If feedback reports are intended to encourage higher levels of performance, it is necessary to place high, but attainable, standards for all to view and attempt to achieve.

PERFORMANCE MEASURES AND MEASUREMENT

Setting Thresholds for Quality Indicators Derived from MDS Data for Nursing Home Quality Improvement Reports: An Update

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As explained in an earlier study reported in 1997 in *The Joint Commission Journal on Quality Improvement,* an important area of inquiry in quality measurement when using *quality indicators* (QIs) is determining what thresholds indicate good and poor resident outcomes.[1] Because two years had elapsed since the earlier panel was conducted, the Minimum Data Set (MDS) 2.0 replaced the earlier MDS 1.0 version in nursing homes in the United States, and revisions in the QI definitions were

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Article-at-a-Glance

Background: Determining meaningful thresholds to reinforce excellent performance and flag potential problem areas in nursing home care is critical for preparing reports for nursing homes to use in their quality improvement programs. This article builds on the work of an earlier panel of experts that set thresholds for quality indicators (QIs) derived from Minimum Data Set (MDS) assessment data. Thresholds were now set for the revised MDS 2.0 two-page quarterly form and Resource Utilization Groups III (RUGS III) quarterly instrument.

Setting thresholds: In a day-long session in October 1998, panel members individually determined lower (good) and upper (poor) threshold scores for each QI, reviewed statewide distributions of MDS QIs, and completed a follow-up Delphi of the final results.

Reporting MDS QIs for quality improvement: The QI reports compiled longitudinal data for all residents in the nursing home during each quarter and cumulatively displayed data for five quarters for each QI. A resident roster was provided to the nursing home so that the quality improvement team could identify the specific residents who developed the problems defined by each QI during the last quarter. Quality improvement teams found the reports helpful and easy to interpret.

Summary and conclusions: As promised in an earlier report, to ensure that thresholds reflect current practice, research using experts in a panel to set thresholds was repeated as needed. As the MDS instrument or recommended calculations for the MDS QIs change, thresholds will be reestablished to ensure a fit with the instrument and data.

scheduled to be implemented for use by state survey teams in 1999, we convened another expert panel of a cross-section of 15 clinical care personnel from nursing homes to set thresholds for QIs derived from MDS assessment data. As we stated in the earlier study, thresholds should be revised as necessary to ensure that QI reports reflect current practice.

This panel of experts met as a group for one day, during which it discussed the clinical care for each QI, reviewed statewide distributions of MDS QIs, individually determined lower and upper threshold scores for interpreting each QI, and completed a follow-up Delphi round of the final results. This article describes the development and dissemination of thresholds for MDS QI scores for the revised version MDS 2.0.

MDS QIs for Quality Improvement

In 1999 the Health Care Financing Administration (HCFA; Washington, DC) implemented the use of MDS QIs in the survey process. MDS QIs have been under development since 1990 by a research team at the Center for Health Systems Research and Analysis, at the University of Wisconsin–Madison, as a part of the HCFA-sponsored National Nursing Home Case Mix and Quality (NHCMQ) demonstration project. Since the inception of the MDS, researchers have been developing and testing QIs derived from MDS data to serve as a foundation for quality improvement and

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survey activities.[2,3] QIs are not absolute measures of quality, but are markers of potentially poor (or good) care practice and resident outcomes.[4,5] Each indicator uses specific items from the MDS assessment instrument that is mandated for use nationwide in all nursing homes participating in Medicaid or Medicare programs. For example, the prevalence of bladder or bowel incontinence includes items about bladder and bowel incontinence and excludes residents who are comatose or have indwelling catheters or an ostomy on the most recent assessment.[6] Of the 30 QIs, 24 (with 4 risk adjusted) can be derived from version 2.0 of the MDS using the two-page quarterly form, and 25 (with 7 risk adjusted) can be derived from the expanded Resource Utilization Groups III (RUGS III) quarterly instrument that Missouri requires.

Since 1993 our research team at the University of Missouri–Columbia (MU) has been using MDS QIs to study quality of care in nursing homes.[7] We believe that MDS QIs can be effectively used by facility staff to improve care, given an easy-to-interpret QI report format and appropriate clinical consultation.

In 1998 we began a feedback intervention study to test the effect of the feedback reports and on-site clinical consultation on 120 volunteer nursing homes' quality improvement activities and resident outcomes. We used thresholds set by the earlier panel to illustrate areas that quality improvement teams should consider examining more closely.[1] Although the resident outcome analysis of this study will not be completed until some time in 2000, nursing home staff who used the reports found them so helpful that an electronic version of the report was designed and made available for all homes in the state. The thresholds are used to help quality improvement teams interpret the reports and target further investigation of areas of care delivery that could have problems.

With the implementation of the federal MDS data collection system, federal QI reports are now available to homes in each state. These reports include a facility characteristics report, a facility QI profile, and a resident-level summary that lists residents who have the problem defined by the QI. The most current MDS records are used in the state's database at the time the reports are generated. For purposes of calculating the QIs, only those residents whose most recent assessments are quarterly, or annual, or that show significant changes are used; so residents whose most recent assessments are admissions, readmissions, or Medicare assessments are not included.[8] The facility QI profile is presented in several columns, with the number of residents in the numerator (the people who have the problem defined by the QI), the number in the denominator (the number of people who could have had the QI), the facility percentage (the percentage of people who could have had the QI who actually did have it), the comparison group percentage (the statewide average for comparison), the percentile rank (ranks each facility relative to others in the state), and a flag (an investigative threshold of the 90th percentile for most QIs; single occurrences for sentinel events). The report can be very useful for surveyors as well as quality improvement teams. However, because the report uses the most recent MDS assessments, it covers a current time period; so the picture is, in a sense, a cross-sectional snapshot that may be misleading. Trends, rather than isolated high or low comparisons, may be more meaningful for developing and evaluating action plans. When using the federal reports, QI teams should monitor results over time so they can see trends and monitor progress.

As we pointed out in our earlier study, providing feedback by comparing an individual facility's QI performance to relative standards such as statewide averages, medians, or percentile ranking is problematic because care quality may be adversely affected. Although this perspective has not been empirically tested, it seems highly possible that comparisons to averages (or similar measures) can create a false impression of good quality. For example, if many homes in the state are performing poorly on a particular outcome measure, they will affect the average score so that an average score may actually reflect very poor clinical outcomes. Then homes with "better than average" performance in that outcome measure may stop attempting to improve care delivery in that area because they believe they exceed the "standard," or have achieved an acceptable level of quality. Given that scenario, homes falsely interpret their performance as superior to that of others because they are better than average and falsely assume that they do not have care problems. This would be a good area for further study, to actually compare the effect of providing feedback reports with relative standards to homes receiving feedback reports with absolute standards.

If feedback reports are intended to encourage higher levels of performance, we believe that it is necessary to place high, but attainable, standards for all to view and attempt to achieve. Based on this belief, as in our earlier study, we decided to conduct expert panels, once again, to set absolute standards of thresholds for comparisons, using the revised version of the MDS.

Setting Thresholds

Thresholds and Reports

Just as in other health care settings, determining thresholds that reinforce excellent performance in nursing home care, as well as thresholds that flag potential problem areas, requires much information about the range of possible performance, professional knowledge of clinical care delivery, and professional knowledge of the complex problems pertinent to residents. Additionally, meaningful thresholds are critical for preparing reports for nursing homes to use in their quality improvement programs.

For MDS QIs, specifically, Zimmerman et al suggest that absolute thresholds can be developed through literature review or consensus by experts.[3] Zimmerman et al explain that relative thresholds can be set based on peer-group distributions of events across facilities. Relative thresholds are used in the federal QI reports by providing averages and percentile rank for comparison.

Expert Panel

We convened an expert panel to review the changes in QI definitions, review current statewide distributions of QI scores, and reset thresholds for interpreting scores. As in the earlier panels we conducted, we invited a cross-section of well-qualified clinical care personnel with nursing home experience to participate in the panel. Represented in this group of 15 experts were 5 medical directors of nursing homes, 6 directors of nursing, 3 advanced practice nurses, and 1 nursing home consultant who is experienced in the MDS assessment process and consults with a variety of nursing homes statewide. Six of the experts had participated in previous panels we conducted; this was helpful because they were familiar with the discussion process we used and helped orient new participants and encourage them to fully participate. Panel members were carefully solicited from the provider community because we wanted the threshold results to be realistic, reflect what providers thought nursing homes would be able to achieve, and designate thresholds that would alert nursing home staff to potential problems for further examination.

To prepare for the panel, the research team used the most recent statewide MDS data available to calculate QI scores. Because the expert panel process should be data driven,[9,10] as in the previous panels, we wanted the experts to have access to the most up-to-date statewide distributions of QI scores. We excluded admissions and readmissions from the data set so that we were not measuring what happened to nursing home residents when they were cared for in other settings. We calculated MDS QI scores using the revised definitions for QIs that correspond to both MDS 2.0 with the two-page quarterly form and MDS 2.0 with the expanded RUGS III quarterly instrument, the two forms in use in most states.

The panel met as a group for an entire day in October 1998. The panelists agreed to each complete a follow-up Delphi round of the final results approximately two weeks later. To facilitate discussion, each participant received a paper document that contained, for each QI, the QI definition and the actual MDS items used in calculating the QI. Also included were summary statistics for the statewide distributions for each QI (with 5th, 10th, 25th, 50th, 75th, 90th, 95th, minimum, maximum, and standard deviation), and the previous thresholds set by the earlier panel. We decided to include the previous thresholds because they were being used in early versions of the reports in our state and most participants were familiar with them. We were concerned that if we did not provide the previous thresholds, participants would attempt to recall the numbers. We decided that providing the accurate numbers for reference if participants wanted to see them was a better choice than inaccurate recall or discussion, as suggested by the standard-setting literature.

Participants were asked, "Based on your clinical experience in nursing homes and your professional knowledge, what is an achievable score indicating good resident outcomes and good-quality care in a general nursing home population?" Because QIs are frequencies of problems that nursing home residents could develop, this score would be used as the *lower* (good) threshold.

Next, participants were asked to determine a score they considered would indicate potentially poor

resident outcomes. This score would be used as the *upper* threshold, which may suggest that a problem is occurring too frequently with resident care and needs further attention by a quality improvement team. Using this threshold, staff would target areas of care delivery that need to be closely examined for problems. If problems were discovered in this examination, staff would take corrective steps to improve the care.

The participants discussed each QI separately, commenting on what they considered to be a good score and what score should prompt action for quality improvement. Seven QIs required setting two additional sets of thresholds for high- and low-risk resident populations. Because definitions for some QIs are different for the MDS 2.0 two-page quarterly form and the MDS 2.0 RUGS III quarterly instrument, and because one of these versions is used in most states, we set QI scores for both versions.

Participants shared with each other information from their practice experience and knowledge of research findings. They discussed the statewide distributions and sometimes argued that the care in a particular area, in general, needs improvement throughout the state. Some would attempt to persuade others that they needed to set some thresholds tighter in an attempt to stimulate general improvement through many nursing homes in the state. Some would attempt to persuade others that some problems were impossible to totally eradicate, so thresholds should be lenient. Following discussion, each person recorded his or her judgment for both thresholds on a scoring form. Forms were collected by research staff at the conclusion of each QI discussion. All QIs for both MDS 2.0 versions were discussed and scored by each participant during the morning and afternoon sessions.

The day ended with the collection of data from each expert about each QI. Participants requested a summary of their work and agreed to complete a single-round Delphi, which would serve as a check if their opinions changed when they had more time to reflect on the discussions of the day with their colleagues.

The Single-Round Delphi

Results of the panel were tabulated by research staff, and thresholds were calculated using simple means of the scores from each of the experts for each QI. A chart was prepared to send to the experts for the Delphi. Each QI was listed with

- statewide distributions of mean, minimum, 5th, 10th, median, 90th, 95th, and maximum percentile scores;
- expert average lower threshold (good) score and expert average upper threshold (poor) score; and
- two blank boxes for the expert to complete, indicating his or her current opinion for the lower and upper scores.

Table 1 (p 106) presents a sample page of the Delphi questionnaire. Eleven of the 15 experts returned the questionnaires. The remaining 4 experts did not respond to reminder calls. Results were tabulated and averaged for each threshold. Most of the responding experts adjusted one or more thresholds. The magnitude of change recommended by individual participants ranged from 0 to 36 points for each QI. However, most individuals recommended changes of 0 to 4 points. The largest adjustment made by panel members during the Delphi was for QI 19, which is "incidence of decline in late loss ADLs [activities of daily living]." During the discussion day, the panel set the thresholds for QI 19 high-risk residents at 47.5 and 81.3; following the Delphi, scores shifted to 37.0 and 71.7, respectively. Apparently, when participants reviewed the results tabulated from their scoring forms collected during the discussion, they saw that if they left the scores at the levels set during the discussion, the lower (good) threshold would have been at the 25th percentile and the upper (poor) threshold above the 95th percentile. After adjusting in the Delphi, the lower threshold was below the 25th percentile and the upper was below the 90th percentile. With the lower threshold set below the 25th percentile, the excellent range was tighter; with the upper threshold set below the 90th percentile, the poor range was lower, so quality improvement teams would be alerted to possible problems earlier and they could take action in a more timely way.

Similarly, statewide distributions indicated a high prevalence for QI 27, which is "prevalence of little or no activity" (median, 44.4). Experts during the panel discussions were convinced that almost all residents "should be or could be" engaged in activities. They set thresholds low (6.9 for a good score, and 20.9 for a poor score). The score of 20.9 was below the 25th percentile in the state, which means that 75% of the nursing homes will be alerted that they are above the upper (poor) threshold. Participants hoped that by setting the thresholds low, staff in most nursing homes

Table 1. Quality indicator (QI) 6: Use of Nine or More Different Medications*

Quality Indicator 6: Use of Nine or More Different Medications											
Missouri Quality Indicator for calendar 1998								Expert panel		Your current opinion	
Mean (SD)	Minimum	5th percentile	10th percentile	Median	90th percentile	95th percentile	Maximum	Lower threshold	Upper threshold	Lower threshold	Upper threshold
33.3 (13.4)	0.0	12.0	16.7	32.8	50.5	55.6	80.6	13.0	30.4		

** SD, standard deviation. QI scores that fall below the lower threshold are thought to reflect good or excellent performance. QI scores that fall above the upper threshold may suggest a problem with resident care that needs further attention by a quality improvement team.*

would examine activities available to residents and increase residents' involvement in activities.

Setting Final Thresholds for Reports

Members of our research team with extensive nursing home experience (both medical and nursing) met to review the panel's work. The means from the Delphi were reviewed and *compared* with the statewide distributions. We wanted to be sure that the means from the Delphi were set at levels that are likely to be helpful to alert quality improvement teams to take action and provide positive reinforcement of good levels of performance. If we had found that not to be the case, we would have conducted a second-round Delphi to ask expert panel members to once again review the results to be sure they think quality improvement teams will find the thresholds useful. Our research team members, who are considered to be clinical experts in nursing home care, thought the single-round Delphi results were on target. Therefore, the means from the Delphi were accepted as the final thresholds by our research team and are displayed in Table 2 (p 107), which lists the thresholds for QIs derived from MDS 2.0 with the two-page quarterly form, and Table 3 (p 108), which lists the thresholds for MDS 2.0 with the RUGS III quarterly instrument. Note that some QIs cannot be calculated with these commonly used versions of the MDS; serial assessments using the entire MDS 2.0 version are needed in those cases.

The scores can be thought of as simple percentages because each QI is calculated as a proportion of residents with the problem (numerator) as compared with the residents who had the potential to have the problem (denominator). For example, for QI 6 "use of nine or more different medications," fewer than 13% of the residents in a nursing home should be taking nine or more different medications (good score). An upper threshold (poor) score would be 30% or greater.

Reporting MDS QIs for Quality Improvement

As reported earlier,[1] the report format was field tested and revised to enhance its usefulness and interpretability. Facilities in Missouri using the reports began referring to them as the "Show-Me MDS Quality Indicator Reports," which compile longitudinal data for all residents in the nursing home during each quarter and cumulatively display data for five quarters for each QI. A resident roster is provided to the nursing home so the quality improvement team can identify the specific residents who developed the problems defined by each QI during the last quarter. We used the report format in Missouri's feedback intervention study of MDS QI reports, with 120 nursing homes, that just ended in 1999. Quality improvement teams found the reports to be helpful and easy to interpret. Figure 1 (p 109) shows one of these reports for Missouri; each QI has a separate page. (After much discussion, we decided not to include the statewide average for each QI because we did not believe that the average score should not be interpreted as a benchmark for determining quality.)

As we worked with study homes to implement quality improvement projects based on the reports, participants learned how to determine the accuracy of the reported QIs for their residents, explore areas of care delivery that affect particular QIs, and reach out to other facilities and experts to learn how they are handling problem areas. The feedback reports helped staff identify areas to target for further evaluation. Staff evaluation comments included that they found both the thresholds and the comparative percentile ranks helpful. We encouraged the nursing home staff

Table 2. Thresholds for Quality Indicators (QIs) Derived from MDS 2.0 with Two-Page Quarterly Form*

	QIs	Expert Thresholds	
		Lower	Upper
1	Incidence of new fracture	1.1	2.9
2	Prevalence of falls	5.8	16.0
3	Prevalence of behavioral symptoms affecting others†	9.9	24.0
4	Prevalence of symptoms of depression	7.3	19.8
5	Prevalence of depression without antidepressant therapy	5.1	14.0
6	Use of nine or more different medications	13.0	30.1
7	Incidence of cognitive impairment	3.5	11.3
8	Prevalence of bladder or bowel incontinence†	26.8	49.7
9	Prevalence of occasional or frequent bladder or bowel incontinence without a toileting plan	5.9	18.7
10	Prevalence of indwelling catheters	2.1	6.5
11	Prevalence of fecal impaction	0.5	3.4
12	Prevalence of urinary tract infections	2.5	8.5
13	Prevalence of antibiotic/anti-infective use		
14	Prevalence of weight loss	3.8	12.3
15	Prevalence of tube feeding	2.3	6.4
16	Prevalence of dehydration	1.1	4.7
17	Prevalence of bedfast residents	2.1	5.0
18	Incidence of decline in late loss activities of daily living (ADLs)	5.5	16.2
19	Incidence of decline in range of motion (ROM)	34.5	56.6
20	Lack of training/skill practice or ROM for mobility-dependent residents		
21	Prevalence of antipsychotic use, in the absence of psychotic and related conditions†	5.3	14.0
22	Prevalence of antipsychotic daily dose in excess of surveyor guidelines		
23	Prevalence of anti-anxiety/hypnotic use	5.4	16.6
24	Prevalence of hypnotic use more than two times in last week	0.9	3.6
25	Prevalence of use of any long-acting benzodiazepine		
26	Prevalence of daily physical restraints	1.5	6.9
27	Prevalence of little or no activity	6.9	20.9
28	Lack of corrective action for sensory or communication problems		
29	Prevalence of Stage 1–4 pressure ulcers†	2.4	7.7
30	Insulin-dependent diabetes with no foot care		

** MDS, Minimum Data Set. QIs marked with a dagger (†) have separate thresholds established for low- and high-risk resident populations and are available from the authors on request. Threshold values are not provided when certain information was not available on the MDS two-page quarterly form. To interpret scores, they can be thought of as simple percentages because each QI is calculated as a proportion of residents with the problem (numerator) as compared with the residents who had the potential to have the problem (denominator). For example, for QI 6 "use of nine or more different medications," fewer than 13% of the residents in a nursing home should be taking nine or more different medications (good score). An upper threshold (poor score) would be 30% or greater.*

to work in teams to learn some new ways of examining old problems and creating some new solutions to those problems. The resident outcome analysis for this study is under way at this time and will be completed in early 2000.

Summary and Conclusions

Staff are better able to use the data in their quality improvement programs when the data are displayed with meaningful thresholds. Setting the thresholds for MDS QIs for nursing homes has been challenging. Although time-consuming and labor intensive, the process we used to conduct the expert panel on-site for a day worked well. Experts graciously gave of their time and knowledge in the discussion, and most took the time for the follow-up Delphi. Preparing the data in a usable format for participants in the panel was critical. Because the panel discussion process is also data driven, prepared easy-to-read packets of information with statewide distributions of the QIs, definitions of each

Table 3. Thresholds for Quality Indicators (QIs) Derived from MDS 2.0 with RUGS III Quarterly Instrument*

	QIs	Expert Thresholds	
		Lower	Upper
1	Prevalence of any injury	5.9	16.1
2	Prevalence of falls	5.8	16.0
3	Prevalence of behavioral symptoms affecting others†	9.9	24.0
4	Prevalence of diagnosis or symptoms of depression	19.2	42.5
5	Prevalence of depression with no treatment	5.3	15.9
6	Use of nine or more medications	13.0	30.1
7	Incidence of cognitive impairment	3.0	9.7
8	Prevalence of bladder or bowel incontinence†	26.8	49.7
9	Prevalence of occasional or frequent bladder or bowel incontinence without a toileting plan	5.9	18.7
10	Prevalence of indwelling catheters†	2.1	6.5
11	Prevalence of fecal impaction	0.5	3.4
12	Prevalence of urinary tract infections	2.5	8.5
13	Prevalence of antibiotic/anti-infective use		
14	Prevalence of weight loss	3.8	12.3
15	Prevalence of tube feeding	2.3	6.4
16	Prevalence of dehydration	1.1	4.7
17	Prevalence of bedfast residents	2.1	5.0
18	Incidence of decline in late loss activities of daily living (ADLs)†	5.5	16.2
19	Incidence of decline in range of motion (ROM)†	34.5	56.6
20	Lack of training/skill practice or ROM for mobility-dependent residents	11.4	33.3
21	Prevalence of antipsychotic use, in the absence of psychotic and related conditions†	5.4	13.4
22	Prevalence of antipsychotic daily dose in excess of surveyor guidelines		
23	Prevalence of anti-anxiety/hypnotic use	5.5	16.4
24	Prevalence of hypnotic use more than two times in last week	0.9	3.6
25	Prevalence of use of any long-acting benzodiazepine		
26	Prevalence of daily physical restraints	1.5	6.9
27	Prevalence of little or no activity	6.9	20.9
28	Lack of corrective action for sensory or communication problems		
29	Prevalence of Stage 1–4 pressure ulcers†	2.4	7.7
30	Insulin-dependent diabetes with no foot care		

** MDS, Minimum Data Set. QIs marked with a dagger (†) have separate thresholds established for low- and high-risk resident populations and are available from the authors on request. Threshold values are not provided when certain information was not available on the MDS two-page quarterly form. Score interpretation is explained in footnote to Table 2.*

QI, and MDS items used to calculate each QI were essential for the panel to be successful.

As promised in our earlier report, to ensure that thresholds reflect current practice, research using experts in a panel to set thresholds has been repeated as needed. As the MDS instrument or recommended calculations for the MDS QIs change, thresholds will be reestablished to ensure a fit with the instrument and data. As information from other expert panels setting thresholds for MDS QIs and research literature become available, we will review their results and take appropriate steps to conduct additional expert panels to revise the thresholds. The report format will be revised based on user input. It is imperative that facility staff find it easy to use the information contained in the report.

Statewide electronic longitudinal reporting of MDS QIs using the reports is being implemented for all Missouri nursing homes at this time. An educational and consultation support service is being implemented to help staff in nursing homes interpret their QI reports, conduct quality improvement projects, and implement changes to improve care delivery. An evaluation of this statewide effort is planned to evaluate the effect of the services on resident outcomes. ■

Sample Quality Indicator Report

Facility Name:
Missouri Facility ID#:
Facility Address:
Facility County:

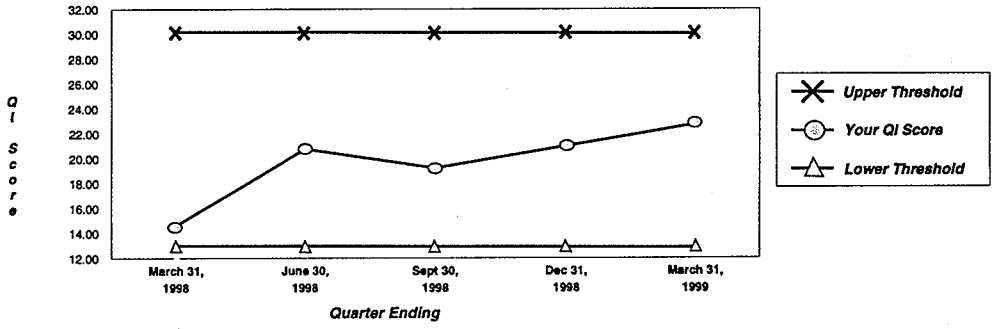
Report for the Quarter Ending: March 31, 1999

Quality Indicator # 6
Use of 9 or More Different Medications

This Quality Indicator (QI) reflects the percent of residents who received 9 or more different medications* as recorded on their most recent MDS assessment. The graph displays several quarters of information for this QI. QI scores that fall below the ***lower*** threshold are thought to reflect good or excellent performance. 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, the tenth percentile score, and your percentile rank in Missouri. Please refer to the cover letter for further explanations.

** See attached Resident List for those residents who received 9 or more different medications indicated on their most recent MDS (O1).*

Use of 9 or More Different Medications



Summary Table for Quality Indicator # 6

Quarter Ending	Your Facility			Statewide Summary	
	Your QI Score	# of Residents with this QI	# of Residents in this Calculation	Tenth Percentile	Percentile Rank
March 31, 1998	14.49 %	10	69	15.97	24 %
June 30, 1998	20.63 %	13	63	16.67	64 %
Sept 30, 1998	19.44 %	14	72	18.00	19 %
Dec 31, 1998	21.05 %	16	76	19.30	39 %
March 31, 1999	22.54 %	16	71	20.75	37 %

Figure 1. *Each quality indicator has a separate page, and data are displayed for five quarters in a line graph and table. The statewide summary portion of the table includes the statewide 10th percentile score (that is, the score that 10% of the homes were able to achieve) and the home's percentile rank in Missouri.*

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