Improving Quality of Care in Nursing Facilities

Gerontological Clinical Nurse Specialist as Research Nurse Consultant

ABSTRACT

It is becoming increasingly common for nursing facilities to use Quality Indicators (QI) derived from Minimum Data Set (MDS) data for quality improvement initiatives within their facilities. It is not known how much support facilities need to effectively review QI reports, investigate problems areas, and implement practice changes to improve care. In Missouri, the University of Missouri-Columbia MDS and Nursing Home Quality Research Team has undertaken a Quality Improvement Intervention Study using a gerontological clinical nurse specialist (GCNS) to support quality improvement activities in nursing homes. Nursing facilities have responded positively to the availability of a GCNS to assist them in improving nursing facility care quality.

The question of whether nursing facilities are providing good or poor quality care continues to trouble nursing facility residents, their families, consumers, consumer groups, health care professionals, state and federal regulators, and researchers. Using quality improvement methods holds promise for improving quality of care, particularly if coupled with advanced practice clinical consultation. The purpose of this article is to describe, within the context of a quality improvement research study, the role of a Gerontological Clinical Nurse Specialist (GCNS) in educating and consulting with nursing facilities' staff.

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BACKGROUND

The quest for quality improvement in the nursing home industry began in 1983 with the Committee on Nursing Home Regulation-Institute of Medicine (1986) study of nursing home quality. This report, *Improving the Quality of Care in Nursing Homes* (Committee on Nursing Home Regulation-Institute of Medicine, 1986), resulted in congressionally mandated regulation targeted to improve quality of care through the Omnibus Budget Reconciliation Act of 1987 (OBRA '87, Public Law No. 100-203). Provisions in OBRA '87 called for the implementation of a resident assessment instrument (RAI). Component parts of the RAI assessment included the Minimum Data Set (MDS), Utilization Guidelines, and Resident Assessment Protocols (RAPs). The RAI was to be implemented for all residents in certified nursing homes (Haight, 1992). It was the intent that quality of care would improve following comprehensive assessment and care plans.

The RAI continues to be used by all certified nursing homes, but it no longer is used solely to assess resident care needs and develop care plans. In July 1998, the Prospective Payment System using Resource Utilization Groups derived from MDS data was mandated as the payment mechanism for Medicare beneficiaries in certified nursing home beds ("Medicare and Medicaid; Prospective Payment System," 1998). At the same time, all facilities that participate in the Medicare and Medicaid program began to transmit MDS data to the national repository at the Health Care Financing Administration (HCFA) ("Medicare and Medicaid; Resident Assessment," 1997). These recent and sweeping changes have revolutionized the way resident-level information in nursing facilities, hospital-based skilled nursing units, and long-term care hospitals is collected, stored, and used.

One use for MDS data is to calculate Quality Indicators (QIs). Researchers from the Center for Health Systems Research and Analysis (CHSRA) at the University of Wisconsin-Madison, in cooperation with other researchers involved in the Multistate Nursing Home Case Mix and Quality Demonstration (NHCMQ), developed QIs derived from MDS data to serve as a foundation for quality improvement. Quality Indicators were developed using extensive interdisciplinary input, empirical testing, and field testing (Zimmerman et al., 1995). The QIs do not measure quality directly but are markers of potentially good or poor care practices. The most recent version includes 30 different QIs, measuring areas such as accidents,

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TABLE 1

QUALITY INDICATORS

- Incidence of new fractures.
- Prevalence of falls.
- Prevalence of behavioral symptoms affecting others.*
- Prevalence of symptoms of depression.
- Prevalence of depression without antidepressant therapy.
- Use of nine or more different medications.
- Incidence of cognitive impairment.
- Prevalence of bladder or bowel incontinence.*
- Prevalence of frequent bladder or bowel incontinence without a toileting plan.
- Prevalence of indwelling catheters.
- Prevalence of fecal impaction.
- Prevalence of urinary tract infections.
- Prevalence of antibiotic or anti-infective use.†
- Prevalence of weight loss.
- Prevalence of tube feeding.
- Prevalence of dehydration.
- Prevalence of bedfast residents.
- Incidence of decline in late-loss activities of daily living.
- Incidence of decline in range of motion.
- Lack of training or skill practice of range of motion for mobility-dependent residents.†
- Prevalence of use of antipsychotic medications, in the absence of psychotic and related conditions.*
- Prevalence of antipsychotic daily dose in excess of surveyor guidelines.†
- Prevalence of use of antianxiety or hypnotic medications.
- Prevalence of use of hypnotic medications more than two times in the past week.
- Prevalence of use of any long-acting benzodiazepine.†
- Prevalence of physical restraints.
- Prevalence of little or no activity.
- Lack of corrective action for sensory or communication problems.†
- Prevalence of Stage 1 to 4 pressure ulcers.*
- Insulin-dependent diabetes with no foot care.†

** Risk adjusted.*

† Not calculated in Quality Intervention Study.

Adapted from Center for Health Systems Research and Analysis, University of Wisconsin (2000) and Rantz, Popejoy, Zwygart-Stauffacher, Wipke-Tevis, and Grando (1998).

behavioral and emotional patterns, elimination and incontinence, physical functioning, psychotropic drug use, sensory function, and pressure ulcers (Karon & Zimmerman, 1996). Table 1 lists the QIs. Automated transmission of MDS data has allowed Missouri and other states to calculate QIs from MDS data stored in state databases.

OVERVIEW OF THE QUALITY IMPROVEMENT INTERVENTION STUDY

The University of Missouri-Columbia MDS and Nursing Home Quality Research Team, working with the Missouri Division of Aging, designed the Quality Improvement Intervention Study. The purpose of the study was to determine whether simply providing QI information to nursing facilities would result in improved clinical practices and resident outcomes or if it also would be necessary to provide consultation with a GCNS. While final results of the study are not available yet, consultation with a GCNS appears to be effective and extremely well accepted in the study nursing homes.

The Quality Improvement Intervention Study is based on the theoretical framework of the quality improvement process. The quality improvement process focuses on the need to make clinical practice changes to improve resident outcomes based on measurable, comparative data (Bernstein & Hilborne, 1993; Glass, 1992; Rantz et al., 1996). The QIs, based on resident-level MDS data collected by the facilities' staff, offered the perfect vehicle to report information to facilities regarding their practice.

Participation in the Quality Improvement Intervention Study was voluntary. Nursing facilities that were transmitting data successfully to the state were invited to participate. Facilities with sufficient amounts of data then were randomized into three groups of 37 or 38 facilities each. Final sizes of Groups

1 and 2 were smaller because some facilities failed to attend the required educational workshops. Group 1 (n = 29) facilities received a 4-hour workshop designed to educate them regarding quality improvement methods, team process, and how to read a QI report. They also received a study manual that identified standard care processes that could be used to determine whether appropriate care was being provided at their facility. The manual is based on current literature and standards of practice (Rantz & Popejoy, 1998). Group 2 (n = 30) facilities received the same treatment as Group 1 facilities and also had access to a GCNS to help answer questions, analyze facility reports with their team, and give recommendations for further study or practice changes. Group 3 (n = 37) facilities were control facilities and received the workshop, manual, and QI reports at the end of the study.

Workshops for Group 1 and 2 facilities were conducted together and were spread geographically throughout the state. The number of participants in each workshop varied depending on how many facilities in that region had been randomized into the study. Each facility was asked to send four to six team members. Suggested participants included the administrator, the director of nursing, the quality assurance coordinator, a staff nurse, and a nursing assistant.

The content of the workshop focused on the quality improvement process using teams. Information regarding the history of quality in the health care industry, models of quality assessment, and the team process were presented. Table 2 contains workshop content. Workshop participants were told they could interrupt the speaker at any time for questions or comments. Adult learners have relevant work experiences to contribute, and the GCNS capitalized on those experiences during the presentation. Facility-specific QI reports were not given to participants until late in the presentation. After the reports were given to the staff representing the facilities, the participants' attention drifted from the didactic materials and centered on the reports and the potential facility problems identified in the data.

TABLE 2
QUALITY INTERVENTION STUDY WORKSHOP CONTENT

I. Introduction to Quality Intervention Study
II. Quality Improvement Process
III. Team Organization Structure
IV. Team Tools for Decision-Making
V. Overview of Quality Intervention Study Manual
VI. Overview of Quality Intervention Study Reports
VII. Putting It Together: The Use of Reports to Make Quality Improvement Decisions
VIII. Facility Reports: Review of Reports by Facility Staff
IX. Question and Answer: Individual Facility Staff Assistance With Report Interpretation

Quality Indicator reports included all QIs that could be calculated from MDS version 2.0 data, excluding incidence of decline in range of motion (this QI was excluded because the definition currently is being revised by CHSRA). The QI report had five data points, with each data point representing one quarter of data. The Figure displays a sample report. Facility representatives examined 15 months of data for each QI. In addition to the report, each facility's participants received a resident roster that identified all residents who had an MDS transmitted within the most recent quarter. This list allowed facility representatives to identify quickly residents who were positive for a given QI and identify the sample of residents to be used in the quality improvement process.

DESCRIPTION OF THE FEEDBACK PROCESS

Typically one to four members of the nursing facilities' teams were sent to the workshop. Most teams included the administrator and the director of nursing. Other participants were the RAI coordinator, charge nurse, and nursing assistant. Occasionally, an administrator and a nursing assistant were the only team members who attended. Rarely was only one individual from a facility sent to the workshop.

When facility staff saw their first QI report they often responded with disbelief. Their first reaction was to indicate to the GCNS that the reports could not be correct. At this point the GCNS reminded staff that the reports were generated from the data they transmitted to the state's MDS database. Likely their initial reaction was caused by seeing for the first time what aggregate data from MDS information transmitted from their facility looked like.

To analyze the reports, staff from the facilities needed to understand how QIs are defined, so the definitions were provided to each facility's staff. It was emphasized that for the QI to be accurate each MDS item in the definition must be accurate (Karon & Zimmerman, 1996; Ouslander, 1997; Zimmerman et al., 1995). The University of Missouri-Columbia MDS and Nursing Home Quality Research Team members were concerned the MDS data were not coded correctly by the facilities' staff. Miscoding of MDS data could cause a QI to identify a problem

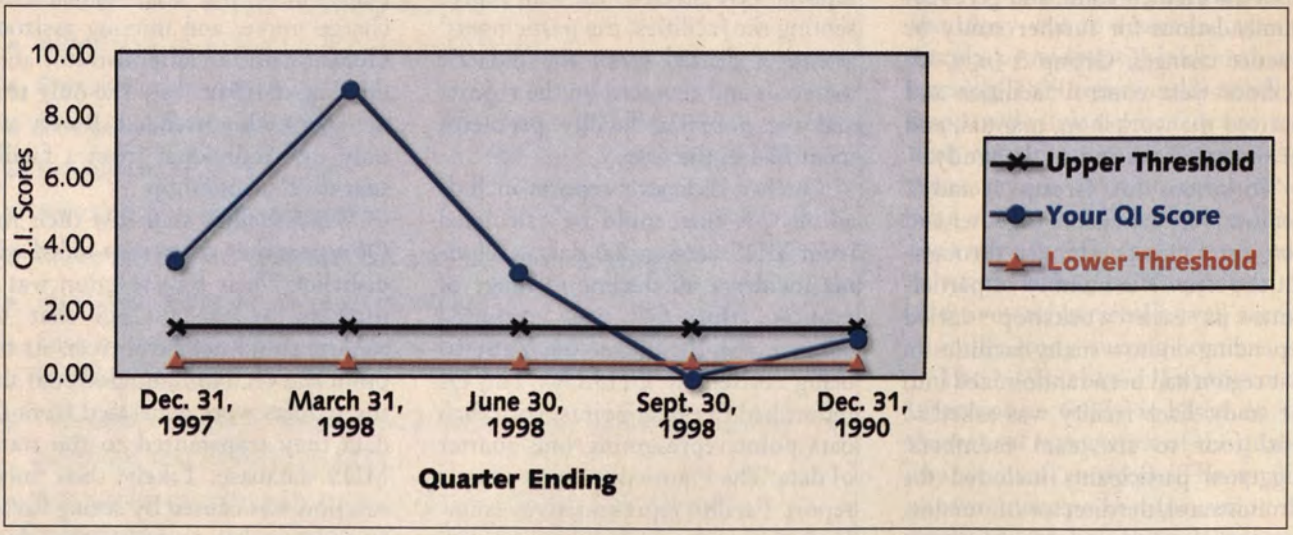
Facility Name: ABC Nursing Home
Missouri Facility ID #: 99999
Facility Address: 123 Street, Anytown
Facility County: Boone
Report for the Quarter Ending: December 31, 1998

Quality Indicator #1
Incidence of New Fractures

This Quality Indicator (QI) reflects the percent of residents with new fractures* as recorded on their most recent MDS assessment. The graph displays several quarters of information for the QI. The QI scores that fall below the *lower* threshold are thought to reflect good or excellent performance. The QI scores that fall above the *upper* threshold may suggest a problem with resident care that needs further attention by your Quality Improvement Team. Focus on trends and examine the residents listed with the problem. The summary table below includes your facility's QI score and the best statewide scores. Please refer to the cover letter for further explanations.

* See attached Resident List for those residents with new fractures indicated on their most recent MDS assessment (J4).

Incidence of New Fractures



SUMMARY TABLE FOR QUALITY INDICATOR #1

	Your Facility			*Statewide Summary*	
Quarter Ending	*Your QI Score*	*No. of Residents With This QI*	*No. of Residents in this Calculation*	*Tenth Percentile*	*Best Score*
Dec. 31, 1997	3.57	2	56	0.00	0.00
March 31, 1998	8.96	6	67	0.00	0.00
June 30, 1998	3.17	2	63	0.00	0.00
Sept. 30, 1998	0.00	0	72	0.00	0.00
Dec. 31, 1998	1.30	1	77	0.00	0.00

Figure. Sample Quality Indicator report.

when one does not exist (false positive) or fail to indicate a problem when one does exist (false negative). Facilities' staff were instructed to begin a quality improvement analysis by first reviewing the MDS items included in the QI definition for a sample of their residents for whom the QI score was above threshold. If the MDS items identified in the definition were correct, then the QI accurately identified a potential care problem. Most facilities' representatives agreed they needed to evaluate the MDS for accuracy and completeness.

As the staff continued to evaluate their reports, facility administrators in particular had a tendency to believe problems identified by QI scores above threshold were related to inaccurate MDS coding. However, the directors of nursing quickly grasped the clinical implications and often would indicate the QI seemed to be correct for the resident at the time the MDS was completed. This understanding of resident clinical conditions by the director of nursing proved to be very beneficial. Directors of nursing frequently validated that the problem existed for residents and would state that they believed the facility had care problems related to a particular QI. While the rest of the team seemed overwhelmed with the data, the nursing staff tended to view the reports as reasonably accurate pictures of the care and care problems in their facilities. The GCNS had to reinforce several times that the QI reports indicate potentially good or poor care practices and identify the need for further analysis of potential problems. The QIs are the first step in the analysis process.

Assisting the facility representatives to understand the value of the QI reports was the initial challenge. Actually helping facilities' staff understand how to use the QI reports in their facilities was more difficult. Group 2 facilities had the option of ongoing consultation with the GCNS. Each facilities' staff were invited to telephone the GCNS any time they had a question. Staff at the facilities were telephoned at intervals during the study to ask if they had questions or concerns to be addressed. Early in the study it became apparent that frequent, routine telephone calls to the facilities' staff were not appreciated. Therefore, the time intervals for telephoning were extended, and the staff at the nursing homes were reminded they could telephone the GCNS at any time.

Not all facilities' staff attempted to use the QI reports in their facilities. Telephone calls from staff at the facilities were sporadic. Offers by the GCNS to travel to the facility were met by facility staff one of two ways:

- Eagerly and immediately.
- With great concern, reticence, and refusal.

Staff at facilities that were most sophisticated in the quality improvement process were eager to have the GCNS involved. The GCNS made routine visits to several of these facilities. Other facilities' staff would telephone with a single issue and then would not telephone again. Because of the distance associated with traveling to certain parts of the state and the number of facilities in Group 2, the GCNS could not arrange routine visits with each facility. As the end of the time period for the study approached, facilities' staff began to telephone more frequently because they realized the GCNS would not be available to them much longer.

Facility consultation often involved working with the facilities' Quality Improvement Team. The experience of the GCNS with clinical problems, systems management, and the RAI process was used frequently. Facilities visited by the GCNS relied on updates of clinical practice and current issues from the GCNS. Current literature regarding clinical problems was shared with the facility staff and became the focus of group discussions. Specific resident situations that were difficult to manage were discussed. Some of these discussions centered on weight loss, incontinence, medication use, falls, and functional decline.

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The RAI process, in particular the RAP and care planning process, is understood poorly by many facility staff members. It was common for the GCNS to work with facility staff to improve their understanding of the RAI process, in particular the development of meaningful interdisciplinary care plans. Correct coding of MDS items was another frequent topic of discussion as reports were reviewed. When MDS coding issues were identified, the GCNS always referred to the *Long-Term Care Facility Resident Assessment (RAI) User's Manual (Version 2.0)* (HCFA, 1995) as the method of teaching correct coding conventions. It was important individual interpretation of MDS coding conventions be kept to a minimum.

Less often, facility staff wanted assistance to implement concurrent monitoring. They first wanted to better understand the RAI process and implement it more effectively and efficiently. Facility staff see improvement of the RAI accuracy as a first step. After accomplishing this step, they were more willing to move on to the next step—further analysis of the

care they provide using quality improvement methods, such as concurrent monitoring of care delivery.

DISCUSSION

The GCNS entered the facilities as a research nurse working with QI information. The focus of the consultations broadened over time as the facilities' staff actually worked with the GCNS. The GCNS not only identified the issues related to QIs but also worked with the facilities' staff to further the discussion and understanding of ethical issues such as advance directives, clinical issues such as incontinence, and professional issues such as the RN role in care planning. The GCNS worked as a change agent, by identifying issues that needed to be addressed to improve resident clinical outcomes. Most facilities' staff were eager for information that supported clinical practice. Clinical staff wanted to do the right things for residents but were not always aware of what the right things were. The GCNS helped clarify many of the discussions related to care problems and offered solutions and information that were up to date, clinically correct, and relevant.

At times it was difficult for Group 2 facilities to value the QI reports as indicators of potential problems. The cause of this difficulty was unclear. One possibility is that the facilities' staff were overwhelmed during the final 6 months of the study with new federal regulations regarding automated MDS data transmission and prospective payment. Many facilities' staff were preoccupied with these very significant issues, and capturing their attention to focus on quality improvement proved to be difficult. Other facilities' staff were occupied with the difficulties of complying with RAI regulations in an efficient manner. Another possibility is that none of the facilities with which the GCNS worked are accredited by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). The JCAHO emphasizes quality improvement initiatives more than state and federal regulatory standards (JCAHO, 1998).

Facility staff who consulted with the GCNS eagerly used the clinical expertise offered. The directors of nursing regarded the GCNS as an ally to help explain why certain facility processes may not be the most appropriate method to address clinical situations. The role of change agent was underestimated by the GCNS prior to beginning the study. The GCNS working as a consultant was able to support clinical practice and also serve as a stimulus for discussion of facility-wide system problems.

The use of quality improvement methods, such as concurrent monitoring and evaluation of clinical problems, by teams was not conducted by staff as often as the GCNS would have liked. Rather than exploring these techniques, facilities' staff continued to gather routine data, such as statistics related to infections, hospitalizations, and death. These data are important but ultimately cannot be used to change clinical processes. To change clinical processes, staff must understand what currently is happening when resident care is provided. The only way to know what is happening at the bedsides is to examine care as it is being delivered. Until there is more willingness to do this, it will be difficult to change care processes in a significant way.

During the course of the study, staff turnover in nursing facilities remained an issue. Initially, it was difficult for the facilities' staff to participate in the workshops if the individuals currently in management positions were not the ones who had agreed to participate in the study. Also, some corporations enrolled multiple facilities in the study and either did not inform someone at the facility or the individual who had been informed had left the facility. Consequently, the GCNS had to spend a great deal of time explaining to the administrators which individual enrolled the facility in the study, as well as the rationale and purpose of the study. Representatives from some of these facilities did not attend the required educational workshop, leading to a reduction in size of Groups 1 and 2. During the course of the study, facilities that experienced excessive turnover had more difficulty accepting help from the GCNS to understand their reports and facility quality needs.

CONCLUSION

Based on the GCNS's consultation experiences during the study, the most pivotal aspect to changing the way in which care is delivered is to understand what the potential weaknesses are. The QIs derived from MDS data offer nursing facilities a way to begin to understand problem conditions that are weaknesses. Further, QIs offer an ongoing mirror of practice. The GCNS worked with the facilities in consultative and educative roles. The GCNS helped staff in the facilities understand the value of the QIs more clearly, as well as how the QIs reflect actual resident conditions and clinical practice.

The QIs are derived from MDS data, so as residents are assessed using the MDS, the problem conditions of those residents is shown in aggregate in the QIs. Facilities' staff who routinely monitor the QIs will begin to see the ways in which their resident population changes clinically. The QIs can be used as a barometer to determine if practices are equal to resident needs.

The quest for quality will never end. The nature of quality almost assures that its pinnacle will never be reached. As soon as staff of a facility think they are close to being where they want to be from a quality perspective, the trends in the industry change, the standards of practice alter, and consumers demand something new or different. Quality represents clinical knowledge, competent and compassionate caring, and knowledge of consumer beliefs and

perceptions. As demonstrated in this study, the GCNS can make an enormous contribution to improving care delivery in nursing facilities.

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KEYPOINTS

QUALITY OF CARE

Popejoy, L.L., Rantz, M.J., Conn, V., Wipke-Tevis, D., Grando, V.T., & Porter, R. **Improving Quality of Care in Nursing Facilities: Gerontological Clinical Nurse Specialist as Research Nurse Consultant.** *Journal of Gerontological Nursing,* 2000, 26(4): 6-13.

1. Quality Indicators (QIs) identify potentially good or poor care practices and point to the need for further analysis of potential care problems.
2. For QI scores to be accurate, the MDS items that define that QI must be assessed and coded correctly.
3. The most effective way to change care processes is to use concurrent monitoring techniques.

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