Challenges of Using Quality Improvement Methods in Nursing Homes that “Need Improvement”

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OBJECTIVES: Qualitatively describe the adoption of strategies and challenges experienced by intervention facilities participating in a study targeted to improve quality of care in nursing homes “in need of improvement”. To describe how staff use federal quality indicator/quality measure (QI/QM) scores and reports, quality improvement methods and activities, and how staff supported and sustained the changes recommended by their quality improvement teams.

DESIGN/SETTING/PARTICIPANTS: A randomized, two-group, repeated-measures design was used to test a 2-year intervention for improving quality of care and resident outcomes in facilities “in need of improvement”. Intervention group (n = 29) received an experimental multilevel intervention designed to help them: (1) use quality-improvement methods, (2) use team and group process for direct-care decision-making, (3) focus on accomplishing the basics of care, and (4) maintain more consistent nursing and administrative leadership committed to communication and active participation of staff in decision-making.

RESULTS: A qualitative analysis revealed a subgroup of homes likely to continue quality improvement activities and readiness indicators of homes likely to improve: (1) a leadership team (nursing home administrator, director of nurses) interested in learning how to use their federal QI/QM reports as a foundation for improving resident care and outcomes; (2) one of the leaders to be a “change champion” and make sure that current QI/QM reports are consistently printed and shared monthly with each nursing unit; (3) leaders willing to involve all staff in the facility in educational activities to learn about the QI/QM process and the reports that show how their facility compares with others in the state and nation; (4) leaders willing to plan and continuously educate new staff about the MDS and federal QI/QM reports and how to do quality improvement activities; (5) leaders willing to continuously involve all staff in quality improvement committee and team activities so they “own” the process and are responsible for change.

CONCLUSIONS: Results of this qualitative analysis can help allocate expert nurse time to facilities that are actually ready to improve. Wide-spread adoption of this intervention is feasible and could be enabled by nursing home medical directors in collaborative practice with advanced practice nurses.

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Quality Improvement in nursing homes has historically been a focus of major public policy initiatives, passionate consumer debates, and professional reports.1-8 Our research team has conducted studies in nursing homes that have a range of quality of care ratings and scores.9-18 Efforts to improve the quality of nursing home care have been evaluated by the United States General Accounting Office since passage of OBRA in 1986. Interventions to ensure improvements in nursing home quality have been a major focus of federal quality initiatives19,20 but no randomized studies to date have focused on only helping to improve those nursing homes in “need of improvement.” This sub-group of facilities represents different challenges; a quality improvement intervention was designed to address these challenges.19,21,22
A randomized, two-group, repeated-measures design tested a 2-year intervention for improving quality of care and subsequently resident outcomes in a sample of Missouri nursing homes. Homes for this study (n = 48) were randomly selected from facilities that had resident outcomes in “need of improvement.” Those assigned to the intervention group (n = 29) received an experimental multilevel intervention designed to help them (1) use quality-improvement methods, (2) use team and group process for direct-care decision-making, (3) focus on accomplishing the basics of care, and (4) maintain more consistent nursing and administrative leadership committed to communication and active participation of staff in decision-making. An attention control group of 29 homes received information about aging and physical assessment of elders. Results of the quantitative analysis revealed the intervention did improve quality of care (P = .02), pressure ulcers (P = .05), and weight loss (P = .05); however, staff retention, organizational working conditions, staffing, and staff mix and most costs were not affected by the intervention; leadership turnover was surprisingly excessive in both intervention and control groups.22

One study aim was to qualitatively describe the adoption of strategies recommended in the intervention to understand how they influenced care processes and resident outcomes. In this article, we discuss challenges with adoption the intervention group facilities (n = 29) experienced. Specifically, how staff use federal quality indicator/quality measure (QI/QM) scores and reports, quality improvement methods and activities, and how staff supported and sustained the changes recommended by their quality improvement teams or committees.

Sample

The sample for the intervention study was selected from the population of 356 certified facilities within a 3-hour driving radius of the project-coordinating site. This included two major cities and rural and metropolitan areas. Based on preliminary work using Minimum Data Set (MDS) data,15,16 155 homes were identified as “needing to improve quality of care” using MDS measures of bladder and bowel incontinence, weight loss, decline in activities of daily living, and pressure ulcers. These measures were used to define quality of care because they are sufficiently prevalent in nursing homes, amenable to nursing intervention, and sensitive to quality of care.10 Cut points were set above the 40th percentile on at least three of the four selected; this assured that participating homes would have sufficient room for improvement to detect the effect of the intervention. Homes had to be over 30 beds in size, not hospital based, and to maximize state representation, they were randomly selected. Recruitment was rolling, and we oversampled to 38 intervention and 34 controls to assure we had a minimum of 29 complete the 2-year intervention for sufficient power for quantitative analyses. Those who dropped-out, did so within the first few months of enrollment due to corporate ownership changes or administrator/leadership turnover, other organizational characteristics were not systematically different from the final sample.

Qualitative Data Collected for Analysis

To address study aims about adoption of the recommended quality improvement strategies, several layers of field notes were collected. After each of the 24 monthly site visits, the research nurses recorded extensive field notes of their observations and interactions. (Site visits averaged 2 hours [range 1–4 hours]). Communication by phone and e-mail between site-visits were documented in field notes. Biweekly conference calls were documented as the research team (Co-Principal Investigators, project coordinator, and research nurses) discussed responses of the nursing home staff to research nurse guidance with challenging situations. Quarterly, the research nurses documented progress of each nursing home toward the study aims. All field notes were recorded by each research nurse in an Access database developed for the research project and were used in the qualitative data analysis.

Initial Qualitative Analysis of Progress in Adopting the Intervention—Three Distinct Adoption Groups Emerged

Inductive analyses23,24 were planned for the qualitative analysis, first using word processing and our project’s Access database, then NVIVO-8 software25; the research team is experienced in qualitative methods.11,12 Based on our preliminary work,13,15,16 the concepts of processes of care and resident outcomes were used as beginning indigenous concepts24 for initial qualitative coding for comparing adoption of the intervention throughout the study homes.

As each home neared completion of their 24 monthly site visits, the project coordinator (a PhD prepared nurse researcher experienced in qualitative research) read all the recorded notes and wrote a synopsis of the progress of the home reflecting their work in adopting the recommended quality improvement intervention strategies. The research team, including the research nurses who delivered the intervention to the homes, reviewed each synopsis and discussed the findings with the goal of concurrence about each homes’ adoption of the intervention.

While reviewing each home’s synopsis, the members of the research team began making comments about how homes had different general adoption responses. As reading synopsis continued, they started coding each home according to degree of adoption. Eventually, the team reached consensus and labeled six homes “Full Adopters” because nursing home staff was receptive to guidance from the research nurse; they worked in teams to plan process changes around a focused clinical topic and used data, such as their federal QI/QM scores and QI/QM resident level summary reports, to monitor clinical outcomes for improvements. The research nurses concluded these six homes had taken ownership of improving clinical processes and believed these homes would be able to continue efforts after the research visits ended.

Similarly, eight homes were labeled “Partial Adopters” because they were observed to make some effort to follow guidance of the research nurse, teams were used intermittently and some temporary improvements were made in their QI/QM scores. This group of eight homes faced significant barriers during efforts to improve clinical outcomes, such as turnover of the nursing home administrator (NHA) and/or director of nurses (DON), turnover of team members working on the project, or “survey paralysis.” Survey paralysis was defined by the research team as the “inability of the nursing home to continue with their team or improvement process effort once the annual state regulatory survey was anticipated and until plans of correction were written and accepted.” Often, focus and momentum were lost and homes had trouble starting over after submission of the plan of correction. The research team predicted that this group of Partial Adopters would not be able to sustain their efforts to improve clinical outcomes once the research nurse stopped visiting the homes.

A third group of 15 homes, the “Non-Adopters”, was identified as those whose staff members were not receptive to the efforts of the research nurses and the goals of the multilevel intervention. Even though leadership in all homes had volunteered to participate in the research effort, not all leaders informed their staff members of the home’s intent to participate nor asked for staff input about the project. After the research nurse engaged some staff in care
improvements, common behaviors of leaders in “Non-adopter” homes included resisting or ignoring changes recommended by their staff. Lack of leader support for recommendations for care improvements was very frustrating for staff. Like the “Partial Adopters,” frequent turnover among the DONs and NHAs occurred.

Table 1 summarizes the leadership turnover in each of the three adoption groups. Although all facility owners agreed that their homes would participate and NHAs signed a letter of recruitment outlining the expectations of the research plan, the NHAs and DONs in the Non-Adopter group consistently avoided working with the research nurses. These leaders offered many excuses why their home was not ready to and could not make and sustain changes necessary to improve care processes and clinical outcomes. Clearly, turnover of the leaders appears to have negatively affected the adoption of the intervention. Other study measures, staff retention, staffing, staff mix, organizational working conditions, and costs were not systematically different among the three adoption groups.

Validation of the Three Adoption Groups within the Intervention Facilities

After the research team had reviewed and confirmed synopsis and categories, a separate analysis was pursued, to validate the accuracy of categorical adoption. A second PhD prepared experienced qualitative nurse researcher was hired to review all field notes, the synopsis of each home’s activity, and the three groupings of facilities identified by the team. Over a period of 4 months, the second reviewer read all the material and added comments that validated findings. Each month, the project coordinator who led the initial coding and the consultant discussed findings and reached consensus on the multiple reviews. Two homes were moved from one of the categories to another during validation. Definitions of the three categories were refined so “Full Adopters” made significant progress and continued progress likely; Partial Adopters made some progress but significant barriers to future progress; Non-Adopters made no progress. Characteristics of the three groups (Table 2) were checked for significant differences at baseline and study end, none were found.

Final Coding of All Qualitative Data

All recorded field notes were electronically moved from the project’s Access data base into NVIVO 8 software. The project coordinator re-read all field notes and coded all data to identify themes. As a validation step, a second researcher, who was also using the data set for a secondary analysis, confirmed the coding and participated in the team research calls discussing findings that emerged. At the completion of the coding, 96 nodes were identified; the research team reviewed all nodes and determined 10 with small frequencies could be eliminated from the continuing review or incorporated into others, leaving 86 for further analysis. Next, nodes were sorted based on specific study aims. For the analysis in this article, the 11 nodes were used that directly address the aim, “to describe the adoption of strategies recommended in the intervention to understand how they influenced care processes and resident outcomes.” These 11 nodes contain about one-third of the total study qualitative data: all topics are related to quality improvement methods used and the ability to sustain changes made as a result of the quality improvement teams or committees formed in the homes.

To inform analysis, data were sorted using N-VIVO by node and by the three adoption categories. Using a categorical approach enabled in-depth comparison of findings. This approach provided much insight into the actions of staffs that were likely to continue quality improvement progress, those not so likely, and those unlikely. The following themes emerged from this analysis.

Results

Theme One—Using Facility-Specific Federal Quality Indicator/Quality Measure (QI/QM) Scores

During the intervention, and following the QI/AM educational program, all “Full Adopter” homes (n = 6) were receptive to the research nurse and used the federal QI/QM scores and reports derived from the required MDS assessments for quality monitoring and improvement. Five of the six homes consistently used their QI/QM scores and integrated the scores into systems of care and operations of the facilities.

With the assistance of the research nurses, all “Partial Adopter” (n = 8) used the federal QI/QM scores some of the time during the 24 months of the research intervention. Staff at the homes would start to work with the scores, but their efforts were interrupted for a variety of reasons: staff turnover, leadership turnover, staffing shortages, survey paralysis, environmental events in community, corporate interference (corporate mandates that stopped work on facility-chosen improvement projects) and basic lack of understanding of

| Table 1 | Leadership Turnover During 2-Year Intervention and Annualized Percent Turnover |
|----------------|-----------------|-----------------|-----------------|----------------|
| Adoption Response Groups | # DON | Ave # DON (range) | # NHA | Ave NHA | # Leaders | Ave Leaders DON + NHA | Annual % TO DON | Annual % TO NHA | Annual % TO Leaders |
| Full Adopters (n = 6) | 10 | 1.7 (1–2) | 8 | 1.3 (1–2) | 18 | 3 (2–4) | 83% | 67% | 150% |
| Partial Adopters (n = 8) | 25 | 3.1 (1–6) | 15 | 1.9 (1–7) | 40 | 5 (2–11) | 156% | 94% | 250% |
| Non-Adopters (n = 15) | 36 | 2.4 (1–6) | 27 | 1.8 (1–4) | 63 | 4.2 (2–8) | 120% | 90% | 210% |
| Total Intervention (n = 29) | 71 | 2.4 (1–6) | 50 | 1.7 (1–7) | 121 | 4.2 (2–11) | 122% | 86% | 209% |

Ave, average; DON, director of nursing; NHA, nursing home administrator; TO, turnover.

| Table 2 | Facility Characteristics for Intervention Group |
|-------------|-----------------|-----------------|-----------------|----------------|
| Finished study | Bed range | Member of Chain | For profit | Not for profit | Gov | Metro | Urban | Rural | Baseline acuity RUGs III | % Medicaid | % Medicare |
| Full Adopters | 6 | 63–180 | 2 | 3 | 2 | 1 | 1 | 4 | 1 | 0.95 | 58% | 10% |
| Partial Adopters | 8 | 60–143 | 4 | 4 | 1 | 3 | 1 | 4 | 3 | 0.94 | 55% | 12% |
| Non-Adopters | 15 | 52–237 | 9 | 12 | 2 | 1 | 12 | 2 | 1 | 0.99 | 52% | 10% |
| Total Intervention | 29 | 52–246 | 15 | 19 | 5 | 5 | 14 | 10 | 5 | 0.97 | 54% | 10% |
how the federal QI/QMs and the MDS system are related. Barriers to
the nursing homes’ efforts to learn about and use the federal QI/QM
reports continually interrupted efforts.

Regardless of the multiple efforts of the research nurse, all “Non-
Adopter” homes (n = 15) consistently were unable to see the value of
using QI/QM scores to monitor their clinical performance. During
initial site visits, leadership in the homes would say that they
understood and used the federal QI/QM reports; however, they could
not explain how the reports were actually used on a regular basis.
There was also widespread confusion about the difference between
the QI reports generated by their MDS software and the actual
federal QI/QM reports that provided state and federal home
comparisons and percentile ranks for each QI/QM. When asked about
use of QI/QMs, leadership would refer to the software reports.
Eventually, as the site visits progressed, nearly all NHA s or DONs, or
both within each home, would “confess” that they did not under-
stand the federal QI/QM reports nor did they know how to use the information to monitor clinical outcomes. In homes that were part of
a chain, DONs relied on their corporate consultants for education and
guidance. Unfortunately, often, corporate consultants did not have
a clear understanding of how the system worked, and repeatedly
gave incorrect advice and directives to DONs. A common misdirec-
tion was to manipulate a home’s QI/QM report dates to show data at
1- or 3-month intervals, instead of the correct 6-month default
setting. Using shorter data intervals alters comparison with state data
and leads to misinformation for tracking progress. It also gives the
home a different view of the QI/QMs than surveyors use for survey
and outcome monitoring. Typically, across the “Non-Adopter” group,
DONs, NHAs and/or nursing home staff were not using the QI/QMs at
all, or using them inconsistently. In one home, the NHA actually
refused to share them with the DON or other staff.

There were some positive responses observed in the “Non-
Adopter” homes. After the quality indicators and their values were
explained to a NHA by the research nurse, the NHA replied, “What
a tool. Where can I get those?” One nurse replied in a similar vein,
after learning about the QI/QM reports and their potential uses, “I
can’t believe I never even knew these QI/QMs existed. I have been
a charge nurse for years in different nursing homes and I never even
knew we had these.”

Theme 2—MDS/Quality Indicator Knowledge in the Homes

A basic assumption of the research project was that nursing
homes in the state were knowledgeable about the federal Minimum
Data Set (MDS) and the related QI/QM reports available to the homes
(Facility Quality Measure/Quality Indicator Report and Resident Level
Summary). This assumption seemed reasonable because homes that
receive Medicare and Medicaid funds have completed MDS assess-
ments since 1990; in 1998, all homes began electronically submitting
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ments since 1990; in 1998, all homes began electronically submitting
the MDS data; and surveyors began using federal QI/QM scores in
2002 to guide and supplement the annual survey inspection process.
Based on our preliminary work,12-16 the multilevel intervention was
designed to assist nursing home staff and leadership to use their
existing federal QI/QM reports as benchmarks as they worked on
clinical process improvements. However, a lack of basic federal QI/QM
knowledge across all nursing homes in the study (recall these were
homes sampled from those needing improvement, not all homes in
the state) emerged early in the study.

Nursing home leadership and staff in all three groups and all types
of staff (NHA, DON, Assistant DON, RN, LPN, nursing assistants, other
direct care staff, staff from other departments), did not know how
to obtain their facility federal QI/QM scores and reports; most did not
know reports were available to them. Staff poorly understood the
MDS process or item definitions to correctly code, and current MDS
manuals could not be found in the facilities. Nursing staff did not
understand the connection between charting and how their docu-
mentation would be used by the MDS Coordinator(s) (MDSC) to
submit answers to the federal government, ultimately to be used in
QI/QM reports and public information on the nursinghomecompare.
gov website.

Although education about the MDS process was not a formal part
of the research design, the research team soon discovered that
specific education would need to be provided by the research nurses
on the federal QI/QMs to assist the homes in measuring process
improvements. Three 1-hour classes and a pretest were designed by
the research nurses using information from the federal QI/QM
manuals. The pretest was administered at each class to help the
nurses identify gaps in learning and help employees see the progress
they were making in knowledge retention. The research nurses
encouraged all nursing home staff to attend sessions in an effort to
spread knowledge of the data gathering process and QI/QM report
use among all staff.

A common behavior of the leaders, NHA, DON, or ADON, observed
in all three groups was their initial inability to openly admit their
level of understanding in using federal QI/QM reports. Those who
could admit a lack of working knowledge of the reports, either before
or after attending the QI/QM classes, resulted in them asking for more
education and how to apply their new knowledge to evaluate
processes of care.

Charge nurses (predominantly LPNs), nurse assistants, and staff
from other departments (dietary, housekeeping, activities, etc.)
openly admitted they had never seen or heard about the QI/QM
process or reports. When the research nurse asked leadership to
include the nursing assistants and staff from other departments in
the QI/QM classes, many leaders objected, claiming QI/QM infor-
mation would be too “complicated” or “over their heads.” The
opposite was observed by the research nurses; both nurse assistants
and staff from other departments were able to understand the basic
elements taught by the research nurses and asked informed ques-
tions about the process. A common question raised by the attendees
was why they had not been taught the information sooner. They
were shocked to see how high (poor) many of the QI/QM scores were
for their homes. Repeatedly, other departments (dietary, activities,
etc.) revealed they were completing sections of the MDS forms but
had never received education about the process or definitions from
the MDS manual explaining sections they were completing. They
explained that they had never known the relationship their answers
had to care and outcomes as evidenced by federal QI/QM scores.
Nursing assistants were quick to see why the MDSC asked questions
about their residents and were able to make the connection that
their charting accuracy was important to the clinical data used for
the QI/QM scores. The nursing assistants were also able to detect
incorrect information on the reports, which were the result of
misdosing.

Subgroup Responses to the MDS Classes in Theme 2

Responses to the research nurse’s offer to educate staff about QI/
QMs varied among the three subgroups of homes. All “Full Adopter”
homes were open and supportive to holding the QI/QM classes and
integrated the knowledge gained by staff into work-flow. If the
nursing home was able to retain staff who completed the course, staff
were asked to be mentors in their departments and asked to help
spread the message of the value of using QI/QM reports in care
planning and quality improvement meetings. After attending the QI/
QM classes, “Full Adopter” homes quickly grasped the value of using
federal QI/QM reports to address clinical issues and monitor
outcomes. One NHA was so excited about the value that she became
the QI/QM educator at the home using the template of the QI/QM educational program. Nursing staff, including nursing assistants, at this home were frequently invited into the NHA’s office to review the federal QI/QM reports and discuss scores. Nursing staff were appreciative of the behavior of the NHA, saying they learned a lot from these discussions.

Initially, all “Partial Adopter” homes were open to learning about federal QI/QM reports and the MDS process but staff turnover interfered with knowledge retention in these homes. Leadership turnover in all “Partial Adopter” homes necessitated that the research nurse convince new leaders to allow QI/QM classes in the homes. In some cases, new leadership demanded that QI/QM teaching be discontinued, stating it was not needed. Demands of this type usually indicated that the new leader had minimal knowledge about the value of the QI/QM reports. Many nurses in “Partial Adopter” and “Non-Adopter” homes were resistant to attending QI/QM classes, but a small number did express an understanding of how the knowledge could be used to improve care.

Most “Non-Adopter” homes were not willing to offer QI/QM classes; for the two or three that did, turnover of staff who attended the classes or of the leadership team reduced their ability to use the information in their facilities. NHAs and DONs in “Non-Adopter” homes were not open to learning about the QI/QM process and how its use could benefit clinical outcomes. They had many excuses why the QI/QM educational program could not be offered. A common claim was that the QI/QM knowledge would be too complex for nursing staff to understand. Many leaders of corporately owned homes stated their mandated nursing budget was too tight, so paying staff to attend meetings would place too much down time, so paying staff to attend meetings would place them over budget. Some NHAs in the “Non-Adopter” homes viewed meetings for staff as unnecessary “down time” and did not believe staff would have time to review and use QI/QM reports anyway.

Theme 3—Quality Improvement Team/Committee Activity in the Nursing Homes

Quality Improvement teams and committees were used by all “Full Adopter” homes to change resident care and they included direct care staff in the change process. As staff gained more knowledge (through the classes) about how to use the QI/QM reports, leadership staff used the reports to ask targeted questions about residents’ care and nursing staff were able to locate clinical changes that needed to be made or inaccurate coding that was negatively affecting their QI/QM scores.

Seven of the eight “Partial Adopter” homes had quality improvement teams or committees, but their meetings were held inconsistently and usually only leadership staff attended. Nursing home staff in this group struggled to use the federal QI/QM reports in the meetings, and leadership turnover interfered with the progress of quality improvement activity. When federal QI/QM reports were used it was only for review and not for quality improvement.

“Non-Adopter” homes rarely held quality improvement meetings. It was common for staff in “Non-Adopter” homes to “talk about resident issues or incidents at the meetings, but not come up with plans or recommendations”. When meetings were held, it was in response to the federal standard, Section 1819 (1) (B), requiring that a Quality Assessment and Assurance Committee meet quarterly in nursing homes. These meetings were used for retrospective review of numbers, such as the number of pressure ulcers or restraints used in the last quarter, but plans were rarely formulated or improvements made that were related to prevention or specific care needs. DONs in “Non-Adopter” homes admitted a lack of understanding about how to perform ongoing quality monitoring or how to do spot checks to watch the care being delivered and were not receptive to guidance from the research nurse to learn to monitor to improve care.

Theme 4—Obstacles to Quality Improvement in the Nursing Homes

Leadership turnover was a major obstacle for the research nurses as they helped staff implement quality improvement activities. “Full Adopter” homes had the least leadership turnover while “Partial Adopter” and “Non-Adopter” homes experienced excessive turnover, as evidenced in Table 1. It is important to consider leadership turnover from both the NHA or DON positions. Turnover in one of these two positions disrupts the work of the staff, particularly efforts to improve care delivery systems; this was made clear as research nurses were challenged with each leadership change to convince the new leader that QI activities are worthwhile for staff to spend time doing.

A common obstacle in “Partial Adopter” and “Non-Adopter” homes was denial of the seriousness or validity of poor QI/QM scores. Leaders had numerous rationales why their scores were elevated and were “fatalistic” about their ability to improve the scores. A common claim was their residents were “more frail” or “more old” than those of other nursing homes in their comparison. Because they denied the seriousness of poor QI/QM scores, leaders in “Partial Adopter” and “Non-Adopter” homes were unable to consistently provide copies of the monthly QI/QM reports to nursing units for staff to use for monitoring progress of care improvements they were trying to make. When the research nurse would attempt to locate a federal QI/QM manual on a nursing unit, nursing staff were unable to locate it or manuals were not up-to-date.

Theme 5—Making Systems Changes after Quality Improvement Education/Activities

After staff in “Full Adopter” homes attended QI/QM classes, the nursing leaders made sure that federal QI/QM reports were available on all nursing units, and staff actually used the reports to discuss resident conditions while on the nursing units. Nurse leaders in “Full Adopter” homes quickly grasped the value of (1) taking the QI/QM reports to committee meetings and care plan meetings; and (2) using the federal QI/QM scores as benchmarks to monitor monthly progress. Typically, “Full Adopter” homes had a “champion” or “cheerleader” who saw the value of using the federal QI/QM reports and was a vocal supporter of nursing home staff during classes and at committee meetings. The most common person in that role was the NHA or DON. One DON from a “Full Adopter” home invited nursing assistants into her office daily and would review elements of the QI/QM reports asking for their input about how to manage the care of the residents discussed. The nursing assistants who participated in the ad hoc meetings were impressed that they were consulted and appreciated the interest the DON showed them in sharing the QI/QM information. The same DON created workbooks for the staff who attended the QI/QM classes containing all the handouts used in the class and assumed teaching of the class for all new employees at completion of the study.

Nursing assistants in one “Full Adopter” home were insightful after the classes, observing how they could be drivers of change in the home after gaining QI/QM knowledge. When asked by the research nurse how the QI/QM information could help them, one nursing assistant responded:

“It showed me that we’re pretty much the ones with our butts in the seats of change. It’s up to us. We have to be the ones to get change moving.”
Discussion

Quality improvement in nursing homes is a multifaceted, fragile process. Working with homes that “have room for improvement” appears to be especially fragile, based on the qualitative analysis of the randomly selected nursing homes participating in this multilevel intervention study. Only a few of the intervention facilities (“Full Adopters,” n = 6) are likely to sustain improvements made during the 24-month intervention, as revealed in this analysis. Over half of the nursing homes were actually resistive to the intervention and recommendations of the research nurse, as well as their own direct care staff (“Non-Adopters,” n = 15).

Even though completion of the MDS by nursing homes has been required since 1990, the intervention homes in the study were consistently unaware of the importance of entering accurate clinical data. There seems to be a disconnect between the staff who enter the data and nursing staff who could use the information to plan care, monitor, and adjust clinical processes for elevated (poor) QI/QM scores. Leadership, NHAs, DONs, ADONs, RNs, and other direct care staff did not understand the federal QI/QMs. Most participants, regardless of group, did not understand the relationship among the MDS, federal QI/QMs, and care. Initially, none of the recruited homes understood how to use federal QI/QMs to improve care.

At the beginning of the intervention, research nurses conducted formal and informal education about quality improvement, and QI/QMs in all facilities.22 However, some facilities (“Full Adopters” n = 6) were more willing than others to assimilate the information into care processes and only some facilities (“Full Adopters” and “Partial Adopters”) were willing to have the additional QI/QM classes as the intervention progressed. These findings reinforce the need for continuous teaching about federal QI/QMs, how they are derived from the MDS, and how they can be used to improve care. This is not surprising, given the high rates of turnover in staff. However, since all groups (“Full Adopters,” “Partial Adopters,” and “Non-Adopters”) did get initial quality improvement education from the research nurses, some more receptive than others, education proved insufficient to get them to actually use quality improvement methods, federal QI/QMs, and staff quality improvement teams to help them improve care.

The final theme, “Making Systems Changes after Quality Improvement Education/Activities” sheds some light on components that are “sufficient” for making and sustaining change with quality improvement in nursing homes. Specifically, a leader steps up to be the “champion,” involves direct care staff in making care delivery improvements. Then the “champion” provides continuous reinforcement for improvements, such as making sure the current federal QI/QM reports are printed at least monthly (using the federally recommended 6-month default date), are on the units, and staff are actually using them in care discussions, delivery and care planning. Most critically, direct care staff must realize they are the ones ultimately responsible for quality of care and the change process!

Leadership turnover was a major obstacle to the multilevel intervention in this study. The turnover of the NHA or DON or both in some homes, meant that the research nurses had to start over in their intervention in this study. The turnover of the NHA or DON or both in some homes, meant that the research nurses had to start over in their intervention in this study. The turnover of the NHA or DON or both in approximately 24 months, as revealed in this analysis. Over half of the nursing homes were actually resistive to the intervention and recommendations of the research nurse, as well as their own direct care staff (“Non-Adopters,” n = 15).

The role of the expert gerontological nurse in this intervention study cannot be overlooked. The research nurses had graduate nursing education in gerontological nursing. This is a key qualification that was carefully planned based on the substantial research that nurses with graduate education in gerontological nursing are effective in improving quality of care in nursing homes. It is important to point out that a relatively small amount of time each month (2 hours) on-site was necessary to help homes improve, based on the positive qualitative results of this multilevel study. Wide-spread adoption of this intervention is feasible and could be enabled by nursing home Medical Directors in collaborative practice with Advanced Practice Nurses. Time each month could be built into facility contracts for services so that the expert gerontological nurses currently working with Medical Directors could routinely meet with staff to improve care delivery processes, delivering the intervention we did in this study. In other situations, monthly independent nurse consultant visits could be a way to deliver the intervention.

No study is without limitations. This one is limited to one state, within the 3-hour driving radius of the project coordinating site. The area did include two large urban areas as well as rural areas in the state, but a multistate study may have produced different results. The multilevel intervention undertaken in this study was the first of its kind in nursing homes and it was targeted to nursing homes “in need of improvement.” Results must be interpreted for homes in the similar quality of care range, “in need of improvement,” and not generalized to all nursing homes that would include those with high quality of care and resident outcomes.

Results of this qualitative analysis can help allocate expert nurse time to facilities that are actually ready to improve. Characteristics of the “Full Adopter” homes could be used as “readiness” indicators. Using readiness indicators in nursing homes “need improvement” would target assistance programs to homes most likely to change with 2-hour monthly site visits, as used in this intervention. For those facilities not ready, other approaches will need to be developed and tested.

Readiness indicators, based on our findings, would likely include: (1) a leadership team (NHA, DON) interested in learning how to use their federal QI/QM reports as a foundation for improving resident care and outcomes; (2) one of the leaders to be a “change champion” and make sure that current QI/QM reports are consistently printed (using the recommended 6-month default date) and shared monthly with each nursing unit; (3) leaders willing to involve all staff in the facility in educational activities to learn about the QI/QM process and the reports that show how their facility compares with others in the state and nation; (4) leaders willing to plan and continuously educate new staff about the MDS and federal QI/QM reports and how to do quality improvement activities; (5) leaders willing to continuously involve all staff in quality improvement committee and team activities so they “own” the process and are responsible for change.

As we face a growing elderly population, the demand for good nursing home care will only increase. We encourage Medical Directors to step up to be leaders in their nursing homes, working with administrators, directors of nursing, and all staff to improve quality of care. There are facilities in “need of improvement” and the intervention used in this study was effective in helping some of them improve. With the readiness indicators that the study revealed, a path to targeting expert nurses to help those facilities “ready” to improve is clear. The time to adopt approaches like this is now.

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