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Original Study

The Influence of Teams to Sustain Quality Improvement in Nursing Homes that “Need Improvement”

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A B S T R A C T

Keywords:

Randomized clinical trial
nursing homes
outcomes of care
cost analysis
quality improvement
staff retention
working conditions
teams
decision-making

Objectives: Qualitatively describe the use of team and group processes in intervention facilities participating in a study targeted to improve quality of care in nursing homes “in need of improvement.”

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. 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: The qualitative analysis revealed a subgroup of homes (“Full Adopters”) likely to continue quality improvement activities that were able to effectively use teams. “Full Adopters” had either the nursing home administrator or director of nursing who supported and were actively involved in the quality improvement work of the team. “Full Adopters” also selected care topics for the focus of their quality improvement team, instead of “communication” topics of the “Partial Adopters” or “Non-Adopters” in the study who were identified as unlikely to continue quality improvement activities after the intervention. “Full Adopters” had evidence of the key elements of complexity science: information flow, cognitive diversity, and positive relationships among staff; this evidence was lacking in other subgroups. All subgroups were able to recruit interdisciplinary teams, but only those that involved leaders were likely to be effective and sustain team efforts at quality improvement of care delivery systems.

Conclusions: Results of this qualitative analysis can help leaders and medical directors use the key elements and promote information flow among staff, residents, and families; be inclusive as discussions about care delivery, making sure diverse points of view are included; and help build positive relationships among all those living and working in the nursing home. Wide-spread adoption of the intervention in the randomized study is feasible and could be enabled by nursing home Medical Directors in collaborative practice with Advanced Practice Nurses.

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“Effective care does not happen by chance or by simply working harder. It requires the concerted and coordinated activities of multiple people and disciplines, and a delivery system reconfigured to facilitate

its execution. Both the delivery of high-quality care and the evolution of practice systems to support it require teams that can effectively blend diverse skills and perspectives toward a common aim.”¹

The authors have no conflicts of interest relating to this article. Evaluation activities were supported by the National Institute for Nursing Research (NINR) of the National Institutes of Health (NIH) 5 R01 NR009040-05. Opinions are those of the authors and do not necessarily represent NINR.

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Staff involvement in the change process is essential for successful work redesign,² as are teams, both of which improve organizational performance, employee morale, and resident outcomes.^{3–6} Researchers who examined 50 years of psychological research focused on understanding and influencing the processes that underlie team effectiveness. Their dynamic view of team processes and effectiveness conceptualizes the team as “embedded in a multilevel

system that has individual, team and organizational level aspects.”⁷ Growing evidence related to the care provided to the chronically ill has led to increased attention on the role of teams in nursing homes.⁸

Nursing homes that emphasize innovation and teamwork are more likely to succeed when implementing quality improvement activities.⁹ Other researchers concluded that to foster effective performance, top leadership must be committed to continuous improvement and a participatory organizational structure emphasizing teams.¹⁰ An in-depth analysis of 20 nursing homes in California and Pennsylvania concluded that a bundled approach of human resource management, team work, philosophy of care, and resident outcomes was required as the next step in research designed to improve quality of care.¹¹ A study of 92 Midwestern nursing homes where one-third of the homes were able to achieve good clinical outcomes, revealed that teamwork, communication, involvement of staff in decision-making, and leadership were critical to improving quality of care.^{12,13} Teamwork, viewed as one part of organizational processes in nursing homes, was reported as significantly and negatively associated with nursing home administrator (NHA) and director of nursing (DON) turnover in Kansas nursing homes.¹⁴

Research on team work in process improvement teams in nursing homes have reported better facility performance on the MDS quality indicator for toileting with evidence of a more systemic approach to continence care.¹⁵ A study to measure team performance in 26 Programs of All-Inclusive Care for the Elderly (PACE) concluded that a number of the program characteristics (leadership, communication, coordination, conflict management, and cohesion) appeared important in influencing the perceptions of team effectiveness.¹⁶ Nursing homes classified with high amounts of teamwork among direct-care workers revealed that nursing homes differed in three organizational areas: management styles, training and feedback and recognition.¹⁷ All three of the organizational areas are management behaviors that are under the control of nursing home leaders and can be improved to influence teamwork in nursing homes.

Gaps in communication and leadership have been identified as detrimental to sustained improvement in nursing homes.^{18,19} Similarly, facilities that fail to meet care standards required for state recertification are more likely to have human resource practices that contribute to poor care, such as administration being inattentive to staff motivation, demonstrating inadequate planning, providing too few resources that enhance quality of care, and showing disdain for lower level workers.²⁰

To better understand the complex relationships of multiple variables that affect organizations, recent theoretical efforts have focused on studying dynamic relationships that have been poorly understood in traditional “cause and effect” modeling. A new theory, called complexity science, has been the focus of research to understand the webs of relationships that influence organizational efforts.^{21–23} Nursing homes have been identified by researchers as complex adaptive systems (CAS) where attention is given to the relationships (connectivity) of workers in the home.^{24–26} Other key components of CSA are cognitive diversity and information flow.

The purpose of this article is to discuss a qualitative analysis of field notes of observational data of the nursing homes that participated in a 2-year intervention to improve quality of care, resident outcomes, and organizational working conditions.²⁷ The focus of this analysis was on the use of team and group processes by the nursing home staff in quality improvement efforts.

Methods

Design

A randomized, two-group, repeated-measures design was employed to test an experimental intervention for improving quality of

care and subsequently improving resident outcomes in Midwestern nursing homes. Facilities with resident outcomes in “need of improvement” 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. The intervention consisted of 24 visits to the intervention homes by two registered nurses over a 24-month timeframe. Results of the quantitative analysis²⁷ 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, staff mix, and most costs were not affected by the intervention; leadership turnover was surprisingly excessive in both intervention and control groups.

One study aim was to describe behaviors of staff in the intervention facilities that used team and group processes for direct-care decision-making, what staff members were included in team or group meetings, how often groups were used for direct-care decisions, and to better understand how teams might have influenced subsequent outcome changes. Complexity science was the theoretical model used in the research project and guided the analysis of the field notes.

Sample

Sample selection for the intervention study began with the population 356 certified facilities in a 3-hour driving radius of the project-coordinating site. Two major cities and rural and metropolitan areas are included in the radius. As previously described in detail,²⁷ 155 homes were identified as “needing to improve quality of care” using nursing home Minimum Data Set measures of bladder and bowel incontinence, weight loss, decline in activities of daily living, and pressure ulcers. Homes had to be over 30 beds in size, not hospital based, and to maximize state representation they were randomly selected. With rolling recruitment and oversampling to 38 intervention and 34 controls, we achieved a minimum of 29 that completed the 2-year intervention for sufficient power for quantitative analyses. Those who dropped-out, did so within the first few months of enrollment, before the intervention began, because of corporate ownership changes or administrator/leadership turnover; other organizational characteristics were not systematically different from the final sample.

Qualitative Data Collected for Analysis

Several layers of field notes were collected throughout the study with the intent of qualitative analysis. 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). All communication by phone and email between site-visits were documented in field notes; as were bi-weekly conference calls (Co-PIs, project coordinator, and research nurses) to discuss responses of the nursing home staff to research nurse guidance throughout the intervention. Each quarter, research nurses documented progress of each nursing home toward the study aims. All field notes were typed by each research nurse into an Access database developed for the research project and all were used in the qualitative data analysis.

The qualitative analyses were inductive,^{28,29} using word processing, our project’s Access database, and NVIVO-8 software.³⁰ Our research team is experienced in qualitative methods.^{31,12} Based on our preliminary work,^{12,13} the concepts of processes of care and

resident outcomes were used as beginning indigenous concepts²⁹ for initial coding.

Initial Qualitative Analysis of Adoption of Intervention

As described in detail previously,³² the research team (three PhD researchers, two research nurses, doctoral nursing student, and PhD qualitative research consultant) reviewed each home's progress in the study and reached consensus about the degree of adoption of the intervention. Six homes were identified as "Full Adopters" because nursing home staff members were 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 quality indicator/measure (QI/QM) scores and QI/QM resident level summary reports to monitor 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.

A second group of eight homes were labeled "Partial Adopters" because they made 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 faced significant barriers during efforts to improve clinical outcomes, such as turnover of the NHA and/or DON and/or turnover of team members working on the project. They also had "survey paralysis," 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." Frequently, homes had trouble starting over after submission of the plan of correction. The research nurses predicted the "Partial Adopters" would not be able to sustain work to improve clinical outcomes once the research nurse stopped visiting.

"Non-Adopters" were the remaining 15 homes. Staff members in these homes were not receptive to the guidance of the research nurses or the intervention. Even though NHAs in all homes volunteered and signed letters agreeing to participate in the research effort, not all informed staff members of the home's intent to participate nor asked for staff input about the project. In addition, the leadership (NHAs and DONs) consistently avoided working with the research nurse. After the research nurse engaged some staff in care improvements, it was common for leaders in "Non-Adopter" homes to resist or ignore changes recommended by their staff. 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. For example, "we just don't have the budget to allow people to attend meetings"; "teams are a waste of time, they won't help, talking about problems will not fix them"; "staff do not have the time for meetings, there is too much care for them to do"; and "we don't have enough staff to begin with, so how can I send staff to meetings;" and "why should I use a team, I have never seen a team work, so why should I try that?"

Similar to "Partial Adopters", frequent turnover among "Non-Adopter" DONs and NHAs occurred. "Full Adopters" had the most consistent leadership throughout the 2-year intervention with an average of 1.7 DONs (range 1–2) and 1.3 NHAs (range 1–2). "Partial Adopters" had the highest leadership turnover with an average of 3.1 DONs (range 1–6) and 1.9 NHAs (range 1–7). "Non-Adopters" had nearly as much leadership turnover with an average of 2.4 DONs (range 1–6) and 1.8 NHAs (range 1–4). Calculated annual turnover was 83% DONs and 67% NHAs in the "Full Adopters"; 156% DONs and 94% NHAs in the "Partial Adopters"; and 120% DONs and 90% "Non-Adopters". Facility characteristics other than leadership turnover were not systematically different for the adopter groups;³² nor were other study measures of staff retention, staffing, staff mix, organizational working conditions, and costs.²⁷

Results

Theme 1-Ability to Use Teams—Leadership Essential

All six of the "Full Adopter" homes used teams for problem solving care issues that were undertaken during the research project. All "Full Adopter" homes had either the NHA or the DON or both supporting the team efforts, and the leadership team was actively involved in the team efforts. Active participation by the leadership team is reflected in the following field note from the research nurse:

"The DON is really persistent and she tries to bring in as many staff into the effort as she can. They have definitely made progress in terms of getting assessments and diaries—now they have to translate that information into the individualized care plans. I especially like that she is really using the QIs now."

The teams in "Full Adopter" homes included staff members from all shifts and levels/job duties (nursing assistants, nurses, other staff). Team members came in on their days off to attend meetings and were actively involved in discussions held during the meetings. Two of the six "Full Adopter" homes had teams led by the NHA, three led by the DON, and one was led by the Minimum Data Set Coordinator. "Full Adopter" teams consistently made progress with care changes.

"Full Adopter" nursing homes evidenced components of complexity science: information flow, interconnections among staff, and cognitive diversity.³ Information flow about the team meetings and their efforts was obvious by posted meeting minutes and other written communication. Connectivity between the team members was observed by the nurse researchers within the team meetings held regularly. All levels of staff were invited to participate in team meetings (reflecting cognitive diversity), and there was an open discussion about the clinical topics being addressed.

Seven of the eight "Partial Adopter" homes started teams as a part of the research project. About half made some progress, but then stopped. None had an effective DON leader or the DON was often missing from the group assembled for a team. Teams would start to make some progress but then, the team would stop meeting and any progress made would be lost. Lack of effective leadership was a common cause for teams to fail in "Partial Adopter" homes. Another reason for failure was that staff would be asked to attend quality improvement team meetings, leaving their work duties unassigned on the nursing units; then, those attending meetings were frequently interrupted by the needs of their residents during the meetings. One home refused to try to use a team at all. When field notes were examined for evidence of complexity science components, they were observed infrequently.

Most "Non-Adopter" homes had never used teams prior to the research project. Four DONs tried to lead teams and could not do so, even with much guidance from the research nurses. Two NHAs dictated the care topic to be dealt with by a team; subsequently, the team processes failed. Two homes had ADONs who did effectively lead groups but after they left their homes, the teams stopped meeting. Annual state survey visits regularly stopped team progress, as did staff turnover. Observations recorded by the research nurses reflected the difficulties confronted in "Non-Adopter" homes as they tried to develop and maintain teams.

"This home is difficult because they are not interested in working as a team to learn about Quality Indicators or work on any of them. Whenever I ask them to tell me what they want to work on, they just want me to work with the care plans because they need help..."

"Impression: Same old wring your hands and do nothing attitude that has existed since day 1. It is so hard to get this team moving forward...."

Inadequate staffing in “Non-Adopter” homes was common and that impacted their ability to work on teams as reflected in the following observations:

“... the DON said she had just started school again this week and she had been filling in shifts. She had worked 21 hours straight on Sunday.”

“The DON went on to say that they can’t even assure consistent shift assignments because they are so short they all must fill in.”

A consistent comment heard by nursing leaders in “Non-Adopter” homes was the lack of time available to plan, hold team meetings. The following comments reflect the attitudes of leaders in “Non-Adopter” homes.

“...the DON laughed out loud and turned to the ADON, “A team? A meeting with nurses? You’ve got to be kidding! We just don’t have time for anything like that!”

“When I asked how it was going, she [DON] let out a big sigh and said ‘It’s not. I still can’t get folks to fill out this form.’ But when I asked, she admitted she hadn’t attempted to get a CNA ally, she still had not focused on just one unit, and she was trying to do diaries all over the house. I could hear the frustration in her voice. She said that everyone is just too busy to do this stuff so she feels if she doesn’t do it, it won’t get done at all.”

Leaders in “Non-Adopter” homes were consistently incapable of seeing the value of team effort to work on clinical issues that were in need of improvement, as reflected in their federal QI/QM scores. “Non-Adopter” homes were observed to be in a constant state of chaos with staff frequently canceling the monthly meeting with the research nurse, and were not prepared to meet with the research nurse as planned. The research nurse would provide the homes with evidence-based guidelines and other materials to help them improve clinical care, but nursing leaders in “Non-Adopter” homes never had time to look at the documents. Frequently, those leaders could not find information they had requested and received from the research nurse as the months passed. “Non-Adopter” homes did not have evidence of complexity science components.

Theme 2: Team Membership

All six of the “Full Adopter” homes had interdisciplinary teams that included leaders and direct care staff. Five of the eight “Partial Adopter” homes had interdisciplinary teams. Attendance by members started high in most of these teams and decreased as time in the study progressed. Ten of the 15 “Non-Adopter” homes had interdisciplinary teams that shrunk in size as time in study progressed and most were impacted by turnover of staff, forcing the team to regroup or start over. In one case, the NHA was concerned about CNAs becoming “empowered” by the group and “telling nurses what to do.” In another case, the NHA dominated the group, but eventually as the team gained experience, the group was able to express their ideas. Several of the teams had to be called upon arrival of the research nurse to remind them to come to their team meeting. It was rare for the research nurse to arrive and people would be gathered at the scheduled time. Often team members would react in surprise, saying they had forgotten about the meeting and that the research nurse was coming that day (although meetings were planned in advance and communicated to leaders and the team).

Team membership was interdisciplinary across all groups. Diversity in the group is important for success of teams, and is an element of complexity science. However, it appears likely that interdisciplinary makeup of the group is not sufficient for success of the team to enable them to accomplish the quality improvement work needed

in their nursing home. Based on the findings of theme 2 (Team Membership), it is likely that success requires not only diversity, but also leadership so the team can plan and implement changes in care processes that ultimately result in success.

Theme 3-Care Topics for Improvement

Each home was to select a care topic to be the focus of quality improvement by the team. Clinical topics for all groups included incontinence and toileting efforts, fall programs, walk to dine, admission assessment, weight loss, pressure ulcers, pain management, and “care” teams. Another common topic was communication, but this topic was only a focus in “Partial Adopter” and “Non-Adopter” homes, it was not a topic selected in “Full Adopter” homes.

“Full Adopter” homes selected clinically focused topics of weight loss or incontinence. “Partial Adopter” homes selected communication most frequently, then clinical topics of incontinence/toileting, walk to dine, dining improvement, and skin/pressure ulcers. “Non-Adopter” homes selected incontinence most frequently, then communication, weight loss, pressure ulcers, pain and falls. The absence of the communication topic in the “Full Adopter” homes is an interesting finding compared with “Partial Adopter” and “Non-Adopter” homes where it was a common choice. It may be that homes that were able to use a team approach to make and sustain clinical improvements (“Full Adopters”) already had communication systems in place and were ready to successfully focus on clinical improvement topics.

Discussion

Efforts of the research nurses as they assisted nursing home leaders to implement teams to work on clinical issues in the research project was met with resistance in the majority of the homes. The negative reaction by management in the “Partial Adopter” and “Non-Adopter” homes was a significant barrier to the research nurses.

In this study, “Full Adopter” homes that effectively used teams were able to make and sustain quality improvement. The homes in the study were those that were in “need of improvement,” and there was a range of responsiveness to the use of teams and among the three groups of adopters. Team membership was an element for all the adopters. The three groups were able to recruit interdisciplinary teams, but “Partial” and “Non-Adopters” were unable to sustain their team efforts. There was fear among some nursing homes administrators that teams may result in CNAs “feeling too empowered” and “trying to overstep their boundaries as CNAs” in their organizations. Unlike leaders in “Partial” and “Non-Adopter” homes, NHAs and/or DONs in “Full Adopter” homes were involved in the teams and supported the work of teams to improve care delivery systems.

“Full Adopters” were able to identify clinical topics for quality improvement that could be measured and evaluated compared with the other groups. It appears that when nursing home staff members identify the topic of “communication” as an area of interest, it implies they are unable to identify clinical topics in need of improvement or they were unwilling to focus on the work to really improve the quality of care. Staff members made comments that “if we just communicate better” then “things will be better”, rather than make the hard choices and evaluate the care systems that need focused quality improvement work.

Complexity science provides a way to help leaders implement and sustain change. The key elements of communication (information flow), multiple points of view from an interdisciplinary team (cognitive diversity), and relationships among the staff (connectivity) are all within the influence of leaders. Using these key elements effectively has an impact on team building and quality of care. Similarly, other researchers have found that leadership style,

specifically consensus building, has a strong association with quality of care.³³ Consensus leaders encourage employees to offer input into decisions that affect care delivery as well as build teams for team decision-making.

In the quantitative results of this study, we pointed out that Medical Directors can also influence and participate in this process by assessing whether elements of complexity science are present in the homes where they are working.³⁴ Medical directors can use the key elements and promote information flow among staff, residents, and families; be inclusive as discussions about care delivery, making sure diverse points of view are included; and help build positive relationships among all those living and working in the nursing home.

Turnover of administrative and nursing leadership was an important negative factor that influenced the study results. The research team, as the qualitative data were reviewed, concluded that leadership turnover negatively influenced the ability of a nursing home team to come together, to function effectively, to maintain membership and to make progress related to clinical outcomes. Similarly, another researcher has measured the association between turnover of nursing home administrators and directors of nursing with other nursing staff including nursing assistants, licensed practical nurses, and registered nurses.³⁵ An increased leadership turnover increased the odds that a facility will have a high turnover rate of direct care workers. Without consistent team members and leadership it is highly unlikely that quality improvement can be successful by teams of nursing home staff.

This study is limited to one state, within the three-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 multi-state study may have produced different results. The multi-level 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.

Quality of care in nursing homes has been under scrutiny of the public and government regulators over the past 30 years. Understanding the organizational problems that prevent nursing homes from meeting acceptable quality standards is essential if care is to improve. Quality resident care rests with effective administrative and nursing leadership practices. The value of using teams has been affirmed in the industrial literature, but not used as extensively in the long term care setting. Teams are viewed as an essential component in quality improvement efforts in the long term care setting.³⁶ Using complexity science key elements and the findings from this study’s qualitative results can provide direction for successful quality improvement by teams in nursing homes.

Acknowledgments

The research team gratefully acknowledges other team members for their work on the quantitative results, Gregory Petroski, Richard Madsen, and Jill Scott-Casiezell. The team expresses their gratitude to Jessica Mueller for her amazing data base and project management skills and Margie Diekemper, research nurse, for her commitment to the nursing homes she guided in this study. The research team also acknowledges the staff and leaders of the nursing home participants who are truly committed to improving care delivery and quality of services to older people.

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