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Quality Improvement in Long-term Care

The purpose of this column is to discuss innovations and quality improvement efforts in a variety of long-term care settings. These issues are of importance to healthcare professionals as our nation faces the burgeoning growth of the aging population, creating increased demand for improved and innovative long-term care services. This column is coordinated by Marilyn J. Rantz, PhD, RN, FAAN, NHA, e-mail: rantzm@missouri.edu.

Measuring Quality of Care in Assisted Living

A New Tool for Providers, Consumers, and Researchers

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ASSISTED LIVING FACILITIES have exploded in number in the United States, particularly in the 1990s, with an estimated 800,000 residents being cared for in 33,000 assisted living facilities.[1] Actually, there are now more assisted living facilities than nursing homes in the United States, but nursing homes continue to care for more elders. Nursing homes now number about 20,000 and care for about 1.7 million frail older adults with expected growth to 5 million in 2030.[2] It is likely that a parallel growth in assisted living can be anticipated as baby boomers age and need long-term care.

As quality of care has been and continues to be a key issue in nursing homes,[3–9] there are concerns about quality of care in assisted living facilities.[10] Consumers need guidance as they select an assisted living facility for a loved one, providers need standards for judging the quality of their services, and researchers need new tools for measuring the multidimensional concept of quality of care in assisted living.

Members of the MDS and Quality Research Team at the University of Missouri–Columbia have been working for many years to understand and measure quality of care in nursing homes in an effort to assist facilities in continuously improving their care quality. The team conducted initial qualitative studies that explored the multidimensional aspects of

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quality of nursing home care and developed a tool to measure quality of care based on the results of several studies.[4–9]

As the development proceeded for the tool titled *Observable Indicators of Nursing Home Care Quality Instrument* (*OIQ-NH*), members of the team were interested in exploring the applicability of the measure for quality of care and tailoring it for the assisted living environment. After an initial field test in 35 facilities, the instrument was revised but retained its overall structure of a 5-point rating scale for each question with anchoring descriptors for each point.[11] Similar to the nursing home version, nurse observers were oriented to use the instrument with a user's guide that provides directions about how to perform a 20- to 30-minute tour of a facility prior to answering the questions.

A major field study of the *OIQ-NH* was funded by the National Institute of Nursing Research of the National Institutes of Health to further develop the nursing home version of the quality-of-care measurement instrument.[12] While collecting data in nursing homes, registered nurse (RN) observers also completed the assisted living version of the Observable Indicators of Quality-Assisted Living (*OIQ-AL*) scores when assisted living facilities were on the campuses of the nursing homes in the primary study. Additional free-standing facilities (not on campuses with nursing homes) were visited to include them in the sample for the analysis of assisted living. In this column we review the major results of the field test in assisted living facilities and offer some practical guidance for the use of the *OIQ-AL* in quality improvement programs for this growing environment of long-term care.

OVERVIEW OF RESULTS OF FIELD TEST IN ASSISTED LIVING USING THE *OIQ-AL*

The primary aim of the study was to advance the development of the *OIQ-AL* for use by researchers studying the dimensions of care quality in assisted living. A secondary study aim was to assess the psychometric properties of the *OIQ-AL* instrument when used by nurse observers. Complete results are described in a psychometric article in review at this time (M. Rantz et al, unpublished data, 2006). In addition, it was anticipated that the instrument would likely be helpful to providers to use in their quality improvement programs and consumers as they visit facilities for themselves or loved ones.

In an earlier study, validity of the *OIQ-AL* was judged as valid by a panel of experts working in assisted living.[11] Relevance of each item was rated on a 4-point scale: not relevant, somewhat relevant, quite relevant, and very relevant.[13] The content validity index for the total scale was 3.426 with only 5 items having average ratings less than 3.00, none of which were less than 2.0. Before this larger field test, a new panel of 5 experts working in assisted living was convened to discuss the items and suggest additional items important to the growing assisted living industry. The research team drafted new items and a revised instrument with 41 items was used for the field test.

The sample of facilities was solicited from 2 states, Missouri and Wisconsin, as a part of the larger NINR-sponsored field study.[12] Data were collected from 216 assisted living facilities (198 in Missouri and 18 in Wisconsin); of these, observations from 207 different assisted living facilities were complete and usable for analysis. Observers were RNs who completed the *OQI-AL* after a focused 20- to 30-minute walk-through of each assisted living facility. For interrater purposes, a pair of observers visited 73 facilities. Test-retest visits were made to 77 facilities.

An exploratory factor analysis and the methods of Classical Test Theory and Generalizability Theory were used to study the reliability and validity of data obtained by the observers. Item analysis and exploratory factor analysis resulted in a final instrument of 34 reliable items with a coherent 6-factor structure. The 6 factors were named by the research team: Homelike, Caring, Access and Choice, Lighting, Pets and Plants, and Outdoor Spaces.

The revised 34-item instrument was then analyzed for interrater and test-retest

correlations. Coefficient alphas were calculated for all first RN visits to all facilities in the study. Findings revealed acceptable interrater and test-retest reliability evidence in addition to strong internal consistency for the total instrument and all but one subscale (Outdoor Spaces). As a final step, a Generalizability Theory analysis was performed to combine the sources of error into a single coefficient. These results were applied to a Decision Study that revealed the reliability of the instrument can be improved by increasing the numbers of visits from 1 to 2 or by increasing the numbers of raters from 1 to 2. This improvement may be of importance to researchers or to consumers with sufficient time to make 2 site visits to a facility or have a friend or family member accompany them on one site visit and each score the instrument. An important feature of the instrument is that it is highly reliable when used by multiple users or multiple times (or a combination of the 2).

Scoring guidelines to help those who use the instrument interpret the results were developed for each subscale and the total score of the *OIQ-AL*. Guidelines were developed on the basis of the distribution of scores from all the observations in the study, as was done for the nursing home version in the larger study.[12] *OIQ-AL* scores above the 80th percentile were chosen as suggestive of a quality facility; scores below the 20th percentile were viewed as suggestive of quality problems.

The work performed on the *OIQ-AL* over the past several years and the psychometric evidence from the most recent research indicates that the *OIQ-AL* is a brief instrument that evaluates the multidimensional concept of quality of care in assisted living facilities in a reliable and valid manner (M. Rantz et al, unpublished data, 2006). Copies of the instrument with a user's guide can be ordered from the Web site maintained by the research team at the University of Missouri; excerpts of the instrument and more information are available on the Web site www.nursinghomehelp.org for providers, consumers, and other researchers.

USING THE *OIQ-AL* IN QUALITY IMPROVEMENT PROGRAMS

For assisted living facilities, there are advantages of routinely using the *OIQ* to evaluate their overall quality of care. On the basis of the findings of our most recent field testing (M. Rantz et al, unpublished data, 2006), we suggest 2 observers tour a facility on the same day and at the same time, not discuss their observations, and then each independently score an instrument. Their scores are averaged for each item, and subscale scores and total scores are calculated (directions are provided on the instrument). Using 2 raters and averaging their scores improves the reliability of the instrument. An alternative that also improves reliability is for 1 rater to tour on 2 occasions, such as touring on 1 day and scoring a first instrument then touring the next day or later in the week and scoring a second instrument (not referring to the first). Then the 2 instruments are averaged for each item, and subscale scores and total scores are calculated.

Perhaps a board member, community member, or particular staff could be asked to team up each month to complete the instruments and report results to a quality improvement team in the facility. Involving board members or others in quality improvement can be helpful to facility staff who may become accustomed to viewing things as "well it is always that way" or "gee, we always do that." Another plan might be to have members of a facility quality improvement team tour and score the instrument monthly; in this case, it would be important for the staff member to approach the facility after being outside for some time so that odors can be detected more readily.

Having access to a valid and reliable instrument that measures care quality in assisted living can be a huge help to facilities as they approach quality improvement. Fresh perspectives and challenges to the quality improvement team are necessary to help them continuously identify issues to improve and also have ways to measure their improvement. Displaying monthly results of the *OIQ-AL* using line graphs of results

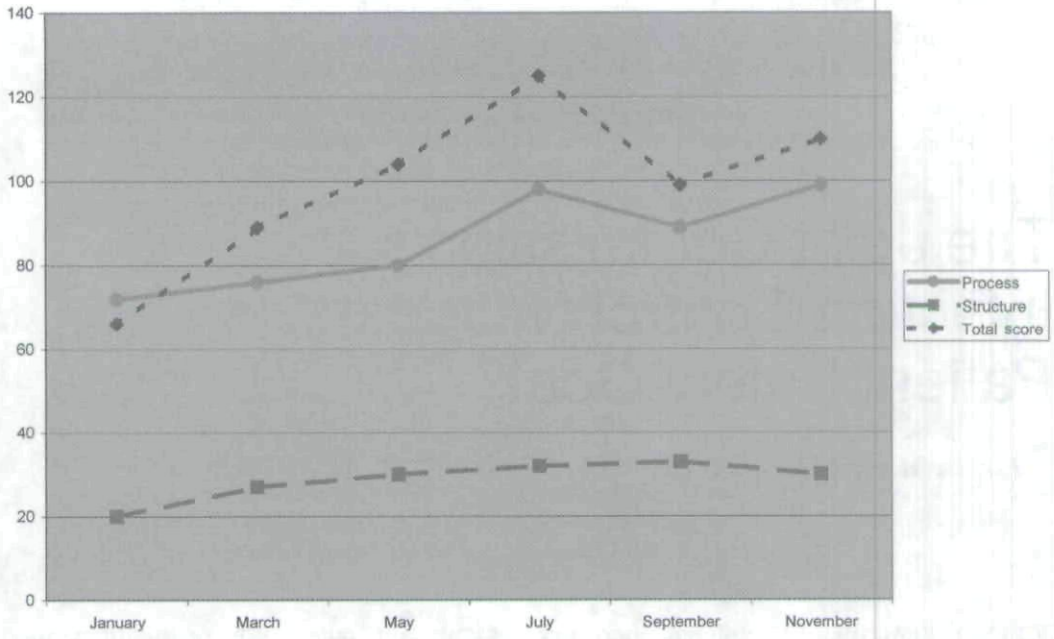

Figure 1. Display of monthly Observable Indicators of Quality-Assisted Living Scores.

from prior months for each subscale can illustrate areas in need of attention as well as improvements; graphs of the summative subscales (process, structure) and the total *OIQ-AL* score can illustrate overall progress. A sample of a graph illustrating the monthly summative and overall scores for a facility is presented in Figure 1. We encourage assisted living facilities to use the *OIQ-AL* and offer advice to us and others about its usefulness.

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