On March 15, 2012, the US Department of Health and Human Services Centers for Medicare and Medicaid Services (CMS) released a funding opportunity (FOA). The following organizations met to consider applying for this grant for Missouri: faculty from the Sinclair School of Nursing, School of Medicine, School of Social Work; Tiger Institute and Connect Missouri affiliates; the Quality Improvement Program for Missouri Nursing Homes (QIPMO); Primaris (the Quality Improvement Organization for Missouri); LeadingAge Missouri (a continuum of senior care provider organizations); Missouri Health Care Association; Missouri Health Connection (MHC, the State authorized Health Information Network); and industry representatives from technology and electronic health records.

The CMS FOA, Initiative to Reduce Avoidable Hospitalizations among Nursing Facility Residents, asked groups like ours to test an intervention for long-stay Medicare-Medicaid enrollees in our state to:

- Reduce the frequency of avoidable hospital admissions and readmissions;
- Improve resident health outcomes;
- Improve the process of transitioning between inpatient hospitals and nursing facilities; and
- Reduce overall healthcare spending without restricting access to care or choice of providers.

The intervention had to include these key activities:

- Partner with nursing facility staff to implement preventive services and improve recognition, assessment, and management of conditions such as pneumonia, congestive heart failure, chronic obstructive pulmonary disease and asthma, urinary tract infections, dehydration, skin ulcers, falls, and other common causes of avoidable hospitalizations;
- Work in cooperation with existing providers, nursing facility staff, and families to implement best practices and improve the overall quality of nursing facility care, focusing on quality improvement activities that most directly relate to avoidable hospitalizations;
- Facilitate residents’ transitions to and from inpatient hospitals and nursing facilities, including facilitating timely and complete exchange of health information among providers and providing support for residents, family members, and nursing facility staff to support successful discharge to the community as appropriate;
- Provide the information technology to support for improved communication and coordination among hospital staff (including attending physicians), nursing facility staff, residents’ primary care providers and other specialists, and pharmacies; and
- Coordinate and improve management and monitoring of prescription drugs to reduce risk of polypharmacy and adverse drug events for residents, including inappropriate prescribing of psychotropic drugs.

The Initiative will provide a combination of interprofessional expertise, such as Advanced Practice Nurses, Social Workers (MSW) (both with gerontological expertise), and Information Technology Specialists to install the health information network needed to share health information between clinicians and hospitals and view clinical care documents to facilitate outcomes.

We are building on the expertise and success of the QIPMO program in Missouri with nurses from the Sinclair School of Nursing, University of Missouri, with geriatric expertise and graduate education in gerontological nursing who have been serving long-term care facilities since 1999. As with QIPMO, we will work with each facility, within the culture and business model of each, to reach the goals of the project.

As explained by CMS, “Nursing facility residents are subject to frequent avoidable inpatient hospitalizations. These hospitalizations are expensive, disruptive, disorienting, and often dangerous for frail elders and people with disabilities. Nursing facility residents are especially vulnerable to the risks that accompany hospitalizations and transitions of care, including medication errors and hospital-acquired infections. Hospital episodes are even more difficult for individuals with dementia. Thus, preventing avoidable hospitalizations of nursing facility residents is an important quality-improvement objective, which may yield cost reductions as well.” An alarming statistic that CMS is very concerned about is that nearly 1 in 5 Medicare patients who are discharged from a hospital in the US are readmitted within 30 days at a cost of over $15 billion each year (MedPac, 2007. Report to Congress: Promoting Greater Efficiency in Medicare. June, 2007)
Why Missouri? Why St. Louis?

Missouri, particularly the St. Louis area, has been identified as a region of the country with the highest re-hospitalizations for key diagnoses of acute myocardial infarction, congestive heart failure, and pneumonia (CMS, 2011) (see page 4 illustration), and readmissions within 30 days of discharge for all medical or surgical conditions (Goodman et al., 2011). Examining Missouri nursing home and hospitalization data from 2010, we identified nursing homes within the St. Louis area with good quality of care and survey history, with high hospitalization rates and that both admit/discharge to the high re-hospitalization hospitals in the St. Louis area. Sixteen nursing homes meeting these criteria were recruited for the project. They are actively preparing for the Initiative to proceed into full swing after we have passed our “Readiness Review” sometime before December 11, 2012.

How will this Initiative be Accomplished?

The Missouri Quality Initiative Intervention Model illustrates our vision of transforming certified nursing homes with high hospitalization rates and populations of Medicare/Medicaid beneficiaries through the MOQI Intervention into facilities with reduced rates of avoidable hospitalizations, improved health outcomes and transitions between hospitals and nursing homes, and reduced healthcare costs. We will use validated methods of the INTERACT II processes and tools (Ouslander et al., 2011), QIPMO (Rantz et al., 2001, 2003b, 2009), and advanced practice registered nurses (APRNs) to accomplish the objectives of the Initiative.

As illustrated in the center of the intervention model, the Initiative will add 2 foundational levels to the current status of the facilities: APRNs working within each home and a MOQI Intervention Team that supports each APRN and nursing home in the Initiative. The MOQI Intervention Team is designed using lessons learned (clinical focus on the basics of care with the nursing staff by a nurse with graduate education in nursing and expertise in gerontological nursing) from the state’s successful QIPMO team that has provided on-site clinical consultation and evidence-based practice support to nursing homes statewide since 1999 (Rantz et al., 2003b, 2009). What we have added to the QIPMO team model are the project medical director, one social services Care Transitions Coach (CTC), one technology Health Information Coordinator (HIC), and one registered nurse INTERACT/QIPMO Coach (IQC). Our current Missouri QIPMO team is comprised of five nurses who provide services to all skilled and intermediate care homes in the state. The MOQI Intervention will provide a four-member team that works closely with the APRNs (in Missouri, these nurses can be clinical nurse specialists or nurse practitioners) designated for each facility to support implementation of the intervention in each facility. More intensive coaching through MOQI is designed to address the persistent problem of excessive healthcare costs related to avoidable hospitalizations of nursing home residents.

Using the processes and tools from the validated INTERACT II program (Ouslander et al., 2011), the IQC will work with the APRNs hired for each facility to educate all staff about INTERACT II tools. The IQC develops relationships with each facility’s nursing staff and care delivery system to embed the processes of INTERACT II into their care delivery systems. The coach will work within each unique system and culture to facilitate implementation and sustainability of the Initiative, taking into consideration uniqueness of delivery systems and staff communication patterns between and within systems.

A primary role of the APRN hired to work in each nursing home is to provide direct services to residents while mentoring, role-modeling, and educating the nursing staff about early symptom/illness recognition, assessment, and management of health conditions commonly affecting nursing home residents. While the primary focus of the work is to provide services to dual Medicare/Medicaid beneficiaries, we anticipate that all residents living in the facility will benefit from the work of the APRN. The APRNs will focus on common reasons for rapid functional decline that also increase risk of hospitalization such as pneumonia, congestive heart failure, chronic obstructive pulmonary disease and asthma, urinary tract infections, dehydration, skin ulcers, and falls (CMS, 2011; Culler, Parchman, & Przybylski, 1998; Grabowski, Stewart, et al, 2008; Grabowski, O’Malley, & Barhydt, 2007).

Early recognition, assessment, and management of residents’ conditions, as well as developing positive, collaborative relationships with primary care providers of the residents in the facility, the APRN will intervene early when changes in health status occur. Early intervention is intended to stabilize conditions and make sure approaches to care are in place so the best management of conditions can occur within the long term care setting, avoiding hospitalization. Hospitalization, in many cases, will likely do more harm with the trauma of relocation, as well as unintended consequences of skin, nutritional, and functional decline (Creditor, 1993; Gillick & Steel, 1983; Trisch et al., 1985). Faster recovery from acute changes is likely if conditions are managed within the nursing facility proactively with early detection.

Proactive discussions about end-of-life decision-making are essential in nursing homes and community-based care (Ouslander, Weinberg, & Phillips, 2000). A focus is to develop and implement end-of-life decision-making and
communication systems to honor residents’ and family wishes and enhance psychosocial care. A social services CTC will work with participating nursing homes in the Initiative so that working relationships can be developed with staff, residents, and families. The CTC will work closely with social services/social service designee, the primary care providers, nursing staff, and APRNs, and as communication systems are put into place to assure consistent communication of each resident’s (or proxy’s) decisions about advanced care directives (including code status, hospitalization, and specific treatments such as antibiotics), while residing in the home and during transitions of care.

Our MOQI Intervention model will **improve hospital transitions, communication, and reduce polypharmacy**. Specifically, the MOQI Intervention team will focus on these processes at many levels. The CTCs will build relationships with hospital staff and nursing homes by implementing effective processes for transitions of care that occur when Medicare/Medicaid beneficiaries are transferred between the agencies. It is the goal that hand-offs are smooth, with necessary information flowing accurately in both directions which will be the primary focus of the technology HICs. It is widely recognized that Health Information Technology (HIT) supports accurate information flow about health conditions, and that **not** having systems in place result in unnecessary healthcare procedures, medication errors, and other adverse events (Alexander et al., 2007).

**To improve accurate health information flow**, the HICs will use Missouri Health Connection’s statewide health information network tools. These tools will support enhanced communication by allowing authorized HICs and nursing home staff to send and receive secure e-mails with encrypted health information and to view the beneficiaries’ comprehensive medical history. The HIC will first focus on medication reconciliation between agencies (nursing home, pharmacy, hospital, primary care). Similarly, the APRNs working collaboratively with the Project Medical Director will role-model assessing residents’ medication necessity to reduce polypharmacy with nursing staff.