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).

Reducing Avoidable Hospitalizations and Improving Quality in Nursing Homes With APRNs and Interdisciplinary Support
Lessons Learned

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REDUCTION in avoidable hospitalizations of nursing home residents is a major concern to health care providers as well as payers.[1] Not only are hospitalizations costly

but also hospitalized nursing home residents experience functional and physical decline as a result of hospital transitions that can result in worsening health conditions or death.[2] In 2012, the Missouri Quality Initiative (MOQI) was funded by the Centers for Medicare & Medicaid Services (CMS) Innovations Center and Medicare-Medicaid Coordination Office as a part of a national demonstration, *Initiative to Reduce Avoidable Hospitalizations Among Nursing Facility Residents.* While avoiding hospitalizations is important for both short- and long-stay nursing home residents, the CMS initiative focuses on long-stay residents. The CMS funded 7 sites across the United States with the purpose for each site to test the effectiveness of evidence-based clinical and educational interventions in reducing potentially avoidable hospitalizations for long-stay residents—an important aspect of improving care and quality of life.

The MOQI team recruited 16 nursing homes in the St Louis regional area, an area of the country with high rehospitalization rates. The homes met the base criteria established by the CMS: (*a*) serve Medicare and Medicaid beneficiaries, (*b*) have high hospitalization and rehospitalizations rates for long-stay residents, (*c*) have a track record of providing good quality of care, and (*d*) be willing to implement the MOQI intervention model as fully illustrated in a prior publication.[3] The key components of the intervention include advanced practice registered nurses (APRNs) working full-time within each home with an interdisciplinary MOQI intervention team to support each APRN and nursing home in the initiative. Other key components include implementing INTERACT II (Interventions to Reduce Acute Care Transfers) processes and tools,[4] an emphasis on end-of-life care,[5] and health information technology (HIT).[6]

Within the first 3 years of implementation, 2012-2015, MOQI experienced the most positive results of the 7 sites across the country participating in the CMS demonstration.[7,8] Specifically, MOQI resulted in statistically significant reductions in all key outcomes of the demonstration as analyzed and reported by an independent evaluation team.[7] After control-

ling for baseline differences, the 16 MOQI facilities achieved the following: (*a*) 40% reductions in all-cause hospitalizations ($P < .001$); (*b*) 57.7% reduction in avoidable hospitalizations ($P < .001$); (*c*) 54.1% reduction in all-cause emergency department (ED) visits ($P < .001$); and (*d*) 65.3% reduction in avoidable ED visits ($P < .001$).

Medicare expenditures were significantly reduced in all categories for MOQI versus a comparison group that the evaluation team selected.[7] MOQI had significant reductions of the following: (*a*) 10.4% in total Medicare expenditures by $-\$2066$ per resident ($P = .034$); (*b*) 33.6% reduction in spending on all-cause hospitalizations by $-\$1369$ per resident ($P < .001$); (*c*) 45.2% reduction in avoidable hospitalizations by $-\$577$ per resident ($P < .001$); (*d*) 50.2% reduction in all-cause ED visits by $-\$86$ per resident ($P < .001$); and (*e*) 59.7% reduction in avoidable ED visits by $-\$29$ per resident ($P < .001$).

According to Ingber and colleagues,[8] the MOQI intervention was associated with "consistent and significant" reductions in outcome measures, as reductions were larger in 2015 than in 2014. These data support the substantial impact of MOQI and the value of adding a full-time APRN and an interdisciplinary support team to the facilities involved. Key findings of lessons learned from implementing the MOQI intervention are shared to help others as they consider strategies to reduce avoidable hospitalizations of long-stay nursing home residents.

APRN FULL-TIME PRESENCE

Each of the nursing facilities (n = 16; range in size = 120-321 beds) has an APRN who works full-time, and the largest facility has 2 working full-time. APRNs are fully integrated into the nursing facility. They work with the staff and residents each day, demonstrating advanced practice nursing skills, including assessment of resident status. They coach the staff to take action to better manage changes in health status, use quality improvement (QI) strategies to guide rebuilding care delivery systems to proactively address common

health problems, and provide direct care using evidence-based practice.

APRNs model good communication skills with residents, families, and staff, helping them decide on goals of care and decisions about planning for end of life.[9] There was a need to focus on improving the APRNs' comfort with communicating difficult information to all levels of the staff including nursing facility leadership. To address that need, an ongoing communication training program, *Crucial Conversations*,[10] is provided to APRNs and nursing facility leadership both to improve their capacity to effectively address difficult topics such as the need to redesign care systems to improve care, as well as encourage consistent use of positive communication with residents, families, staff, and leaders. To learn more about role-modeling evidence-based care, the APRNs have periodic training using role-playing to help each other try out new approaches with peers and the MOQI support team before applying it to the staff in their nursing facility.

APRNs primarily focus on geriatric clinical management of the residents. For there to be effective and long-lasting change, the APRNs had to emphasize changing ineffective or harmful care delivery systems by working with the staff to embed changes in their day-to-day care delivery. These care delivery systems include hydration, nutrition, mobility enhancement, fall prevention and management, continence maintenance and improvement, engagement with life, establishing clear goals of care with residents and families, and clarifying end-of-life decisions with residents, families, and staff. Not only were systems put in place for these important aspects of care but also the APRNs, along with leadership, hold the direct care staff accountable so that the care systems are consistently delivered as planned.

Another key component of MOQI is the consistent use of INTERACT II, particularly Stop and Watch and SBAR (Situation, Background, Assessment, Recommendation).[11] Direct care staff, families, and other staff (eg, housekeeping) use Stop and Watch to report any resident changes to a nurse so that the nurse can assess the resident and start early treatment if needed. Using SBAR is key to prompt nurses to gather necessary information as they assess a resident with a change in health status. Systematically using SBAR markedly improves assessment, particularly for inexperienced nurses. Often, as an APRN is working with and coaching nurses as they use SBAR, the APRN can identify potential areas of weakness in physical assessment skills or clinical reasoning. These times provide teaching opportunities to improve the skills of staff nurses. We have found that consistent use of SBAR reduces unnecessary transfers to the ED and the hospital.

INTERACT[4,11] also has useful lists of services that most nursing homes can tailor to their nursing facility and give as information to hospitals, families, and providers to clarify what services the nursing home can provide. This simple step has prevented some transfers simply because of lack of understanding about services available in the nursing facility. Also, this information helps families and other health care providers understand what diagnostic tests or clinician assessments can be done there. In most cases, care can be provided in the nursing facility so that the resident is best managed in his or her "home" rather than experiencing the stress of transfer to the unfamiliar staff and the hospital environment. In addition, the presence and staff coaching of the APRN gives the physician a greater sense of confidence in the ability of the facility to care for the resident in place.

When hospital transfers do occur, the APRN uses an INTERACT root-cause analysis (RCA) tool[12] to review each transfer and then share results of the review with the nursing facility clinical staff. By using the RCA for each transfer and tracking key data elements (such as why, when, and who decided the transfer should occur), trends can be identified and action plans developed to improve care systems to better manage patient conditions. APRNs routinely review each transfer and trend data with the leadership and direct care

staff at monthly QI committee meetings. The MOQI intervention team also sends monthly summary feedback reports to each participating leader and APRN about their facility-specific transfer rates as well as key information about transfers identified from RCA tools. These initiative-wide and facility-specific summary reports enable systematic problem-solving for nursing facilities to develop new approaches to the complex problem of reducing avoidable hospitalizations for long-stay nursing home residents.

MOQI INTERDISCIPLINARY TEAM

APRNs are supported by an MOQI intervention/support team that is designed to guide the intervention and assist the APRNs as they encounter challenges within their facility. The team is interdisciplinary, as the care in the nursing home is complex and provided by the interdisciplinary staff. The team supervisor is an APRN prepared as a clinical nurse specialist and geriatric nurse practitioner. This nurse is responsible for hiring and coaching the 17 APRNs working in the 16 nursing facilities, conducting their orientation, coaching them on skill development for nursing home resident assessments, meeting monthly with the group to keep the intervention on track, and facilitating communication among the group so that they can learn from each other's experiences. Faculty members with the Sinclair School of Nursing and School of Social Work also provide evidence-based clinical guidance, education, and coaching for the APRNs as well as facility leadership.

Other members of the MOQI support team include the MOQI medical director (physician with expertise in geriatrics and nursing home practices) who works part-time with the project and full-time in practice; a care transitions coach (MSW-prepared social worker with skills to facilitate end-of-life decision-making, QI activities around transitions, and psychosocial care); a nurse who is the INTERACT/QI coach (nurse with skills to facilitate use of INTERACT and QI); and an HIT coordinator (nurse with HIT skills) who

focuses on improving secure health information exchange through technology.[5,13-15]

NEW MODEL FOR APRN

As the MOQI Initiative evolved during the first 4 years, much has been gleaned from the quantitative and qualitative data collected. We have learned that there are key components of the APRN role for it to be successfully implemented in the nursing facilities. Importantly, we have also learned the key supports that are also essential for the APRN role to be successful. The Supplemental Digital Content Figure (available at: http://links.lww.com/JNCQ/A383) is an illustration of the components of the model and the essential supports for success.

DISCUSSION AND IMPLICATIONS

The need to reduce avoidable hospitalizations for long-stay nursing home residents is going to increase in the foreseeable future as our aging population living in long-term care increases in numbers and medical complexity. Solutions to improve nursing home care delivery and reduce avoidable hospitalization are needed, and the results of the MOQI intervention confirm that implementing APRNs full-time in nursing facilities is both a clinically effective and cost-effective solution.[7,8] The model explaining components of the APRN role and supports for success can guide nursing facilities as they embark on duplicating this approach.

We also believe there are changes to the Code of Federal Regulation (CFR 483.40) that are needed to improve patient access to care and encourage the use of APRNs in nursing facilities nationwide. Currently, APRNs who are hired by nursing facilities cannot bill for required visits of Medicare beneficiaries (most residents of nursing facilities are Medicare beneficiaries), but APRNs not hired by nursing facilities may bill for these required visits. With a straightforward change that in either case billing could occur, nursing facilities could cover salary costs of APRNs, which

would enable nationwide hiring of APRNs by nursing facilities to serve residents. There is precedent for this change, as currently nursing facility–employed physicians are authorized to conduct and bill for required visits for skilled and long-stay residents. Restricting visits by nursing facility–employed APRNs while allowing nursing facility–employed physicians is unnecessary regulation of an APRN's practice and unfairly restricts nursing facility residents from access to APRN care.

There are many resident advantages to APRNs working full-time in nursing facilities. These include minimizing treatment delays: APRNs are able to directly observe residents promptly on admission and communicate concerns with the physician, often within the first day of admission. Timely treatment implementation is critical for cost-effective care,

as is timely and accurate medication and treatment reconciliation. In addition, APRNs' full-time presence in the nursing facility facilitates role modeling and coaching of assessment and clinical problem-solving skills to nurses, which is critical for ongoing high-quality resident care. Details for recommended changes to Medicare regulations are available from the authors on request.

It is time for the APRN full-time role to be embraced in nursing facilities nationwide. Outcomes, costs, unnecessary hospitalizations, and ultimately quality of care are improved. The MOQI Initiative has illuminated key strategies to guide nationwide implementation of APRNs working full-time in nursing facilities. We and many other leaders in long-term care are ready to assist with this change.

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