2004 Long Term Care Quality Review

A Statewide Assessment of Quality of Care, Quality of Life, and Consumer Satisfaction in Texas Medicaid Nursing Facilities

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1. Executive Summary

"These interventions are difficult to evaluate using experimental methods. Many programmes are evolving, and involve a number of activities which start and finish at different times. These activities may be mutually reinforcing and have a synergistic effect if they are properly implemented: many quality programmes are a "system" of activities. Some quality programmes are implemented over a long period of time; many cannot be standardised and need to be changed to suit the situation in ways which are different from the way in which a treatment is changed to suit a patient.

The targets of the interventions are not patients but whole organisations or social groups which vary more than the physiology of an individual patient: they can be considered as complex adaptive social systems. There are many short and long term outcomes which usually need to be studied from the perspectives of different parties. It is difficult to prove that these outcomes are due to the programme and not to something else, given the changing nature of each type of programme, their target, the environment, and the time scales involved. They are carried out over time in a changing economic, social, and political climate which influences how they are implemented."

J Øvretveit, D Gustafson, 2002 *

The 78th Texas Legislature authorized this 2004 Long Term Care Quality Review (LTCQR) in H.B. 1, Regular Session bill pattern for the Department of Human Services (DHS) item 25. The LTCQR is a statewide process used to benchmark the quality of nursing home services, to trend progress in quality improvement, and to inform the evaluation of the state's interventions that are meant to improve both the quality of Long Term Care (LTC) services and the clinical outcomes of LTC residents.†

First authorized by the 76th Texas Legislature, the LTCQR process began in 2000 as a means to benchmark and study certain aspects of LTC service quality. In addition to continuing the LTCQR process, the 77th Texas Legislature authorized a program of provider education and technical assistance called Quality Outreach as part of the Texas Long Term Care Facility Improvement Act – S.B. 1839. Since 2002, the LTCQR has served as the principal tool for focusing Quality Outreach activities and for assessing the impact of those activities. The LTCQR process has evolved from being solely an LTC quality measurement tool to also being a program evaluation tool for Quality Outreach.

As noted in the introductory quote in this summary, the task of measuring and reporting change is easier than the task of attributing change to particular actions, programs, events or conditions. This report argues for a causal relationship between specific factors and observed changes only when there is a logical basis supported by experimental research.

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* J Øvretveit, D Gustafson. Quality Improvement Research: Evaluation of quality improvement programmes. Qual Saf Health Care 2002; 11:270–275. http://qhc.bmjjournals.com/cgi/reprint/11/3/270.pdf Accessed November 3, 2004.

† Throughout this report, the term LTC refers specifically to Medicaid-contracted nursing homes.

Each annual LTCQR cycle is based on a process of on-site structured resident assessment (Appendix A) conducted in Texas nursing facilities by contractors who have LTC clinical experience. The number of clinical topics examined in this LTCQR is greater than that in previous LTCQR studies. For this report, a sample of 1,992 randomly selected nursing facility residents was assessed in order to determine the following:

- Whether toileting plans were used appropriately to promote assisted continence for residents who experience urinary incontinence
- Whether indwelling bladder catheters were used appropriately
- Whether physical restraints were used only when unavoidable
- Whether recommended fall risk management practices were used appropriately
- Whether residents were appropriately assessed for pain
- Whether pain management is effective
- Whether immunizations were used appropriately to prevent infectious diseases
- Whether advance care planning was used appropriately
- Whether certain classes of psychoactive medications were used appropriately
- Whether medication regimens afforded optimal patient safety
- The extent of consumer satisfaction with various aspects of nursing facility care

In addition to examining these quality issues, this report includes a survey of provider perceptions regarding the effectiveness of the QM program in helping facilities to improve resident care in the clinical focus areas that the program addresses (section 4.3). It also includes comparisons of data from the LTCQR and from the federally mandated Minimum Data Set (sections 7 and 8).

1.1. Key Findings

1.1.1. Appropriateness of Toileting Plans

- The use of toileting plans (behavioral interventions such as prompted voiding, time voiding, and bladder training for promoting continence) among residents who might potentially benefit from them increased from 7.4% in 2002 to 10.2% in 2003 and 19.1% in 2004. This improvement was statistically significant.[‡]

- The proportion of residents found to be wet at the time of assessment increased from 32% in 2003 to 45% in 2004 although the proportion of all residents who experienced incontinence remained unchanged at 65%.

- Residents who were provided toileting interventions were significantly more likely to be found wet than those who were not. Toileting interventions appeared less effective in 2004 than in 2002-2003 because they were used less selectively. Research shows that only 40% of residents who experience incontinence actually benefit from toileting, and a poorly targeted intervention yields no benefit.

1.1.2. Appropriateness of Indwelling Bladder Catheter Use

Approximately a third of residents who had long-term an indwelling bladder catheter (a plastic conduit placed in the urinary bladder in order to provide continuous urinary drainage) appeared to have an appropriate evaluation and a valid clinical justification for the device. This proportion has not changed significantly since the first LTCQR in 2000.

1.1.3. Appropriateness of Physical Restraint Use

- The observed proportion of residents in physical restraints decreased from 19.5% in 2002 to 10.7% in 2003 to 8.8% in 2004. The corresponding MDS-based quality indicator showed similar improvement.

- As in prior years, families requested the use of medically inappropriate restraints in 19% of all cases of restraint use.

- The proportion of restraints used partly or entirely because of the erroneous belief that restraints would help to prevent falls and fall-related injuries has remained virtually unchanged since 2002 at 97%.

[‡] The criterion for statistical significance used in this document is $p < .05$ unless specifically stated.

1.1.4. Appropriateness of Fall Risk Management Practices

- Although all LTC residents should be assessed for fall risks in order to implement resident-specific risk management interventions, only 60% were appropriately assessed for such risk factors.

- The LTCQR showed that 8.8% of residents had experienced a fall in the preceding 30 days.

- Among residents who had experienced a fall in the preceding 30 days, only 34% had been reevaluated for fall risk factors. Reevaluation can help improve resident safety, manage the risks of professional liability, and promote restraint reduction.

1.1.5. Appropriateness of Pain Assessment and Effectiveness of Pain Control

- The prevalence of moderate-to-severe pain as determined by validated pain assessment tools among residents during the most recent seven days was 10.1%.[§] This was significantly higher than the corresponding statewide figure reported by the Centers for Medicare & Medicaid Services.

- Assessment for pain in the preceding seven days had been performed in only 43.3% of the residents who had little or no cognitive impairment. Weekly assessment for pain can significantly improve the recognition of moderate-to-severe pain.

- Among residents who had had a pain assessment in the facility, only 44.3% had been assessed with a validated pain assessment tool. The use of validated pain assessment tools significantly improves the recognition of moderate-to-severe pain.

- Only 14.4% of residents who had severely impaired cognition had been assessed for pain using an appropriate, validated pain assessment tool. Reliable pain assessment in persons with severe cognitive impairment is difficult and requires the use of validated observational tools.[**]

- Of the residents who had recently experienced moderate-to-severe pain, 70.2% reported that they were satisfied with the level of pain relief that they had obtained in the preceding 24 hours.

[§] Validated pain assessment tools refer to pain scales that have been tested in samples of nursing home residents or patients similar to nursing home residents. Examples of these pain scales include the Wong-Baker pain and pain thermometer scales.

[**] Validated observational tools refer to behavioral assessment instruments such as the Pain Assessment in Advanced Dementia (PAINAD) scale that have been tested in study samples representative of nursing home residents.

1.1.6. Appropriateness of Immunization Practices

- Less than 11% of residents refused vaccination for influenza during the 2003-2004 influenza season, yet only 59% of all residents were said to have received the vaccine. There was appropriate documentation for only 66% of these vaccinations. Therefore, the actual vaccination rate was between 40% and 59%.

- Although the LTCQR did not measure staff vaccination rates, quality monitors collected LTC staff vaccination data for the 2003-2004 influenza season. Approximately 38% of LTC staff received influenza vaccination. The Centers for Disease Control and Prevention Advisory Committee on Immunization Practices recommends that all LTC staff that has contact with LTC residents should be vaccinated against influenza.

- Less than 27% of all residents received a vaccination for Pneumococcal disease. Only 55% of these vaccinations could be verified by appropriate documentation. Therefore, the actual vaccination rate was between 15% and 27%.

1.1.7. Appropriateness of Advance Care Planning

- Discussions concerning advance directives were documented in 92% of resident records.

- One-quarter (25%) of LTC residents had had more than one documented advance care planning discussion.

- The clinical records of most residents (82%) contained one or more advance care planning documents. These documents included durable medical power of attorney, directives to physicians, and orders to limit certain medical interventions.

- Advance care planning documents could be found within 30 seconds of accessing the clinical record in 94% of the records in which they were present. During emergencies, rapid access to such documents is essential.

- Among 98% of residents who had advance care planning documents, care appeared to be consistent with the wishes expressed in those documents.

1.1.8. Appropriateness of Psychoactive Medication Use

- The prevalence of antipsychotic medication use in Texas nursing facilities did not change from 2000 to 2004. The use of antipsychotics in Texas LTC appears to be significantly higher than the national average.[††]

[††] The national averages referenced in items concerning medication usage among LTC residents were determined from two studies in the years 2000 and 2003 (Tobias and Sey, 2001, 2003).

- In 2004, 42% of LTC residents on antipsychotic medications received them in the absence of a CMS-approved (OBRA-87) clinical indication. Since 2000, there has been no improvement in adherence to OBRA-87 guidelines for the use of antipsychotic medications in LTC.

- One-in-four residents were taking anti-anxiety medications yet only one-in-four of these residents had a diagnosable anxiety disorder and compatible symptoms.

- Only 5% of the residents treated for anxiety were being monitored rigorously for a response to anti-anxiety treatment.

- Hypnotic medications were used in 10% of LTC residents, most often without sleep hygiene (non-pharmacologic) measures and without monitoring of sleep patterns.

1.1.9. Prescribing Practices and Patient Safety

- In 2004, 62.4% of Texas LTC residents were receiving nine or more medications. The proportion of residents 65 years and older receiving nine or more medications has increased steadily each year since 2000.

- In 2004, the typical nursing facility resident took 10 regularly scheduled medications together containing 11 active ingredients. Over the last five years, there has been a parallel increase in the number of medications and pharmacologically active ingredients given to Texas LTC residents.[‡‡]

- In 2004, 20.3% of all nursing facility residents took at least one of 48 medications (Beers List medications) known to be tolerated poorly by older persons.[§§]

- One or more of the *Top Ten Dangerous Drug Interactions* identified by the American Medical Directors Association and the American Society of Consulting Pharmacists were found in 12.6% of LTC residents' medication regimens. Half of these interactions involved the combination of a potassium supplement and an ACE inhibitor (a drug used for hypertension and heart failure), which can increase the resident's potassium level in the blood (hyperkalemia). Hyperkalemia can cause serious disturbances of the heart's normal rhythm. Concomitant use of a loop or thiazide diuretic with appropriate monitoring can mitigate the risk of this potential interaction. The majority (93.7%) of the residents who were receiving both potassium and ACE inhibitors also received a loop or thiazide diuretic.

[‡‡] While most medications contain only one active ingredient, a number of medications contain more than one. Therefore, determining the number of active ingredients a resident is receiving is a more accurate way of identifying an increased risk for the problems associated with polypharmacy.

[§§] Beers medication list consists of drugs that were determined by a panel of geriatricians and pharmacologists to be generally unsafe for use in older persons in nursing homes.

1.1.10. Consumer Satisfaction

- In 2004, there was increased consumer satisfaction with restraint use. This suggests that residents and families have become more comfortable with the idea of restraint-free care.

- With the exception of improved satisfaction with restraint use, all other measures of consumer satisfaction decreased from 2003 to 2004. The largest decreases in consumers' satisfaction were related to the ability of facility to meet residents' toileting care needs, emotional needs, and requests for assistance.

1.1.11. Minimum Data Set (MDS) and Quality Indicators

- Changes in statewide values for the quality indicators concerning restraint use and toileting for incontinence paralleled the improvement observed in the LTCQR.

- The statewide values for quality indicators concerning the use of antipsychotic, anti-anxiety, and sedative/hypnotic medications have shown little change since 2002.

1.1.12. Provider Satisfaction with S.B. 1839 Quality Monitoring (QM)

- The majority of providers either agreed or strongly agreed that the resources provided by the QM program had helped them to enhance the quality of resident care (74.8%), and that the QM reports had been valuable for that purpose (71.7%). Only 6% and 8% of providers disagreed or disagreed strongly with these two items respectively. The remaining providers (~20%) expressed a neutral opinion. A similar pattern of provider responses was seen in 2003.

- Providers' perceptions concerning their own success in achieving improvements in the quality improvement priority areas correlated with their perceptions concerning quality monitoring; the greater their perceived achievement, the more favorable their view of the QM program and vice versa.

1.2. Quality Improvement Interventions

During 2003-2004, the principal LTC quality improvement interventions undertaken by DADS, which were related to LTCQR clinical issues, were:

- S.B. 1839 Quality Monitoring (QM)

- S.B. 1839 Joint Training (JT)

- A DADS Geriatrics Symposium for providers, surveyors, and quality monitors
- Restraint reduction and fall risk management training for surveyors
- QM program Peer-to-Peer Education Workshops (PTPE)
- Communication with medical directors regarding vaccinations for LTC residents and staff (a collaboration with the Texas Geriatrics Society)

Since the beginning of S.B. 1839 quality monitoring in 2002, the QM program has focused on providing technical assistance to facilities in order to bring about statewide improvement in specific nursing, pharmacy, and dietary practices. In nursing, the emphasis has been on eliminating avoidable physical restraints; eliminating avoidable bladder catheter use; and improving the use of toileting strategies that can help residents who experience incontinence achieve assisted continence.

In pharmacy, the focus has been on simplifying medication regimens and improving the appropriateness of use of antipsychotic medications. Statewide improvements in these areas largely reflect the effects of the S.B. 1839 program strategies – technical assistance through quality monitoring and education through multiple strategies (JT, PTPE, and on-site in-service trainings).

The lack of progress in improving LTC practices such as the use of psychoactive medications and vaccinations largely reflects the small size of the QM pharmacist workforce. Given the very few pharmacists that the S.B. 1839 program has been able to recruit, conducting academic detailing visits may offer greater promise for improving prescribing patterns than does the clinical audit process used in a routine nursing facility visit. Academic detailing is an educational intervention that uses one-on-one presentation of clinical research data to modify physicians' clinical behaviors. Since November 2004, QM pharmacists have been conducting academic detailing visits in the offices of nursing facility medical directors.

The QM program has also provided technical assistance regarding dietary practices with an emphasis on early recognition and intervention for residents experiencing unintended weight loss and on improving facility hydration practices. While this report includes the MDS-based quality indicators for these two issues, the LTCQR process itself did not address them.

Technical assistance modules have also been created for immunization practices, pain assessment and management, fall risk management, and the use of anti-anxiety and hypnotic medications. These nursing and pharmacy topics have been part of the QM program only since the beginning of 2004. For these topics, this LTCQR establishes a statewide benchmark against which subsequent reviews can measure progress.

2. Introduction

The LTC Quality Review process began in 2000 as a function of DHS under the authority of item 32 of the 76th Legislature's General Appropriations Act, House Bill 1 bill pattern for DHS. In this biennium, it was continued under the authority of item 25 of the 78th Legislature's Regular Session Senate Bill 1 bill pattern. This and subsequent LTC quality reviews are reported by its successor agency, DADS.

2.1. Purpose and Goals

LTCQR is a process of explicit, structured resident assessment conducted by contracted third parties. Its initial purposes were to provide a statewide benchmark of the quality of LTC services related to specific clinical issues and to assess consumer satisfaction. In addition to providing the State with measures of LTC service quality and consumer satisfaction, the LTCQR process has become the means through which the impact of focused quality improvement efforts such as S.B. 1839 can be measured.

2.2. Selection of Quality of Care Improvement Priorities

In addition to the quality issues addressed in the 2003 LTCQR, the 2004 LTCQR also examined the following:

- Management of residents' risks for falls
- Assessment and management of pain
- Use of vaccinations relevant in LTC
- Advance care planning
- Assessment and monitoring of residents on anti-anxiety medications
- Assessment and monitoring of residents on medications for sleep

Because the Quality Monitoring (QM) program began providing related technical assistance to nursing facilities in the December 2003 - January 2004 timeframe (only four months prior to LTCQR data collection), LTCQR findings for these clinical issues represent statewide performance largely unaffected by the QM intervention. Therefore, they serve as benchmarks against which the future impact of related QM program technical assistance can be assessed.

2.3. Development of the LTCQR Instruments

The 2004 LTCQR resident assessment instrument appears in Appendix A. The instrument is similar to that used in the 2003 LTCQR (Cortés et al., 2003). The major difference is in the addition of certain fields that address the topics that are new in the 2004 LTCQR. These are fall risk assessment, pain assessment and management, immunization practices, advance care planning, the use of anti-anxiety medications, and the use of medications for sleep. In addition, some assessment items for urinary incontinence were revised in order to help distinguish residents who were bed-bound from those who were mobile; the purpose of this change was to inform the discussion regarding the types of interventions needed to address continence promotion for each group.

A survey instrument used to examine provider perceptions concerning S.B. 1839 Quality Monitoring in 2003 was revised to better distinguish among QM program interventions including monitoring visits, peer-to-peer education workshops, and online best practice resources offered by the program. Other revisions were made to address the new clinical topic areas. The revised instrument appears in Appendix B.

2.4. Methods

2.4.1. Selection of the Random Resident Sample

As in prior years, a proportional sample of ~2,000 residents was drawn from among nursing facility residents whose most recent MDS assessment had an assessment date between September 1, 2003 and December 31, 2003. An *expected* facility sample size was calculated for each facility based on the total desired sample of 2,000 residents and the proportion of all qualifying MDS assessments that were attributable to each facility that had at least 25 unique residents.[***] A sample consisting of 1,992 residents was selected from 1,012 qualifying facilities.

2.4.2. Data Collection and Compilation

Thirteen registered nurses were contracted through the NACES-Plus Foundation to perform the resident assessments. The average age of these nurse reviewers was 58, and they had an average of 32 years of clinical experience of which 14 years were in geriatric nursing. No reviewer was a former surveyor, and all but three had previous experience working in nursing facilities.

The nurse reviewers performed the required assessments and obtained responses to the consumer satisfaction survey. Reviewers also obtained copies of the most recent seven days

[***] Because of the proportional sampling strategy, all facilities with fewer than 25 residents had an expected sample size of zero.

of medication administration records for each resident and collected the behavioral monitoring records of those residents receiving certain psychoactive medications. Reviewers requested that a facility representative who had previously participated in a QM visit complete the survey questionnaire concerning the QM program. A total of 1,008 QM program questionnaires were completed and returned.

Medication review and pharmacy data entry were performed by five practicing, registered pharmacists who were contracted to do off-site review of medication administration records. The average age of these contractors was 44, and they had an average 19 years of clinical experience (range 12-26 years). Each prescription was recorded electronically for subsequent analysis. Certain diagnoses from the medication administration records were also recorded.

2.4.3. Data Analyses

The criteria and measures for appropriateness of care used in prior LTCQR reports (Cortés et al., 2000-2003) are also used in this report. Criteria for appropriateness of care in the topic areas that are new in 2004 are presented in this report.

As noted in the Executive Summary's introductory quote, public policy and programs are not implemented as controlled experiments. Texas LTC quality improvement programs are no exception. Therefore, virtually any approach to analyzing the causes of changes in statewide quality is vulnerable to uncertainty. Identifying particular interventions as the causes of observed changes may ignore unseen factors that are the actual causes.

Nonetheless, when there is demonstrable improvement only in those outcomes in which the State has invested its resources to provide quality improvement interventions, it can be argued that there is a causal link between purposeful intervention and tangible improvement. Such conclusions may be reasoned from an understanding of the specific quality problems and the interventions used to address them rather than from the types of statistical analyses that are used to evaluate experimental trials. The experimental literature identifies the types of interventions that are effective in producing changes in clinical behaviors as well as those that are not, and this serves as the basis for such reasoning. The quantitative analyses in this report focus on measurements, trends, patterns, and identifying statistically significant changes rather than on arguing for causality.

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3. Characteristics of the Statewide Sample

The following table describes the LTCQR resident sample and provides a comparison to the Texas nursing facility population, as it existed from September 2003 through December 2003. Except as noted, the figures in the column titled, "All Facility Residents" exclude Medicare short-stay residents who were identified in the MDS.

Table 3.1 2004 Random Sample and All Facility Residents

Descriptive Resident Characteristic	2004 Random Sample		All Facility Residents	
	Percent	Count	Percent	Count
Male residents	28.7	569	29.3	20,534
Female residents	71.3	1,417	70.7	49,472
Average age of male residents	73.9	569	73.6	20,534
Average age of female residents	81.8	1,417	81.6	49,472
Residents under age 65	12.9	256	13.7	9,636
Non-Hispanic White residents	73.4	1,457	73.7	51,729
Non-Hispanic Black residents	11.7	233	11.6	8,131
Hispanic residents	14.2	283	13.9	9,723
Medicaid eligible residents*	72.1	1,432	72.4	61,977
Residing in urban facilities	70.1	1,391	68.8	47,907

*Medicaid eligibility was determined as either an actual Medicaid number or an MDS indication that a Medicaid number was pending and included Medicare short-stay residents with such indications.

There were no significant differences between the characteristics of the sample group and those of the overall resident population.

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4. DADS Quality Outreach

The Quality Outreach program established in Article 7 of S.B. 1839 (77th Texas Legislature) has been active since April 2002. Its principal components are Quality Monitoring (QM) and Joint Training (JT). Quality Outreach is the principal intervention that DADS uses to foster LTC quality improvement. The empirical literature that has examined interventions intended to change clinical behaviors shows that direct technical assistance and small workshops can produce measurable changes (quality improvement) whereas publications, educational presentations, and provider feedback rarely do (Thomson O'Brien, 2004).

4.1. S.B. 1839 Quality Monitoring

4.1.1. Overview of Monitoring

The focus of the QM program is narrow compared to that of the regulatory survey process (Appendix C). The QM program currently addresses the statewide improvement priorities addressed in this LTCQR and two additional topics in dietary practices. The QM process compares actual resident care to evidence-based standards of best practice. These standards are based on systematic reviews of relevant clinical research literature; are developed through a nominal group, expert panel process; and commonly exceed the minimum standards defined by regulations.

The QM program contracts its systematic clinical literature reviews to academic partners. The reviews are used to create best practice frameworks. The frameworks are made available online (QMWeb at http://mqa.dads.state.tx.us/QMWeb) and they serve as quality improvement resources for monitors and LTC facility staff. QMWeb includes streaming media presentations that address most of the statewide quality improvement priorities as well as other common LTC resident care issues.

Nurses, pharmacists, and nutritionists from the QM program visit nursing facilities in order to perform structured clinical audits of residents' care that compare actual resident care to evidence-based best practice. Monitors provide relevant technical assistance that focuses on resident assessment, care planning, and care delivery based on the findings of the audit process. The purpose of QM clinical audit is to identify systems problems and their root causes so that facilities can address barriers to the consistent delivery of evidence-based care.

4.1.2. Educational Activities

QM program staff also provides in-service education programs for facility staff, residents and family members. In-services are conducted as program capacity permits, and all in-service sessions focus on one of the statewide quality improvement priority issues. In January 2004,

the QM program initiated a process of peer-to-peer education workshops based on the Readiness to Change model (Scholl, 2002). These workshops are regional meetings in which a small number of facilities are invited to participate. In each workshop, nursing facilities that have successfully implemented evidence-based care improvements mentor facilities that may not yet have the organizational readiness to make similar improvements. Peer-to-peer education helps to create provider relationships that facilitate the diffusion of knowledge from research to practice.

4.1.3. Collaborative Activities

The QM program has collaborated with the Texas Geriatrics Society (TGS) and Texas Medical Directors Association (TMDA) and others to communicate with physicians involved in caring for LTC residents. In 2003, the program collaborated with TMDA and the Texas Medical Foundation to create a restraint reduction brochure for LTC physicians. In 2004, the program worked with the TGS to encourage facility medical directors to vaccinate LTC residents and staff in the manner recommended by the Centers for Disease Control and Prevention (CDC).

Although S.B. 1839 does not explicitly require that the department address physicians, consultant pharmacists, consultant dietitians or other practitioners in LTC, it is clear that quality improvement requires the participation of all nursing facility leaders. This is especially important when improvement requires changes in clinicians' practices – such as changes in clinical orders. QM program pharmacist staff is piloting approaches to providing technical assistance to prescribing clinicians in order to help better align prescribing practices with current clinical evidence and regulatory requirements.

4.2. S.B. 1839 Joint Training

Joint training is based on a curriculum developed by the department's LTC Education Services unit in coordination with Medical Quality Assurance staff so that each topic emphasizes both regulatory requirements and evidence-based practice. Regional trainers present instructional units at events that are attended by providers and surveyors. The JT curriculum topics that are relevant to the 2004 LTCQR topics are: Restraint Reduction, Prevention of Falls and Injuries, Pain Management, Psychoactive Medications, Infection Control (including immunization practices), and End of Life Care (Palliative Care, Advance Care Planning, Artificial Nutrition and Hydration, and Ethics).

4.3. Provider Evaluation of the Quality Monitoring Program

4.3.1. Overview of Provider Feedback

DADS Medical Quality Assurance maintains a web-based feedback mechanism that enables providers to evaluate a QM visit anonymously. After a QM visit, the facility contact, usually the facility administrator, receives an email message with a link to this web-based feedback tool.

Ten to 15% of all visits yield this type of program feedback. Although voluntary feedback helps QM program managers identify opportunities to improve the program, it may not represent the majority perspective on the QM program simply because respondents are self-selected. To address this limitation of the voluntary feedback process, the 2003 LTCQR included a QM program evaluation questionnaire that the LTCQR quality review nurse gave to the facility staff person most familiar with the program. A revised version of this questionnaire (Appendix B) was used in the 2004 LTCQR process.

4.3.2. Findings

Table 4.1 shows the frequency with which providers chose the corresponding response to each item in the QM program questionnaire. The majority of responses came from Directors of Nursing (DONs). The typical respondent had been at the facility for more than two years.

In general, ~70% of the facilities either agreed or strongly agreed that the technical assistance provided by the QM program had helped facility staff provide a higher quality of care. Twenty percent of providers were neutral about the impact of the program, and less than 10% either disagreed or strongly disagreed that the program was helpful. These rates were consistent with 2003 LTCQR findings and mirrored the on-going post-visit feedback that was submitted by providers voluntarily and anonymously.

There was a strong correlation between providers' assessments of their own achievements in improving resident care and their view of the technical assistance resources provided by the QM program. The more positive a provider's perception of the program, the more likely it was that the provider reported success in achieving improvements and vice versa.

Table 4.1 Provider Perceptions of the Quality Monitoring Program

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Applicable
1. The educational resources provided during quality monitoring visits have helped us enhance the quality of resident care.	2.5%	3.7%	16.7%	48.7%	26.1%	3.3%
2. The quality monitoring visit reports have helped us enhance the quality of resident care.	3.6%	4.8%	17.0%	48.8%	22.9%	3%
3. In the past 12 months, our facility has shown measurable progress in improving resident outcomes in the following quality monitoring program focus areas: a. Reducing restraint use.	3.2%	3.0%	14.8%	35.6%	40.3%	5.4%
b. Instituting toileting plans.	2.8%	6.1%	26.4%	43.8%	18.2%	2.8%
c. Removing bladder catheters that have no compelling medical indication.	4.0%	4.3%	17.8%	33.8%	30.3%	9.9%

d. Increasing immunizations.	3.8%	7.4%	31.2%	30.3%	16.3%	11.1%
e. Reducing antipsychotic drug use.	3.1%	7.7%	27.8%	38.7%	16.0%	6.7%
f. Reducing fall risks.	2.9%	6.3%	23.4%	43.6%	19.0%	4.9%
g. Improving the assessment of pain.	2.5%	5.1%	20.0%	43.9%	22.7%	5.8%
h. Improving the treatment of pain.	2.5%	5.0%	22.2%	42.7%	21.4%	6.3%
i. Reducing inappropriate use of hypnotics.	2.6%	6.4%	29.6%	35.8%	17.3%	8.3%
j. Reducing inappropriate use of anti-anxiety drugs.	2.9%	6.3%	28.4%	38.5%	16.1%	7.9%
4. Quality monitor in-service trainings have helped us: a. Reduce the use of restraints.	4.7%	5.5%	19.7%	32.8%	23.9%	13.4%
b. Implement toileting for urinary incontinence.	3.3%	5.9%	22.2%	46.0%	16.2%	6.4%
c. Implement our own QI activities.	4.3%	3.6%	23.1%	43.3%	18.8%	7.0%
5. Quality monitor peer education meetings have helped us: a. Reduce restraint use.	4.8%	5.4%	21.3%	32.5%	21.9%	14%
b. Implement toileting for urinary incontinence.	4.0%	5.8%	25.4%	40.0%	13.4%	11.5%
6. The information found on the Quality Monitoring web site (QMWeb) has helped our facility enhance the quality of resident care.	2.9%	3.3%	26.6%	39.9%	19.6%	7.7%
7. We have Internet access in the facility (e.g., in the business office).	97.7% **Yes**			2.3% **No**		
8. Our Director of Nurses or nursing staff has Internet access.	89.8% **Yes**			10.2% **No**		
9. What is your primary role at the facility?	64.0% **Director of Nurses**					
	20.2% **Facility administrator**					
	15.6% **Other**					
	0.2% **The Owner**					
10. How many years of experience do you have in your primary role?	12.1% **< 1 year**					
	10.5% **1-2 years**					
	77.4% **> 2 years**					

5. Statewide Quality Measures

5.1. Continence Promotion

5.1.1. Overview

Since the year 2000, the LTCQR process has tracked progress in the use of toileting plans (prompted voiding, timed voiding, and urge inhibition training) for residents who may benefit from these interventions. The goal of toileting plans is to help residents achieve assisted continence rather than to simply provide incontinence management with absorbent products. Toileting interventions may benefit as many as 40% of cognitively impaired residents and a higher proportion of unimpaired residents who experience occasional-to-frequent incontinence.

The manner in which these interventions are rendered depends on the abilities of the resident. Residents who have limited mobility may require adaptive equipment that allows toileting in the bed or at the bedside. Adaptive equipment includes devices such as inflatable pelvic lifts and bedside commodes. In order to better understand how resident mobility affects the effectiveness of toileting interventions, the 2003 LTCQR resident assessment questions related to incontinence were modified in 2004. These modifications allowed grouping residents who required a mechanical lift to leave their beds with those who required two-person assistance. The impact of this change on the LTCQR measures of appropriateness of continence promotion is addressed in section 5.1.3.

5.1.2. Related Quality Outreach Activities

From April 2003 through April 2004, this clinical issue was addressed during 1,302 QM visits conducted in 790 distinct facilities. These visits included clinical audits of the care of 7,535 residents who experienced occasional-to-frequent incontinence. Monitors presented their findings to facility staff and provided evidence-based technical assistance. The QM program also offered 14 PTPE workshops in which facilities that had successfully implemented toileting programs mentored other facilities that had not. There was no JT for continence promotion.

No other quality improvement group provided technical assistance concerning toileting to any significant number of facilities. There was no deliberate change in surveyor practices regarding assessment, care planning or care for urinary incontinence. Draft surveyor guidance from the Centers for Medicare & Medicaid Services (CMS) emphasizes meaningful assessment of residents who experience incontinence as well as the use of toileting interventions, but because this guidance is not yet official, surveyors do not yet use it (CMS, 2003).

5.1.3. Quality Improvement Trend

Table 5.1 shows the LTCQR quality measures related to the appropriateness of continence promotion.

Table 5.1 Continence Promotion Quality Measures

Continence Promotion Measure	2000 (95% CI)	2001 (95% CI)	2002 (95% CI)	2003 (95% CI)	2004 (95% CI)
1. Proportion of all residents with occasional or frequent incontinence	61.1% (58.9-63.2)	66.2% (64.1-68.4)	68.0% (65.9-70.1)	65.4% (63.2-67.5)	65.3% (63.2-67.4)
2. Proportion of residents with severe mobility impairment and incontinence	-	-	-	-	21.1% (19.3-23.0)
3. Proportion of residents (regardless of mobility) who would have potentially benefited from toileting	-	-	89.5% (87.8-91.2)	94.1% (92.8-95.4)	83.9% (81.9-86.0)
4. Proportion of residents (regardless of mobility) who could have benefited from and actually had toileting plans	-	-	7.4% (5.9-8.9)	10.2% (8.5-12.0)	19.1% (16.8-21.5)
5. Proportion of residents with severe mobility impairment and incontinence receiving toileting	-	-	-	-	12.0% (9.0-14.9)
6. Proportion of residents who had no history of incontinence and who were also found to be dry at the time of assessment	97.8% (96.6-99.1)	97.2% (95.8-98.7)	99.0% (98.0-99.9)	97.7% (96.3-99.1)	95.9% (94.0-97.8)
7. Proportion of residents found to be wet at the time of assessment	33.9% (31.8-36.0)	37.6% (35.4-39.9)	35.2% (33.0-37.4)	32.3% (30.1-34.4)	44.9% (42.7-47.1)

[CI means confidence interval. The 95% CI is the value range that includes, with 95% certainty, the actual value that the measure estimates.]

In prior LTCQR reports, the use of appropriate toileting was examined for a defined subgroup of residents who experienced occasional-to-frequent incontinence and who did not have one or

more exclusionary conditions such as pressure sores that would interfere with toileting or the need for a mechanical lift in order to leave the bed (Cortés et al., 2000). This subgroup was reported as the proportion of residents who would potentially benefit from toileting.

In order to determine how frequently residents with severe mobility impairments received potentially beneficial toileting assistance, the 2004 LTCQR resident assessment tool was modified to permit the exclusion of residents who would require two-person assistance to leave the bed. This small change required that previously reported measures of appropriateness be modified in a way that would permit valid comparison of the findings in the current year to those in prior years. Failure to make this adjustment could create the illusion of improvement or worsening in the appropriateness of toileting when the change was due solely to a change in the definition of the resident group that would potentially benefit from toileting. The 2002-2003 performance measures in the Table 5.1 were recalculated to permit meaningful comparisons to 2004 findings. The dashes indicate that available data did not permit a particular measure to be recalculated for that year.

Measure four in the Table 5.1 showed that the use of toileting interventions increased significantly over the past year. However, measure seven showed that in 2004 there was a significant increase in the likelihood that any resident (including those receiving toileting interventions) would be found wet at the time of LTCQR assessment. In 2002 and 2003 residents who received toileting interventions were significantly more likely to be found dry at the time of LTCQR assessment. In 2004, they were more likely to be found wet. When residents who had severe mobility problems and toileting plans were excluded from the 2004 analysis, residents who received toileting were no more likely to be found wet than those who were not provided such interventions.

5.1.4. Conclusions

Over the past two years, there has been a significant increase in the inclusion of toileting programs in residents' care plans. This should be viewed with optimism that QM technical assistance has helped facilities to recognize the importance of continence promotion as a clinical and quality-of-life issue. However, most residents who received toileting interventions did not appear to achieve partial or complete assisted continence. In particular, residents who had severe mobility problems appeared more likely to be wet when toileting interventions were provided.

The increase in the proportion of residents found wet at the time of assessment suggests one or more of the following:

- That incontinence was being managed less successfully by caregivers than in prior years
- That residents in absorbent products were being changed less frequently than in prior years
- That 2004 LTCQR nurse reviewers were more attentive to signs of wetness than reviewers in past LTCQR cycles

- That toileting interventions were not appropriate for the residents to whom they were provided

That residents receiving toileting were found to be more likely to be wet than residents not receiving toileting suggests one or more of the following:

- That toileting plans were not resident-centered
- That toileting appeared in care plans but was not faithfully provided
- That the processes used to select residents for toileting did not identify the residents most likely to benefit.

The first and third of these problems was noted by nurse quality monitors during 2004 QM visits to facilities that had implemented facility-wide programs of scheduled toileting every two or four hours. Such programs were neither resident-centered nor selective. The second problem represents a simple matter of documenting plans that are not then implemented; this represents care planning rather than actual resident care.

Improving the use of toileting interventions in LTC requires not only new approaches to resident care but also a stable workforce. Of the quality issues considered in the 2004 LTCQR, toileting is arguably both the most labor-intensive and most demanding of systems for resident evaluation, care planning and care delivery. Thus, toileting may be the LTCQR issue most sensitive to staffing levels and to turnover among both direct care staff and facility leadership. The diminished efficacy of toileting interventions observed in 2004, despite their increased use, may be partly due to such factors.

5.2. Indwelling Bladder Catheters

5.2.1. Overview

Since the year 2000, the LTCQR has consistently shown low levels of appropriate clinical assessment for catheter use. The LTCQR focus on this clinical issue has continued in order to promote improvement in medical evaluation as well as to ensure that indwelling catheters are not used as an inappropriate intervention for uncomplicated urinary incontinence.

5.2.2. Related Quality Outreach Activities

From April 2003 through April 2004, appropriate clinical evaluation for the use of indwelling bladder catheters was addressed during 891 QM visits conducted in 620 distinct facilities. These visits included clinical audits of the care of 3,832 residents in whom indwelling bladder catheters were being used. Monitors presented their findings to facility staff and provided technical assistance. During this period, appropriate resident evaluation for indwelling bladder catheter use was addressed in one PTPE workshop. There was no JT regarding this topic. No entity other than the QM program provided technical assistance to nursing facilities regarding

the appropriate use of indwelling bladder catheters. CMS has recently drafted revised surveyor guidance related to facility practices regarding appropriate use of indwelling bladder catheters (CMS, 2003). The proposed guidance reinforces the QM program's quality improvement goals, but is not yet official and is not currently used by surveyors.

5.2.3. Quality Improvement Trend

The observed prevalence of indwelling bladder catheter use and measures of the appropriateness of catheter use from 2000 to 2004 are shown in Table 5.2.

Table 5.2 Catheter Use Quality Measures

Catheter Use Measure	2000 (95% CI)	2001 (95% CI)	2002 (95% CI)	2003 (95% CI)	2004 (95% CI)
1. Proportion of residents with indwelling bladder catheters	7.0% (5.8-8.1)	5.9% (4.9-7.0)	5.7% (4.7-6.8)	6.1% (5.0-7.2)	6.4% (5.3-7.5)
2. Proportion of long-term catheters with appropriate clinical justification	32.2% (23.6-40.8)	28.3% (19.2-37.3)	22.0% (13.3-30.7)	39.4% (29.3-49.4)	27.2% (18.4-36.0)
3. Proportion of all catheters with appropriate clinical justification	37.7% (28.7-45.2)	33.3% (24.5-42.2)	30.1% (21.5-38.7)	44.4% (35.3-53.6)	35.9% (18.4-44.4)

There has been no significant change in any of the quality measures for the use of indwelling bladder catheters.

5.2.4. Conclusions

QM program visits show that some individual facilities have made substantial improvements in eliminating unnecessary catheters and in providing appropriate medical evaluation for residents who continue to require bladder catheterization. However, there has been no significant statewide change in the catheter use measures. Given that more than half of Texas facilities have received QM technical assistance for this issue, other interventions may be required in order to stimulate improvement. Such interventions could include additional PTPE, joint training, changes in surveyor practices in order to emphasize that failure to provide appropriate resident evaluation constitutes deficient practice with respect to resident assessment, and raising the importance of this issue through a facility contract requirement.

5.3. Physical Restraints

5.3.1. Overview

The QM program has provided technical assistance on restraint reduction since 2002. The 2002 LTCQR showed an observed prevalence of restraint use of 19.5%, and after 12 months of quality monitoring, the observed prevalence had declined to 10.7%. The technical assistance provided by quality monitors was instrumental in achieving this progress (Cortés,

2004). The purpose of continuing this effort in 2004 and beyond is to reach and maintain a statewide prevalence of restraint use no more than 5%.

5.3.2. Related Quality Outreach Activities

From April 2003 through April 2004, restraint use was addressed during 1,040 QM visits conducted in 704 distinct facilities. Monitors audited the care of 5,158 residents in whom restraints were being used, and they provided technical assistance on restraint elimination. The QM program also offered 14 PTPE workshops that addressed restraint reduction and elimination. JT on restraints began in 2002 and continued throughout 2004. In the fall of 2003, DADS Medical Quality Assurance also provided statewide surveyor training on fall risk management and restraint elimination. The purpose of this training was to help surveyors recognize that restraints neither prevent falls nor confer safety from injury. The Texas Medical Foundation provided on-site technical assistance related to restraint reduction to 12.7% of Texas nursing facilities.[†††]

5.3.3. Quality Improvement Trend

LTCQR items 4.1 to 4.9 (Appendix A) are the basis for the restraint use quality measures.

Table 5.3 Restraint Use Quality Measures

Restraint Use Measures	2002 (95% CI)	2003 (95% CI)	2004 (95% CI)
1. Proportion of all residents in restraints any day during the preceding seven days	19.5% (17.7-21.3)	10.7% (9.3-12.1)	8.8% (7.6-10.1)
2. Proportion of those restrained who had been restrained every day in the last 7 days	95.6% (93.5-97.7)	100% (100-100)	96% (93.1-99.0)
3. Proportion of those restrained who had been restrained 8 hours or more each day (average)	26.2% (21.7-30.7)	27.8% (21.5-31.4)	13.6% (8.5-18.8)
4. Proportion of those restrained and in whom risk of falling was a factor in the decision to restrain	95.7% (93.6-97.9)	97.4% (95.0-99.7)	96.6% (93.6-99.6)
5. Proportion of those restrained without appropriate reason and in whom risk of falling was the only factor in the decision to restrain	76.4% (71.8-80.9)	76.2% (70.0-82.4)	84.4% (78.4-90.3)
6. Proportion of those restrained without appropriate reason and in whom wandering was the only factor	17.9% (13.9-22.0)	18.0% (12.4-23.6)	10.9% (5.7-16.0)
7. Proportion of those restrained without appropriate reason after a direct family request for a restraint	19.1% (14.9-23.3)	19.0% (13.3-24.8)	19.0% (12.6-25.5)
8. Proportion of those restrained in whom there was no active physicians' order for restraint use	14.0% (10.5-17.6)	10.7% (6.4-15.1)	8.5% (4.3-12.7)
9. Actual prevalence of restraints judged unavoidable by DADS criteria	1.7% (1.1-2.3)	0.8% (0.4-1.2)	1.5% (0.9-2.0)

[†††] Source: Gloria Bean, RN. Project Manager, Nursing Home Quality Improvement. Texas Medical Foundation. Personal Communication: November 3, 2004.

The first measure in the preceding table shows the progress in restraint elimination since S.B. 1839 quality outreach began. The third measure shows the decrease in the intensity of restraint use. This decrease suggests that facilities are using restraint-free intervals as a step towards restraint reduction. Such intervals are necessary in order to evaluate alternatives to restraints.

5.3.4. Conclusions

The degree of restraint reduction achieved in 2003-2004 was not as great as in 2002-2003. This is expected since the rate of progress slows as individual facilities attain the maximum level of restraint reduction that is possible. That is, even with a constant investment of effort focused on restraint reduction, the actual improvement diminishes as the entire state moves closer to the level of restraint use that is medically unavoidable.

Reaching a prevalence of restraint use of 5% or less will require that regulation reinforce the restraint reduction message of the QM program. In practical terms, this means citing deficiencies for the clinically inappropriate use of restraints as well as not justifying deficiencies related to falls and injuries, events that restraints do not prevent, on the basis of failure to use restraints. Adding specific performance requirements to the nursing facility Medicaid contract might also serve to sustain the statewide reduction in restraint use.

5.4. Fall Risk Assessment

5.4.1. Overview

This is the first LTCQR to focus on fall risk assessment practices. Fall risk management was included in the 2004 LTCQR because falls are the most common reason for the inappropriate use of physical restraints in Texas nursing facilities (section 5.3). Falling is an inevitable event that becomes more common as persons age, and restraint use does not mitigate the associated risk of injury. While some falls are avoidable, many are not. The emphasis of the LTCQR process is on fall risk management rather than fall prevention because risk management can be assessed objectively whereas ascertaining prevention is subjective. Fall risk management also recognizes that many falls are unavoidable and that while intrinsic risks (those that are associated with an individual's condition rather than with the environment) can be controlled, they can never be eliminated.

5.4.2. Relationship to the Minimum Data Set

Prevalence of falls is a QI developed by the Center for Health Systems Research and Analysis (CHSRA). This indicator identifies residents who have experienced a fall within 30 days of their most recent MDS assessment. The QI does not reveal whether these residents were properly assessed for fall risk before or after a fall nor whether relevant interventions were undertaken to mitigate the risk factors identified through assessment.

Because all elderly LTC residents have a higher than normal risk for falls (Rubenstein et al., 1996; Rubenstein et al., 1994), the LTCQR emphasizes the fall risk assessment process used to identify and mitigate resident-specific risk factors. That restraints are misused for this purpose is demonstrated by the fact that the decrease in restraint prevalence in Texas has not been associated with an increase in the prevalence of falls.

5.4.3. Related Adverse Resident Outcomes

Although residents who fall may sustain serious physical injuries such as fractures and head trauma, most resident falls do not result in such injuries. However, falls can lead to a loss of confidence in independent mobility, as well as the development of depression, helplessness, social isolation, functional decline, and increased risk of subsequent falls (Legters 2002; Rubenstein et al., 1996; Rubenstein et al., 1994). The principal benefit of improving fall risk management practices would be to reduce the inappropriate use of physical restraints. A secondary benefit might be to reduce the prevalence of falls although Texas has a lower prevalence of falls than the national average (11.2% versus 13% as reported by CMS for the first quarter of 2004).

5.4.4. Criteria for Appropriateness of Fall Risk Management

For the purposes of the LTCQR, a fall risk assessment was considered appropriate if it included an evaluation of lower extremity (LE) strength, balance, and medications. While screening that is more extensive may be appropriate in particular residents, these three items are the most reliable predictors of fall risk (Neutel et al., 2002; Kiely et al., 1998; Thapa et al., 1996; Rubenstein et al., 1990). The MDS Resident Assessment Protocol (RAP) for falls was considered an appropriate risk assessment if the three elements (balance, LE strength and medications) were addressed. Assessment of medication-related risk was appropriate if the assessment indicated which of the resident's medications were known to be associated with increased risk of falling or the resident was taking neither cardiovascular agents nor psychoactive medications (sedatives, hypnotics, antipsychotics, tricyclic antidepressants).

Appropriate fall risk management also required timely reassessment of residents who experienced a fall. The criterion for timeliness was reassessment within 24 hours following a fall for those residents who had been in the facility at some point during those 24 hours. The assessment had to include reevaluation of balance, LE strength, and medications.

5.4.5. Related Quality Outreach Activities

Fall risk management became a QM technical assistance topic in October 2003. From October 2003 through April 2004, fall risk management was addressed during 192 QM visits conducted in 191 distinct facilities. These visits included clinical audits of the care of 962 residents. Fall risk management was also addressed in ten PTPE workshops. No entity other than the QM program provided technical assistance on fall risk management to any significant number of facilities. JT sessions focusing on falls and injuries have been ongoing since 2003. QM

program technical assistance for this issue is so recent that the LTCQR findings this year largely represent a pre-intervention benchmark.

5.4.6. Findings

LTCQR items 6.1 to 6.3 (Appendix A) and LTCQR medication review are the basis for the fall risk management quality measures.

Table 5.4 Fall Risk Management Quality Measures

Fall Risk Management Measures	2004 (95% CI)
1. Proportion of residents who had appropriate fall risk assessment on admission or most recent MDS assessment	60.0% (57.8-62.2)
2. Proportion of residents who had experienced a fall in the 30 days preceding the LTCQR assessment	8.8% (7.6-10.1)
3. Proportion of residents who had appropriate fall risk reassessment after a fall	34.0% (26.3-41.6)
4. From among residents who had experienced a fall in the last 30 days, the proportion that also received at least one drug associated with falls.	46.0% (38.5-53.5)
a. Proportion who were receiving an anti-adrenergic drug	13.1% (8.0-18.1)
b. Proportion who were receiving an anti-anxiety drug	26.7% (20.0-33.4)
c. Proportion who were receiving a sedative/hypnotic drug	14.8% (9.0-20.1)
d. Proportion who were receiving a tricyclic antidepressant	2.8% (0.3-5.3)

Table 5.4 shows that only slightly more than half of residents had appropriate fall risk assessment on admission. According to the MDS-based quality indicator for falls, 10.7% of Texas LTC residents experienced a fall in the 30 days prior to their most recent MDS assessment. Because the MDS-based QI includes near-falls (e.g., intercepted falls), the LTCQR figure of 8.8% is probably a conservative estimate of actual falls.

The four drug classes identified in the fourth quality measure have been implicated in the geriatric clinical literature as causes for falls. Although 46% of residents who had experienced a fall were taking these medications, the same medications were as common among residents who did not experience a fall. That is, while the use of these medications is associated with a higher risk of falls than the risk experienced by non-users, some individuals tolerate these medications better than others do.

5.4.7. Conclusions

Fall risk assessment could be improved for 40% of Texas nursing facility residents. Among residents who experience a fall, 66% do not receive appropriate reassessment. Proper assessment may help providers anticipate and prevent some falls through the mitigation of identifiable risk factors such as the need for assistance in toileting and the elimination of medications that can increase the risk of falling. These findings underscore the need for technical assistance interventions in nursing assessment and medication management that can help providers to manage fall risks better.

5.5. Pain Assessment

5.5.1. Overview

Chronic and persistent pain is common among nursing home residents, under-recognized, and under-treated (Won et al., 2004). The 2004 LTCQR addressed the current and recent intensity of residents' pain, the manner in which pain was being assessed by facility staff, and residents' satisfaction with pain relief. Items 5.1 to 5.6 in the LTCQR assessment instrument were used for this purpose (Appendix A).

The most recent seven days of clinical records were reviewed for notes regarding pain symptoms. In addition, the LTCQR nurse reviewer assessed each resident for pain using the Wong-Baker Faces (Wong, 2001) assessment instrument. Item answers for residents who could not respond to the pain assessment instrument or whose clinical record did not address pain assessment were coded as *Unable to determine*.

In order to improve the recognition of pain symptoms, it is necessary to use validated pain assessment instruments (Kamer et al., 2001). Validated instruments include the Wong-Baker Faces scale, Verbal Numeric Scale, Visual Analog Scale, and Pain Thermometer, among others. While these tools can also be used to assess persons who have cognitive impairment and are still capable of verbal responses, all such persons should also have a pain assessment based on a validated behavioral observation tool. The Pain Assessment in Advanced Dementia (PAINAD) scale (Warden et al., 2003) and the Abbey pain scale (Abbey et al., 2004) are examples of such tools.

A Cognitive Performance Scale (CPS) score greater than three was interpreted as severe cognitive impairment for the purposes of the LTCQR. CPS was calculated from each resident's most recent MDS assessment.

5.5.2. Relationship to the Minimum Data Set

The MDS-based QI for pain used by CMS reports the proportion of residents who had moderate-to-severe pain in the last seven days (CMS, 2004). The presence of pain is noted when a resident complains of pain or discomfort or other evidence of pain is observed (CMS, 2000). The American Medical Directors Association (AMDA) Clinical Practice Guideline for Pain recommends that pain assessment occur as part of routine MDS assessment and whenever pain is suspected (AMDA, 1999, revised 2003). While changes in the resident's ability to carry on with daily routines, socialization, or sleep may be noticeable when there is uncontrolled pain, residents may not report pain unless asked and they may deny pain because of what they believe it may portend.

5.5.3. Related Adverse Resident Outcomes

Unrecognized pain may manifest as behavioral symptoms, depression, anxiety and decreased socialization, all of which may lead to inappropriate treatment with psychoactive drugs that address the consequences of untreated pain rather than the pain itself (Cramer et al., 2000; Feldt et al., 1998; Douzjian et al., 1997). Uncontrolled pain also reduces a resident's quality of life. The expected benefit of optimal pain assessment and management is an improvement in quality of life, a reduction in pain-related behavioral symptoms, and a reduction in the inappropriate use of psychoactive medications to suppress behavioral symptoms that are secondary to inadequately controlled pain.

5.5.4. Criteria for Appropriateness of Pain Assessment

Based on clinical research evidence as well as on a DADS clinical expert panel on pain assessment and management, appropriate pain assessment had to include the following elements (Kovach et al., 2000; Ferrell, 1991):

- Assessment at least weekly for residents who had chronic pain
- Assessment using a validated pain scale tool in residents who had minimal or no cognitive impairment and who were also able to communicate
- Assessment using a validated behavioral observation tool in residents who had significant cognitive impairment or who were unable to communicate

5.5.5. Related Quality Outreach Activities

Nursing assessment for pain became a QM technical assistance topic in January 2004. As of April 2004, 83 nursing QM visits had been conducted in 83 distinct facilities and involved clinical audit of the care of 420 residents. The appropriate use of analgesics, the pharmacy component of pain management, became a QM technical assistance topic in October 2003. As

of April 2004, QM pharmacists had conducted 80 visits in 80 distinct facilities to review the pain management regimens of 276 residents. As of April 2004, pain assessment and pain management had been addressed in one and eight PTPE workshops respectively. The Texas Medical Foundation also provided on-site technical assistance for pain assessment to 3.4% of Texas nursing facilities.[‡‡‡] Technical assistance for this clinical issue is so new that the 2004 LTCQR findings largely represent a pre-intervention benchmark.

5.5.6. Findings

Because the criteria for appropriateness of care differed for residents who had severe cognitive impairment (CPS>3) and those that did not (CPS≤3), LTCQR quality measures were reported for all residents, residents with no severe cognitive impairment, and those with severe impairment.

5.5.6.1. Measures for All Residents

The quality measures in Table 5.5 were based on the 1,986 residents in the sample for whom both LTCQR resident assessments and medication records were available.

Table 5.5 Pain Quality Measures for All Residents

Pain Assessment and Management Measures – All Residents	2004 (95% CI)
1. Proportion of residents who responded to the QR pain assessment	74.3% (72.3-76.3)
2. Proportion of residents who had evidence of being assessed for pain by facility staff in the most recent seven days	42.4% (40.2-44.6)
3. Proportion of residents who reported moderate-to-severe pain on the QR pain assessment	6.6% (5.5-7.7)
4. Proportion of residents whose clinical records revealed moderate-to-severe pain in the most recent seven days	5.4% (4.4-6.4)
5. Prevalence of moderate-to-severe pain determined by either QR or the clinical record	10.1% (8.7-11.4)
6. Proportion of residents with moderate-to-severe pain who did not receive any analgesics	12.4% (7.8-17.1)
7. Proportion of residents with moderate-to-severe pain who received only non-opioid analgesics	40.3% (32.9-47.7)
8. Proportion of residents with moderate-to-severe pain who received opioids on an as-needed basis	31.3% (24.3-38.2)
9. Proportion of residents with moderate-to-severe pain who received propoxyphene	13.6% (8.5-18.8)
10. Proportion of residents with moderate-to-severe pain who were satisfied with level of pain relief obtained in the preceding 24 hours.	70.1% (63.7-76.6)

QR pain assessment = Wong-Baker Face pain assessment administered by the LTCQR nurse reviewer

[‡‡‡] Source: Gloria Bean, RN. Project Manager, Nursing Home Quality Improvement. Texas Medical Foundation. Personal Communication: November 3, 2004

Pain symptoms were under-recognized and under-treated in the LTCQR sample. One of every eight residents experiencing moderate-to-severe pain in the last seven days had not received any pain medication. The majority of residents with moderate-to-severe pain received only a non-opioid (e.g., acetaminophen) or opioids on an as-needed basis. A significant proportion of residents (13.6%) experiencing moderate to severe pain received propoxyphene, a medication with analgesic effect no greater than acetaminophen that causes significant sedation and that has a poor safety profile in the elderly. These findings are consistent with the findings of a multi-state study (Won et al, 2004), and may explain why ~30% residents who experienced moderate-to-severe pain were not satisfied with their level of pain relief.

5.5.6.2. Measures for Residents with No Severe Cognitive Impairment

The measures in Table 5.6 were based on the 1,362 residents (68.4% of the LTCQR sample) who did not have severe cognitive impairment.

Table 5.6 Pain Measures for No Severe Cognitive Impairment

Residents with No Severe Cognitive Impairment (NSCI)	2004 (95% CI)
1. Proportion of residents who responded to the QR pain assessment	85.5% (83.6-87.4)
2. Proportion of residents who had evidence of being assessed for pain by facility staff in the most recent seven days	43.3% (40.6-46.0)
3. Proportion of residents who reported moderate-to-severe pain on the QR pain assessment	8.9% (7.4-10.5)
4. Proportion of residents who had had a pain assessment in the last seven days and had been evaluated using a validated pain assessment tool	53.4% (49.5-57.2)
5. Proportion of residents in whom pain was assessed with a validated tool and in whom the tool was used consistently	61.3% (57.4-65.3)
6. Proportion of residents whose clinical records revealed moderate-to-severe pain in the most recent seven days	6.7% (5.4-8.1)
7. Prevalence of moderate-to-severe pain determined by either QR or the clinical record	12.9% (11.1-14.8)

QR pain assessment = Wong-Baker Face pain assessment administered by the LTCQR nurse reviewer

Residents who had little or no cognitive impairment were significantly more likely to respond to the QR pain assessment. Still, the response rate was not 100%. The probable causes are the following: 1) the resident declined to participate in the assessment, 2) there was a language or other communication barrier between the resident and nurse reviewer, 3) the CPS calculated from the most recent MDS did not accurately depict the resident's level of cognitive impairment at the time of LTCQR assessment (e.g., the resident's cognitive impairments had worsened significantly since the time of the most recent MDS assessment).

The presence of moderate-to-severe pain was not documented in the clinical records of nearly half of the residents who reported moderate-to-severe pain to the LTCQR nurse reviewer. This

demonstrates that the frequency and manner of pain assessment can have a significant impact on the reported prevalence of moderate-to-severe pain.

5.5.6.3. Measures for Residents with Severe Cognitive Impairment

The measures in Table 5.7 were based on the 592 residents (29.7% of the LTCQR sample) who had severe cognitive impairment.[§§§]

Table 5.7 Pain Measures for Severe Cognitive Impairment

Residents with Severe Cognitive Impairment (SCI)	2004 (95% CI)
1. Proportion of residents who responded to the QR pain assessment	47.7% (43.6-51.8)
2. Proportion of residents who had evidence of being assessed for pain by facility staff in the most recent seven days	40.5% (36.4-44.5)
3. Proportion of residents who reported moderate-to-severe pain on the QR pain assessment	1.5% (0.5-2.5)
4. Proportion of residents whose clinical records revealed moderate-to-severe pain in the most recent seven days	2.4% (1.1-3.6)
5. Prevalence of moderate-to-severe pain determined by either QR or the clinical record	3.7% (2.2-5.3)
6. Proportion who had behavioral pain assessment (i.e., PAINAD)	14.3% (11.5-17.2)

QR pain assessment = Wong-Baker Face pain assessment administered by the LTCQR nurse reviewer

Compared to residents who had no more than moderate cognitive impairment, significantly fewer residents with severe cognitive impairment responded to the LTCQR nurse reviewer or had indications in the clinical record that pain assessments had been done. Only 14.4% of the clinical records of residents who had severe impairment showed evidence that facility staff had used a behavioral observation tool to assess the resident's pain. A significant proportion of residents reporting moderate-to-severe pain to the LTCQR nurse reviewer had not been detected by nursing facility staff.

5.5.7. Conclusions

The frequency of assessment for pain and the use of validated tools for assessing pain are significant statewide opportunities for improving the quality of care and quality of life of LTC residents. Nursing facility staff does not perform weekly pain assessments in the majority of residents who experience chronic pain. Although 74% of all residents can respond to a standardized, validated pain assessment tool, facility staff uses such tools in only 44% of residents. Moderate-to-severe pain is therefore under-recognized and under-treated.

[§§§] CPS could not be determined for 32 of the 1,986 residents in the LTCQR sample.

The LTCQR process shows the prevalence of moderate-to-severe pain to be twice as high as that reported by CMS. While the CMS quality measure for pain management has face validity, the LTCR casts doubt on its reliability for at least three interrelated reasons. The first is that the frequency of assessment appears to be a significant factor in case identification. Assessment less frequent than every seven days underestimates the actual prevalence. The second is that when residents are having significant pain, facility staff may postpone MDS assessment until a time when the complete MDS assessment will cause the resident less distress, and this can lead to under-reporting of moderate-to-severe pain on the MDS. And, the third is that the usual methods of pain assessment used to report MDS pain items are not as sensitive as the use of a validated pain assessment tool (Fisher et al., 2002).

Even the 10.1% overall prevalence of moderate-to-severe pain observed in this LTCQR is conservative given that the 2004 LTCQR process did not include behavioral observation for pain assessment in residents who had severe cognitive impairment. Facility staff used behavioral observation in fewer than 15% of such residents. In addition, there is little reason to believe that the prevalence of pain is lower among residents who have severe cognitive impairment. It seems likely that the observed 3.7% prevalence of moderate-to-severe pain in this subgroup reflects inadequate assessment rather than the absence of significant pain. If the prevalence of pain among these residents is comparable to its prevalence among residents who do not have severe cognitive impairment, a more realistic estimate for the statewide prevalence of moderate-to-severe pain among Texas nursing facility residents is 13.0% (the prevalence among the NSCI group).

5.6. Immunization Practices

5.6.1. Overview

Appropriate immunization is an essential part of infection control in long-term care facilities. Pneumococcal and influenza infections are common in the LTC setting, and elderly residents are especially vulnerable to these infections because they have certain chronic medical conditions, live in a congregate setting, and have less responsive immune systems than do younger persons (Bridges et al., 2003; Schwebke, 1999). The national Healthy People 2010 (HP2010) goals for vaccination rates against both diseases are 90% (US Department of Health and Human Services, 2000). The 2004 LTCQR is the first time the Department has measured the LTC vaccination rates for influenza and pneumococcal disease in nursing facilities.

5.6.2. Relationship to the Minimum Data Set

The Centers for Medicare & Medicaid Services (CMS) has developed quality indicators for pneumococcal and influenza immunizations for Medicare inpatients, and its indicator for pneumococcal disease vaccination is currently part of a CMS hospital quality improvement initiative (CMS, 2004). However, vaccination status among nursing facility residents is not yet reported through the MDS, and there are no CMS quality indicators for influenza or pneumococcal vaccination rates in LTC.

Both CMS and the CDC encourage nursing facilities to document whether their residents have been vaccinated against influenza and pneumococcal infections. This documentation enables facilities to track the vaccination status of their residents and provides needed vaccination status information to other health care facilities in the event that a resident is hospitalized or transferred or if an outbreak occurs (CMS, 2004).

5.6.3. Related Adverse Resident Outcomes

Both influenza and pneumococcal infections are associated with high morbidity and mortality. Influenza causes over 110,000 hospitalizations and 36,000 deaths each year (Muder, 1998). Individuals 65 years old and older are especially vulnerable to serious complications, and 95% of all influenza deaths occur in this group (Bridges et al., 2003; Simonsen et al., 1998).

5.6.4. Criteria for Appropriateness of Care

For the LTCQR process, a resident received appropriate vaccination for pneumococcal disease if there was no medical contraindication to vaccination and there was a dated note in the chart (or a completed pre-printed form) indicating that the resident had received poly-valent pneumococcal vaccine.[****] Similar documentation for influenza vaccination for the current year was the criterion for appropriate influenza vaccination. A centralized log of all residents who had received these vaccinations, or a physician's order and supporting medication administration record showing that the resident had been vaccinated, were also considered sufficient evidence of vaccination.

Documentation of residents' vaccination status was considered appropriate if it identified the entity that administered the vaccine, date of vaccination, name of vaccine, and the nurse or physician's signature. When the vaccination was administered in a setting other than the nursing facility, the documentation was considered appropriate only if the document itself was from the care setting (e.g., hospital or physician's office) in which the vaccine was given.

The only reasons that the LTCQR considered appropriate for not giving a resident a vaccination for influenza were:

- Documented allergic reactions either to eggs or to a previous influenza vaccine
- A history of Guillain-Barre Syndrome (GBS)
- Documented refusal of vaccination by the resident or responsible party

[****] A stricter criterion could have required the administration of the vaccine according to the schedule recommended by the Advisory Committee for Immunization Practices.

Note that these criteria did not address vaccine shortages as an unavoidable reason for not providing a vaccination for influenza. While there was a delay in vaccine delivery during the 2003-2004 influenza season, there was no severe shortage of vaccine. In 2004-2005, there is both a delay and a shortage, and this may affect 2005 influenza vaccination rates.

5.6.5. Related Quality Outreach Activities

Campaigns such as the CMS National Pneumonia Project that targets Medicare inpatients have the potential to improve vaccination rates in nursing facilities because nursing facility residents are often admitted from the hospital or hospitalized at some point during their LTC stay. In August 2004, the QM program and the Texas Geriatrics Society jointly contacted all known nursing facility medical directors by mail to urge them to lead the improvement in LTC vaccination rates by using standing vaccination orders and by providing staff, family, and resident education.

Immunization practices became a QM technical assistance topic in December 2003. As of April 2004, 407 QM visits to 407 distinct facilities had addressed the vaccination status of 3,954 residents. QM nurses also recorded the vaccination status of 4,053 nursing facility staff. LTCQR findings this year represent pre-intervention benchmarks.

5.6.6. Findings

The LTCQR quality measures for immunization practices were based on resident assessment items 7.1 to 7.7 (Appendix A).

Table 5.8 Immunization Quality Measures

Immunization Measures	2004 (95% CI)
1. Proportion of residents who reported having pneumococcal vaccination	26.7% (24.7-28.6)
2. Proportion with adequately documented pneumococcal vaccination	14.8% (13.2-16.3)
3. Proportion of residents who reported having influenza vaccination	59.0% (56.8-61.2)
4. Proportion with adequately documented influenza vaccination	39.9% (37.7-42.1)
5. Proportion with no influenza vaccination because of egg allergy or GBS	1.7% (0.8-2.6)
6. Proportion with no vaccination for influenza because of refusal	10.5% (8.4-12.7)
7. Proportion who could have received and benefited from a vaccination for influenza	87.8% (85.5-90.1)

The first two measures establish a corridor for the likely vaccination rate for pneumococcal disease. The self-reported rate establishes the upper limit, and the rate determined from

clinical documentation establishes the lower limit. Thus, at least 15% and no more than 27% of LTC residents received the recommended vaccination. The second pair of measures establishes the upper and lower limits for the actual influenza vaccination rate in LTC. At least 40% and no more than 59% of LTC residents received the recommended influenza vaccine. In both instances, a significant proportion of residents reportedly vaccinated did not have adequate clinical record evidence of vaccination.

The current vaccination rates for influenza and pneumococcal disease in Texas nursing facilities fall far below the HP-2010 goal of 90%. Neither medical contraindications nor refusal of vaccination appears to account for the low vaccination rates. Accounting for less than 2% of all LTC residents, persons with a medical contraindication to vaccination was distinctly uncommon. While documented refusal of vaccinations was relatively more common, it only accounted for about ten percent of persons who did not receive the recommended vaccination. The majority of residents who did not receive an influenza vaccination during the 2003-2004 influenza season (n=817) should have received it.

5.6.7. Conclusions

There is a significant opportunity to improve the quality of Texas LTC through basic infection control practices such as vaccination. The facility medical director and attending physicians play a special role in initiating vaccination programs and maintaining them through the education of residents, family and staff. CMS, its contracted quality improvement organizations and the QM program all support the use of centralized vaccination logs. Improving the use of such tools in LTC can help facilities respond rapidly to emerging conditions such as vaccine shortages, vaccine recalls and disease outbreaks. Because the revaccination interval for influenza is once yearly and even longer for pneumococcal disease, it will probably take several years to see significant changes in the LTCQR findings.

5.7. Advance Care Planning

5.7.1. Overview

Advance care planning (ACP) is a process of informed decision-making that is meant to honor resident autonomy and choice. While advance care planning is often discussed in the context of end-of-life care, the underlying concept is relevant to all clinical decisions and involves bringing the resident's and family's values to bear on all care decisions. The American Medical Directors Association recommends ongoing discussions of this type between providers and residents and their surrogates (AMDA, 2003). The common legal artifacts of the ACP process are documents such as Advance Directives, Durable Power of Attorney for Health Care, and specific orders that specify which interventions (e.g., cardiopulmonary resuscitation, hospitalization), if any, the resident has chosen to forego.

Research related to ACP shows that many residents do not have advance directives. Less than 50% of the severely or terminally ill patients had an advance directive in their medical

record (Teno et al., 1997; Teno et al., 1997b; Bradley & Rizzo, 1999; Virmani et al., 1994). In addition, ACP discussions with physicians appear to be relatively uncommon. Only 12% of patients with an advance directive had received input from their physician in its development (Teno et al., 1997b), and 65% to 76% of physicians whose patients had an advance directive were not aware that it existed (Virmani et al., 1994). When patients had an advance directive and the physician was aware of it, the physician stated that the instructions in the directive helped end-of-life decision-making in less than half of the cases (Teno et al., 1997b).

ACP was addressed in the 2004 LTCQR in order to assess the need for related technical assistance. For this purpose, the LTCQR determined whether each resident had had initial and subsequent discussions regarding ACP, had ACP documents that were readily accessible, and was receiving care consistent with the instructions in those documents.

5.7.2. Relationship to the Minimum Data Set

The MDS reveals whether certain advance care instructions are documented in the resident's clinical record. According to CMS analyses of Texas 2004 MDS data, the following are the proportions of nursing home residents who have each type of advance care document:[††††]

- Living Will – 13.7%
- Do-not-resuscitate – 46.6%
- Do-not-hospitalize – 1.1%
- Feeding restrictions – 3.4%
- Medication restrictions – 1.3%
- Other treatment restrictions – 3.7%

The MDS does not reveal whether residents have had repeated advance care planning discussions, whether ACP documents are readily accessible in an emergency, or whether the care that residents receive is consistent with the instructions provided in their ACP documents.

5.7.3. Related Adverse Resident Outcomes

Primary care physicians are only 65% accurate in predicting patient preferences for life-sustaining treatments even after reviewing the patient's advance directives (Coppola et al., 2001). Family members tend to over-estimate patients' preferences for life-sustaining treatments even after having discussed advance directives with the patient or assisted in their

[††††] Source: MDS Active Resident Information Report: Second Quarter 2004. Online at http://www.cms.hhs.gov/states/mdsreports/res_start.asp. Accessed November 3, 2004

development (Ditto et al., 2001; Uhlmann et al., 1988). Care at the end of life is sometimes inconsistent with the patients' preferences to forgo certain treatments, and patients may receive care they do not want (Teno et al., 1997). Similarly, recent literature suggests that orders such as DNR are, in some instances, inappropriately interpreted in a manner that limits other interventions such as hospitalization (Zweig et al., 2004). Each of these phenomena can have a negative affect on a resident's autonomy, dignity and quality of life and can needlessly increase health care utilization (Molloy et al., 2000; Teno et al., 1994).

5.7.4. Criteria for Appropriateness of Advance Care Planning

The LTCQR criteria for appropriate ACP were the following:

- Timeliness of the initial ACP discussion with the resident or family: prior to admission, within three weeks of admission, within the first 90 days of admission, 90 or more days after admission, or no discussion

- Timeliness of subsequent ACP discussions with the resident or family within 21 days after the most recent full MDS assessment

- Consistency of the care being provided and the resident's preferences as indicated in ACP documents

In addition, the following were determined:

- The presence of ACP documents, including out-of-hospital do-not-resuscitate orders (OOHDNR), Directive to Physicians, Durable Medical Power of Attorney, or care limiting orders such as do-not resuscitate (DNR), do-not-intubate, and do-not-hospitalize

- Whether all of a resident's ACP documents could be found within 30 seconds of accessing the clinical record

5.7.5. Related Quality Outreach Activities

The QM program held a symposium in January 2004 that addressed ACP and clinical decision-making at the end of life. Similarly, the JT program offers training using educational modules on palliative care and end-of-life decision-making. The QM program does not yet have a clinical audit for ACP nor does it yet provide technical assistance to nursing facilities on this clinical issue.

The Texas Partnership for End of Life Care (TxPEC) has developed an innovative program for the systematic implementation of an advance directives program in nursing facilities. The purpose of this program is to enhance the ability of the decision-maker to make informed decisions that consider the benefits, burdens, and likelihood of success of various treatment options. TxPEC also offers both professional and consumer education on palliative care and end-of-life care planning. Both TGS and TMDA support these efforts.

5.7.6. Findings

The LTCQR quality measures for ACP were based on LTCQR resident assessment items 8.1 to 8.5 (Appendix A). The first five LTCQR measures that appear in Table 5.9 were based on 1,992 residents. Measures 6 and 7 were based on the 1,641 residents whose clinical records had ACP documents.

Table 5.9 Advance Care Planning Quality Measures

Advance Care Planning Measures	2004 (95% CI)
1. Proportion who had a documented initial ACP discussion	91.9% (90.7-93.1)
2. Proportion who had an initial ACP discussion either prior to admission or within 21 days of admission	65.4% (63.3-67.5)
3. Proportion who had subsequent ACP discussions	25.7% (23.7-27.7)
4. Proportion whose clinical records contained one or more ACP documents	82.4% (80.7-84.1)
5. Proportion who had both a documented initial ACP discussion and one or more ACP documents	81.3% (79.6-83.1)
6. From among those with ACP documents, the proportion whose documents could be located within 30 seconds of accessing the clinical record	94.0% (92.8-95.1)
7. Among residents having ACP documents, the proportion receiving care consistent with their ACP instructions	97.9% (97.2-98.6)

The majority of residents (92%) had had initial an ACP discussion, but only 65% had the discussion either prior to or within 21 days of admission. Only a quarter of all residents had documentation of subsequent ACP discussions. The majority had one or more ACP documents. The ACP documents of 94% of the residents who had them could be located within 30 seconds. Nearly all residents with ACP documents were receiving care consistent with their ACP instructions.

5.7.7. Conclusions

Most nursing facility residents have had an initial ACP discussion with nursing facility staff; however the LTCQR does not reveal the quality of that discussion (e.g., whether the resident and family were provided sufficient information to make informed decisions that addressed possible future events and treatment options). Although ACP discussions should ideally occur yearly as well as when there is a significant change of the resident's health status, ACP discussions subsequent to the initial discussion were uncommon. Because the LTCQR did not reveal the details of residents' ACP documents, it is not known whether there was a need for subsequent ACP discussions.

The finding that ~2% of individuals with ACP documents were receiving care that did not appear consistent with their ACP documents was not elucidated further by LTCQR data. It was not possible to ascertain whether the inconsistencies represented over-treatment or under-treatment.

5.8. Psychoactive Medication Usage

5.8.1. Overview

Both behavioral and psychological symptoms are common among LTC residents, especially among those with cognitive impairment (Ballard et al., 2001). Many residents also experience sleep disturbances (Monane et al., 1996). In LTC facilities, non-psychotic behavioral symptoms and sleep disturbances are sometimes inappropriately managed with psychotropic medications.

While national data suggest that the psychiatric needs of Texas nursing facility residents are similar to those of residents in the rest of the country, prior LTCQR studies have shown that antipsychotic, anti-anxiety, and sedative/hypnotic agents are prescribed more often to Texas geriatric LTC residents (Cortés et al., 2003). The 2004 LTCQR examined the use of antipsychotic, anti-anxiety, and sedative/hypnotic medications. Appropriateness of medication use was judged on the following general principles for rational medication use: 1) having a valid clinical indication for the medication, 2) having measurable treatment goals, and 3) using reliable monitoring methods to assess whether the treatment is helping to meet those goals.

5.8.2. Related Quality Outreach Activities

Pharmacist quality monitors have provided technical assistance on antipsychotic medication use since 2002. From April 2003 to April 2004, 307 QM visits addressed the use of antipsychotic agents in 291 unique facilities, and involved the audit of the medication regimens of 2,156 residents. Technical assistance for sedative/hypnotic and anti-anxiety medication use became a routine QM pharmacist activity in December 2003. As of April 2004, the use of anti-anxiety agents had been addressed in individual visits to 33 distinct facilities involving the care of 115 residents. Thirty of these visits had also addressed the use of sedative/hypnotics in the care of 93 residents.

5.8.3. Prevalence of Psychotropic Medication Use

Table 5.10 shows the prevalence of psychoactive medication use among residents aged 65 years and over in Texas nursing facilities, as determined by LTCQR medication review.

Table 5.10 Prevalence of Psychotropic Medication Use

Psychoactive Class	National 2003	Texas 2000	Texas 2001	Texas 2002	Texas 2003	Texas 2004
Antipsychotic	23.6%	24.8% (22.7-27.0)	27.3% (25.1-29.4)	29.9% (27.7-32.1)	28.9% (26.8-31.1)	31.9% (29.6-34.1)
Anti-anxiety	10.7%	17.8% (15.9-19.7)	17.5% (15.6-19.3)	17.0% (15.2-18.8)	18.7% (16.8-20.6)	25.5% (23.4-27.6)
Sedative/ hypnotics	2.8%	7.5% (6.2-8.8)	7.3% (6.0-8.6)	7.5% (6.3-8.7)	8.5% (7.2-9.9)	10.3% (8.8-11.7)

In Table 5.10, the numerators are the numbers of residents 65 years and older who received each type of medication, and the denominators include all residents 65 years and older in the LTCQR sample for whom medication administration records were available (n=1,722). The use of all three groups of medications in Texas nursing facilities is clearly greater than the 2003 national averages (Tobias, 2003). Compared to Texas 2001 figures, the LTC usage rates of all three psychotropic medication groups had increased significantly by 2004.

5.8.4. Antipsychotic Medication Usage

5.8.4.1. Overview

In previous years, LTCQR pharmacist reviewers determined the appropriateness of antipsychotic prescribing based on whether residents had either documentation of a CMS-approved clinical indication for antipsychotic medication or had behavior-monitoring records for residents who did not have clear indications (Cortés et al., 2003). In the 2004 LTCQR, pharmacist reviewers examined the content of the behavior-monitoring records more closely to ascertain that relevant behavioral symptoms were being monitored. Thus, the appropriateness criteria for antipsychotic prescribing were more conservative in 2004. The measures shown in Table 5.11 apply to residents aged 65 years and older who received an antipsychotic medication (n=549).

5.8.4.2. Findings

Table 5.11 shows the statewide prevalence of antipsychotic medication use and the proportion of elderly residents who received an antipsychotic agent in the absence of clinical indications recognized by CMS.

Table 5.11 Appropriateness of Antipsychotic Medication Use

Year	Measures of Antipsychotic Usage	
	Proportion of Residents on Antipsychotic Medications (95% CI)	**Observed % of Prescriptions With No CMS Indication** (95% CI)
2000	**28.5%** (26.5 – 30.7)	**42.5%** (38.0 – 46.7)
2001	**30.2%** (28.1 – 32.4)	**21.9%** (18.4 – 25.5)
2002	**29.1%** (27.0 – 31.1)	**29.3%** (25.5 – 33.1)
2003	**31.0%** (29.0 – 33.1)	**37.5%** (33.6 – 41.4)
2004	**31.9%** (29.6 – 34.1)	**57.7%** (54.0 – 61.5)

There has been no significant change in the proportion of residents receiving antipsychotic medication. The trend since 2001 toward a greater proportion of these agents being used without indications recognized by CMS likely reflects the use of stricter 2004 LTCQR criteria for appropriate prescribing rather than an actual change in the appropriateness of prescribing.

The advent of newer-generation antipsychotic agents (so-called atypical antipsychotics) with reportedly improved safety profiles has led to the replacement of older agents. The proportion of newer agents prescribed appropriately is similar to that of older-generation antipsychotics.

Table 5.12 Appropriateness of Antipsychotic Medication Use by Drug Class

Year	Antipsychotic Sub-group Measures		
	% Prescriptions for atypical agents (95% CI)	**% Prescriptions for atypical agents with no CMS indication** (95% CI)	**% Prescriptions for typical agents with no CMS indication** (95% CI)
2000	**72.9%** (67.2 – 75.2)	**35.3%** (30.3 – 40.3)	**32.1%** (24.1 – 40.1)
2001	**82.7%** (79.5 – 85.8)	**22.0%** (18.2 – 25.9)	**20.0%** (11.3 – 28.7)
2002	**88.7%** (86.1 – 91.4)	**29.2%** (25.1 – 33.2)	**30.8%** (19.3 – 42.2)
2003	**93.4%** (91.4 – 95.4)	**37.5%** (33.4 – 41.6)	**37.5%** (22.2 – 52.8)
2004	**87.6%** (85.1 – 90.1)	**58.6%** (54.6 – 62.6)	**51.8%** (40.9 – 62.6)

Antipsychotic medications prescribed on an as-needed basis, regardless of whether they were administered in the last seven days, were included in the LTCQR as part of the medication review. More than half of the as-needed antipsychotic prescriptions (n=34) were for haloperidol – an older-generation agent. Of the 50 residents who were prescribed an as-needed antipsychotic agent, only five received one or more doses.

5.8.4.3. Conclusions

The appropriateness of antipsychotic prescribing in Texas LTC facilities continues to be an important clinical issue. About half of the orders for antipsychotics fail to meet CMS standards for appropriate use, and they therefore qualify as chemical restraints. That the quality outreach efforts QM pharmacists have not led to measurable improvement in the use of antipsychotics

is due, in part, to the shortage of QM pharmacists. In addition, if technical assistance is to be successful, it must involve the clinicians who order these medications.

5.8.5. Anti-anxiety Medication Usage

5.8.5.1. Overview

Anxiety disorders occur in 5% to 20% of the elderly (Kogan et al., 2000; Sadavoy and LeClair, 1997). Anxiety disorders cause people to approach daily life with apprehension and fear. Manifestations of anxiety, including motor tension, autonomic hyperactivity (e.g., elevated blood pressure and heart rate, dilated pupils, diaphoresis) and hyper-attentiveness, can impair normal function and cause injuries. For example, a fear of falling can lead to falls (Frazoni et al., 1994). Anxiety diminishes quality of life and can lead to increased health care costs. To address issues related to the use of anti-anxiety agents, the 2004 LTCQR assessed the following:

- Whether residents receiving such medications had a diagnosable anxiety disorder according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV TR)
- Had related symptoms that were being evaluated and monitored routinely
- Had measurable goals for the treatment of anxiety (Appendix A, items 9.1 through 9.5)

5.8.5.2. Relationship to the Minimum Data Set

The CHSRA QI for *prevalence of anti-anxiety and hypnotic use* measures the proportion of residents who received either anti-anxiety or hypnotic medications during the week preceding the most recent MDS assessment (Zimmerman, 1999). The QI includes all residents assessed during the defined period excluding individuals with psychotic or related conditions, Tourette's syndrome, Huntington's Chorea, as well as individuals experiencing hallucinations. The QI includes hypnotics because some benzodiazepines used as anti-anxiety medications can also be used as hypnotics (CHSRA, 2001).

The LTCQR measured the use of anti-anxiety medications and sedative/hypnotic agents separately. All but four benzodiazepines were considered anti-anxiety medications. These were flurazepam (Dalmane), triazolam (Halcion), estazolam (Prosom), and temazepam (Restoril). Anti-anxiety medications given on either a scheduled or an as-needed basis were included. Active orders for anti-anxiety agents that were not actually administered in the last seven days were also included.

5.8.5.3. Related Adverse Resident Outcomes

The use of benzodiazepines is associated with side effects such as increased risk of falls and confusion. These adverse effects can worsen ADL dependence and increase care needs. When benzodiazepines are prescribed in the absence of a clear diagnosis of an anxiety

disorder and/or without careful monitoring of related symptoms to ascertain that there is a beneficial effect, therapy is initiated and continued without a rational basis. Similarly, when there is no monitoring for adverse effects, therapy is often discontinued only after a major adverse event (e.g., a fall and fracture) has occurred.

5.8.5.4. Criteria for Appropriateness

LTCQR criteria for appropriate use of anti-anxiety medications required that the resident's clinical record show evidence of appropriate evaluation and monitoring. Evaluation was appropriate if the resident had had a consultation with a psychiatrist or primary care physician to address psychiatric problem(s) within the preceding six months; if there was documentation of at least one anxiety symptom; and if the resident's symptoms had been evaluated with a validated assessment tool such as the Beck Anxiety Inventory or Hamilton Anxiety Scale. Symptom monitoring was appropriate if measurable treatment goals were found in the clinical record and there was evidence of ongoing assessment of the resident's response to the treatment.

5.8.5.5. Findings

Table 5.13 presents the LTCQR quality measures for use of anti-anxiety medications for residents 65 years and older. The first measure was based on all residents 65 and older for whom medication information was available (n=1,722). The second and third measures were based on elderly residents who took an anti-anxiety medication in the last seven days (n=439).

Table 5.13 Appropriateness of Anti-anxiety Medication Use

Use of Anti-anxiety Medications	2004 (95% CI)
1. Proportion of residents who received an anti-anxiety medication in the last seven days	25.5% (23.4-27.6)
2. From among residents who received an anti-anxiety medication, the proportion that had a diagnosable anxiety disorder with one or more symptoms of anxiety.	26.2% (22.0-30.4)
3. From among residents who received an anti-anxiety medication, the proportion that had appropriate therapeutic monitoring	4.8% (2.7-6.8)

About one-in-four residents received anti-anxiety medication. Of these residents, only one-in-four had a clear medical indication for such therapy, and only one-in-twenty had both specific treatment goals and on-going assessment for progress toward those goals.

5.8.5.6. Conclusions

Anxiety disorders are common in the LTC setting, and therapy with anti-anxiety medications may be beneficial for the individuals who have such disorders. Rational therapy requires that anxiety disorders be properly diagnosed; that relevant symptoms be identified and characterized with respect to triggers, frequency, severity, duration, and ameliorating factors; and that the effects of therapy be monitored appropriately so that rational adjustments to

therapy can be made. The care of less than 5% of residents receiving anti-anxiety medications in Texas nursing facilities met these expectations. As in antipsychotic use, it seems unlikely that technical assistance efforts will lead to improvement without the direct involvement of the clinicians who order these medications.

5.8.6. Sedative/Hypnotic Medication Usage

5.8.6.1. Overview

Sleep disturbances are common in nursing home residents. Up to 75% of residents report some type of sleep disturbance (Gentili et al., 1997; Middelkoop et al., 1994). Residents who experience interruptions of nighttime sleep also experience daytime fatigue, impaired daily functioning, and nocturnal insomnia. Sleep disturbances among elderly residents are often associated with poor sleep hygiene. Poor sleep hygiene can be the result of individual bedtime habits as well as environmental factors such as noise and light (Ersser et al., 1999). Medical causes of sleep disturbances such as sleep disordered breathing, periodic limb movements, and restless leg syndrome require treatment other than hypnotic medications. Pharmacological therapy, in the form of sedating or hypnotic medications, is commonly used to address sleep disturbances in nursing facilities. In some instances, up to 34% of elderly residents have been found to take hypnotic medications (Petit et al., 2003).

To address issues related to sedative/hypnotic use, the 2004 LTCQR examined whether residents receiving such therapy had had relevant sleep hygiene interventions, whether pharmacologic therapy was being monitored for beneficial effects, and whether the duration of therapy was limited to no more than the recommended duration of ten days (Appendix A, items 10.4 and 10.5).

5.8.6.2. Relationship to the Minimum Data Set

The MDS-based QIs related to the use of sedative/hypnotic medications are the *prevalence of anti-anxiety and hypnotic use* (section 5.8.5) and the *prevalence of sedative/hypnotic use two or more days in the seven days* preceding the most recent MDS assessment (Zimmerman, 1999). The following agents were designated as hypnotics if they were ordered solely for bedtime use: acetaminophen/diphenhydramine (TYLENOL PM), zolpidem (AMBIEN), diphenhydramine (BENADRYL), phenobarbital, zaleplon (SONATA), triazolam (Halcion), and temazepam (Restoril). No resident in the sample was taking flurazepam (Dalmane) or estazolam (Prosom).

5.8.6.3. Related Adverse Resident Outcomes

The effectiveness of benzodiazepines for insomnia is limited to about 14 days (Martin et al., 2000; Alessi 2003). After that time, drug tolerance leads to a loss of medication effectiveness. In addition, hypnotics, especially benzodiazepines, increase the risk of falls and may cause confusion. Both effects can worsen ADL dependence and increase care needs.

5.8.6.4. Criteria for Appropriateness

The LTCQR criteria for appropriate use of hypnotic medications required the following:

- That relevant sleep hygiene measures were used
- That the effect of the hypnotic medication was monitored to ascertain benefit
- That the duration of hypnotic medication orders did not exceed ten-days

5.8.6.5. Findings

The first four measures in Table 5.14 were based on a review of the medication administration records (MAR) of 1,722 residents aged 65 and older. The last five measures were based on the LTCQR resident assessments of all 1,992 residents.

In the two weeks preceding their LTCQR assessment, 41% of residents had had sleep complaints. Although less than 5% had experienced a stressful event that could account for insomnia, 10% had medication orders for sedative/hypnotics. Among residents who had such orders, only 24% had had sleep hygiene measures. Less than 39% of residents who had orders for sedative/hypnotics had had any monitoring of their sleep patterns. Most elderly residents who had orders for sedative/hypnotics had actually taken the medication in the preceding week (60%), and almost half had taken it for more than two days (49%).

Table 5.14 Appropriateness of Sedative/Hypnotic Medication Use

Use of Sedative/Hypnotic Medications	2004 (95% CI)
1. Proportion of residents, based on pharmacist review, that had sedative/hypnotic medication orders in the last seven days	10.3% (8.8-11.7)
2. Proportion from among those that received a sedative/hypnotic who received the medication for at least one day in the last seven days	59.9% (52.5-67.3)
3. Proportion from among those that received a sedative/hypnotic who received the medication for more than two days in the last seven days	49.1% (41.6-56.7)
4. Proportion from among those that received a sedative/hypnotic who received the medication on an as-needed basis in the last seven days	63.8% (56.6-71.1)
5. Proportion of residents who had an active medication order for sleep problems in the last 14 days based on nurse quality review	10.6% (9.3-12.0)
6. Proportion who complained of sleep within the last 14 days and whose last 14 days of MARs showed an active medication order for sleep problems	40.6% (33.8-47.3)
7. Proportion who had a stressful event in the last 14 days and whose last 14 days of MARs showed an active medication order for sleep problems	5.2% (2.1-8.2)
8. Proportion whose last 14 days of MARs showed an active medication order for sleep problems and who had had an evaluation for sleep hygiene	23.6% (17.8-29.4)
9. Proportion whose last 14 days of MARs showed an active medication order for sleep problems and whose sleep had been monitored the last 14 days	38.7% (32.0-45.4)

In this year's sample, the majority of the elderly residents who took these agents had an order for as-needed use (62.6%). In 2003, 58% of hypnotics were ordered for routine rather than as needed use (Cortés et al., 2003; Cortés and Monroe, 2003). In 2004, 99% percent of sedative/hypnotic orders (182/184) were for more than ten days of treatment.

5.8.6.6. Conclusions

Sleep-related complaints are common among Texas LTC residents, and most can be addressed with basic sleep hygiene measures. When the use of sedative/hypnotics is necessary, these agents should be for no more than ten days, in addition to sleep hygiene measures, and with close monitoring. While ordering these medications on an as-needed basis is reasonable, such medication orders should not have durations longer than ten days.

There is a significant opportunity to improve both the use of sleep hygiene and the appropriateness of orders for sedative/hypnotics. While the QM program can approach the former through LTC staff education, the latter requires outreach to the clinicians who order these medications.

5.9. LTC Prescribing Practices and Patient Safety

5.9.1. Overview

Appropriate medication use is a national patient safety issue. The safety of medication use can be compromised by the following: 1) polypharmacy, the use of multiple medications, 2) the use of specific medications that have poor safety profiles in persons over age 65, and 3) the use of certain medication combinations that have a high risk of untoward interaction. Each of these increases a resident's risk for adverse drug events and hospitalization. The annual cost of drug-related morbidity and mortality in nursing facilities has been estimated to be $7.6 billion (Bootman et al., 1997).

The 2004 LTCQR examined the following:

- The number of medications and active ingredients given to each resident
- The prevalence of use of specific medications that have poor safety profiles in the elderly (the Beers List of medications)
- The prevalence of potential drug interactions including the list of Top Ten Dangerous Drug Interactions in LTC

5.9.2. Related Quality Outreach Activities

Academic institutions, clinical training programs, pharmaceutical companies, consultant pharmacists, and physicians' professional organizations such as TMDA and TGS sponsor

educational activities to address the potential hazards of medication use in LTC. Pharmaceutical companies underwrite a significant amount of the education presented at professional society meetings. They also fund much of the clinical research undertaken in academic centers and clinical training programs with a concomitant potential for conflicting interests between education and marketing.

QM pharmacists began to address the clinical topic of medication simplification (addressing polypharmacy) in November 2003. In 2004, QM program pharmacists made 44 visits to 44 distinct facilities to assess the medication regimens of 170 residents for this purpose.

5.9.3. Polypharmacy

The 2004 LTCQR measured the proportion of residents receiving nine or more medications, counting both routine and as-needed medications. For as-needed medications, only those that a resident had actually taken during the most recent seven-day period were counted.

Both the number of medications and the number of active ingredients in those medications were determined. This permitted determining the average number of medications and active ingredients taken per resident.

The findings in Table 5.15 were based on the medication records of the 1,722 residents 65 years and older.

Table 5.15 Quality Measures for Polypharmacy

Residents ≥ age 65	**2000 (95% CI)**	**2001 (95% CI)**	**2002 (95% CI)**	**2003 (95% CI)**	**2004 (95% CI)**
Proportion of residents on nine or more *routinely scheduled* and *as-needed* medications	40.1% (37.7-42.6)	44.1% (41.7-46.5)	49.2% (46.9-51.6)	54.5% (52.1-56.9)	62.4% (60.1-64.8)
Average number of medications (*routine* and *as-needed)* per resident	8.0 (7.8-8.2)	8.4 (8.2-8.6)	8.8 (8.6-9.0)	9.5 (9.3-9.7)	10.1 (9.9-10.3)
Average number of *active ingredients* per resident	9.0 (8.8-9.2)	9.5 (9.3-9.7)	9.9 (9.7-10.2)	10.3 (10.1-10.6)	11.3 (11.0-11.5)

The change in the proportion of residents who were taking nine or more medications from 2003 to 2004 was statistically significant. The average number of medications and active ingredients of medications that a resident took also increased significantly. More than half of elderly residents received nine or more routinely scheduled medications (62.4%). The typical resident had taken 10 different medications in the past seven days.

5.9.4. Drug Interactions

Preventing and managing adverse drug events is a patient safety issue. Because some serious adverse drug events result from known drug interactions, preventing the use of hazardous medication combinations represents an opportunity to improve the quality of care for nursing facility residents (AMDA and ASCP, 2002). There is no consensus of expert opinion regarding which potential drug interactions are the most important. Thus, a critical challenge in achieving improved patient safety in medication use is defining the medication interactions that are the most significant (Weisbart, 2004).

Using Facts and Comparisons (F&C) Drug Interaction 2002-2003 CD-ROM software, 4,605 drug interactions were identified in the medication regimens of the 1,990 LTCQR residents. These interactions include those that belong to F&C severity classes 1 through 4. The nature of each severity class is described below.

- Class 1 interactions are those shown in clinical studies to be potentially severe or life threatening. The use of contraindicated drug combinations is also included in this class. There were 476 Class 1 interactions in the 2004 LTCQR sample.

- Class 2 interactions are those that may cause deterioration in a patient's clinical status; occurrence suspected, established or probable in well-controlled studies. There were 1,478 Class 2 interactions in the 2004 LTCQR sample.

- Class 3 interactions are those that cause minor effects; occurrence suspected, established or probably in well-controlled studies. There were 536 Class 3 interactions in the 2004 LTCQR sample.

- Class 4 interactions are those that may cause moderate-to-major effects; data are very limited. There were 2,115 Class 4 interactions in the 2004 LTCQR sample.

A Multidisciplinary Medication Management Project (MMMP) conducted by the American Medical Directors Association (AMDA) and the American Society of Consultant Pharmacists (ASCP) in 2001 identified a list of Top Ten Dangerous Drug Interactions in LTC. In the 2004 LTCQR, these ten interactions accounted to 6.9% (316/4605) of all the interactions identified by F&C's drug interaction software. Among the Top Ten Interactions, the most common was the interaction between ACE inhibitors and potassium supplements (comprising 50% of the Top Ten Interactions in the 2004 LTCQR sample). Nearly all of the interactions involving ACE inhibitors and potassium occurred in residents who were also taking a loop or thiazide diuretic (97.3%). The concomitant use of such diuretics may mitigate the risk of the potential interaction.

5.9.5. Beers List of Medications

The use of certain medications identified by experts as potentially harmful in geriatric patients continues to be a major concern in LTC (Beers et al., 2001). There is accumulating evidence that these medications contribute to worsening health status among elderly persons who take them (Fu et al., 2004). The list of medications, known as the Beers List or Beers Criteria, was updated in 2003 (Fick et al., 2003) to include:

1. A list of 48 medications or medication classes that should generally be avoided in persons 65 years or older because they are ineffective, pose unnecessarily high risks or because safer alternatives are available.

2. A list of medications that should not be used in older persons who have any of 20 defined diseases/conditions (Fick et al., 2003). Sixty-six medications are associated with adverse outcomes of high severity in persons with these diseases/conditions.

The LTCQR medication record review only addressed the first item of the Beers Criteria. It ascertained how commonly these 48 medications were used in Texas nursing facility residents.

Table 5.16 Use of Beer's List of Medications

Medication Safety Measure	2000	2001	2002	2003	2004
Proportion of residents receiving at least one Beers List medication	10.5%	11.4%	11.5%	13.8%	20.3% (18.3-22.2)
Proportion of residents receiving propoxyphene	5.5%	6.2%	7.0%	7.0%	2.4% (1.6-3.1)
Proportion of resident receiving amitriptyline	2.4%	2.2%	2.0%	2.5%	1.2% (0.7-1.7)

The figures shown for 2004 are significantly greater than those in prior years because the number of Beers List medications has recently grown from 23 to 48 medications. Therefore, the increase in the proportion of residents taking one or more Beers List medications reflects changes in the list itself rather than changes in LTC medication use patterns. Until the list again changes significantly, the 2004 figures will serve as a basis for subsequent LTCQR comparisons.

5.9.6. Conclusions

A growing majority of Texas nursing facility residents takes more than nine medications. About 20% of Texas LTC residents are given medications that experts deem inadvisable in the elderly. Six of the Beers List medications were taken by more than one percent of Texas LTC residents, and together, these accounted for 65% of all residents on one or more Beers List medications.

These findings highlight the potential for adverse resident outcomes resulting from the use of medications that have poor safety profiles and from the use of hazardous drug combinations. While drug regimen simplification and increased awareness of medication hazards in LTC may help to mitigate the risk of some adverse drug events, the intended purpose of tools such as the Beers List and drug interaction databases (e.g. F&C software) is to make it possible to automate point-of-care decision support as a routine part of medication ordering (Kaldy, 2004). However, achieving improved patient safety through automated decision support remains largely an unfulfilled promise.

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6. Consumer Satisfaction

6.1. Content of the Survey

The LTCQR consumer satisfaction survey was designed in 2000 to address general issues concerning nursing facility service. It is part of the Nursing Facility Performance Monitoring Data Instrument (Appendix A). In 2002 the survey was expanded from its 2000 form to include an item concerning satisfaction with restraint use. In 2004 it was further expanded to include an item addressing consumers' level of satisfaction with the facility's ability to meet end-of-life care wishes. This item was included because recent research suggests that nursing home residents are less often treated with respect at the end of life than are patients receiving hospital or hospice services (Teno et al., 2004).

The LTCQR consumer satisfaction survey consisted of 14 items. Each item had seven response options indicating a level of satisfaction. These options included: (1) *Very Dissatisfied*; (2) *Dissatisfied*; (3) Somewhat *Dissatisfied*; (4) *Neither Satisfied or Dissatisfied*; (5) *Somewhat Satisfied*; (6) *Satisfied*; and (7) *Very Satisfied*. Respondents to whom the question was not relevant or who were not able to answer an item used a final option of (8) *No Opinion*.

6.2. Levels of Satisfaction with Services

As in prior years of LTCQR, approximately 80% of the LTCQR sample of residents responded to the consumer satisfaction survey (n=1,569). Among responders, 1,128 residents (72% of all responders) answered for themselves and 441 residents (28% of responders) had a representative (a family member or guardian) answer for them. The remaining 423 were unable to respond for themselves and had no available representative to respond to the survey. Only a small proportion of the residents needed a translator to respond to the survey (3%).

Table 6.1 shows the statewide satisfaction score and the number of responses on which each score was based for each item in the consumer satisfaction surveys of 2000 through 2004.

Table 6.1 Statewide Consumer Satisfaction Scores

Item	Issue	Item Average (Number of Responses)				
		2000	2001	2002	2003	2004
11.3	Food service	**5.36** (1423)	**5.45** (1487)	**5.57** (1480)	**5.58** (1511)	**5.43** (1527)
11.4	Use of physical restraints	-	-	**5.46** (412)	**5.43** (679)	**5.76 *** (798)
11.5	Provision of enjoyable activities	**5.61** (1164)	**5.81** (962)	**5.68** (1259)	**5.66** (1360)	**5.59** (1372)
11.6	Maintenance of physical activity	**5.50** (1169)	**5.74** (953)	**5.61** (1252)	**5.62** (1346)	**5.48** (1364)
11.7	Maintenance of mental alertness	**5.49** (1331)	**5.63** (1268)	**5.73** (1260)	**5.68** (1350)	**5.53 *** (1349)
11.8	Meeting emotional needs	**5.57** (1366)	**5.76** (1439)	**5.89** (1454)	**5.86** (1458)	**5.50 *** (1476)
11.9	Meeting spiritual needs	**5.69** (1365)	**5.87** (1354)	**5.99** (1358)	**5.88** (1377)	**5.72 *** (1439)
11.10	Response to requests for assistance	**5.39** (1386)	**5.62** (1471)	**5.57** (1468)	**5.65** (1419)	**5.32 *** (1478)
11.11	Avoiding chemical restraints	**5.67** (1269)	**5.73** (1243)	**5.84** (1050)	**5.66** (1093)	**5.81 *** (1075)
11.12	Avoiding undesirable medication effects	**5.70** (1286)	**5.97** (1355)	**6.03** (1355)	**5.86** (1262)	**5.77** (1219)
11.13	Meeting toileting needs	**5.53** (1385)	**5.67** (1499)	**5.77** (1423)	**5.84** (1348)	**5.60 *** (1434)
11.14	Meeting social needs	**5.77** (1379)	**5.89** (1418)	**6.13** (1450)	**5.92** (1450)	**5.89** (1477)
11.15	Complying with end-of-life wishes	-	-	-	-	**5.95** (1183)
11.16	Overall satisfaction	**5.80** (1457)	**5.89** (1528)	**5.89** (1524)	**5.97** (1487)	**5.85 *** (1556)

* The 2004 average is significantly different from the 2003 value.

All items showed that consumers were somewhat satisfied with the services provided. All but two items showed a decrease in statewide consumer satisfaction scores. The two items that showed improved satisfaction were those that related to use of physical restraints and avoidance of chemical restraints. Consumers expressed the highest level of satisfaction with services related to meeting their end-of-life care wishes such as avoiding unwanted procedures and treatments.

Table 6.2 shows the proportion of residents who were either Satisfied or Very satisfied with each of the issues addressed in the survey. These proportions reiterated the average satisfaction scores; satisfaction declined in all but two of these areas.

Table 6.2 Proportion of Consumers Satisfied or Very Satisfied

Item	Issue	% Satisfied or Very Satisfied				
		2000	2001	2002	2003	2004
11.3	Food service	65%	64%	71%	69%	64%
11.4	Use of physical restraints	-	-	65%	62%	77%
11.5	Provision of enjoyable activities	75%	82%	74%	72%	69%
11.6	Maintenance of physical activity	72%	82%	75%	73%	64%
11.7	Maintenance of mental alertness	70%	73%	76%	74%	65%
11.8	Meeting emotional needs	74%	80%	83%	81%	65%
11.9	Meeting spiritual needs	77%	83%	86%	82%	74%
11.10	Response to requests for assistance	67%	75%	73%	74%	60%
11.11	Avoiding chemical restraints	78%	80%	84%	74%	80%
11.12	Avoiding undesirable medication effects	81%	92%	93%	84%	78%
11.13	Meeting toileting needs	73%	77%	79%	82%	71%
11.14	Meeting social needs	81%	84%	90%	85%	80%
11.15	Complying with residents' end-of-life care wishes	-	-	-	-	81%
11.16	Overall satisfaction	79%	81%	80%	83%	74%

6.3. Conclusions

Most aspects of consumer satisfaction, including overall consumer satisfaction declined from 2003 to 2004. Most of the observed declines were statistically significant, and the largest changes in the percentage of consumers expressing satisfaction occurred for items 11.8, 11.10, and 11.13 – addressing emotional needs, providing needed assistance, and providing needed toileting care. The decrease in satisfaction regarding meeting residents' toileting needs suggests that residents and their family members are sensitive to the effects of ineffective toileting (section 5.1.4). Meeting consumers' expectations regarding these three, issues may require more staff time per resident.

The only improvements in satisfaction were related to use of physical restraints and avoidance of chemical restraints. The rise in satisfaction regarding physical restraint use, in the context of a falling prevalence of restraint use, suggests that residents and family members have become more comfortable with the idea of restraint-free care.

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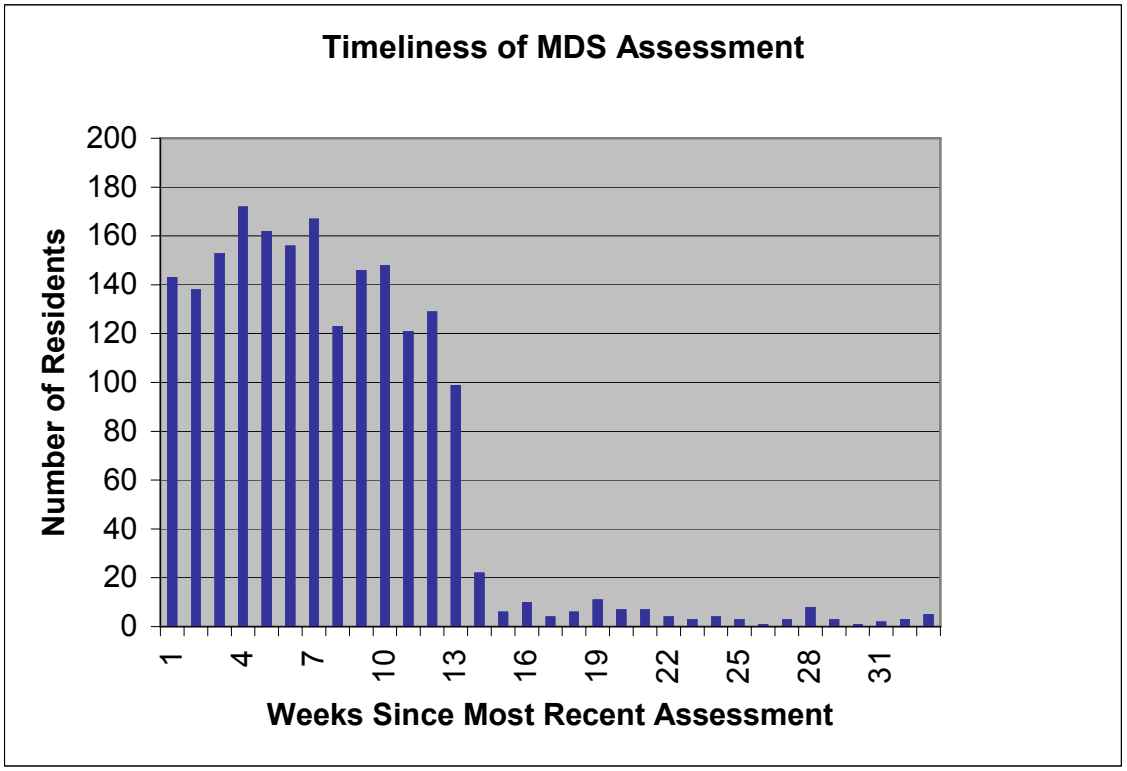
7. Comparison of 2004 LTCQR, MDS and Quality Indicator Data

7.1. Purpose

The purpose of comparing MDS assessment items with similar LTCQR items is to ascertain the degree to which provider's MDS submissions depict the condition of residents accurately. The key question is whether there is significant under- or over-reporting of certain conditions. In these comparisons, the LTCQR observations are taken as the *gold standard*.

Figure 7.1 depicts the distribution of MDS resident assessments by time elapsed from the date of most recent MDS assessment to the date of the LTCQR on-site visit.

Figure 7.1 Distribution of Minimum Data Set Resident Assessments



7.2. Comparisons of MDS and LTCQR Data

7.2.1. MDS Reporting of Coma

MDS item B1 (coma) versus quality review item 2.2 (unresponsive mental status)

MDS item B1, as submitted by providers, appeared to depict the presence or absence of coma reliably. The LTCQR prevalence of *unresponsive mental status* was 1.9% whereas the MDS B1 prevalence of *coma* was 0.5%. Residents identified as comatose on the MDS were a subset of residents identified as unresponsive in the LTCQR. This is a consistent finding across the last four years of LTCQR. In none of the years of LTCQR has coma appeared to be over-reported in the MDS.

7.2.2. MDS Reporting of Incontinence

MDS item H1b (urinary continence) versus quality review item 2.8 (occasional or more frequent incontinence)

The sensitivity of MDS item H1b for occasional or more frequent incontinence was 84%. Item H1b had a positive predictive value of 96% and a negative predictive value of 59% for the observed prevalence of incontinence. These findings are consistent across the last three years of LTCQR, and result partly from a difference between the LTCQR and MDS definitions of frequent incontinence; the MDS definition excludes individuals who experience multiple daily episodes of incontinence.

7.2.3. MDS Reporting of Indwelling Bladder Catheters

MDS item H3d versus quality review item 3.1 (presence of an indwelling catheter)

MDS item H3d had a sensitivity of 90% and specificity of 99% for the observed presence of a catheter. Among residents who had an MDS assessment 14 days prior to LTCQR assessment, the observed prevalence of catheters was 6.6% in the LTCQR population and 7.3% as reported from the MDS for the same residents. Indwelling bladder catheters do not appear to be under-reported in the MDS.

7.2.4. MDS Reporting of Pressure Ulcers

MDS item M2a (pressure ulcer) versus quality review item 2.10 (advanced pressure ulcer that would interfere with toileting)

The prevalence of advanced pressure sores that would have interfered with toileting was 1.1% among LTCQR residents. The MDS reported prevalence of advanced pressure sores was 1.5% among the same group. Given that LTCQR item 2.10 identifies a subgroup of all advanced pressure sores, those whose physical location would preclude the use of a toilet, the

relationship between the observed and MDS reported prevalence is appropriate. Pressure sores do not appear to be under-reported in the MDS.

7.2.5. MDS Reporting of Physical Restraints

MDS items P4c, d or e (QI22 numerator) versus quality review finding of daily use of restraints

The LTCQR determination of daily restraint use was based on item 4.3 (restrained each day during the last seven days). The MDS reported prevalence was 8.0% among residents who had an MDS assessment completed in the 14 days preceding the LTCQR visit. Among the same group of residents, the LTCQR found daily restraints used in 8.3%. There was no evidence of significant under-reporting of daily restraint use.

7.3. Comparison of LTCQR Measurements and MDS Quality Indicators

MDS-based QIs can be compared to their related LTCQR measures of appropriateness of care. This permits evaluating whether a particular QI is a good predictor of quality of care as judged by on-site resident assessment. As in the comparison of LTCQR and MDS data items, the LTCQR determination is taken as the *gold standard*. Only MDS assessments performed within 14 days preceding the LTCQR visit were considered in this comparison. The conclusions in these sub-sections apply only to statewide quality indicator values. They may not apply to individual facilities. A particular statewide indicator that appears to be a good predictor of appropriateness of care need not be a good predictor of quality in every facility.

7.3.1. QI9: Prevalence of Urinary Incontinence without a Toileting Plan

Quality Indicator 9 (QI9) versus LTC Quality Review determination of unmet toileting needs

Table 7.1 QI19 and LTCQR Measure of Unmet Toileting Needs

Agreement Between QI9 and LTCQR Determination of Unmet Toileting Needs	2002 14d MDS	2003 14d MDS	2004 14d MDS
Sensitivity of QI9 for unmet toileting needs	26.2%	21.1%	22.0%
Specificity of QI9 for unmet toileting needs	91.0%	90.6%	90.3%

The difference between the MDS definition for QI9 and the way that the LTCQR determined whether a resident was a potential candidate for toileting rendered QI9 an insensitive proxy for the findings of on-site assessment.

7.3.2. QI10: Prevalence of Indwelling Bladder Catheters

Quality Indicator 10 (QI10) versus LTC Quality Review determination of avoidable catheter use

Table 7.2 QI10 and LTCQR Measure of Avoidable Catheter Use

Agreement Between QI10 and Quality Review Determination of Avoidable Catheter Use	2002 14d MDS	2003 14d MDS	2004 14d MDS
Sensitivity of QI10 for avoidable catheter use	78%	88%	83%
Specificity of QI10 for avoidable catheter use	0%	8%	0%

While the MDS appears to accurately depict the presence of a catheter (section 7.2.3), the QI does not depict the appropriateness of resident evaluation. Since most resident records did not contain documentation of appropriate evaluation for catheter use, the presence of a catheter appeared to be a sensitive test of avoidable catheter use. Because the national and Texas prevalence of indwelling bladder catheter use in LTC during the first quarter of 2004 were 8.2% and 7.9% respectively,[‡‡‡‡] it seems likely that this association represents the prevalence of inadequate resident evaluation (or corresponding documentation of evaluation) rather than the prevalence of avoidable catheter use *per se*.

7.3.3. QI22: Prevalence of Physical Restraint Use

Quality Indicator 22 (QI22) versus LTC Quality Review determination of avoidable restraint use

Table 7.3 QI22 and LTCQR Measure of Avoidable Restraint Use

Agreement Between QI22 and Quality Review Determination of Avoidable Physical Restraint Use	2002 14d MDS	2003 14d MDS	2004 14d MDS
Sensitivity of QI22 for avoidable physical restraint use	67%	100%	93%
Specificity of QI22 for avoidable physical restraint use	0%	33%	50%

Despite a dramatic decrease in the prevalence of restraints in Texas nursing facilities, the majority of residents in restraints have no compelling clinical indication for the use of such devices. Therefore, the QI for restraint use continues to reflect avoidable restraint use.

[‡‡‡‡] Source: MDS Quality Indicator Report. http://www.cms.hhs.gov/states/mdsreports/qi2.asp Accessed November 3, 2004

7.3.4. QI19: Overall Prevalence of Antipsychotic Use without a Psychosis

Quality Indicator 19 (QI19) versus LTC Quality Review determination of appropriate antipsychotic use

Table 7.4 QI19 and QR for Antipsychotic Medication Use

Agreement Between QI19 and Quality Review Determination of Inappropriate Antipsychotic Use	2003 14d MDS	2004 14d MDS
Sensitivity of QI19 for inappropriate antipsychotic use	69%	54%
Specificity of QI19 for inappropriate antipsychotic use	19%	32%

QI19 is neither sensitive nor specific for the appropriateness of antipsychotic use. This is due, in part, to the QI definition that excludes persons with psychoses and related conditions and in part to the fact that 58% of residents on these medications did not have a CMS-recognized indication for the medication. The change in sensitivity and specificity from 2003 to 2004 is due, in part, to more conservative 2004 LTCQR criteria for appropriate antipsychotic use. QI19 is a better predictor (89% sensitive and 97% specific) for the presence or absence of an active order for an antipsychotic medication.

7.3.5. QI20: Overall Prevalence of Anti-anxiety and Hypnotic Use

Quality Indicator 20 (QI20) versus LTC Quality Review determination of anti-anxiety medication *use*

Table 7.5 QI20 and QR for Inappropriate Anti-Anxiety Medication Use

Agreement Between QI19 and Quality Review Determination of Anti-anxiety Medication Use	2004 14d MDS
Sensitivity of QI20 for anti-anxiety medication use	44%
Specificity of QI20 for anti-anxiety medication use	97%

The QI is a poor predictor for the presence of an active order for anti-anxiety medications. Over half of the individuals on anti-anxiety medications were not represented in the QI. This may occur because of exclusions in the QI definition and because of MDS coding errors. Because only 5% of anti-anxiety medication use in LTC meets the ideal expectations for therapeutic indications, measurable treatment goals, and ongoing therapeutic monitoring (Table 5.13), the QI is a usable predictor of inappropriate care.

7.3.6. QI21: Overall Prevalence of Sedative/Hypnotic Use >2 Days

Quality Indicator 21 (QI21) versus LTC Quality Review determination of sedative/hypnotic use more than twice in the last seven days

Table 7.7 QI21 and QR for Inappropriate Hypnotic Drug Use

Agreement Between QI19 and Quality Review Determination of Sedative/Hypnotic Drug Use	2004 14d MDS
Sensitivity of QI21 for hypnotic use	17%
Specificity of QI21 for hypnotic use	97%

The QI specificity is a manifestation of the low prevalence of sedative/hypnotic use and the high fidelity of MDS coding when these medications are not used. The low sensitivity suggests that there is significant under-reporting of the use of hypnotic agents more than twice in a week among residents who take sedative/hypnotic medications.

7.4. Summary Comparison of MDS and LTCQR Items and Quality Indicators

The MDS and LTCQR assessment instruments differ in fundamental ways. The MDS is a comprehensive resident assessment instrument much larger than the LTCQR assessment instrument. The MDS is intended as a foundation for individualized care planning while the LTCQR instrument is intended as a quality measurement tool.

Facility staff collects MDS assessment data, and the data are not subjected to on-going independent audit. In contrast, a small workforce conducts the LTCQR, and the process has built-in quality controls.

The LTCQR yields judgments concerning appropriateness of care (quality measures) whereas the MDS-based QIs are not intended for that purpose. The CMS quality measures (risk-adjusted quality indicators) address the issue of appropriateness of care through statistical inferences (risk-adjustment of certain quality indicators) rather than by judging whether individual care meets evidence-based standards.

Comparisons of individual assessment items from these instruments show that MDS items that correspond to LTCQR nurse reviewers' clinical observation items show a generally high level of agreement. Comparisons of MDS-based QIs and LTCQR determinations of appropriateness of care demonstrate that the value of QIs as surrogate statewide measures of quality is greatest when there is substantial agreement between the definitions of the QIs and their corresponding LTCQR measures, and when the prevalence of inappropriate care is either very high or very low.

8. Statewide Quality Indicator Values 2001-2004

8.1. Overview of Quality Indicators

Table 8.1 Statewide QI Values*

Indicator	Description	2000 Value	2001 Value	2002 Value	2003 Value	2004 Value
QI 1	Incidence of New Fractures	1.40%	1.40%	1.41%	1.27%	1.28%
QI 2	Falls	11.20%	10.83%	10.75%	10.76%	10.68%
QI 3Hi	Behavioral Symptoms - High Risk	22.65%	21.34%	20.06%	18.94%	18.23%
QI 3Lo	Behavioral Symptoms - Low Risk	8.10%	7.47%	6.87%	6.14%	6.06%
QI 3	Behavioral Symptoms - Overall	19.03%	17.98%	16.93%	15.95%	15.40%
QI 4	Symptoms of Depression	7.86%	7.21%	6.72%	6.28%	6.05%
QI 5	Depression and No Medication	4.17%	3.57%	3.21%	2.93%	2.57%
QI6	Use of 9 or more Medications	42.66%	46.47%	50.58%	54.19%	58.04%
QI 7	New Onset Cognitive Impairment	12.29%	12.67%	11.66%	11.04%	11.25%
QI 8Hi	Incontinence - High Risk	93.38%	93.62%	94.09%	93.96%	93.63%
QI 8Lo	Incontinence - Low Risk	41.70%	42.90%	43.84%	43.68%	44.54%
QI 8	Incontinence - Overall	57.41%	58.19%	58.53%	57.76%	57.73%
QI9	Incontinence and No Toileting	76.62%	75.83%	75.95%	69.09%	66.94%
QI10	Indwelling Catheter	7.42%	7.55%	7.86%	7.07%	6.89%
QI 11	Fecal Impaction	0.41%	0.23%	0.17%	0.14%	0.11%
QI 12	Urinary Tract Infection	6.83%	6.95%	7.35%	7.40%	7.41%
QI 13	Weight Loss	10.78%	10.38%	10.34%	9.64%	9.14%
QI 14	Tube Feeding	8.87%	8.80%	8.90%	8.66%	8.62%
QI 15	Dehydration	0.69%	0.46%	0.42%	0.39%	0.31%
QI 16	Prevalence of Bedfast Residents	9.79%	9.09%	8.50%	7.80%	7.10%
QI 17	Decline in Activities of Daily Living (ADLs)	16.55%	17.14%	16.58%	16.06%	16.08%
QI 18	Decline in ROM	7.11%	7.53%	6.98%	6.45%	5.88%
QI19Hi	Antipsychotic Use - High Risk	40.69%	44.87%	48.63%	50.06%	49.28%
QI19Lo	Antipsychotic Use - Low Risk	16.79%	18.44%	20.89%	22.00%	21.70%
QI19	Antipsychotic Use - Overall	20.49%	22.25%	24.65%	25.51%	24.97%
QI 20	Anti-anxiety/Hypnotic Use	20.54%	20.29%	20.49%	20.57%	20.75%
QI 21	Hypnotics Use > 2 days	5.39%	5.33%	5.52%	5.92%	6.13%
QI22	Physical Restraints	18.41%	18.60%	18.98%	13.87%	8.72%
QI 23	Little or No Daily Activity	27.93%	20.55%	16.74%	13.55%	11.09%
QI 24Hi	Pressure Ulcers - High Risk	15.25%	14.83%	14.30%	14.07%	13.43%
QI 24Lo	Pressure Ulcers - Low Risk	2.27%	2.24%	2.27%	2.41%	2.08%
QI 24	Pressure Ulcers - Overall	9.11%	8.98%	8.79%	8.68%	8.20%

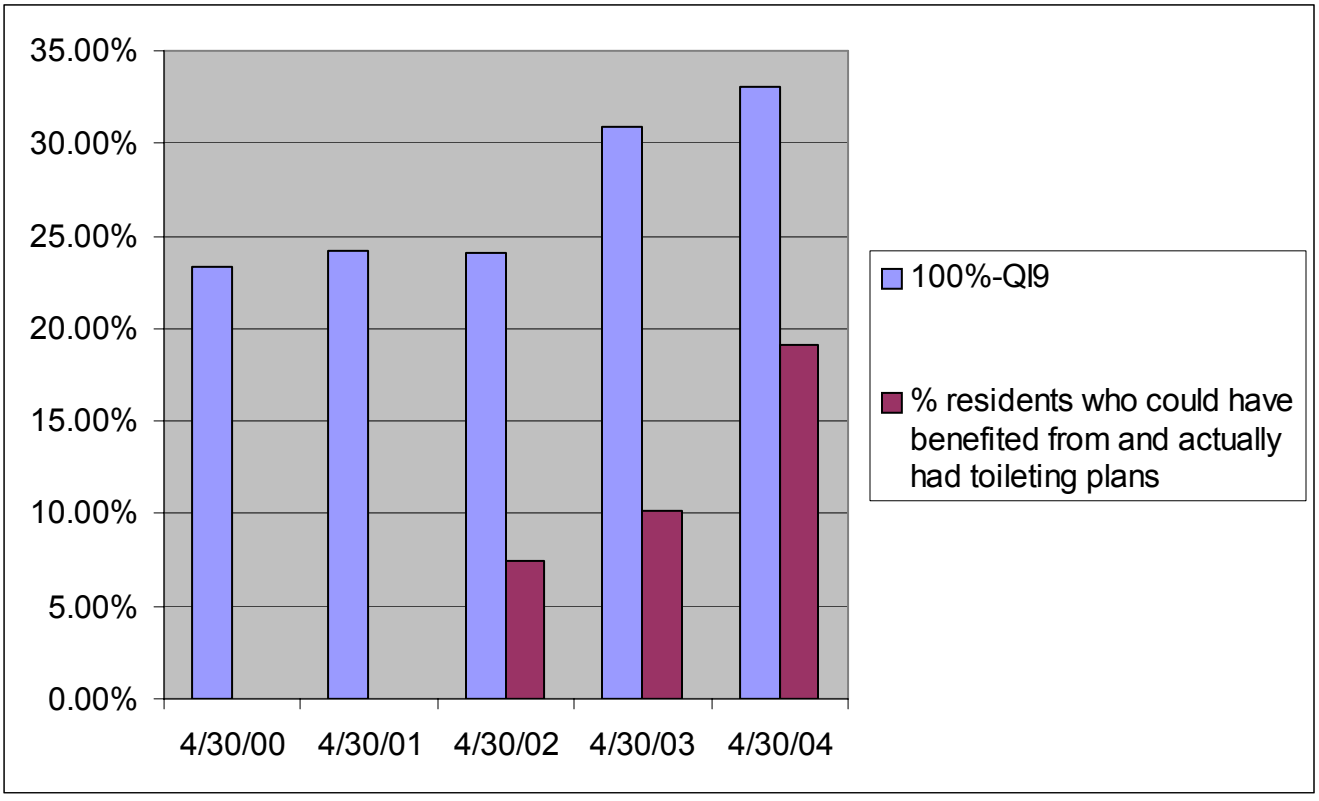
* These values represent statewide population prevalence or incidence calculated from MDS assessments submitted during an interval from January 1 to April 30 each year. The clinical issues for which there is QM program technical assistance appear highlighted.

8.2. Quality Indicators for LTCQR and Quality Outreach Focus Areas

8.2.1. QI9 Prevalence of Urinary Incontinence without a Toileting Plan

The LCQR measure that corresponds most closely to the statewide value of QI9 is the percentage of residents who could have benefited from and actually had toileting plans (Table 5.1 item 4). In the following graph, the statewide value of QI9 (Incontinence without a toileting plan) is expressed as its complement (100%-QI9) in order to depict the prevalence of toileting plans among residents who need them (according to the definition of the QI). The change in the QI9 complement parallels the increase in the use of toileting interventions measured by the LTCQR process. Because of the differences between the definitions of the QI and the corresponding LTCQR measure, some of the change in LTCQR measure is not visible in the QI. That is, providing needed toileting care to residents that the QI definition considers "not candidates for toileting" does not appear as a change in statewide QI.

Figure 8.1 Comparison of QI9 and LTCQR Measure for Urinary Incontinence

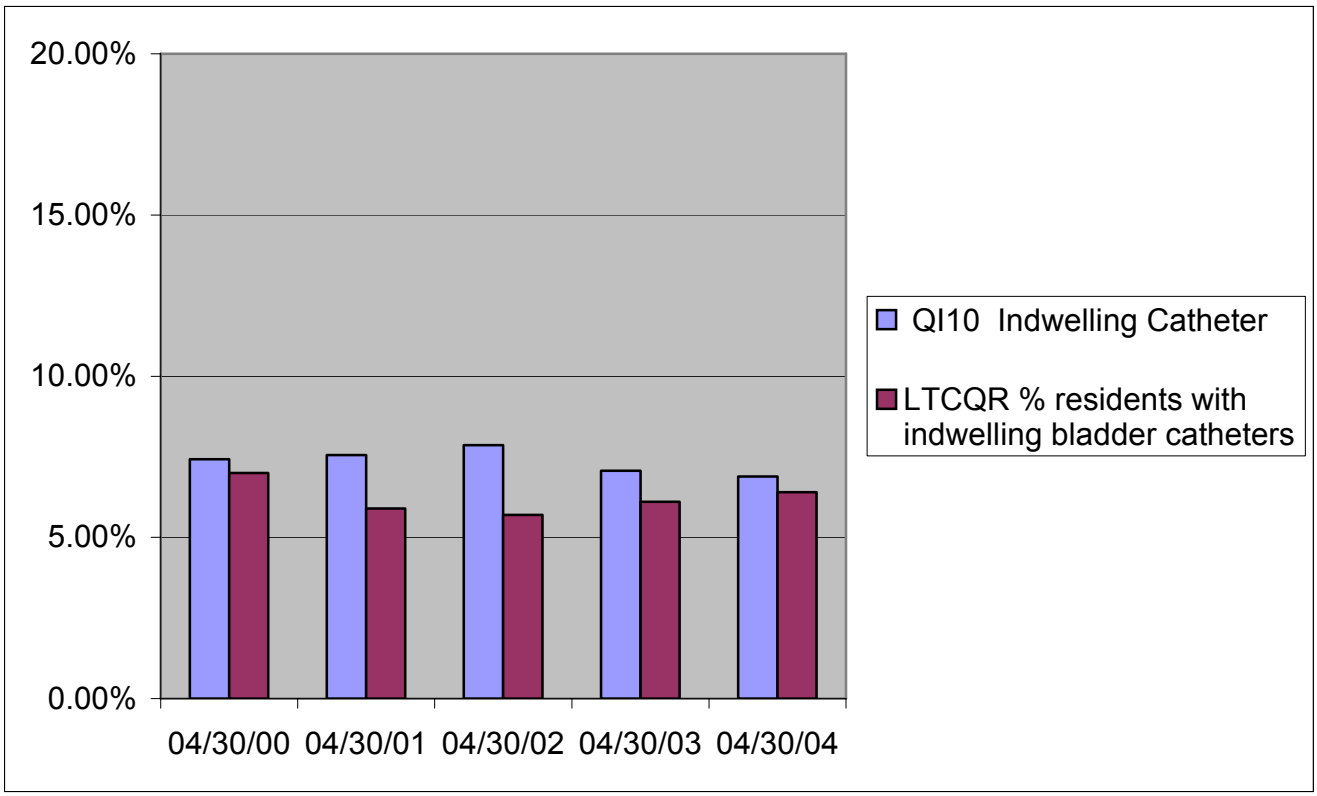


The improvement in QI9 follows the onset of quality monitoring visits to facilities in 2002 after two years of little or no change in QI9 prior to the beginning of the QM program.

8.2.2. QI10 Prevalence of Indwelling Bladder Catheters

The LTCQR measure that corresponds to the statewide value of QI10 is the prevalence of indwelling bladder catheters (Table 5.2 item 1). The variations in the LTCQR measure are not statistically significant. Given the legitimate clinical indications for bladder catheters and the fact that Texas facilities show a catheter use prevalence below the national average, it seems unlikely that a significant proportion of indwelling bladder catheters are clinically unnecessary. What seems more likely is that documentation of the clinical indication for catheter use is often not present in the clinical record. The quality improvements that can be made are likely in clinical evaluation and documentation rather than in decreasing the use of these devices.

Figure 8.2 Comparison of QI10 and LTCQR Measure for Indwelling Bladder Catheters

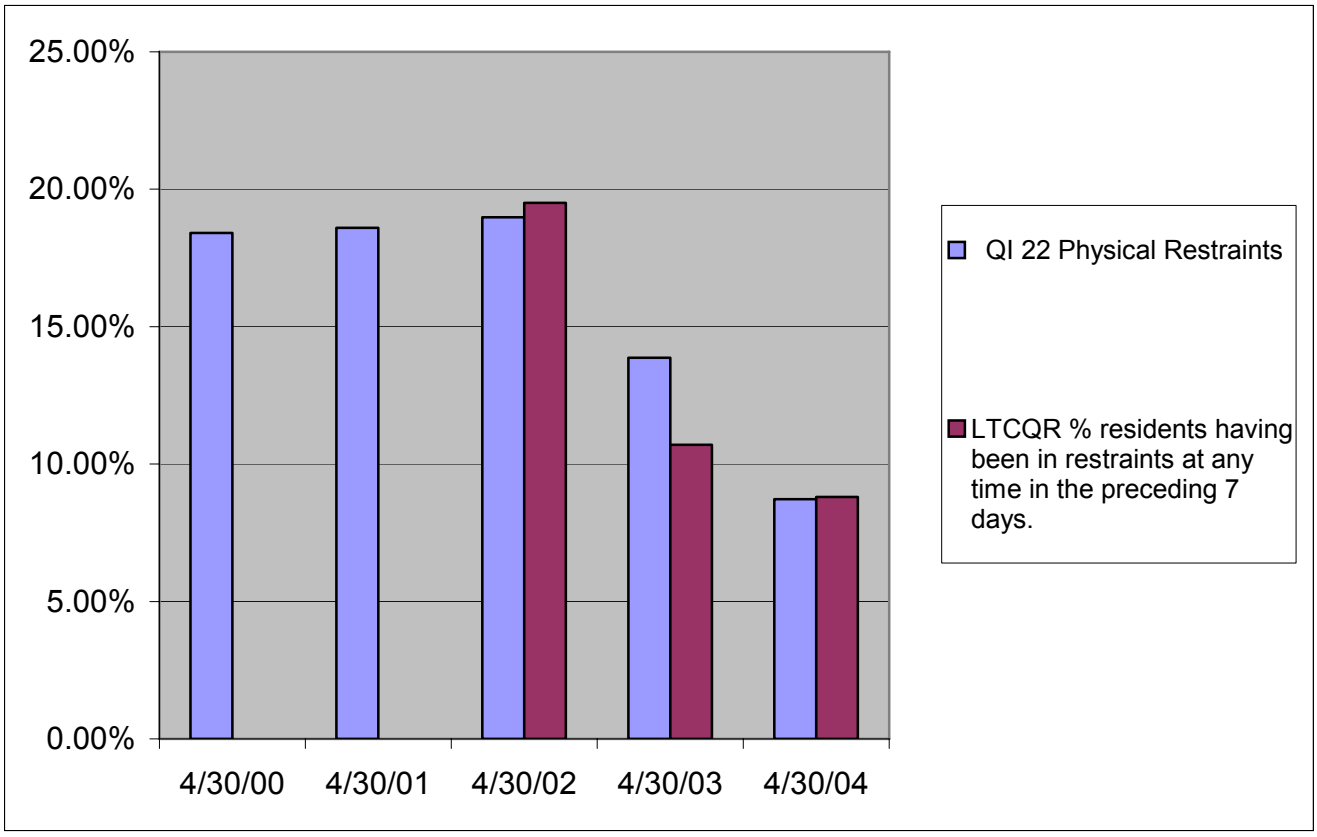


The effect of the QM program is largely invisible since the purpose of addressing this issue in the program was to prevent an avoidable increase in indwelling bladder catheter use that could have occurred because of the program's emphasis on continence promotion. There is no evidence of such an increase either because the technical assistance intervention has been effective or because providers have not resorted to catheters as a makeshift alternative to providing toileting interventions or both.

8.2.3. QI22 Prevalence of Physical Restraint Use

The LTCQR measure that corresponds to the statewide value of QI22 is the prevalence of daily restraint use (Table 5.3 item 1). The decline in QI22 that began when the QM program started in April 2002 parallels that of the LTCQR measure.

Figure 8.3 Comparison of QI22 and LTCQR Measure for Physical Restraint Use



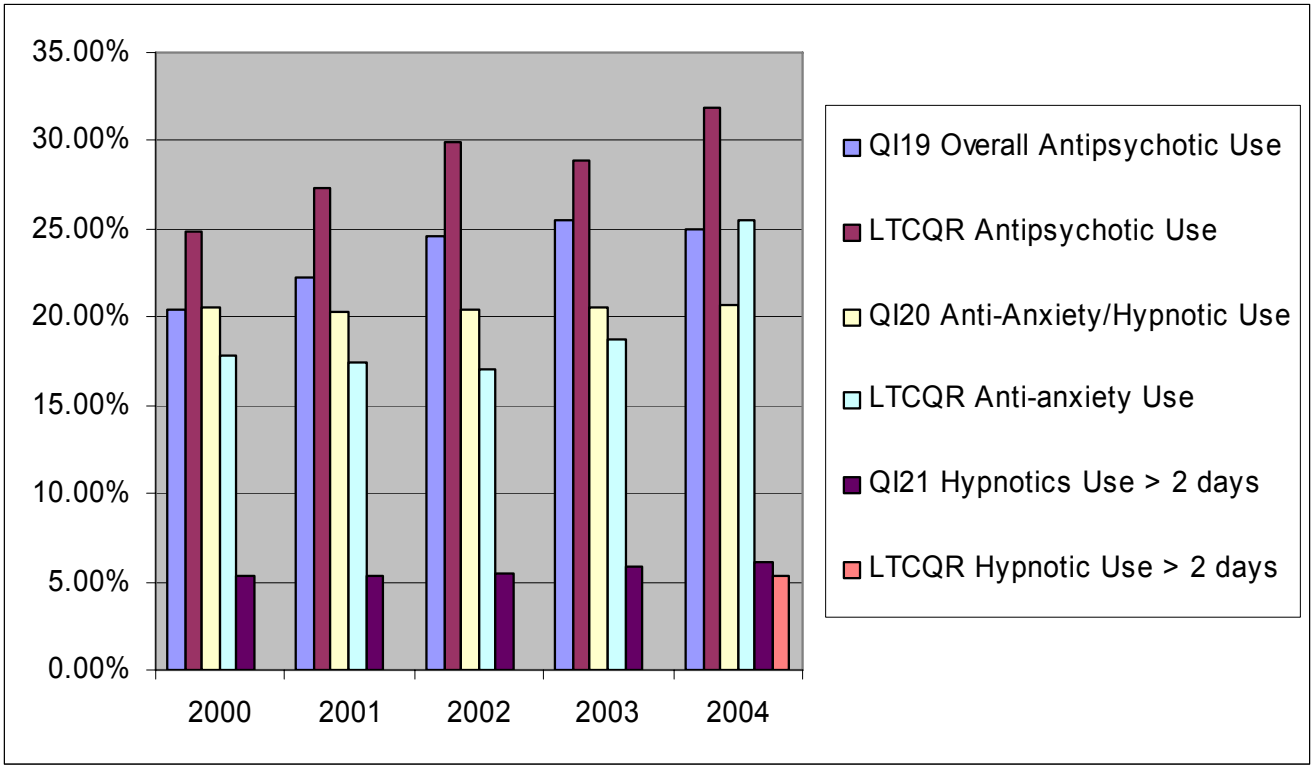
DADS surveyors have given renewed emphasis to CMS requirements regarding restraint use during surveys and investigations since December of 2003. The result has been an increase in the number of deficiencies cited for inappropriate restraint use. This has served to reinforce the QM program message that restraint reduction is a statewide quality improvement priority. In addition, the QM program has begun to provide technical assistance on how to manage residents' risks of falling. Since falls are the most common inappropriate reason for restraint use, this attention guides facilities to address individual fall risks and to look for alternatives to restraints.

The rate of statewide restraint reduction has averaged 0.25% per month during the last six months. If this rate of restraint reduction is maintained, the prevalence of physical restraints in Texas nursing facilities should reach the Texas goal of 5% prevalence by September 2005.

8.2.4. QI19-21 Psychotropic Medication Use

The LTCQR measures that correspond most closely to the quality indicators for antipsychotic use (QI19 Overall), anti-anxiety/hypnotic use (QI20) and hypnotic use for more than two of the last seven days (QI21) are the prevalence figures for these agents (Table 5.10).

Figure 8.4 Comparison of QI19-21 and LTCQR Measures for Psychotropic Drug Use



The following notes are relevant to the interpretation of this figure:

- QI19 is generally lower than the LTCQR measure partly because QI19 excludes residents who have psychoses and related conditions whereas the corresponding LTCQR prevalence does not. The majority of antipsychotics given in nursing facilities appear to be for reasons other than psychoses and related conditions.

- QI20 generally exceeds the corresponding LTCQR prevalence because the LTCQR measure accounts only for medications used for anxiety. In addition, the confidence intervals for the LTCQR include the actual statewide value of the QI.

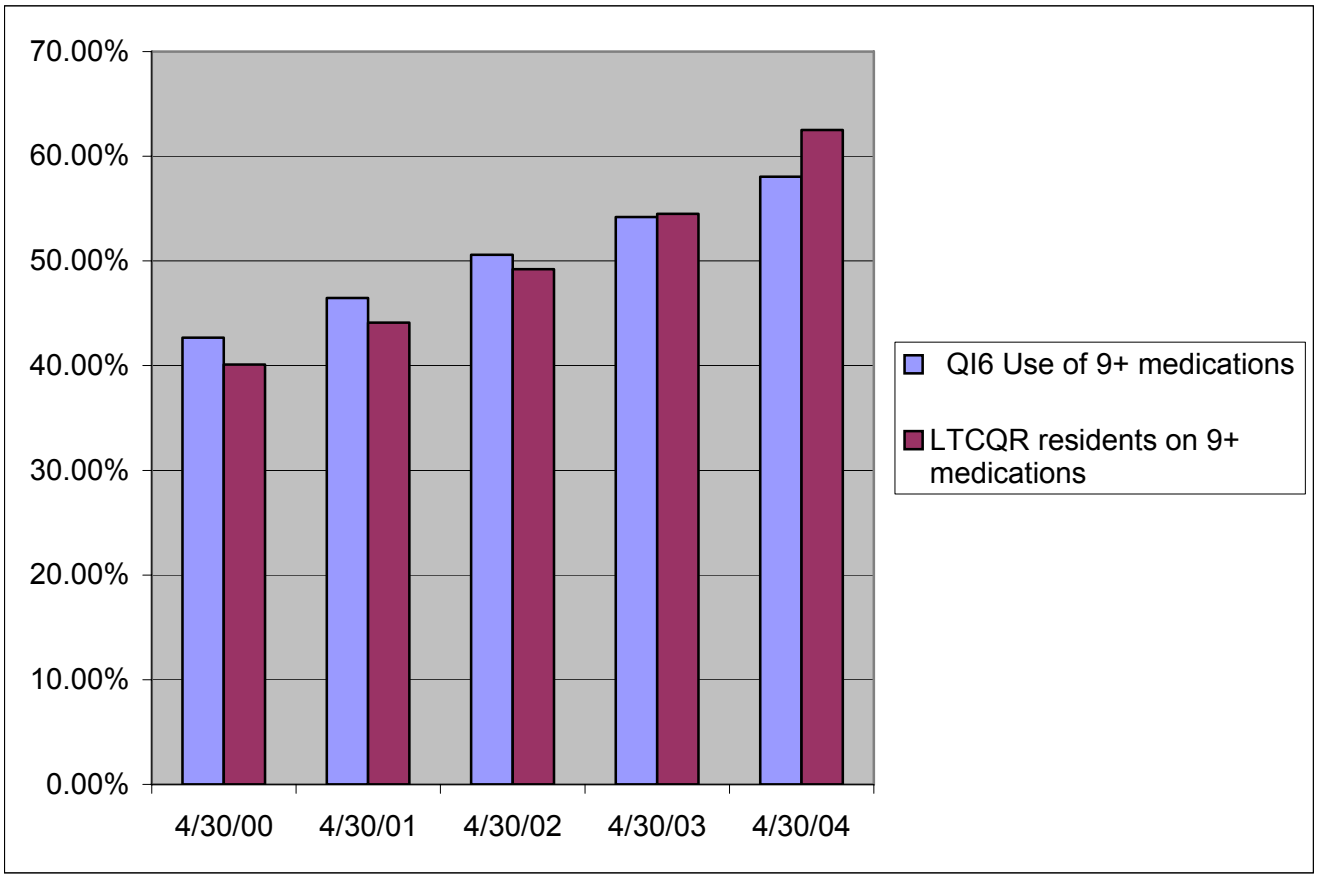
- QI21 is consistent with the observed prevalence of hypnotic use in the 2004 LTCQR.

In general, the statewide values of QI19-21 appear to depict those aspects of nursing facility residents' medication regimens accurately. From 2000 to 2004 there was no visible QM program effect, and that was expected given the small number of QM pharmacist staff.

8.2.5. QI6 Prevalence of Nine or More Medications

The LTCQR measure that corresponds most closely to QI6 is the proportion of residents taking nine of more medications in the preceding seven days. Both the QI and LTCQR measure show a trend of increasing medication use.

Figure 8.5 Comparison of QI6 and LTCQR Measure for Nine or More Drugs



8.3. Conclusions

MDS QIs confirmed the improvements in continence promotion and reduction in the use of physical restraints shown by the LTCQR. The absence of a change in the prevalence of indwelling bladder catheters was expected since the intent of technical assistance was to discourage the misuse of these devices. Polypharmacy and psychotropic medication use show no improvement because there are too few QM pharmacists to stimulate improvement.

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Appendix A: LTCQR Resident Assessment Instrument

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Texas Department of Human Services

Nursing Facility Performance Monitoring Data Instrument

Instructions: CHOOSE ONLY ONE ANSWER FOR EACH QUESTION that offers a choice of responses. Questions marked with an asterisk (*) MUST be answered. Please print clearly.

Part 1. Identifying Information

1.1* Date of Assessment ___ ___/___ ___/___ ___ ___ ___

1.2* Facility's Texas Vendor Number _____

1.3* Quality Review Nurse's Identifier Number ___ ___ ___ ___

1.4* Resident's TDHSmdsID _____

1.5* Resident's Name _____ ___ _____
First Name MI Last Name

1.6* Primary Physician's Name _____ ___ _____
First Name MI Last Name

1.7* Primary Physician's Texas Medical License Number _____

1.8* Does the resident's care plan state that the plan is a *palliative plan of care*?

O [1] Yes O [2] No

1.9* How long has the resident resided in this facility?

O [1] 0-3 months O [2] 3-6 months O [3] 6-9 months
O [4] 9-12 months O [5] 1-2 years O [6] more than 2 years

Part 2. Assessment of Urinary Continence

Questions 2.1 through 2.7 MUST BE ANSWERED. Questions 2.8 through 2.10 MUST BE ANSWERED when the answer to 2.7 is NO.

NOTE: Perform a continence check **(ITEM 2.1)** and restraint check **(ITEM 4.1)** on every resident in the sample prior to collecting the remaining data items for any resident.

2.1* Did you find (see, smell, or feel) evidence of urinary incontinence?

O [1] Yes O [2] No

2.2* Is the resident <u>unresponsive</u> (usual baseline level of responsiveness is comatose, semi-comatose, stuporous, persistent vegetative state, unarousable, etc.)? (This does NOT mean, "Is the resident cognitively impaired." One can be very impaired and still not be unresponsive.)

O [1] Yes O [2] No

2.3* In your professional opinion, does this resident require a mechanical lift or 2-person assistance to get out of bed?

O [1] Yes O [2] No

2.4* Is the resident unable to ambulate or sit for ANY routine daily activity due to pain?

O [1] Yes O [2] No

2.5* Does the resident have a terminal condition or palliative plan of care that precludes toileting?

O [1] Yes O [2] No

2.6* Is a toileting plan (prompted voiding, scheduled voiding or bladder retraining) specifically documented as part of the resident's care plan?

O [1] Yes O [2] No

2.7* Is the resident ALWAYS continent *without needing* a toileting plan, incontinence products or a catheter?

O [1] Yes O [2] No

---------- If you answered YES to item 2.7, then skip to Part 3 ----------

2.8 Have there been two or more episodes of urinary incontinence each week in the last two weeks?

O [1] Yes O [2] No

2.9 Have <u>any</u> of these episodes occurred during normal waking hours?

O [1] Yes O [2] No

2.10 Are there active, Stage III or IV pressure sores involving the sacrum, trochanters or buttocks? (Those pressure sores that due to LOCATION would prevent toileting, bedpan use, and bedside commode use.)

O [1] Yes O [2] No

2.11 Does the resident refuse to use the toilet and all toileting devices (e.g. BSC, urinal, bedpan)**?**

O [1] Yes O [2] No

Part 3. Use of Indwelling Bladder Catheter

Question 3.1 MUST BE ANSWERED. If the answer is YES, then questions 3.2 through 3.9 must be answered.

3.1* Does the resident have an indwelling bladder catheter?

O [1] Yes O [2] No

--------- If you answered NO, then skip to Part 4 ----------

3.2 Has the resident had a catheter longer than 6 weeks?

O [1] Yes O [2] No

3.3 Does the resident's medical therapy prescribed by a physician require an indwelling catheter for an accurate intake and output?

O [1] Yes O [2] No

3.4 Does the resident have an indwelling catheter for the purpose of completing a specific diagnostic evaluation?

O [1] Yes O [2] No

3.5 Does the resident have an indwelling catheter that is being used to administer a prescribed medication? (Do not count routine GU irrigant solutions.)

O [1] Yes O [2] No

3.6 Was the resident admitted or transferred into the facility within the last 6 weeks?

O [1] Yes O [2] No

3.7 Does this resident have a MEDICAL DIAGNOSIS of obstructive uropathy, bladder outlet obstruction, hydronephrosis, detrusor areflexia, detrusor hypo- or hyperreflexia, detrusor-sphincter dyssynergia, vesicoureteral reflux, or infravesicle obstruction due to stricture or prostate pathology? (Answer Yes only if there is documentation that urological, urodynamic, or imaging evaluation has shown one or more of the diagnoses in 3.7.)

O [1] Yes O [2] No

3.8 Does the medical record report two or more post-voiding residual (PVR) urine volumes greater than 200cc?

O [1] Yes O [2] No

3.9 Does the resident have active, Stage III or IV pressure sores that would be vulnerable to urinary moisture? (Count pressure sores regardless of location if urine would contaminate the sores, e.g. fetal position.)

O [1] Yes O [2] No

Part 4. Use of Restraints

The first two questions in this section MUST BE ANSWERED. If the answer to either 4.1 or 4.2 is YES, you must complete all the remaining questions.

4.1* Did you observe the resident to be restrained by limb, waist or trunk restraints?

O [1] Yes O [2] No

4.2* Have limb, waist or trunk restraints been used on this resident any time during the last 7 days (today and the six days before today)? (Note: You cannot answer Yes to 4.1 and No to 4.2.)

O [1] Yes O [2] No

---------- If both 4.1 and 4.2 were answered NO, then skip to Part 5 ----------

Otherwise, every question in the part 4 must be answered.

4.3 On how many days during the last 7 days were restraints applied?

O 1 O 2 O 3 O 4 O 5 O 6 O 7

4.4 On those days that restraints were applied, what was the average time that the resident spent in restraints? (Note: *Not documented* means that you are absolutely sure that there is nothing written in the chart that tells you the number of hours the resident was in restraints.)

O 1 Less than 2 hours O 2 2-4 hours O 3 4 to 6 hours
O 4 6 to 8 hours O 5 8 hours or more O 6 Not documented

4.5 Did the resident or family request the restraints? (Note: If a family agrees to restraints but did not actually initiate them as a direct request, answer NO.)

O 1 Yes O 2 No

4.6 Was a physician's order for restraints in effect during the entire time they were applied?

O 1 Yes O 2 No

4.7 Does the use of restraints appear in the resident's care plan?

O 1 Yes O 2 No

4.8 Which, if any, of the following are documented as reasons for using restraints on this resident? (Answer YES to all that apply.)

4.8.1 History of Falls?

O 1 Yes O 2 No

4.8.2 Fall Risk? (e.g., weakness, poor muscle control, unstable gait or balance, or documented fall risk assessment)

O 1 Yes O 2 No

4.8.3 Formal fall risk assessment instrument in the clinical record?

O 1 Yes O 2 No

4.8.4 Wandering?

O 1 Yes O 2 No

4.8.5 Resident is physically violent to self or others?

O [1] Yes O [2] No

4.8.6 Resident exhibits sexually inappropriate behavior?

O [1] Yes O [2] No

4.8.7 Risk of removing Central IV Line or Endotracheal Tube?

O [1] Yes O [2] No

4.8.8 Risk of removing other medical device? (i.e., peripheral IV, G-tube, dressings, etc.)

O [1] Yes O [2] No

4.8.9 Has the resident removed own, <u>inflated</u> indwelling bladder catheter?

O [1] Yes O [2] No

4.8.10 Hip fracture with ORIF (not a total hip replacement) within the past 6 weeks?

O [1] Yes O [2] No

4.9 Were relevant alternatives tried prior to ordering restraints? (Refer to NACES training list of relevant interventions if necessary.)

O [1] Yes O [2] No

Part 5. Pain Assessment

5.1* What is the resident's current level of pain? Perform the assessment with the Wong-Baker tool provided. (Note: *Unable to determine* means that you cannot determine the resident's level of pain because the resident cannot tell you.)

O [1] no pain O [2] mild O [3] moderate
O [4] severe O [5] very severe O [6] worst O [7] Unable to determine

5.2* According to the last 7 days of documentation in the clinical records, what has the resident's most severe level of pain been? (Note: *Unable to determine* means that the clinical record does not address the presence or absence of pain.)

O [1] no pain O [2] mild O [3] moderate
O [4] severe O [5] very severe O [6] worst O [7] Unable to determine

5.3* Is either the Pain Assessment in Advanced Dementia (PAINAD) or ADD behavior assessment protocol being used to assess the resident's pain?

O [1] Yes O [2] No

5.4* Is another validated pain assessment tool also used to assess the resident's pain?
(e.g., Wong-Baker Scale, Pain thermometer, a six-step verbal description scale or a numeric 0-10 rating scale)

O [1] Yes O [2] No

5.5* Are the same assessment tool(s) used every time the resident is assessed for pain?

O [1] Yes O [2] No

5.6* Is the resident (or family) satisfied with the resident's level of pain relief during the last 24 hours? (Note: *Unable to determine* means that neither the resident nor family can tell you.)

O [1] Yes O [2] No O [3] Unable to determine

Part 6. Fall Risk Assessment

6.1* Is there evidence that the resident was assessed for fall risks within 14 days of admission or within 14 days of the most recent FULL MDS assessment? (Use most recent event.)

O [1] Yes O [2] No

6.2* Is there evidence that the resident fell in the past 30 days AND was in the facility at some point in the subsequent 24 hrs?

O [1] Yes O [2] No

---------- If question 6.2 was answered NO, then skip to Part 7 ----------

6.3 If the resident fell in the last 30 days, is there documentation that the resident was reassessed for fall risks within 24 hours after the fall?

O [1] Yes O [2] No O [3] Transferred to ER or Hospital

Part 7. Immunizations

7.1* Is there <u>any</u> documentation that the resident has ever received polyvalent Pneumococcal vaccine? (Any form of documentation is acceptable.)

O [1] Yes O [2] No

7.2* Is there <u>proper documentation</u> of the pneumococcal vaccine that the resident received? (Look for documentation of Pneumovax or Pneu-Immune. Documentation must be by the entity that actually gave it and must include date, name of vaccine, and signature. "Received at hospital," alone is not sufficient unless the document, such as a discharge summary, is from the hospital itself. The same applies to doctor's offices, clinics, etc)

O [1] Yes O [2] No

7.3* Is there <u>any</u> documentation that Influenza vaccine for the 2003 Influenza Season was given? (Any form of documentation is acceptable.)

O [1] Yes O [2] No

7.4* Is there <u>proper documentation</u> that Influenza vaccine for the 2003 Influenza Season was given? (Documentation must be by the entity that actually gave it and must include date, name of vaccine, and signature. "Received at hospital," alone is not sufficient unless the document, such as a discharge summary, is from the hospital itself. The same applies to doctor's offices, clinics, etc)

O [1] Yes O [2] No

7.5* In what month did the resident receive a 2003 Influenza Season Vaccine? (See documentation requirements in 7.1.)

O [1] Aug '03 O [2] Sep '03 O [3] Oct '03 O [4] Nov '03
O [5] Dec '03 O [6] Jan '04 O [7] Feb '04 O [8] Mar '04
O [9] Apr '04 O [9] May '04 O [10] Influenza Vaccine was <u>Not Given</u>

7.6* Is there evidence that the resident is allergic to either eggs or a previous Influenza shot or has had Guillain-Barré syndrome (GBS)?

O [1] Yes O [2] No

7.7* Is there documentation that the resident (or family) REFUSED the Influenza shot?

O [1] Yes O [2] No

Part 8. Advance Care Planning

8.1* After a careful search through the clinical record did you find any of the following ACP documents: Out of Hospital DNR (OOHDNR), Directive to Physicians, Durable Medical Power of Attorney, or care-limiting orders such as DNR, Do-not-intubate, Do-not-hospitalize?

O [1] Yes O [2] No

8.2* According to facility documents, when did the facility staff first discuss advance care planning with the resident or family?

O [1] Prior to admission
O [2] Within 21 days of admission
O [3] Within the first 90 days of admission
O [4] 90 or more days after admission
O [5] Advance Care Planning has not been discussed with the resident or family

8.3* Did the facility staff discuss advance care planning with the resident or family within the 21 days after the most recent full MDS assessment?

O [1] Yes O [2] No

---------- If question 8.1 was answered NO, then skip to Part 9 ----------

8.4 On first accessing the chart, were you able to find all of the existing advance directives and care limiting order documents within 30 seconds?

O [1] Yes O [2] No

8.5 Is the care being provided consistent with the instructions in the advance care planning documents?

O [1] Yes O [2] No

Part 9. Use of Anti-anxiety Medications

9.1* Is there documentation of a psychiatric consultation or a primary care visit that gives a diagnosis of generalized anxiety disorder, panic disorder, social anxiety disorder, agoraphobia, PTSD, or anxiety due to a medical illness that is not Dementia?

O [1] Yes O [2] No

9.2* Is there documentation of <u>one or more</u> anxiety symptoms characteristic of the disorder identified in 9.1? (See the table of specific anxiety symptoms. If item 9.1 is answered No, then 9.2 must be answered No.)

O [1] Yes O [2] No

9.3* Is there documentation that the resident has been assessed for anxiety symptoms using a Beck Anxiety Inventory or Hamilton Anxiety Scale in the past 6 months?

O [1] Yes O [2] No

9.4* Does the care plan provide explicit, measurable goals for the treatment of anxiety?

O [1] Yes O [2] No

9.5* Is there documentation of ongoing anxiety symptom assessment (at least every 2 weeks) for the stated, measurable therapeutic goals of anti-anxiety therapy? (Notes: If the answer to 9.4 is NO (there are no specific treatment goals), then the answer to 9.5 MUST BE NO. If the answer to 9.4 is YES, then the reassessments **must** address the therapeutic goals identified in 9.3. If they do not, the answer for question 9.4 is NO.)

O [1] Yes O [2] No

Part 10. Use of Hypnotic Medications

10.1* Has the resident complained of sleep problems within the last 14 days?

O [1] Yes O [2] No

10.2* Has the resident had a hospitalization, experienced a sudden loss of physical functioning or independence, experienced the death of a loved one, or had a significant change in personal environment in the last 14 days? (e.g., a change in personal environment can be new admission to the facility, loss of roommate, new roommate, or conflict with family)

O [1] Yes O [2] No

10.3* Do the <u>last 14 days of MAR</u> show an active prescription for sleep problems?

O [1] Yes O [2] No

10.4* Is there evidence that the resident has been evaluated for sleep hygiene including <u>all</u> of the following: diet history, daytime habits, sleeping habits, and sleeping environment? (Refer to training manual for examples.)

O [1] Yes O [2] No

10.5* Has the resident's sleep pattern been consistently monitored <u>during the last 14 days</u>?

O [1] Yes O [2] No

Part 11. Consumer Satisfaction

Question 11.1 MUST BE ANSWERED. If the resident is unable to answer, then a family member or guardian may answer. No other individual may answer for the resident. If ANY question from 11.2 to 11.16 is answered, then EVERY question in this section must be answered.

11.1* Who is answering this consumer satisfaction survey?

O[1] Resident O[2] Family member or Guardian O[3] Neither is able to answer

------- If question 11.1 was answered "Neither is able to answer", then stop --------

11.2 Was a translator used for the Consumer Satisfaction survey?

O [1] Yes O [2] No

For items 11.3 through 11.16, use the following scale to choose the most appropriate response to the questions below.

1=Very Dissatisfied **2=Dissatisfied** **3=Somewhat Dissatisfied**
4=Neither* **5=Somewhat Satisfied** **6=Satisfied**
7=Very Satisfied **8=No Opinion** *Neither satisfied nor dissatisfied

For the following questions, circle the number that best reflects your level of agreement to each statement.	Very Dissatisfied	Dissatisfied	Somewhat Dissatisfied	Neither	Somewhat Satisfied	Satisfied	Very Satisfied	No Opinion
11.3 How satisfied are you (your family member) with the facility's food service? (e.g. providing foods that you like, served the way you prefer them, etc.)	1	2	3	4	5	6	7	8
11.4…the facility's use of restraints on you (your family member)? (Restraints are lap belts, chair trays and other devices that the resident cannot remove and that limit the resident's ability to move freely)	1	2	3	4	5	6	7	8
11.5 ... the facility's ability to provide activities that you (your family member) enjoy(s)? (e.g. recreational activities, arts and crafts, outings, events, pets, etc. that you used to do and enjoy)	1	2	3	4	5	6	7	8

For the following questions, circle the number that best reflects your level of agreement to each statement.	Very Dissatisfied	Dissatisfied	Somewhat Dissatisfied	Neither	Somewhat Satisfied	Satisfied	Very Satisfied	No Opinion
11.6 ... the facility's ability to provide activities that keep you (your family member) as physically active as possible? (e.g. exercises, physical games, opportunities for walks, stretching, passive exercise including passive Range of Motion etc. appropriate to your needs)	1	2	3	4	5	6	7	8
11.7 How satisfied are you (your family member) with the facility's ability to provide activities that keep you (your family member) as mentally alert as possible? (e.g. puzzles, crossword puzzles, card and board games, bingo, reading, writing, discussion, drama, art, etc. appropriate to your needs)	1	2	3	4	5	6	7	8
11.8 ... the facility's ability to meet your (your family member's) emotional needs? (e.g. providing a supportive environment in which you can express your feelings, providing comfort or listening when you need it, or helping you to obtain family, social worker or other support when you need it)	1	2	3	4	5	6	7	8
11.9 ... the facility's ability to meet your (your family member's) spiritual needs? (e.g. respecting your religious practices, providing you with spiritual counseling or whatever spiritual support and comfort you are accustomed to having)	1	2	3	4	5	6	7	8
11.10 ... the facility's ability to respond to your (your family member's) requests for assistance? (e.g. answering call lights, getting help to the dining room, etc.)	1	2	3	4	5	6	7	8
11.11 ... the facility's ability to not use sleeping medicines or chemical restraints solely for the convenience of the staff? (e.g. not prescribing sleeping medicines, sedatives or behavior control drugs when the facility is short staffed or the staff is not adequately trained)	1	2	3	4	5	6	7	8
11.12 ... the facility's ability to assure that the doctor is not prescribing medicines for you (your family member) that are causing undesirable side effects? (e.g. discontinuing medicines when they cause dizziness, confusion, falls, and other problems)	1	2	3	4	5	6	7	8

For the following questions, circle the number that best reflects your level of agreement to each statement.	Very Dissatisfied	Dissatisfied	Somewhat Dissatisfied	Neither	Somewhat Satisfied	Satisfied	Very Satisfied	No Opinion
11.13 How satisfied are you (your family member) with the facility's ability to provide toileting care that meets your (your family member's) needs? (e.g. assistance to the toilet, assistance with personal hygiene, not using diapers just because it is more convenient for the facility)	1	2	3	4	5	6	7	8
11.14 ... the facility's ability to meet your (your family member's) social needs? (e.g. having visitors come in to visit with you, helping residents sit next to one another so they can talk, etc.)	1	2	3	4	5	6	7	8
11.15 ... the facility's ability to comply with your (your family member's) wishes regarding end-of-life care? (e.g. avoiding unwanted procedures, hospitalization or other treatment that is not wanted)	1	2	3	4	5	6	7	8
11.16 Overall, how satisfied are you with your (your family member's) experience in this nursing facility?	1	2	3	4	5	6	7	8

I certify by my signature below that the *TDHSmdsID* number of the resident has been doubled-checked for accuracy, and that the information in this document is an accurate assessment of the resident.

QR Nurse Signature_____Date_____

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Appendix B: Provider Survey of the Quality Monitoring Program

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Instructions: Please ask the person who is the most knowledgeable about the Quality Monitoring program visit(s) to the facility and have that person respond to the questions below. For items 1 through 6, use the scale below to choose the most appropriate answer. Items 7 and 8 require a Yes or No response. For items 9 and 10, choose the best single answer.

1 = Strongly Disagree **2 = Disagree** **3 = Neutral** **(Do not agree or disagree)**
4 = Agree **5 = Strongly Agree** **8 = Not Applicable** **(Have not yet had)**

Using the scale above, circle the number that best reflects your level of agreement to each statement.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Applicable
1. The educational resources provided during quality monitoring visits have helped us enhance the quality of resident care.	1	2	3	4	5	8
2. The quality monitoring visit reports have helped us enhance the quality of resident care.	1	2	3	4	5	8
3. In the past 12 months, our facility has shown measurable progress in improving resident outcomes in the following quality monitoring program focus areas: e. Reducing restraint use.	1	2	3	4	5	8
f. Instituting toileting plans.	1	2	3	4	5	8
g. Removing bladder catheters that have no compelling medical indication.	1	2	3	4	5	8
h. Increasing immunizations.	1	2	3	4	5	8
i. Reducing antipsychotic drug use.	1	2	3	4	5	8
j. Reducing fall risks.	1	2	3	4	5	8
k. Improving the assessment of pain.	1	2	3	4	5	8
l. Improving the treatment of pain.	1	2	3	4	5	8
m. Reducing inappropriate use of hypnotics.	1	2	3	4	5	8
n. Reducing inappropriate use of anti-anxiety drugs.	1	2	3	4	5	8
4. Quality monitor in-service trainings have helped us: o. Reduce the use of restraints.	1	2	3	4	5	8
p. Implement toileting for urinary incontinence.	1	2	3	4	5	8

Using the scale above, circle the number that best reflects your level of agreement to each statement.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Applicable
q. Implement our own QI activities.	1	2	3	4	5	8
5. Quality monitor peer education meetings have helped us: r. Reduce restraint use.	1	2	3	4	5	8
s. Implement toileting for urinary incontinence.	1	2	3	4	5	8
6. The information found on the Quality Monitoring web site (QMWeb) has helped our facility enhance the quality of resident care.	1	2	3	4	5	8

7. We have Internet access in the facility (e.g., in the business office). O [1] Yes O [2] No

8. Our Director of Nurses or nursing staff has Internet access. O [1] Yes O [2] No

9. What is your primary role at the facility?

   O [1] Director of Nurses
   O [2] Facility administrator
   O [3] Medical director
   O [4] The Owner
   O [5] Other

10. How many years of experience do you have in your primary role?

    O [1] < 1 year
    O [2] 1-2 years
    O [3] > 2 years

***** Please make sure to fill in the facility vendor number and the date.

Vendor number:* _____	Name of person completing the form: _____
Date:* __ __ / __ __ / __ __ __ __	Job title: _____
Tel No.: (__ __ __) __ __ __ __ __ __ __	Signature: _____

Appendix C: S.B. 1839 Quality Monitoring Priorities

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Quality Monitoring: Statewide Quality Improvement Priorities

All of the following topics were addressed in QM and Rapid Response Team visits conducted during the twelve months preceding this report. All of the topics will continue to be QM program quality improvement priorities in 2005.

Discipline	Topic	From - To
Nursing	Restraint Reduction	2002 - present
	Continence Promotion Through Toileting	2002 - present
	Appropriate Use of Indwelling Bladder Catheters	2002 - present
	Falls	2004 - present
	Pain Assessment	2004 - present
	Vaccinations for influenza (staff and residents) and Pneumococcal Pneumonia (residents)	2004 - present
Pharmacy	Pain Management	2004 - present
	Appropriate Use of Antipsychotic Medications	2002 - present
	Appropriate Use of Anti-anxiety Medications	2004 - present
	Appropriate Use of Sedatives and Hypnotics	2004 - present
	Medication Regimen Simplification - Polypharmacy	2004 - present
Nutrition	Addressing Unintended Weight Loss	2002 - present
	Preventing Dehydration	2002 - present