Enhancing Physician Relationships, Communication, and Engagement to Reduce Nursing Home Residents Hospitalizations

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Recently, there have been numerous policy and program responses to reducing potentially avoidable hospitalizations from skilled nursing facilities (SNFs).[1] It is estimated that approximately 25% of resident discharges to SNFs are readmitted within 30 days of discharge.[2] Medicare spends more than $14 billion annually on both short- and long-stay SNF resident hospitalizations, many of which are preventable and unnecessary.[3] Models have been proposed that focus on the relationships between nursing home (NH) physicians and staff of SNFs to reduce rehospitalizations.[4,5] Other models applying complexity science principles of building relationships create the capacity for delivering better care.[6] Evidence examining the level of physician engagement in SNFs suggests that rehospitalizations can be reduced with higher physician engagement.[7]

In addition, there is growing evidence supporting the importance of the use of specialty staff, such as nurse practitioners and physicians, with a variety of clinical expertise to augment resident care provided by traditional or standard NH staff.[1] One such model was developed using advanced practice registered nurses (APRNs), a clinical support team, and a medical director with a specialty in geriatrics to augment NH staff to reduce potentially avoidable hospitalizations.

THE MISSOURI QUALITY INITIATIVE PROJECT

In 2012, as part of a Health and Human Services initiative through the Centers for Medicare & Medicaid Services (CMS), funding opportunities were developed for organizations to test evidence-based clinical interventions to improve health care in NHs with the goal of reducing potentially avoidable hospital admissions.[8,9] The Missouri Quality Initiative (MOQI) continued in 2016 in a second phase to further test a payment intervention for SNFs and physicians to provide acute care in-facility for residents to avoid hospitalization.

The MOQI partnered with 16 SNFs in the Greater St Louis area to develop and implement a clinical intervention model. Key components

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of the MOQI intervention included an APRN placed at each facility who steered the intervention, provided advance practice care to eligible residents, and staff training to enhance the skills of facility workers. In addition, an MOQI operations team assisted the APRN with navigating care transitions, medical care, health information technology, quality improvement processes, end-of-life decision-making and care, and use of Interventions to Reduce Acute Care Transfers (INTERACT II) tools.[9-12] The MOQI operations team consisted of interdisciplinary geriatric care professionals including a project medical director, a social work care transitions coach, a health information technology coordinator, and a nurse INTERACT coach.

The MOQI team worked collaboratively with NF leaders and staff, physicians, and residents/designated legal representatives to improve early recognition and management of medical conditions associated with avoidable hospitalizations and implemented preventive services.[9-12] Within the first 3 years of the implementation of the MOQI, the model significantly reduced all-cause and avoidable hospitalizations and emergency department visits.[13,14] In addition, the MOQI was associated with a statistically significant reduction in total Medicare expenditures.[13,14]

COMPLEXITY SCIENCE

The theoretical framework for the MOQI is complexity science. Complexity science has been applied to NHs and other health care systems enlightening knowledge that health care systems are complex adaptive systems, nonlinear in nature, with diverse parts interacting with each other to achieve self-organization.[15,16] Self-organization is dependent on 3 main factors: (1) information flow throughout the system (communication); (2) the nature of connections with people and staff (relationships); and (3) diversity of cognitive schema, enabling diversity in thought and ideas.[15,16] Others[6,17] have applied self-organization to health care systems specifically examining how relationships are recognized and leveraged to improve care processes and care outcomes. Their recommendations include reshaping and promoting positive relationships among providers.

In an effort to better understand the influence of the promoting complexity science on the relationships, communication, and engagement of physicians caring for residents in the MOQI, 2 surveys were conducted. The purposes of the surveys were to describe the (1) physician perspectives about the communication and clinical skills of the NH nursing staff, APRNs, and global impression of the MOQI; and (2) APRN perspectives of primary care provider (PCP) engagement in key components of the MOQI intervention.

METHODS

A cross-sectional design was employed with descriptive analysis. Data were collected using 2 surveys constructed by the researchers and pilot tested with the project staff. One survey was completed by the physicians providing medical care in participating facilities, and the second was completed by each MOQI APRN about PCPs of MOQI residents at their facilities.

Physician Survey

The Physician survey is a 7-item questionnaire developed by the medical director of the MOQI and reviewed and revised by the MOQI research team. The survey asked questions about the number of facilities the physician visited and the number of days each week the physician visited each home. Five more items, using a 5-point Likert scale (1 "no trust, value, interest" to 5 "great trust, value, interest"), captured the level of trust the physician had in NH staff communicating with and caring for residents, the level of trust the physician had in the MOQI/APRN following the clinical status of residents, the overall global impression of the value of the MOQI, and the physician's interest in the continuation of additional payment from CMS to them when the MOQI ended. The survey was developed using electronic survey software, and a final version was sent to all PCPs who were providing care to residents in 1 or more of the 16 MOQI participating homes.

PCPs were contacted using an email invitation with a link to the survey embedded in the email. The email invitation was sent from the principal investigator of the MOQI. The survey was sent initially, with a follow-up invitation to those who did not respond 6 weeks later, followed by a last appeal 6 weeks after the second invitation. Through this process, 20 usable surveys were returned from 81 physicians listed in NH records as PCPs of MOQI residents.

PCP Engagement Survey

The PCP Engagement Survey is an 11-item questionnaire describing PCP involvement in the project as perceived by the MOQI APRN. The survey questionnaire was developed by MOQI team members including the 2 practice coleads, care transitions lead, project supervisor, medical director, and principal investigator. The first 10 items, based on a 5-point Likert scale (1 "never" to 5 "always"), capture the frequency of PCP involvement in key MOQI components such as timely visits for acute care conditions that were required in phase 2 for the additional CMS facility and physician payments; promotion of advance directives and Situation, Background, Assessment, and Recommendation (SBAR) use; response to medication review recommendations; promotion of in-facility treatment; and participation in meaningful conversations with residents, families, and staff about resident health status and end-of-life issues. The final item assesses overall perceived level of PCP engagement in MOQI (1 "not at all engaged" to 5 "very engaged"). Demographic information about PCP credential (ie, physician, nurse practitioner, physician assistant), status as medical director, years serving as medical director, and days per week in the facility were also included.

Prior to deployment, the questionnaire was placed in SurveyMonkey and pilot tested by 2 MOQI APRNs to ensure each item could be completed as designed; no changes were required. A link to the electronic questionnaire was then sent to all MOQI APRNs with instructions to complete a separate questionnaire for PCPs providing medical care to MOQI residents in their NH. A total of 131 surveys were completed.

Statistical analysis

Descriptive statistics are used to summarize the physician's and APRN's responses to the Physician Survey and the PCP Engagement Survey. Means, medians, and standard deviations were computed for questionnaires with numerical responses, such as average number of MOQI residents per PCP. Frequency distributions were computed for questionnaires with Likert scale categorical responses. Data were analyzed using statistical software SAS 9.4.[18]

RESULTS

Physician Survey

Supplemental Digital Content, Table 1 (available at: http://links.lww.com/JNCQ/A832) provides a summary of the results of the Physician Survey reporting mean, median, and standard deviations of responses. Physicians reported the number of facilities they provided services to, with a range of 1 for the least facilities and 6 for the most. The mean response was 2.5 facilities per physician practice. The number of days per week a physician or nurse practitioner typically spent in the facilities ranged from 1 to 4 days, with a mean of 2.3 days.

Physicians were asked to rate their trust and impression of the ability of the nursing staff to communicate about an acute illness and to follow orders and clinical status of ill patients. On a scale of 1 to 5, with 5 being the highest rating and 1 being the lowest, physicians had high trust in the facility's ability to communicate with residents and family, with mean score of 4.2. They reported slightly less confidence in their ability to communicate about an acute illness, with a mean score of 3.8. They rated slightly higher their perceptions of the ability of the NH clinical staff to follow orders and clinical status of ill residents, with a mean of 4.0.

Physicians rated their global impression of the MOQI and work with the APRN and regarded the project highly with a mean score of 4.2. However, their impression of the value of the fiscal model of the MOQI for physicians was not highly regarded. Physicians were provided payment incentives from CMS for treating certain conditions in the facility, and the item received a mean score of 3.0 (see Supplemental Digital Content, Table 1, available at: http://links.lww.com/JNCQ/A832).

PCP Engagement Survey

Surveys were returned for 131 PCPs, including 116 physicians (89%) and 15 APRNs (11%) working in the PCP role. A total of 90 completed surveys were used for analysis due to missing or incomplete data. Among the 90 surveys, 19 PCPs (21%) served as medical directors with a mean of 5.5 years in that role and the vast majority of PCPs spend 1 day per week or less in the facility ($n = 66$; 73%). The larger population of PCPs with this survey, as compared with the Physician Survey, is likely due to the more complete knowledge of the APRNs of all or nearly all the PCPs serving residents in their facility. The much larger completion response was likely due to the APRNs being an active part of the MOQI, most of them working in their NH for several years.

Findings for the PCP Engagement Survey are reported in Supplemental Digital Content, Table 2 (available at: http://links.lww.com/JNCQ/A833). The mean Likert scores for each of the 10 items were collapsed and reported in 3 categories: always/often, sometimes, and never/rarely. The majority of PCPs always/often respond to urgent matters (70%) and respond positively to medication recommendations (68%). One-half of PCPs always/often promote treatment options in-facility (49%). Less than one-half always/often have meaningful conversations about medical status with residents and families (42%) and with staff (40%). Only one-third of PCPs always/often promote advance directive use (34%) and even fewer always/often have meaningful conversations about end-of-life issues with residents/families (27%) and with staff (22%). Only 10% of PCPs always/often promoted SBAR use, and 9% of PCPs always/often billed in a timely fashion. Overall, MOQI APRNs perceived that only 28% of PCPs were very engaged or often engaged in the project.

DISCUSSION

PCP engagement begins with the amount of time the PCP visits the facility. Given that the NH is structurally located in a different place from the PCP's primary practice, it is no surprise that both surveys found that PCPs visit facilities less than daily, making the case for the importance of an on-site daily presence of an APRN. In many NHs, PCPs typically visit monthly, as supported by federal regulations.[19] Our results indicate in our small sample of PCP responders (n = 20) that these PCPs were committed to providing more frequent visits, an average of twice weekly. In the larger sample completed by APRNs about the PCP engagement, physician PCPs (n = 116) were also committed to providing ongoing clinical services in long-term care, with almost a quarter of physicians serving as medical director and serving in that capacity for a good length of time (5.5 years). PCPs who completed the survey reported visiting multiple facilities with an average of 2.5 facilities. Visiting multiple facilities requires a considerable amount of time and commitment by PCPs to the NH industry. Other researchers have found similar findings that NH residents are at more risk of potentially avoidable hospitalizations when their PCP spent less time providing NH care than PCPs who spent more time.[20] In addition, NH residents whose PCP specializes in NH practice are less likely to be rehospitalized.[21]

Complexity science, with its key components of information flow, relationships, and diversity in ideas, helps explain many of the key results of the Physician and PCP Engagement Surveys.[6,15,16] The PCP's high regard for the MOQI APRNs and the PCP's trust in the clinical staff as reported in the Physician Survey is likely reflected in the PCP's higher level of engagement and involvement in the MOQI activities in the PCP Engagement Survey completed by the APRNs. The MOQI activities required that the PCPs and APRNs frequently communicate about APRN recommendations and assessments such as medication changes, promotion of treatment in-facility, communication about change in condition (ie, response to urgent matters), and illness status. These MOQI assessment and communication activities are critical to the health and well-being of residents under the PCP's care. Complexity science emphasizes synergistic relationships, such as those between the PCPs and the APRNs, that provide ways for rapid response to APRN communication about needed changes in treatments.

The relationships between PCPs and APRNs are built on trust that each will respect and support their actions in the best interest of the resident and family. The diverse relationship between the PCP and the APRN and the flow of information from the facility staff to the APRN and to the PCP were the elements that contributed to "self-organization" so that MOQI, the PCP, and the facility adjusted to this new approach to care. This finding is supported by explanations of how complexity theory operates in NHs.[6,15,22]

The Physician Survey results point to the high level of trust physicians placed on the NH staff's ability to communicate with families and residents. Part of the MOQI focused on advance directive enactment and communication about end-of-life care. As the MOQI intervention developed, the APRN, the MOQI support team, and the facility staff became strongly involved in these aspects of care.[23] The APRNs reported that PCPs had less involvement in meaningful conversations with residents and family about medical status, end-of-life care, and promotion of advance directives. Apparently, the MOQI's focus on advance care planning and end-of-life care

reinforced the achievement of self-organization surrounding these activities.[6,15]

The PCP Engagement Survey results indicated a low promotion by PCPs of SBAR, which is a key component of the INTERACT model and the MOQI. We speculate that the low promotion is a result of the perception that SBAR completion was the responsibility of the APRN and the NH staff and not a responsibility of the PCP. It is possible that some PCPs were unaware that the NH staff used the SBAR to gather more complete assessment information before reporting changes in condition. The achieved self-organization in this component was a reinforcement of it as an internal process owned by the facility.

Finally, most physicians had a low regard for the CMS PCP billing model, as evidenced by their low participation in conducting qualifying visits and neutrality in support of continuing the payment incentives for treating conditions. These findings are consistent with the low percentage of PCPs who were perceived as very/often engaged in the MOQI in the PCP Engagement Survey. For high engagement, relationships are necessary. Since billing was not a component of the clinical relationship between the PCP, the APRN, and the facility staff, relationships likely had no influence on their perspectives.

CONCLUSION

Complexity science offers insights into the findings of the Physician Survey and PCP Engagement Survey results. The key elements of communication, diversity of perspectives, and relationships help explain the engagement with the APRNs and the nursing staff of NHs participating in the MOQI. Focusing on these key elements can have positive impacts on care in NHs, particularly when coupled with the methods developed by the MOQI and the skills of APRNs working in NHs.

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From Clinical Nurse Leaders

An Innovative Intervention to Prevent Musculoskeletal Disorders Related to Sedentary Work: Gimme A Break

Committing to a healthy work environment during work-from-home orders in response to COVID-19 in April 2020 inspired one clinical nurse leader to implement a wellness/resiliency program for school of nursing (SON) employees. Sedentary behavior is on the rise and has deleterious effects on cardiovascular and metabolic systems. In addition, musculoskeletal disorders (MSDs) caused by extended periods of work performed at computer workstations can develop. Physiotherapists recommend using active breaks as preventive initiatives for a reduction in sedentary behaviors. These breaks from repetitive movements, sustained awkward postures, and workstation design features demonstrate reduced work-related MSDs, reduced work-related stress, and an increase in work productivity. The *Gimme A Break* program was a 4-week virtual activity and exercise program planned and facilitated by an exercise physiologist and an athletic trainer associated with the University's Rehabilitation Services Department. Each weekly 30-minute session was livestreamed and available to all SON employees. Exercises included low-impact, low-intensity activities focusing on key areas of the body affected by sedentary work. Week 1: neck and posture; week 2: shoulders and upper back; week 3: lower back; and week 4: core strengthening. Of the 102 SON employees invited to participate in the *Gimme A Break* initiative, 37.2% (N = 38) attended at least one of the scheduled sessions, with 14% attending 2 or more.

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