSION

APRNs bring essential skills to the nursing home including excellent assessment skills, the capacity to manage ill residents effectively, the ability to guide less experienced staff to care for residents, and the skills to lead practice change. The leadership structure of the nursing home can be a barrier or facilitator. It was challenging to embed APRNs into nursing homes and expect that they can immediately change practice. Not every APRN has the skill set to facilitate systems change, but when they have adequate support to develop those skills, they can begin to implement the changes needed to improve care to older adults by improving basic care and communication. External assistance to the nursing homes by the APRNs and the MOQI team has helped to improve care quality.

REFERENCES

1. Ouslander JG, Bonner A, Herndon L, Shutes J. The Intervention 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;16(3): 162-170.
2. 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.
3. Bern-Klug M. A conceptual model of family surrogate end-of-life-decision making process in the nursing home setting: goals of care as guiding stars. *J Soc Work End Life Palliat Care*. 2014;10(1): 59-79.
4. Galambos C, Starr J, Rantz M, Petroski G. Analysis of advance directive documentation to support palliative care activities in nursing homes. *Health and Social Work*. 2016;41(4):228-234.
5. Oliver G, 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.
6. Maxfield D, Grenny J, Lavandero R, Groah L. *The Silent Treatment: Why Safety Tools and Checklists Aren't Enough to Save Lives*. Provo, UT: Vital Smarts Publication; 2005. http://www.silenttreatmentstudy.com/