

# **2006 Nursing Facility Quality Review**

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

Prepared by

**Texas Department of Aging and Disability Services**  
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## Acknowledgments

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# 1. Executive Summary

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The Nursing Facility Quality Review is a statewide process used by the Department of Aging and Disability Services to benchmark the quality of Medicaid-contracted nursing facility services. It also serves to identify opportunities for statewide improvement, to measure statewide changes in the quality of nursing facility services across time, and to inform the evaluation of Texas Department of Aging and Disability Services interventions meant to improve the quality of resident care.

The Nursing Facility Quality Review is based on a process of on-site structured resident assessment (Appendix A) conducted in Texas nursing facilities by contractors who have Long Term Care clinical experience. The purpose of these assessments is to determine whether the right care is being provided in the right way at the right time in order to achieve the best possible resident outcomes. The care of 1,986 randomly selected nursing facility residents was assessed for this report in order to determine whether:

- Residents were receiving needed continence promotion interventions
- Indwelling bladder catheters were used appropriately
- Recommended fall risk management practices were used appropriately
- Residents were being properly assessed for pain
- The assessment and management of pain were effective
- Immunizations were used appropriately to prevent certain respiratory infections
- Advance care planning was used appropriately
- Artificial nutrition and hydration was used appropriately
- There were opportunities for improving the effectiveness of infection control and the appropriateness of antibiotic usage
- Certain classes of psychoactive medications were used appropriately
- Medication regimens afforded individuals an optimal level of safety

In this Nursing Facility Quality Review cycle, the department also examined residents' quality of life using an instrument designed for future use by the Center for Medicare & Medicaid Services.



## 1.1. Approach to Assessing the Quality of Texas Long Term Care

Nursing facilities are required by federal and state law to submit a uniform functional assessment on each resident each quarter. This assessment is the Minimum Data Set Resident Assessment Instrument (MDS-RAI or MDS). Data from the Minimum Data Set can be used to determine the prevalence and incidence of certain clinical conditions (e.g., falls, fractures, behavioral symptoms, etc.) as well as the use of certain interventions such as continence promotion plans and the use of certain classes of medications. These incidence and prevalence figures are called *quality indicators*.

The Nursing Facility Quality Review examines the care of a statewide nursing facility resident sample in order to ascertain whether *what is going on* is clinically appropriate. The standards for appropriateness of care are determined from systematic reviews of the clinical research literature rather than from regulatory requirements or the clinical experiences of individual reviewers.

## 1.2. Key Findings

### 1.2.1. Appropriateness of Continence Promotion

- In 2006, 40% of Texas nursing facility residents were observed to be wet. While an improvement over 2004 and 2005 when 45% and 48% of all residents were observed to be wet, it is still more than the 2003 observed prevalence of 32%.
- Continence promotion interventions continue to be under-utilized in Texas nursing facilities. Approximately 40% of residents who experience incontinence could be expected to benefit from continence promotion interventions, yet less than 10% actually receive them.

### 1.2.2. Appropriateness of Indwelling Bladder Catheter Use

- The Nursing Facility Quality Review process has audited the use of indwelling bladder catheters (a conduit placed in the urinary bladder in order to provide continuous urinary drainage) for six years. This was in part, to guard against the misuse of catheters and to manage uncomplicated urinary incontinence. Misuse of catheters appears to occur so rarely that including this topic in subsequent Nursing Facility Quality Review cycles is not warranted.

### 1.2.3. Appropriateness of Fall Risk Management Practices

- Although all nursing facility residents need assessment for fall risks in order for caregivers to implement resident-specific risk management interventions,

only 58% of residents received appropriate assessment in 2006. The modest improvement in assessment noted from 2004 to 2005 (60% to 65%) was not sustained.

- From 2005 to 2006, there was no significant change in the frequency of appropriate post-fall reassessment.
- Although there was a statistically significant decrease in the frequency of reported falls, this decrease may reflect lack of accuracy of fall documentation or the thoroughness of chart review rather than an actual decrease in falls.

#### 1.2.4. Appropriateness of Pain Assessment and Pain Control

- The prevalence of moderate-to-severe pain among residents during the most recent seven days was 13.4%. As in the preceding two years, this was significantly higher than the corresponding statewide figure reported by the Centers for Medicare & Medicaid Services (CMS).<sup>\*</sup>
- Some of the improvement gained from 2004 to 2005 regarding the timely assessment for pain symptoms was lost from 2005 to 2006. All of the improvement seen last year regarding the use of validated pain assessment tools was lost in 2006.<sup>†</sup>
- The improvement gained from 2004 to 2005 regarding the use of validated pain assessment tools appropriate for persons with severe cognitive impairment was sustained in 2006.<sup>‡</sup> Yet, the majority of such residents continue to be assessed for pain using less appropriate tools or to be not assessed at all.
- The improvement gained from 2004 to 2005 regarding the timeliness of pain assessment among persons with severe cognitive impairment was lost in 2006. Only 44% of such residents had any kind of pain assessment in the preceding seven days.
- Among residents experiencing moderate-to-severe pain, the proportion reporting satisfactory pain control in the preceding 24 hours did not change significantly from 2004 to 2006.

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<sup>\*</sup> The Texas and national averages for the prevalence of moderate-to-severe pain reported by the Centers for Medicare & Medicaid Services (<http://www.medicare.gov/NHCompare> accessed October 16, 2006) were both 5% in the summer of 2006. The Nursing Facility Quality Review findings suggest that the CMS figures represent a lower limit for the prevalence of moderate-to-severe pain.

<sup>†</sup> These findings apply to the subgroup of residents who had little or no cognitive impairment.

<sup>‡</sup> Validated observational tools refers to behavioral assessment instruments such as the Pain Assessment in Advanced Dementia (PAINAD) and Discomfort Scale for Dementia of the Alzheimer's Type (DS-DAT) scales that have been tested in study samples representative of nursing home residents.

#### 1.2.5. Appropriateness of Immunization Practices

- The rate of resident vaccination for influenza improved significantly from 62% in 2005 to 76% in 2006.
- There was significant improvement in resident vaccination for pneumococcal disease. The vaccination rate improved from 40% in 2005 to 59% in 2006.
- The national goal for the rate of vaccination against influenza for long term care workers for the year 2010 is 90%. Vaccinating facility staff represents a significant opportunity to improve patient safety in long term care. At 29%, the vaccination rate for Texas nursing facilities is far below the national average.

1.2.6. Appropriateness of Advance Care Planning – Advance Care Planning is the process by which individuals can make their health care wishes known in advance of serious illness that could impair their ability to make or articulate their treatment choices.

- Compared to 2004 and 2005, residents in the 2006 Nursing Facility Quality Review sample were significantly less likely to have had a timely, initial advance care planning discussion or to have advance directives.
- The Out of Hospital Do Not Resuscitate document was the most frequently used Advance Directive; 55.4% of all residents had one.

#### 1.2.7. Appropriateness of Artificial Nutrition and Hydration

- The proportion of residents receiving artificial nutrition and hydration for a condition in which there is no evidence that artificial nutrition and hydration benefits the person decreased significantly from 2005 to 2006 (57.6% vs. 41.1%). This was a significant improvement.
- Establishing measurable therapeutic goals for artificial nutrition and hydration, and evaluating artificial nutrition and hydration therapy against those goals, continues to be a significant opportunity for statewide improvement. Rigorous evaluation of artificial nutrition and hydration therapy was absent in 82.5% of the instances where artificial nutrition and hydration were ordered.

#### 1.2.8. Infections and Antibiotic Use in Texas Nursing Facilities

- Texas nursing facility residents are treated with antibiotics about 15 times per 1000 days. This figure exceeds most nursing facility antibiotic usage rates in the clinical literature (2 to 12 antibiotic courses per 1000 days).

- About 5% of all residents treated for infections in Texas nursing facilities were being treated for a multi-antibiotic resistant infection.

#### 1.2.9. Appropriateness of Psychoactive Medication Use

- The prevalence of antipsychotic medication use in Texas nursing facilities, which was higher than the national average for several years, has decreased gradually each of the past three years. This modest improvement has been accompanied by a gradual increase in the prevalence of anti-anxiety medication use, which is generally considered to be a safer alternative to the use of antipsychotics in the elderly.
- In the past four years, there has been no improvement in adherence to Omnibus Reconciliation Act-87 (OBRA-87) guidelines for antipsychotic medication use. In 2006, 40% of all nursing facility antipsychotic medications were ordered in the absence of a Centers for Medicare and Medicaid Services-approved (OBRA-87) clinical indication.
- Only 7.3% of residents for whom anti-anxiety medications were ordered had a diagnosable anxiety disorder. Documented monitoring of the resident's response to treatment (e.g., for beneficial or adverse effect) was virtually non-existent (0%).
- Since 2004, there has been a gradual increase in the prevalence of medications ordered for sleep. Documented monitoring of the resident's response to these medications is distinctly uncommon.

#### 1.2.10. Prescribing Practices and Patient Safety

- Among residents 65 years and older, the proportion receiving nine or more routine or as-needed medications has increased steadily each of the past seven years. In the 2006 Nursing Facility Quality Review, 75.2% of residents were on such complex medication regimens.
- The increase in medication regimen complexity has been attended by a significant increase in the use of medications that have poor safety profiles in the geriatric population. In 2006, 25.4% of older residents were receiving at least one medication that was not appropriate for older persons.
- The reduction in the use of propoxyphene, noted from 2004 to 2005, was sustained in 2006. Propoxyphene has little benefit over acetaminophen – a safer and non-narcotic analgesic.

- In 2005, about 4% of older residents in the 2005 Nursing Facility Quality Review sample were taking a drug regimen that included one or more of the top ten most hazardous drug interactions without another medication that could have mitigated the hazardous interaction. In 2006, only 2.9% of older residents were on such combinations.

#### 1.2.11. Quality of Life and Consumer Satisfaction

- The quality of life domain showing the highest level of performance was personal safety and security. Most residents felt safe and secure.
- There are significant opportunities to improve residents' quality of life in the domains of privacy, enjoyable activities, the security of personal belongings, and in meeting each resident's food preferences.
- Overall, satisfaction was the lowest that it has been in four years. Only 72% of respondents answered that they were satisfied or very satisfied with their experience at the nursing facility.

#### 1.2.12. Minimum Data Set (MDS)-based Quality Indicators

- Based on the Minimum Data Set prevalence figures for indwelling bladder catheters (QI 9), tube feedings (QI 14), polypharmacy (QI 6), and psychoactive medication use (QI 19, 20, 21) were consistent with the findings of the Nursing Facility Quality Review.
- The Minimum Data Set prevalence for incontinence without a toileting plan is not consistent with the findings of the Nursing Facility Quality Review. Most of the disagreement is attributable to differences in the definitions of Quality Indicator 9 and the corresponding Nursing Facility Quality Review quality measure.

## 2. Introduction

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### 2.1. Purpose

The Nursing Facility Quality Review process, previously titled Long Term Care Quality Review, initiated in the year 2000 as directed by the 2000-2001 General Appropriations Act (Article II, Department of Human Services, Rider 32, HB 1, 76<sup>th</sup> Legislature, Regular Session, 1999) is a statewide assessment of the quality of resident services and consumer satisfaction in Medicaid-contracted nursing facilities. The original purposes of this process were to measure the quality of long term care services, to stimulate improvement in the quality of those services, and to compare the first-hand resident assessments performed by independent reviewers to those reported by facility staff in the Minimum Data Set (MDS).<sup>§</sup>

The Nursing Facility Quality Review process has shown that the quality review process itself, in the absence of targeted interventions, does not lead to quality improvement. It has also established that some important Minimum Data Set data elements that represent simple observations are reported very reliably by nursing facility staff while others that require clinical interpretation or complex observation are more susceptible to errors of over- and under-reporting. Consequently, the reliability of the Center for Health Systems Research and Analysis (CHSRA) Quality Indicators (QIs), which are based on Minimum Data Set data elements (Zimmerman, 1999), also varies. Further, even those quality indicators that are based on reliable data do not always serve as good measures of quality because they do not distinguish instances of poor outcomes that are avoidable from instances that are not.

The level of service quality is best depicted by the prevalence or incidence of adverse outcomes that are avoidable - the fewer avoidable adverse outcomes, the higher the quality. Thus, the purpose of the Nursing Facility Quality Review resident assessment is to gather key information about particular care issues in order to determine whether individual instances of adverse resident outcome are indeed avoidable. Recent Nursing Facility Quality Review cycles, including this one, have focused primarily on those clinical issues for which the department's Quality Outreach programs provide technical assistance. Thus, the Nursing Facility Quality Review helps the department to identify the program interventions that are yielding actual statewide improvement as well as to identify barriers to improvement when no improvement is seen.

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<sup>§</sup> For information regarding the MDS see reference (CMS, 2000).  
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## **2.2. Quality Improvement Priorities**

The 2006 Nursing Facility Quality Review addressed the following clinical topics:

- The use of continence promotion interventions
- The use of indwelling bladder catheters
- The assessment of each resident's risk of falling
- The assessment and management of pain symptoms
- The occurrence of certain infections (pneumonia, urinary tract, skin and bowel)
- Vaccination of nursing facility residents against influenza and pneumococcal disease
- The use of advance care plans
- The use of artificial nutrition and hydration in situations where it yields no benefit
- The appropriateness of psychoactive medication orders
- The safety of residents' medication regimens

It also addressed residents' quality of life and overall satisfaction, and it included some items that would help the department to identify statewide opportunities for improving infection control and the appropriateness of antibiotic use in nursing facilities.

## **2.3. S.B. 1839 (Long-Term Care Facility Improvement Act) Quality Outreach**

The Long-Term Care Facility Improvement Act, 77<sup>th</sup> Legislature, Regular Session, 2001, directed the department to create programs for technical assistance and joint training for providers of long-term care services. Together, these two programs are part of a strategy called Quality Outreach. The Quality Monitoring (QM) program provides the technical assistance component. The premise of the Quality Monitoring program is that the quality of services can be improved through the consistent use of evidence-based best practices - practices that are based on clinical research that reveals which resident assessment, care planning, and care interventions yield the best outcomes. The joint training program is conducted by the department's Educational Services unit, which provides training for surveyors and providers together. The Quality Monitoring and joint training programs coordinate to address certain statewide quality improvement issues;

the joint training component also addresses the ten regulatory issues most commonly cited in nursing facilities.

The Quality Monitoring program's staff consists of nurse, dietitian, and pharmacist quality consultants who employ an array of quality improvement strategies in order to hasten changes in long term care practice. The program has 33 nurse positions, eight pharmacist positions, and eight dietitian positions.

The technical assistance strategies used by the Quality Monitoring staff include the following:

1. Routine Quality Monitoring Visits – On-site technical assistance visits that address multiple clinical topics and are based on firsthand assessment (clinical audit) of the quality of resident care
2. Focus Quality Monitoring Visits – Quality Monitoring visits that address a single topic and require one-to-one continuous participation from a facility staff member (focus visits are used to provide intensive quality improvement consultation only in facilities that have shown no progress in making needed improvements)
3. Rapid Response Team (RRT) Visits – Visits that are typically multidisciplinary and either requested by providers themselves or assigned by the Quality Monitoring program's Early Warning System\*\*
4. In-Service Training – On-site education for facility staff, residents and families (some educational modules are designed specifically for certified nurse aides, while others such as pandemic flu preparedness and advance care planning address a broader audience)
5. Educational Resources – Peer-reviewed best practice frameworks based on systematic reviews of the relevant research literature and a variety of educational, streaming media presentations that are made available online (see [QMWeb](http://mqa.dads.state.tx.us/QMWeb) at <http://mqa.dads.state.tx.us/QMWeb>)
6. Academic Detailing – Pharmacist quality consultant visits to facility Medical Directors in order to disseminate information on prescribing and preventive care

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\*\* The Early Warning System (EWS) is a predictive statistical model that uses information such as facility characteristics, resident characteristics, and facility survey history to estimate the risk that a facility's next inspection (survey or complaint investigation) will have a poor outcome.



During 2005, the Quality Monitoring program also used a strategy called Peer-to-Peer Education (PTPE) in which Quality Monitoring program staff brought several facilities together so that facilities that had been successful in changing their clinical practices could share their improvement strategies with those who had not. Peer-to-peer education was very resource intensive and yielded no measurable improvement. In 2006, the peer-to-peer education strategy was replaced by the Focus Quality Monitoring visit strategy described in #2 above. Additionally, in February of 2006, the format of pharmacist quality monitoring visits was revised in order to make visits briefer and thus help the pharmacist consultants reach a larger number of facilities. If this change in the format of Quality Monitoring pharmacist visits yields visible statewide improvements, it may be replicated in the nutritionists' Quality Monitoring visit format.

Table 2.1 shows the long term care clinical topics for which Quality Monitoring staff provides technical assistance. The third column shows how long the program has been providing technical assistance for each topic. To date, no topic has been abandoned, and the topics addressed during a particular visit are determined by Texas Department of Aging and Disability Services emphasis (e.g., immunizations are addressed on every nurse Quality Monitoring visit) and by the most prevalent issues noted at each facility (e.g., a facility with a high prevalence of restraints receives attention for that issue).

**Table 2.1 Quality Monitoring Technical Assistance Topics**

<b>Discipline</b>	<b>Topic</b>	<b>From - To</b>
<b>Nursing</b>	Reducing the use of restraints	2002 - present
	Promoting bladder and bowel continence	2002 - present
	Appropriate use of indwelling bladder catheters	2002 - present
	Managing the risks of resident falls	2004 - present
	Improving pain assessment	2004 - present
	Increasing influenza vaccination among residents	2004 - present
	Increasing pneumococcal vaccination among residents	2004 - present
	Increasing influenza vaccination among long term care staff	2005 - present
	Improving Advance Care Planning	2005 - present
<b>Pharmacy</b>	Improving the management of pain	2004 - present
	Using antipsychotic medications appropriately	2002 - present
	Using anti-anxiety medications appropriately	2004 - present
	Using sedative and hypnotic medications appropriately	2004 - present
	Reducing unnecessary polypharmacy	2004 - present
<b>Nutrition</b>	Addressing unintended weight loss	2002 - present
	Preventing dehydration	2002 - present
	Using artificial nutrition and hydration appropriately	2005 - present

In a typical Quality Monitoring and Rapid Response Team visit, the quality consultant uses a process of explicit, structured, clinical audit to examine the care of a sample of January 2007

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residents affected by one or more of the clinical issues shown in Table 2.1. The audit process compares actual resident care to evidence-based standards that define best practice. For example, the appropriateness of continence promotion interventions is determined by examining the care of residents who experience incontinence. The specific quality issues addressed during a Quality Monitoring or Rapid Response Team visit are determined from the Minimum Data Set quality indicator system and the consultant's own observations during the visit so that the technical assistance can address those issues with which each facility needs the most help. A typical Quality Monitoring visit addresses two or more of the topics shown in Table 2.1.

## **2.4. The 2006 Nursing Facility Quality Review Instrument**

The 2005 Nursing Facility Quality Review resident assessment instrument (Cortés and Chou, 2005) was revised in 2006 in order to include items related to infections. In addition, all but one of the former items for consumer satisfaction were deleted and replaced with quality of life items (Kane, 2003) taken from the draft of the Minimum Data Set 3.0 (a revision of the Minimum Data Set in current use, MDS 2.0). The former item for overall satisfaction was retained. These changes were made for three reasons. First, past measurements of consumer satisfaction have shown little change from year to year. Second, this revision of the Nursing Facility Quality Review instrument and the ultimate deployment of MDS 3.0 together will afford Texas the unique opportunity to compare quality of life, as depicted by data gathered by Nursing Facility Quality Review nurse reviewers, to that as depicted by data submitted by nursing facility staff using the MDS 3.0. Last, the quality of life measurements provide an opportunity to identify improvement opportunities in quality of life domains.

## **2.5. Methods**

### **2.5.1. Selection of the 2006 Nursing Facility Quality Review Resident Sample**

This Nursing Facility Quality Review was based on a proportional sample comprised of 1,986 residents from 1,020 of 1,046 Texas Medicaid-certified nursing facilities. The sample was drawn from among residents who had a Minimum Data Set assessment in the period September 1, 2006 to December 31, 2006. The proportional sampling strategy simplifies certain logistical issues, such as travel costs, while yielding a sample of residents representative of the Texas Medicaid nursing facility population (Cortés, et al., 2002-2004).

### **2.5.2. Data Collection and Compilation**

The Nursing Facility Quality Review process uses contracted nurses in order to ensure an impartial assessment of resident care. Twenty registered nurses, contracted through the NACES Plus Foundation, Inc. conducted the 2006 Nursing Facility Quality Review resident assessments. They had an average of 30 years of clinical experience and an average 15 years in geriatrics. Many of these nurse reviewers were new to the Nursing Facility Quality Review process. The nurse reviewers performed the resident assessments and obtained resident responses to the quality of life items. They also obtained copies of certain clinical records including the most recent seven days of medication administration records and behavioral monitoring records for those residents receiving certain psychoactive medications.

Medication administration records were reconciled against consolidated physician orders to ensure that all medications ordered for a resident were also represented in the

resident's medication administration records. Seven practicing, registered pharmacists with an average of 13 years of clinical experience were contracted through NACES to perform the review of medication administration records and behavioral monitoring documents and to perform the necessary data entry.

### 2.5.3. Data Analysis and Interpretation

Most of the quantitative results that appear in this report are derived directly from the Nursing Facility Quality Review resident assessment instruments. The assessment data were processed in an EXCEL spreadsheet (Microsoft Corporation, 2003) using a truth-table approach to ascertain the proportions (quality measures) reported. Results that depict the department's quality improvement activities (quality-monitoring visits, numbers of residents seen by Texas Department of Aging and Disability Services quality consultants, etc.) are derived from the Texas Department of Aging and Disability Services nursing facility data mart. Results that stem from Medication Administration Record (MAR) data are derived from an ACCESS (Microsoft Corporation, 2003) database whose tables and queries are designed for the required purpose. Finally, some of the quality of life and consumer satisfaction results and confidence interval computations were performed using Statistical Package for Social Services Version 14 (SPSS Inc., 2005).

Interpreting changes in the quality measures requires not only data but also an understanding of the nursing facility environment and an appreciation for the challenges that face all quality improvement initiatives. The extent of improvement that can be derived from any quality improvement intervention depends on the nature of the intervention, its duration, its inherent effectiveness, the resources devoted to it, and the ability of providers to make the changes in resident care that the intervention proposes. Because the Nursing Facility Quality Review is a serial cross-sectional process, its yearly findings chart changes without asserting specific causal links between interventions and changes. Nonetheless, in the absence of large-scale changes in state or federal policy, regulation and enforcement, or reimbursement methodology, that would affect many aspects of quality of care, it is reasonable to argue that significant changes in outcomes probably reflect the impact of relevant quality improvement interventions that have been undertaken. Such arguments are even more credible when improvement is seen only among those quality issues for which intensive quality improvement interventions are undertaken.

Concerning specific nursing facility quality issues for which only the Texas Department of Aging and Disability Services technical assistance program has undertaken quality outreach interventions, it can be argued that quality improvement regarding those issues reflects the impact of Texas Department of Aging and Disability Services technical assistance program. When Texas Department of Aging and Disability Services undertakes a statewide quality improvement intervention for a long term care issue and entities other than Texas Department of Aging and Disability Services undertake additional interventions in a sub-group of facilities, some portion of the improvement in

the sub-group may be attributable to non-Texas Department of Aging and Disability Services efforts. The relative impacts of these interventions can be estimated reliably only when the numbers of facilities and residents receiving various interventions is known (Cortés, 2004).

### 3. Nursing Facility Quality Review Findings

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Unless otherwise noted, the criteria for appropriateness of care as well as the definitions of quality measures used in prior Nursing Facility Quality Review reports (Cortés et al., 2000-2005) apply.

#### 3.1. Contenance Promotion

##### 3.1.1. Overview

Loss of bladder control (urinary incontinence) on at least two occasions each of the preceding two weeks affected 64% of Nursing Facility Quality Review sample residents. Research studies have shown that as many as 40% of nursing facility residents who experience urinary incontinence can benefit from certain behavioral interventions described here as *contenance promotion* strategies. These interventions include scheduled and prompted voiding (assisting the resident to the toilet at those times when the resident is most likely to need to void) and bladder retraining (teaching the resident how to suppress the urge to void). Many residents, particularly those residents who have cognitive impairment, are more likely to benefit from scheduled or prompted voiding. Contenance promotion strategies are most successful when the schedule of assistance is individualized (e.g., tailored to the voiding pattern of each resident). Moreover, residents who have limited mobility may require adaptive equipment that permits toileting in bed or at the bedside.

Achieving improvements in individualized contenance promotion requires overcoming multiple challenges. First, the current Texas curriculum for certified nurse aides does not address contenance promotion techniques or related steps such as recording a voiding log or conducting a three-day trial of individualized contenance promotion. Second, the Texas methodology for setting nursing facility reimbursement rates, the Texas Index for Level of Effort (TILE), provides a financial reimbursement for restorative nursing if every-two-hour assistance to the toilet is used but none for individualized contenance promotion. Federal regulatory surveyor guidance for evaluating the care of persons who experience incontinence has only recently (July 2005) been revised to include evidence-based practices. Last, some facilities may not have sufficient staff to provide the necessary, individualized contenance promotion interventions.

##### 3.1.2. Related Quality Outreach Activities

Texas Department of Aging and Disability Services' technical assistance emphasizes resident assessment, individualized contenance promotion, and evaluation of the effectiveness of each resident's contenance promotion program. It also emphasizes

tools such as voiding logs, in-service education for staff, and online resources. From April 2005 through April 2006, continence promotion was addressed during 1,489 technical assistance visits conducted in 879 distinct facilities. These visits included clinical audits of the care of 7,454 residents who were experiencing occasional to frequent episodes of incontinence.

### 3.1.3. Quality Improvement Trend

Table 3.1 shows the Nursing Facility Quality Review quality measures related to the appropriateness of continence promotion. Measures 1-3 report characteristics of the residents. The next two measures report how often facilities provided behavioral continence promotion interventions to residents who needed them. Measure 6 reflects how well nursing facility staff identified residents who did not need intervention. The last measure indicates the proportion of all residents likely to be found wet when one entered a facility.

**Table 3.1 Continence Promotion Quality Measures**

<b>Continence Promotion Measure</b>	<b>2003 (95% CI)</b>	<b>2004 (95% CI)</b>	<b>2005 (95% CI)</b>	<b>2006 (95% CI)</b>
1. Proportion of all residents with occasional or frequent incontinence	65.4% (63.2-67.5)	65.3% (63.2-67.4)	63.9% (61.7-66.0)	64.1% (61.9-66.3)
2. Proportion of residents who had severe mobility impairment and incontinence	-	21.1% (19.3-23.0)	23.8% (21.9-25.7)	18.9% (17.2-20.7)
3. Proportion of residents with incontinence (regardless of mobility) who would have potentially benefited from toileting	94.1% (92.8-95.4)	83.9% (81.9-86.0)	83.7% (81.6-85.7)	83.2% (81.1-85.3)
4. Proportion of residents (regardless of mobility) who could have benefited from and actually had toileting plans	10.2% (8.5-12.0)	19.1% (16.8-21.5)	16.2% (14.0-18.5)	9.3% (7.5-11.0)
5. Proportion of residents who had severe mobility impairment and incontinence and also received toileting	-	12.0% (9.0-14.9)	10.0% (7.3-12.8)	6.4% (3.9-8.9)
6. Proportion of residents who had no history of incontinence and who were also found to be dry at the time of assessment	97.7% (96.3-99.1)	95.9% (94.0-97.8)	87.1% (84.2-89.9)	93.8% (91.7-95.9)
7. Proportion of residents found to be wet at the time of assessment	32.3% (30.1-34.4)	44.9% (42.7-47.1)	48.4% (46.1-50.6)	40.1% (37.9-42.3)

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

In order to understand better how facilities have been implementing continence promotion, this cycle of the Nursing Facility Quality Review process included additional items concerning the specific types of interventions that were being used. The following benchmark figures were determined from these additional items.

**Table 3.2 Continence Promotion Intervention Measures**

<b>Continence Promotion Intervention Measure</b>	<b>2006 (95% CI)</b>
1. Proportion of continence promotion that was scheduled or prompted voiding	97.6% (94.8-100)
2. Proportion of scheduled or prompted voiding plans that were individualized	33.9% (25.3-42.5)
3. Proportion of scheduled or prompted voiding plans that required assistance to the toilet every two hours	44.6% (35.6-53.7)

The first measure shows that bladder retraining is not used often, and this is appropriate since bladder retraining is infrequently effective in the long term care setting due the prevalence of cognitive impairment. The second measure shows that only about one-third of the scheduled and prompted voiding programs are individualized; that is, based on each resident's usual daily pattern of incontinence. The last measure shows that about one-half of continence promotion programs are based on a fixed, every two-hour schedule that is both more resource intensive and less effective than an individualized program.

#### 3.1.4. Discussion

There has been little or no improvement in continence promotion in Texas facilities despite four years of technical assistance and revision of the surveyor guidance for urinary incontinence issued by the Centers for Medicare and Medicaid Services (CMS) in July 2005. Further, it appears unlikely that there will be progress in continence promotion until some or all of the barriers identified in the preceding overview can be addressed. Enhancing the nurse aide curriculum to include continence promotion may help nursing facility staff to implement the necessary care processes. Revising the reimbursement methodology to provide incentives for the use of individualized continence promotion may also help.<sup>††</sup> Changing how surveyors apply the new federal guidance could provide a regulatory incentive for facilities to provide needed continence promotion interventions.<sup>‡‡</sup> It seems prudent to continue providing technical assistance

<sup>††</sup> The Health and Human Services Commission plans to implement a national case-mix methodology (the Resource Utilization Group - RUG) that would address this issue.

<sup>‡‡</sup> The new CMS guidance has not led to a statewide increase in the frequency with which Texas facilities are cited for deficient practice regarding the evaluation and management of persons who experience incontinence.



for continence promotion and to continue including continence promotion in subsequent Nursing Facility Quality Review cycles.

### 3.2. Indwelling Bladder Catheters

#### 3.2.1. Overview

Indwelling bladder catheters are associated with a three-fold increase in the risk of urinary tract infection. Therefore, their use is warranted only when there is a compelling clinical indication. For the last five years, the prevalence of catheter use in Texas nursing facilities has been near or below the national prevalence, and there is no evidence of widespread inappropriate use.

#### 3.2.2. Related Quality Outreach Activities

Texas Department of Aging and Disability Services technical assistance is provided to those facilities that have the highest prevalence of catheter use. It emphasizes the importance of valid clinical indications for catheter use such as obstruction of the urinary tract, some end-of-life care situations, and the control of urinary moisture that would otherwise compromise the healing of active pressure ulcers.

From April 2005 through April 2006, appropriate catheter use was addressed during 162 technical assistance visits conducted in 128 distinct facilities. These visits entailed clinical audits of the care of 716 residents who had indwelling bladder catheters.

#### 3.2.3. Quality Improvement Trend

The observed prevalence of indwelling bladder catheter use and measures of the appropriateness of catheter use from 2003 to 2006 are shown in Table 3.3.

**Table 3.3 Catheter Use Quality Measures**

<b>Catheter Use Measure</b>	<b>2003 (95% CI)</b>	<b>2004 (95% CI)</b>	<b>2005 (95% CI)</b>	<b>2006 (95% CI)</b>
1. Proportion of residents with indwelling bladder catheters	6.1% (5.0-7.2)	6.4% (5.3-7.5)	5.7% (5.0-7.2)	5.1% (4.1-6.1)
2. Proportion of long term catheters with appropriate clinical justification	39.4% (29.3-49.4)	27.2% (18.4-36.0)	44.6% (34.7-54.4)	26.7% (17.2-36.3)
3. Proportion of all catheters with appropriate clinical justification	44.4% (35.3-53.6)	35.9% (18.4-44.4)	46.1% (36.8-55.4)	30.4% (21.3-39.5)

### **3.3. Fall Risk Assessment**

#### 3.3.1. Overview

Resident assessment and fall risk mitigation continue as part of the Nursing Facility Quality Review because, historically, concern for fall prevention has driven the inappropriate use of mechanical restraints. While Texas facilities have reduced the prevalence of mechanical restraints from 19.5% in 2002 to 5% in 2006, that progress will be sustainable only if facilities properly address residents' risks for falling.

Among nursing facility residents, the factors most highly associated with falls are impaired balance, lower extremity weakness, and medications (Robbins et al., 1989). A proper resident assessment for fall risk management addresses at least these three factors. Fall risk management consists of providing interventions that address the factors relevant to a particular resident (e.g., reducing or eliminating certain types of medications, providing personal toileting assistance, providing devices that assist the resident to ambulate more safely, etc.)

#### 3.3.2. Related Quality Outreach Activities

From April 2005 through April 2006, fall risk management was addressed by Texas Department of Aging and Disability Services nurse quality consultants during 867 technical assistance visits conducted in 593 distinct facilities. These visits included clinical audits of the care of 4,321 residents.

In 2006, the Texas Department of Aging and Disability Services pharmacist quality consultants began visiting nursing facility medical directors to provide academic detailing, a form of technical assistance for physicians, addressing fall risk assessment and fall risk management. The detailing included key concepts such as the use of supplemental Vitamin D to reduce fall risk among nursing facility residents (Flicker, 2005) and the use of the Get-up and Go evaluation of strength, balance and gait (Podsiadlo, 1991).

### 3.3.3. Quality Improvement Trend

Table 3.4 shows the Nursing Facility Quality Review measures for fall risk management.

**Table 3.4 Fall Risk Management Quality Measures**

<b>Fall Risk Assessment Measures</b>	<b>2004 (95% CI)</b>	<b>2005 (95% CI)</b>	<b>2006 (95% CI)</b>
1. Proportion of residents who had appropriate fall risk assessment on admission or most recent Minimum Data Set assessment	60.0% (57.8-62.2)	64.9% (62.8-67.0)	57.8% (55.6-60.0)
2. Proportion of residents who had experienced a fall in the 30 days preceding the Nursing Facility Quality Review assessment	8.8% (7.6-10.1)	10.1% (8.8-11.5)	7.6% (6.4-8.7)
3. Proportion of residents who had appropriate fall risk reassessment after a fall	34.0% (26.3-41.6)	50.0% (42.8-57.2)	38.0% (29.7-46.2)
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)	51.2% (44.2-58.2)	55.3% (47.2-63.5)

In measure four above, taking any of the four classes of medications that the geriatric literature associates with falls (anti-adrenergic medications, anti-anxiety, tricyclic antidepressants, and sedative/hypnotics) did not predict falling. In the previous Nursing Facility Quality Review cycle, only the use of anti-anxiety medications was found to predict falling.

### 3.3.4. Discussion

The small but statistically significant decline in the prevalence of falls shown in the second measure should be interpreted with caution since the apparent improvement may reflect changes in the diligence with which falls are recorded by either facility staff or the Nursing Facility Quality Review nurse reviewers. While there appeared to be modest improvements in fall risk assessment from 2004 to 2005, those improvements were not sustained. Last, because academic detailing visits addressing fall risk assessment only began in 2006, it is not yet possible to ascertain the impact of academic detailing on fall risk assessment.

### **3.4. Pain Assessment**

#### **3.4.1. Overview**

Improving the assessment of residents for pain and improving pain management in nursing facilities has been a Centers for Medicare and Medicaid Services priority as well as a Texas priority for the past three years. The Centers for Medicare and Medicaid Services quality measure for pain reports the prevalence of daily pain of moderate-to-severe intensity or the occurrence of frequent excruciating pain. The statewide value for this measure was 9% in the first quarter of 2006, and the national average was 9.6% (Centers for Medicare and Medicaid Services, 2006).

The Nursing Facility Quality Review resident assessment instrument items for pain address the current and recent intensity of residents' pain symptoms, the manner in which pain is being assessed by facility staff, and residents' satisfaction with pain relief. As part of the Nursing Facility Quality Review process, the nurse quality reviewer uses the Wong-Baker Faces Scale (Wong, 1984) to assess the intensity of each resident's pain at the time of bedside assessment.

Certain items in the Nursing Facility Quality Review instrument focus on the manner of assessment and use of validated pain assessment tools because the recognition of pain symptoms can be improved by using validated pain assessment instruments (Kamel et al., 2001). The Wong-Baker Faces Scale, Verbal Numeric Scale, Visual Analog Scale, and Pain Thermometer are validated instruments that can be used to assess pain intensity in persons who are verbal and have intact cognition. While these tools can also be used to assess some persons who have some cognitive impairment, all such persons should also have a pain assessment using The Pain Assessment in Advanced Dementia (PAINAD) Scale (Warden et al., 2003) or the Discomfort Scale – Dementia of the Alzheimer's Type (DS-DAT) (Hurley, 1992). As in the 2005 Nursing Facility Quality Review, the Abbey Pain Scale (Abbey et al., 2004) was deemed an appropriate assessment tool although its validity and reliability have not yet been established (Herr et al., 2004).

In order to determine whether residents were being assessed with an appropriate instrument, each resident's Cognitive Performance Scale (CPS) score was calculated from the most recent Minimum Data Set assessment. The Cognitive Performance Scale is a validated measure of cognitive impairment; it ranges from zero (no impairment) to six (coma). In the subgroup analyses, a cognitive performance scale score greater than three was used to identify persons who had severe cognitive impairment.

#### **3.4.2. Related Quality Outreach Activities**

From April 2005 through April 2006, the Quality Monitoring program nurses addressed pain assessment during 814 visits to 568 distinct facilities. These visits included clinical

audits of the care of 4,080 residents. Quality Monitoring pharmacists addressed pain management in 210 visits to 162 unique facilities reviewing the pain medication programs of 714 residents; they also conducted 37 additional facility visits to address pain management using the new pharmacy visit format. In addition, the joint training program provided six classes on this subject to 52 provider attendees.

### 3.4.3. Quality Improvement Trend

Some Nursing Facility Quality Review measures for pain are reported for all residents while others are reported separately for the subgroup of residents who had severe cognitive impairment and the subgroup that did not.

#### 3.4.3.1. Measures for All Residents

Most items in Table 3.5 are based on the 1,986 residents in the Nursing Facility Quality Review sample. Items six through nine are based on 266 residents who had had moderate-to-severe pain in the preceding seven days or on the day of assessment.

**Table 3.5 Pain Quality Measures for All Residents**

<b>Pain Assessment and Management Measures – All Residents</b>	<b>2004 (95% CI)</b>	<b>2005 (95% CI)</b>	<b>2006 (95% CI)</b>
1. Proportion of residents who responded to the quality review pain assessment	74.3% (72.3-76.3)	83.1% (81.5-84.8)	76.2% (74.3-78.1)
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)	58.5% (56.3-60.7)	50.2% (47.9-52.4)
3. Proportion of residents who reported moderate-to-severe pain on the quality review pain assessment*	6.6% (5.5-7.7)	6.8% (5.7-7.9)	8.8% (7.5-10.1)
4. Proportion of residents whose clinical records revealed moderate-to-severe pain in the most recent seven days	5.4% (4.4-6.4)	7.5% (6.4-8.7)	7.8% (6.6-9.0)
5. Prevalence of moderate-to-severe pain determined by either quality review or the clinical record	10.1% (8.7-11.4)	12.3% (10.8-13.7)	13.4% (11.9-14.9)
6. Proportion of residents with moderate-to-severe pain who did not receive any analgesics	12.4% (7.8-17.1)	11.8% (7.7-15.9)	11.3% (7.4-15.2)
7. Proportion of residents with moderate-to-severe pain who received only non-opioid analgesics	40.3% (32.9-47.7)	47.2% (40.8-53.5)	39.8% (33.8-45.9)
8. Proportion of residents with moderate-to-severe pain who received opioids on an as-needed basis	31.3% (24.3-38.2)	30.1% (24.2-35.9)	29.7% (24.1-35.3)
9. Proportion of residents with moderate-to-severe pain who received propoxyphene	13.6% (8.5-18.8)	13.0% (8.7-17.3)	13.5% (9.3-17.7)

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)	67.5% (61.5-73.5)	68.4% (62.7-74.1)
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\*QR pain assessment = Wong-Baker Face pain assessment administered by the Nursing Facility Quality Review nurse reviewer.

Of the ten measures above, all but the last are process measures. Measure 10 is an outcome that depicts resident satisfaction with pain control.

Moderate-to-severe pain continues to be both under-recognized and under-treated. The sixth measure shows that about 12% of residents with moderate-to-severe pain receive no analgesics. A third of these residents were on one or more medications that might have been prescribed for neuropathic pain; neither Nursing Facility Quality Review nor Minimum Data Set data permitted distinguishing either the type of pain or the purpose of the anticonvulsant or antidepressant agent that these residents were receiving.<sup>§§</sup> The ninth measure shows that the prevalence of propoxyphene use for moderate-to-severe pain remained unchanged despite the hazards and low level of effectiveness of this medication.

#### 3.4.3.2. Quality Measure Trend: No Severe Cognitive Impairment

The measures in Table 3.6 are based on 1,450 residents (73.0% of the Nursing Facility Quality Review sample) who did not have severe cognitive impairment.

**Table 3.6 Pain Measures for No Severe Cognitive Impairment**

<b>Residents with No Severe Cognitive Impairment (NSCI)</b>	<b>2004 (95% CI)</b>	<b>2005 (95% CI)</b>	<b>2006 (95% CI)</b>
1. Proportion of residents who responded to the quality review pain assessment	85.5% (83.6-87.4)	92.2% (90.7-93.6)	87.4% (85.6-89.1)
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)	60.8% (58.2-63.4)	52.4% (49.8-55.0)
3. Proportion of residents who reported moderate-to-severe pain on the quality review pain assessment*	8.9% (7.4-10.5)	8.3% (6.9-9.8)	11.0% (9.4-12.7)
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)	64.0% (60.8-67.3)	50.1% (46.5-53.8)
5. Proportion of residents whose clinical records revealed moderate-to-severe pain in the most recent seven days	6.7% (5.4-8.1)	9.3% (7.8-10.8)	9.4% (7.8-10.9)
6. Prevalence of moderate-to-severe pain determined by either quality review or the clinical record	12.9% (11.1-14.8)	15.0% (13.1-16.9)	16.5% (14.5-18.4)

<sup>§§</sup> Both anticonvulsants and antidepressants can be used to manage neuropathic pain. The extent of pain relief obtained with any specific agent is highly variable between individuals.

\*QR pain assessment = Wong-Baker Face pain assessment administered by the Nursing Facility Quality Review nurse reviewer

Some of last year's improvement in the frequency of assessment for pain intensity was lost in 2006, and all of last year's improvement in the use of validated pain assessment tools was lost. Both things are sensitive to turnover among nursing and direct care staff, and this is probably a contributing cause to the apparent inability to sustain statewide improvements in pain assessment.

### 3.4.3.3. Quality Measure Trend: Severe Cognitive Impairment

The measures in Table 3.7 are based on the 536 residents (27.0% of the Nursing Facility Quality Review sample) who had severe cognitive impairment.

**Table 3.7 Pain Measures for Severe Cognitive Impairment**

<b>Residents with Severe Cognitive Impairment (SCI)</b>	<b>2004 (95% CI)</b>	<b>2005 (95% CI)</b>	<b>2006 (95% CI)</b>
1. Proportion of residents who responded to the quality review pain assessment	47.7% (43.6-51.8)	60.1% (56.0-64.2)	46.1% (41.8-50.4)
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)	52.7% (48.5-56.9)	44.0% (39.7-48.3)
3. Proportion of residents who reported moderate-to-severe pain on the quality review pain assessment*	1.5% (0.5-2.5)	2.8% (1.4-4.2)	2.8% (1.4-4.2)
4. Proportion of residents whose clinical records revealed moderate-to-severe pain in the most recent seven days	2.4% (1.1-3.6)	3.0% (1.6-4.5)	3.5% (1.9-5.1)
5. Prevalence of moderate-to-severe pain determined by either quality review or the clinical record	3.7% (2.2-5.3)	5.3% (3.4-7.2)	5.0% (3.1-6.9)
6. Proportion who had behavioral pain assessment (i.e., PAINAD)	14.3% (11.5-17.2)	27.0% (23.2-30.7)	21.8% (18.3-25.4)

\*QR pain assessment = Wong-Baker Face pain assessment administered by the Nursing Facility Quality Review nurse reviewer

Although between 2004 and 2005 there was significant improvement in the use of behavioral assessments for pain, in 2006 there was no further improvement. In addition, all the improvement in the timeliness of pain assessment gained from 2004 to 2005 was lost in 2006. Given that only 46% of residents with severe cognitive impairment were able to respond to other forms of pain assessment other than behavioral assessment, it is easy to understand why significant pain is under-recognized among persons with severe cognitive impairment. The low prevalence of moderate-to-severe pain among this subgroup results from inadequate resident assessment rather than from the absence of moderate-to-severe pain symptoms.

#### 3.4.4. Discussion

Recent decreases in the Centers for Medicare and Medicaid Services-reported quality measures for Texas and national prevalence of moderate-to-severe pain most likely represent widespread failure to assess adequately for pain rather than actual quality improvement. Even the Nursing Facility Quality Review figure for the prevalence of moderate-to-severe pain probably under-represents the true prevalence because the Nursing Facility Quality Review process does not assess pain optimally among residents who have significant cognitive impairment.<sup>\*\*\*</sup>

Despite the emphasis given to pain assessment and pain management by the Centers for Medicare and Medicaid Services, Texas Department of Aging and Disability Services, and the TMF Health Quality institute, there remains significant opportunity to improve the quality and frequency of resident assessment for pain. In addition, there is still significant opportunity to improve prescribing practices related to pain management. Because pain assessment and treatment require ongoing work from direct care and nursing staff, staff turnover undermines statewide progress toward quality improvement.

### 3.5. Immunization Practices

#### 3.5.1. Overview

The Healthy People 2010 (HP2010) goals for vaccination rates against pneumococcal disease and influenza are 90% (DHHS, 2000) among high-priority groups. The high-priority groups include residents of long-term care facilities as well as healthcare workers. Persons in long term care facilities have a higher risk for pneumococcal disease (Nuorti et al., 1997) and influenza (Harper et al., 2005). Persons over the age of 65 are particularly vulnerable to these infections because of chronic medical conditions and less responsive immune systems.

Because of these factors, influenza vaccination is only 30-40% effective in preventing influenza illness in persons aged  $\geq 65$  in contrast to 70-90% among adults aged  $< 65$  (Smith et al., 2006). Therefore, healthcare workers are designated as a high-priority group by both the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) because they are an important source of influenza infection among residents (NFID, 2004). Some analyses of randomly controlled clinical trials of healthcare worker vaccination conclude that vaccination of nursing facility workers can reduce resident mortality and morbidity by 40% (Jordan et al., 2004) while other analyses conclude that there is a need for larger and better-designed clinical trials to prove that benefit unequivocally (Thomas et. al, 2006).

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<sup>\*\*\*</sup> Behavioral assessment requires that the observer be familiar with a resident's baseline behavioral patterns. The Nursing Facility Quality Review nurse reviewers do not have such a frame of reference because they are not facility staff.



Because the Nursing Facility Quality Review process does not examine a random sample of long term care healthcare workers, the rate of Texas nursing facility healthcare worker vaccination can only be estimated based on Quality Monitoring visit findings. Among 10,864 long term care healthcare workers whose vaccination records were audited during Quality Monitoring or Rapid Response Team visits, only 29% had been vaccinated for influenza during the 2005-2006 influenza seasons. Since 1997, the national rate for healthcare worker vaccination against influenza has been less than 40% (Pearson et al., 2006), and it is unlikely that such low healthcare worker vaccination rates provide adequate protection to long term care residents.

### 3.5.2. Related Quality Outreach Activities

Texas Department of Aging and Disability Services technical assistance emphasizes resident vaccination and healthcare worker vaccination in order to protect residents (Carman et. al, 2000; Jordan et. al, 2004) as key infection control practices. In addition, it emphasizes rigorous documentation of vaccine administration. The emphasis on documentation stems from the importance of being able to respond to vaccine lot recalls, being able to report adverse vaccination events, and to be able to determine rapidly which residents have not been vaccinated.

From October 2005 to April 2006, the influenza vaccination status of 8,253 residents was reviewed during 1,134 Quality Monitoring visits to 873 distinct facilities. From April 2005 to April 2006, the pneumococcal vaccination status of 11,909 residents was reviewed during 1,620 visits to 908 facilities.

### 3.5.3. Quality Improvement Trend

Table 3.8 shows the Nursing Facility Quality Review quality measures for vaccinations. The first two measures show the statewide rate of vaccination against pneumococcal disease and the rigor of documentation. The second pair shows the statewide rate of vaccination against influenza and the rigor of documentation. The fifth measure shows the proportion of residents who had received both the pneumococcal vaccine and the current influenza season's vaccine.

**Table 3.8 Quality Measures for Vaccinations**

<b>Immunization Measures</b>	<b>2004 (95% CI)</b>	<b>2005 (95% CI)</b>	<b>2006 (95% CI)</b>
1. Proportion of residents having any documentation of pneumococcal vaccination	26.7% (24.7-28.6)	39.7% (37.5-41.8)	59.2% (57.0-61.4)
2. Proportion with adequately documented pneumococcal vaccination	14.8% (13.2-16.3)	24.5% (22.6-26.4)	29.7% (27.6-31.7)
3. Proportion of residents having any documentation of influenza vaccination	59.0% (56.8-61.2)	62.0% (59.8-64.2)	75.6% (73.7-77.6)
4. Proportion with adequately documented influenza vaccination	39.9% (37.7-42.1)	43.4% (41.2-45.6)	44.5% (42.2-46.7)

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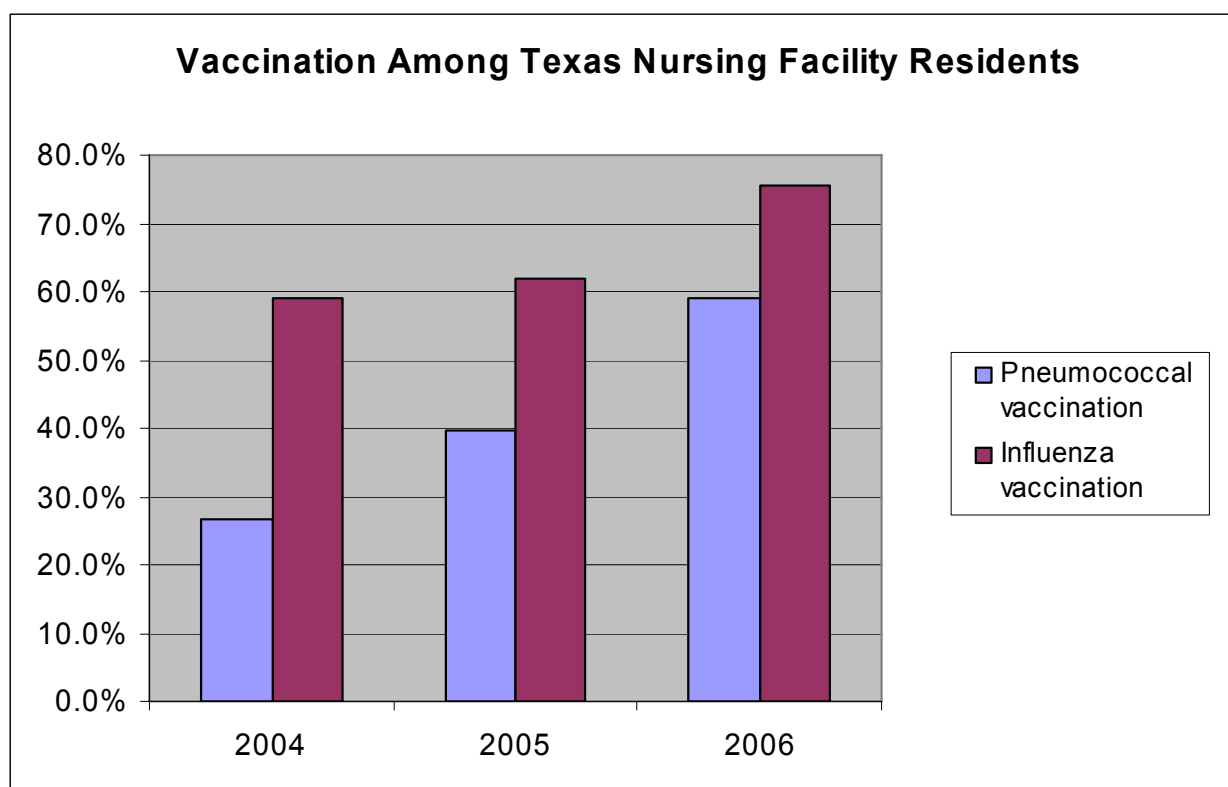
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5. Proportion with any documentation of both influenza and pneumococcal vaccination	23.0% (21.1-24.9)	34.2% (32.0-36.3)	54.2% (51.9-56.4)
6. Proportion with no influenza vaccination because of egg allergy or GBS	1.7% (0.8-2.6)	1.3% (0.5-2.1)	1.9% (0.6-3.1)
7. Proportion with no vaccination for influenza because of refusal	10.5% (8.4-12.7)	14.5% (11.9-17.0)	30.2% (26.0-34.3)
8. Proportion not vaccinated who could have received a vaccination for influenza	87.8% (85.5-90.1)	84.2% (81.6-86.9)	68.0% (63.7-72.2)

A subgroup analysis of Nursing Facility Quality Review vaccination data by race showed that white residents had the highest vaccination rate (78%). Hispanic residents had a lower rate (71%). Black residents had the lowest rate (68%). The difference between the highest and lowest group was statistically significant. The same healthcare disparity has been noted in studies of community-dwelling persons (CDC, 2001).

Resident vaccination rates from 2004-2006 are shown graphically in Figure 3.1.

**Figure 3.1 Texas Long Term Care Resident Vaccination Rates 2004 - 2006**



#### 3.5.4. Discussion

Since Texas Department of Aging and Disability Services technical assistance for long term care resident vaccinations began two years ago, Texas nursing facilities have

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made significant strides toward the Healthy People 2010 goal of vaccination rates  $\geq 90$  percent. For pneumococcal vaccination, the improvement is cumulative from year to year because, for most nursing facility residents, a single vaccination is sufficient. Yet, despite the fact that influenza prevention requires annual revaccination, Texas nursing facilities have significantly improved vaccination rates for this disease as well over the past two years.

While there has been modest improvement in the rigor of vaccination documentation, it has been limited to pneumococcal vaccination. In addition to improving the documentation of vaccine administration, what remains to be accomplished in improving the quality of vaccination practices, is improving health care worker vaccination and maintaining the improvement momentum in resident vaccination rates in order to reach the 2010 goals.

### **3.6. Advance Care Planning**

#### **3.6.1. Overview**

Advance Care Planning is the process by which individuals can make their health care wishes known in advance of serious illness that could impair their ability to make or articulate their treatment choices. Chapter 166 of the Texas Health and Safety Code is the state law on advance care planning through advance directives. Chapter 166 explains advance directives, includes forms to use for advance directives and states how medical decisions can be made when a person does not have an advance directive. The quality measures for advance care planning address whether each resident has had an initial and subsequent advance care planning discussion, whether advance care planning documents are readily accessible, and whether the resident is receiving care consistent with the instructions in those documents. In this cycle of Nursing Facility Quality Review, the types of advance care planning documents that residents had were also recorded.

In the summer of 2006, the department convened a stakeholder group to respond to the 79th Legislature, Regular Session Senate Bill 1188 requirement that the department improve the quality of long term care by “ensuring that all recipients who reside in a nursing facility are provided information about end-of-life care options and the importance of planning for end-of-life care.” A related revision of the nursing facility licensure rule that governs advance directives is expected to become effective in the spring of 2007, and its impact on improving advance care planning should be measurable in the 2008 Nursing Facility Quality Review.

#### **3.6.2. Related Quality Outreach Activities**

In the summer of 2006, the Quality Monitoring technical assistance program began offering in-service training on advance care planning to nursing facilities. From April 2005 to April 2006, the Texas Department of Aging and Disability Services joint training staff provided 15 trainings on end-of-life care to 186 nursing facility attendees. The Texas Partnership for End of Life Care (TxPEC), Texas Geriatrics Society, and Texas Medical Directors Association all offer training on advance care planning and palliative care to their membership and/or to the public.

### 3.6.3. Quality Improvement Trend

This Nursing Facility Quality Review cycle is the first in which individual advance care planning documents are identified and categorized. Table 3.9 shows the prevalence of use for each type of advance care planning document.

**Table 3.9 Types of Advance Care Planning Documents**

Advance Care Planning Document	2006 (95% CI)
1. Proportion who had an Out of Hospital Do Not Resuscitate	55.4% (53.2-57.7)
2. Proportion who had a Directive to Physicians, Family and Surrogates	26.4% (24.4-28.4)
3. Proportion who had a Medical Durable Power of Attorney	29.1% (27.1-31.1)
4. Proportion who had a Do Not Resuscitate (DNR) order	41.5% (39.3-43.7)
5. Proportion with other intervention-limiting orders (e.g., do not hospitalize, do not intubate, etc.)	6.5% (5.4-7.7)

Among residents who had a nursing facility do not resuscitate order, 70.9% also had an Out of Hospital Do Not Resuscitate. Among those who had a Directive to Physicians, 60.1% also had a do not resuscitate order. The majority (67%) had at least one of three legal documents listed in the first three rows of Table 3.9. Less than 1% had written orders for do not resuscitate or limiting other interventions without one of the three legal documents listed.

The first five measures in Table 3.10 are based on the complete 2006 Nursing Facility Quality Review resident sample. The remaining two measures are based on those residents whose clinical records had advance care planning documents (68% of all the residents in the sample).

**Table 3.10 Advance Care Planning Quality Measures**

<b>Advance Care Planning Measures</b>	<b>2004 (95% CI)</b>	<b>2005 (95% CI)</b>	<b>2006 (95% CI)</b>
1. Proportion who had a documented initial advance care planning discussion	91.9% (90.7-93.1)	90.8% (89.5-92.1)	82.9% (81.2-84.6)
2. Proportion who had an initial advance care planning discussion either prior to admission or within 21 days of admission	65.4% (63.3-67.5)	68.3% (66.1-70.3)	59.5% (57.3-61.7)
3. Proportion who had subsequent advance care planning discussions	25.7% (23.7-27.7)	31.6% (29.5-33.7)	28.0% (26.0-30.0)
4. Proportion whose clinical records contained one or more advance care planning documents	82.4% (80.7-84.1)	73.9% (71.9-75.8)	68.3% (66.2-70.4)
5. Proportion who had both a documented initial advance care planning discussion and one or more advance care planning documents	81.3% (79.6-83.1)	73.4% (71.4-75.3)	60.4% (58.2-62.6)
6. From among those with advance care planning documents, the proportion whose documents could be located within 30 seconds of accessing the clinical record	94.0% (92.8-95.1)	97.8% (97.0-98.5)	88.8% (87.1-90.5)
7. Among residents having advance care planning documents, the proportion receiving care consistent with their advance care planning instructions	97.9% (97.2-98.6)	98.6% (98-99.2)	96.8% (95.8-97.7)

#### 3.6.4. Discussion

The proportion of residents who had an initial advance care planning discussion decreased significantly from 2005 to 2006. The proportion of clinical records that contained advance care planning documents also decreased. Although there was also a decrease in the proportion whose advance care planning records could be found within 30 seconds, it is difficult to know whether this reflects a lack of organization in residents' clinical records or merely a performance difference attributable to the 2006 Nursing Facility Quality Review nurse reviewers. That there has been no statewide improvement in advance care planning likely reflects limited training and technical assistance for advance care planning as well as providers' ability to respond to multiple quality improvement priorities at once.

### 3.7. Artificial Nutrition and Hydration

#### 3.7.1. Overview

Artificial nutrition and hydration in nursing facilities generally takes the form of feedings given through a conduit placed directly into the stomach or upper intestine. This intervention is commonly called *tube feeding*. While short-term artificial nutrition and hydration may be delivered by a naso-gastric tube, the provision of longer-term nutritional support is generally accomplished through a feeding tube placed directly through the skin of the abdomen into the upper gastro-intestinal tract using a surgical procedure called percutaneous endoscopic gastrostomy (PEG).

Artificial nutrition and hydration is used in long term care with the goals of prolonging life, preventing aspiration pneumonia, and promoting the healing of wounds including pressure sores. However, in late-stage dementia, there is persuasive evidence that artificial nutrition and hydration does not accomplish these goals. In fact, artificial nutrition and hydration can yield the exact opposite results. For instance, artificial nutrition and hydration incurs a greater risk of aspiration pneumonia in persons with late-stage dementia (Peck et al., 1990). Similarly, artificial nutrition and hydration for persons who have progressive terminal conditions such as late-stage cancer or end-stage organ failure is rarely of benefit.

The majority of research in this area suggests that careful hand feeding provides residents who have end-stage conditions the pleasure of food and drink, the social comfort of meals, the avoidance of the complications of artificial nutrition and hydration, and an outcome otherwise comparable to that of similar residents given artificial nutrition and hydration (Li, 2002).

According to Minimum Data Set data, the national prevalence of tube feeding is 7%. The prevalence ranges from 1.5% in Wyoming to almost 16% in Hawaii. The Texas prevalence is 8%.

#### 3.7.2. Related Quality Outreach Activities

From April 2005 to April 2006, tube feeding was addressed during 356 visits to 328 unique facilities in which the care of 1068 residents was examined. Tube feeding was also addressed in the joint training program curriculum for end-of-life care that was presented in 13 classes attended by 195 providers.

#### 3.7.3. Findings

In the first two measures reported in Table 3.11, the denominator is the number of residents receiving tube feedings (n=146). In the third measure, the denominator is the number of residents receiving tube feedings for more than 30 days (n=137).

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**Table 3.11 Artificial Nutrition and Hydration Quality Measures**

Artificial Nutrition and Hydration Measures	2005 (95% CI)	2006 (95% CI)
1. Proportion of residents who were receiving artificial nutrition and hydration and in whom there was no rational basis for expecting benefit	57.6% (49.9-65.3)	41.1% (33.0-49.2)
2. Proportion of residents receiving artificial nutrition and hydration and who did not have a clearly documented informed consent discussion	70.9% (63.8-78.0)	89.7% (84.7-94.8)
3. Proportion of residents receiving artificial nutrition and hydration who either had no therapeutic goals or whose artificial nutrition and hydration had not been evaluated against those goals after 30 days	59.2% (32.9-48.6)	82.5% (76.0-89.0)

As observed in 2005, the care of virtually all residents (99.3%) receiving tube feedings was affected by one or more of these quality issues.

#### 3.7.4. Discussion

In Texas nursing facilities, as in the rest of the country, tube feeding is often used as an end-of-life intervention despite the known absence of benefit in such clinical situations. In the past year, there has been a small but statistically significant decrease in the use of tube feeding in such scenarios; this is an important quality improvement. There is still much to be done to improve advance care planning, the process of informed consent for artificial nutrition and hydration, and the necessary reconsideration of the appropriateness and benefit of tube feeding once it has been initiated.

### 3.8. Infections and Antibiotic Use in Texas Nursing Facilities

#### 3.8.1. Overview

The most common infectious illnesses among residents of nursing facilities are infections of the respiratory tract (e.g., pneumonia, bronchitis), urinary tract (e.g., bladder and kidney infections), and skin (Weinstein, 2000). Nursing facility residents generally receive between 2 and 12 courses of antibiotics per 1000 resident days (Weinstein, 2000). In 2005, the estimated frequency of antibiotic use in Texas nursing facilities was between 10 and 14 antibiotic courses per 1000 resident days.<sup>†††</sup>

The frequency and volume of antibiotic use creates selective pressure that contributes to the emergence of antibiotic-tolerant and antibiotic-resistant bacterial strains. Such strains include Vancomycin Resistant Enterococcus (VRE) and hospital- as well as

<sup>†††</sup> This estimate is based on a Texas Department of Aging and Disability Services analysis of about 2000 medication administration records from the 2004 Nursing Facility Quality Review.

community-acquired Methicillin-resistant Staphylococcus Aureus (MRSA). Such strains have emerged over decades most likely as the result of antibiotic use in hospitals, nursing facilities, the community, and agriculture (Donabedian, 2006).<sup>†††</sup> These resistant bacteria may colonize residents, staff, and the environment as well as cause overt infection.

In addition, even personal antibiotic use can lead to imbalances in the normal human flora (e.g., the benign bacteria that inhabit the human gut) and can cause serious illness. Clostridium difficile, a bacterium that can cause infection of the intestinal lining that can manifest as chronic diarrhea, weight loss, fever, and life-threatening complications, is associated with personal antibiotic use. The estimated incidence of this condition is 2.6 persons per 1000 resident days in long term care facilities, and many of the cases are imported from the acute care setting where antibiotic usage is typically greater than in nursing facilities (Laffan, 2006).

Given the preceding concerns, the 2006 Nursing Facility Quality Review resident assessment instrument included items that would help the department to understand some key aspects of infections in Texas nursing facilities better. Unlike other components of the Nursing Facility Quality Review, this section of the resident assessment instrument was not designed to address quality of care (e.g., whether an infection was avoidable or whether the prescribed treatment was appropriate). Instead, it was designed to assess the prevalence of the most common infections, the prevalence of antibiotic use, and to estimate the prevalence of infections caused by certain antibiotic-resistant bacteria. The ultimate goal of this preliminary examination of long term care infections was to inform the design of resident assessment instrument items that would permit quality measurement in a subsequent Nursing Facility Quality Review cycle.

### 3.8.2. Related Quality Outreach Activities

The Texas Department of Aging and Disability Services Medical Quality Assurance function held a symposium on Infection Control in Long Term Care in May of 2006. The symposium occurred after the 2006 Nursing Facility Quality Review process had been completed. The proceedings of the symposium, rendered as a computer-readable compact disc was distributed to all facilities during the fall and winter of 2006. Thus, the quality improvement impact of that intervention will not be known until 2007 and 2008.

### 3.8.3. Findings

The estimates for the prevalence of infections in Texas nursing facilities shown in Table 3.12, overall and by site of infection, are based on a seven-day look back period. Because the estimate is based on 1,986 residents and a seven-day look back, the

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<sup>†††</sup> For additional references, see the Centers for Disease Control and Prevention National Antimicrobial Resistance Monitoring System (NARMS) at <http://www.cdc.gov/narms/>.  
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prevalence figures depict the prevalence for 13,902 resident days (the product of 1986 residents x 7 days). The aggregate prevalence of infection, based on nurse reviewer assessments, was 15 infections per 1000 resident days, and the proportion of those infections attributed to multi-antibiotic resistant organisms was 4.8%.

Nursing Facility Quality Review pharmacist review of medication administration records identified 208 unique residents receiving antibiotics yielding a rate of 15 antibiotic courses per 1000 resident days.<sup>§§§</sup> The active clinical problem lists of nine residents included mention of multi-antibiotic resistant organisms.

**Table 3.12 Indicators of Infection Control**

Indicator	2006 (95% CI)
1. Overall prevalence of infections	10.5% (9.1-11.8)
a. Prevalence of pneumonia	0.7% (0.3-1.0)
b. Prevalence of urinary tract infection	3.7% (2.8-4.5)
c. Prevalence of skin or wound infection	2.0% (1.4-2.6)
d. Prevalence of other infections	4.1% (3.2-5.0)
e. Prevalence of febrile diarrheal illness	0.0%
2. Proportion of all infections attributable to MRSA	3.8% (1.2-6.5)
3. Proportion of all infections attributable to VRE	1.0% (0.0-2.3)

#### 3.8.4. Discussion

Given the high rate of antibiotic usage in Texas nursing facilities, the low rate of febrile diarrheal illness (0.0%) likely represents under-recognition of *Clostridium difficile* disease (e.g., antibiotic related colitis) rather than the true absence of the disease.

There are important limitations to this preliminary study of infections in Texas nursing facilities. The most obvious is that antibiotic use serves as a proxy for actual infection, and it is well established that empiric antibiotic therapy is frequently inappropriate (Weinstein, 2000). Some, perhaps a majority of antibiotic orders, are for non-infections (e.g., a contaminated culture, a non-infected pressure sore, dark urine due to dehydration rather than infection, etc.), are for non-bacterial infections (e.g., viral illness), or employ a dose, duration, or antibiotic that is inappropriate for the infection or for the resident.

<sup>§§§</sup> Topical antifungals, ophthalmic and otic antibiotics, acidifying agents for the urine, and antiviral agents were excluded from this analysis.

The data collected in this preliminary review of infection control does not permit distinguishing inappropriate from appropriate antibiotic use. However, what is clear is that antibiotic use in Texas nursing facilities is significantly higher than the usage rates that appear in the long term care clinical literature, and there is probably a significant opportunity to improve both infection control practices and the appropriateness of antibiotic use in Texas nursing facilities.

### **3.9. Psychoactive Medication Usage**

#### 3.9.1. Overview

This section focuses on the appropriateness of antipsychotic, anti-anxiety, and sedative/hypnotic medication use among persons 65 years and older. The use of psychoactive medications for the management of behavioral symptoms in persons who have cognitive impairment can lead to serious adverse drug effects such as falls (Tamblyn et al., 2005). In 2005, the Food and Drug Administration issued a “black box” warning concerning the increased risk of death among elderly persons treated with certain antipsychotic medications (Food and Drug Administration, 2005). Historically, the rates of psychoactive medication use in nursing facilities are greatest among the southern states (Tobias and Sey, 2001) whereas the prevalence of psychiatric illness and cognitive impairment in Texas nursing facilities is historically near the national average (Harrington et al., 2000).

In the Nursing Facility Quality Review process, pharmacist reviewers examine medication administration records, physician orders and other clinical documents in order to determine whether there is a valid clinical indication for the medication, whether there are measurable treatment goals, and whether reliable monitoring methods are being used to assess the impact of treatment as it relates to the goals of therapy.

#### 3.9.2. Related Quality Outreach Activities

From April 2005 to April 2006, antipsychotic agent use was reviewed in 663 residents during 183 pharmacist Quality Monitoring visits to 162 distinct facilities. Anti-anxiety agent use was reviewed in 329 residents during 97 visits to 91 distinct facilities. Sedative/hypnotic drug use in 392 residents was addressed during 121 visits to 109 facilities. In addition, antipsychotic use was addressed in 72 technical assistance visits conducted in the new pharmacist Quality Monitoring visit format; anti-anxiety agent use was addressed in 65 visits and sedative/hypnotic use was addressed in 66 visits. Psychoactive medication use was also addressed during 15 joint training program classes attended by 267 provider attendees.

#### 3.9.3. Prevalence of Psychotropic Medication Use

Table 3.13 shows the prevalence of psychoactive medication use among the sample of Nursing Facility Quality Review residents aged 65 years and older for whom medication administration records were available (n=1,719).

**Table 3.13 Prevalence of Psychotropic Medication Use**

Psychoactive Class	National 2006	Texas 2003	Texas 2004	Texas 2005	Texas 2006
Antipsychotic	26.1%	28.9% (26.8-31.1)	31.9% (29.6-34.1)	32.6% (30.4-34.8)	31.0% (28.8-33.2)
Anti-anxiety	16.5%	18.7% (16.8-20.6)	25.5% (23.4-27.6)	28.8% (26.7-31.0)	29.6% (27.4-31.8)
Sedative/hypnotics	5.6%	8.5% (7.2-9.9)	10.3% (8.8-11.7)	12.2% (10.6-13.8)	12.7% (11.1-14.3)

Although the prevalence of medication orders for anti-anxiety and hypnotic agents continues significantly higher than in 2003, there has been no significant change for the last three years.

#### 3.9.4. Antipsychotic Medication Usage

##### 3.9.4.1. Overview

Antipsychotic medications are used in long term care for a variety of clinical indications not all of which are considered valid by the Centers for Medicare and Medicaid Services guidelines. The most common of these is off-label (not Food and Drug Administration-approved) use in an attempt to control behavioral symptoms that occur among persons who have dementia. There is increasing evidence that these medications are no more effective than placebo in controlling the neuropsychiatric functioning of such persons (Deberdt et al., 2005). Further, in April 2005, the Food and Drug Administration issued a public health advisory concerning the use of newer-generation antipsychotic medications (often-called *atypical antipsychotics*) in the treatment of geriatric patients with behavioral symptoms related to dementia (Food and Drug Administration, 2005). The advisory warned that these agents appear to be associated with an increased risk of death in this patient group. While the Food and Drug Administration has not yet issued a similar advisory for older-generation antipsychotic medications, there are published retrospective studies that suggest older-generation agents are associated with comparable or higher mortality than newer-generation agents (Wang et al., 2005).

##### 3.9.4.2. Quality Improvement Trend

Table 3.14 shows the statewide prevalence of antipsychotic medication use and the proportion of all orders for antipsychotic agents ordered in the absence of clinical indications recognized by the Centers for Medicare and Medicaid Services. The proportion of residents on antipsychotic agents is based on 1,719 residents in the Nursing Facility Quality Review sample 65 years or older.

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**Table 3.14 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)
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)
2005	32.6% (30.4 – 34.8)	42.6% (39.0 – 46.2)
2006	31.0% (28.8 – 33.2)	40.4% (36.7 – 44.1)

From 2005 to 2006, there was no statistically significant difference in either the prevalence or appropriateness of antipsychotic medication use among nursing facility residents age 65 or above.

A breakdown of the classes of antipsychotic medications given to Texas nursing facility residents is shown in Table 3.15. The proportions in the table are based on those residents 65 years or older taking antipsychotic medications (n=533).

**Table 3.15 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)
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)
2005	90.0% (87.8 – 92.2)	41.5% (37.7 – 45.3)	62.7% (51.5 – 73.8)
2006	90.3% (88.1 – 92.6)	40.5% (36.6 – 44.4)	47.1% (35.0 – 59.2)

The majority of antipsychotic medication is administered according to a fixed schedule. Of the 74 orders for as-needed antipsychotic agents, 36 were for haloperidol (an older agent), and the remainder was for an atypical agent. This pattern is unchanged from 2005.

#### 3.9.4.3. Discussion

There has been no significant change in prevalence or appropriateness of antipsychotic medication use in Texas nursing care facilities. There are serious concerns about the safety of both older and newer generation antipsychotic agents when administered to older persons who have dementia (Hien et al., 2005; Lee et al., 2005).

Although the Nursing Facility Quality Review sample confidence intervals do not demonstrate a change in the prevalence of use of these medications, the Minimum Data

Set quality indicator for overall antipsychotic drug use (Quality Indicator 19) has shown a small but consistent decline over the past year (see section 4.1). This decrease is likely due to the combined effects of revising the format of pharmacist quality monitoring visits, Quality Monitoring pharmacists' academic detailing visits to the offices of long term care medical directors, and heightened physician awareness of the risks these medications pose.

### 3.9.5. Anti-anxiety Medication Usage

#### 3.9.5.1. Overview

Anti-anxiety medications are appropriate for the treatment of persons with diagnosed anxiety disorders. Prior Nursing Facility Quality Review cycles have established that the great majority of anti-anxiety medication administered to older Texas nursing facility residents is given in the absence of a diagnosable anxiety disorder and without monitoring for therapeutic benefit (Cortes et al., 2004; Cortes et al., 2005).

#### 3.9.5.2. Quality Improvement Trend

The Nursing Facility Quality Review quality measures for the use of anti-anxiety medications in residents 65 years and older appear in Table 3.16. The first measure is based on all residents 65 and older (n=1,719). The second and third measures are based on elderly residents who received an anti-anxiety medication in the seven days preceding their Nursing Facility Quality Review assessment (n=509).

**Table 3.16 Appropriateness of Anti-anxiety Medication Use**

<b>Use of Anti-anxiety Medications</b>	<b>2004 (95% CI)</b>	<b>2005 (95% CI)</b>	<b>2006 (95% CI)</b>
1. Proportion of residents who received an anti-anxiety medication in the last seven days	25.5% (23.4-27.6)	28.8% (26.7-31.0)	29.6% (27.4-31.8)
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)	12.7% (9.8-15.7)	7.3% (5.0-9.6)
3. From among residents who received an anti-anxiety medication, the proportion that had appropriate therapeutic monitoring	4.8% (2.7-6.8)	3.1% (1.6-4.7)	0% (0.0-0.0)

While no statistically significant change in the prevalence of anti-anxiety drug use is visible in 2005 and 2006, the corresponding Minimum Data Set statewide quality indicator (Quality Indicator 20) has increased over the past year. The second and third measures in Table 3.16 show no improvement in the appropriate use of anti-anxiety medications. Rather, the proportion of persons receiving anti-anxiety medications for a definable anxiety disorder appears to have declined reflecting either less rigorous clinical documentation or possibly less diligent Nursing Facility Quality Review nurse

review. Similarly, these agents are usually given in the absence of conscientious monitoring for beneficial effect.

### 3.9.5.3. Discussion

The majority of anti-anxiety drug use in Texas nursing facilities most likely targets behavioral symptoms (e.g., agitation) rather than particular diseases or syndromes such as anxiety disorders or delirium. The effects of treatment (therapeutic or adverse) are rarely assessed rigorously. The use of anti-anxiety agents for symptomatic treatment rather than treatment based on a specific diagnosis has pitfalls including a tendency toward increasing the number of medications a resident receives, increasing the risk of adverse drug events, and missing the opportunity to identify an underlying medical or psychiatric condition (e.g., pain or delirium) that manifests with non-specific behavioral symptoms such as agitation.

### 3.9.6. Sedative/Hypnotic Medication Usage

#### 3.9.6.1. Overview

Up to 75% of nursing facility residents report some type of sleep disturbance (Gentili et al., 1997; Middelkoop et al., 1994). Most interventions used in long term care to improve sleep generally yield modest improvement if any at all. Recent research suggests that sleep hygiene measures are not particularly effective (Ouslander et al., 2006). Similarly, the improvement in sleep duration that can be expected from hypnotic medications is very modest; a recent meta-analysis of hypnotic drugs shows that these agents typically provide an older person with only an additional 25 minutes of sleep (Glass et al, 2005). While one in 13 persons will report improved sleep, one in six will experience a harmful side effect such as confusion, daytime sleepiness, falls, and accidents among others. Thus, the risk of harm is twice as great as the potential benefit (Glass et. al, 2005).\*\*\*\*

Despite the absence of major benefit, sedating or hypnotic medications are commonly used to address sleep disturbances in nursing facilities. In 2004 and 2005, the Nursing Facility Quality Review showed that 10-12% of Texas residents took a bedtime medication for sleep; that the majority of residents taking such medications had taken them more than two days in the preceding week; and that monitoring the effects of treatment was distinctly uncommon (Cortés and Chou, 2004-2005).

#### 3.9.6.2. Quality Improvement Trend

The first four measures in Table 3.17 are based on Nursing Facility Quality Review pharmacists' reviews of the medication administration records of residents in the Nursing Facility Quality Review sample aged 65 and older (n=1719). The last five

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\*\*\*\* Glass' meta-analysis did not include the newest hypnotic agent *ramelteon*, which appears to work differently than older agents do.

measures are based on the nurse quality reviewers' assessments of the medication administration records of the entire resident sample (n=1986) without regard to age.

**Table 3.17 Appropriateness of Sedative/Hypnotic Medication Use**

<b>Use of Sedative/Hypnotic Medications</b>	<b>2004 (95% CI)</b>	<b>2005 (95% CI)</b>	<b>2006 (95% CI)</b>
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)	12.2% (10.6-13.7)	12.7% (11.1-14.3)
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)	61.1% (55.4-67.8)	67.7% (61.9-73.4)
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)	54.6% (47.9-61.4)	58.3% (52.2-64.3)
4. Proportion from among those that received a sedative/hypnotic who received the medication on an as-needed basis in the last seven days	22.6% (16.3-28.9)	20.4% (14.9-25.9)	26.7% (20.1-33.3)
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)	15.7% (14.1-17.3)	12.9% (11.4-14.4)
6. Proportion whose last 14 days of MARs showed an active order for sleep medication and who also reported sleep problems in the past 14 days	40.6% (33.8-47.3)	30.8% (25.6-36.0)	25.3% (19.9-30.7)
7. Proportion whose last 14 days of MARs showed an active order for sleep medication and who had had a stressful event in the last 14 days	5.2% (2.1-8.2)	6.0% (3.3-8.7)	5.1% (2.3-7.8)
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)	18.1% (13.8-22.4)	1.9% (0.2-3.7)
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)	18.4% (14.0-22.8)	14.8% (10.4-19.2)

Given that sleep hygiene does not appear to be particularly effective in the management of insomnia among persons in long term care facilities, the apparent decline in the use of sleep hygiene evaluations (measure 8 above) is of questionable significance. This measure should be discarded in subsequent Nursing Facility Quality Review cycles since it does not appear to be either reliable or informative.

### 3.9.6.3. Discussion

Since 2005, there has been no discernable change in the appropriateness of sedative/hypnotic drug use in Texas long term care facilities. In part, this is the result of the inability to discern small differences when there is a relatively small resident sample. The Minimum Data Set-based quality indicator probably presents a more accurate

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picture - one in which there has been a slow but steady increase in the use of these medications over the past three years. Treatment with hypnotics appears to be symptom-driven and rarely monitored for effectiveness. These quality issues parallel those observed in the use of antipsychotic and anti-anxiety medications.

### **3.10. Safety of Long Term Care Prescribing Practices**

#### 3.10.1. Overview

The Nursing Facility Quality Review process examines 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<sup>††††</sup>), and the prevalence of the ten most hazardous drug combinations. The Nursing Facility Quality Review focus on these specific medication issues is aligned with the pharmacist technical assistance program that emphasizes the reduction of polypharmacy risks through a process of medication regimen simplification.

#### 3.10.2. Related Quality Outreach Activities

From April 2005 to April 2006, Quality Monitoring pharmacist quality consultants assessed the medication regimens of 121 residents for polypharmacy during 29 visits to 29 distinct facilities using the standard Quality Monitoring visit format that emphasizes clinical audit. Quality Monitoring pharmacist consultants also addressed polypharmacy during 17 additional visits conducted in the new pharmacy visit format that emphasizes staff education.

#### 3.10.3. Quality Improvement Trend for Polypharmacy

The proportion of residents receiving nine or more medications in the preceding seven days, counting both routine and as-needed medications, is a Minimum Data Set-based quality indicator (Quality Indicator 6). For as-needed medications, only those that a resident has actually taken during the most recent seven-day period are counted.

Because facilities may maintain separate medication administration records for routinely scheduled medications, those given *as needed*, and medications applied to the skin or inhaled, the medication review processes can under-report the number of medications given if each record is not retrieved. As in 2005, the 2006 Nursing Facility Quality Review medication review processes compared medication administration records to consolidated physician's orders in order to guard against under-reporting. The quality measures reported in Table 3.18 are based on the medication records of the 1,719 residents in the Nursing Facility Quality Review sample who were 65 years and older.

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<sup>††††</sup> Named for Dr. M.H. Beers, authored in 1991. Criteria for safe medication use in older adults – for people over 65 years of age.

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**Table 3.18 Quality Measures for Polypharmacy**

<b>Residents ≥ age 65</b>	<b>2003 (95% CI)</b>	<b>2004 (95% CI)</b>	<b>2005 (95% CI)</b>	<b>2006 (95% CI)</b>
1. Proportion of residents that received nine or more <i>routinely scheduled</i> and <i>as-needed</i> medications	54.5% (52.1-56.9)	62.4% (60.1-64.8)	69.0% (66.8-71.2)	75.2% (73.1-77.3)
2. Average number of medications ( <i>routine</i> and <i>as-needed</i> ) per resident	9.5 (9.3-9.7)	10.1 (9.9-10.3)	11.4 (11.1-11.6)	12.3 (12.0-12.5)
3. Average number of <i>active ingredients</i> per resident	10.3 (10.1-10.6)	11.3 (11.0-11.5)	12.2 (11.9-12.4)	12.2 (11.9-12.4)

The increase in the proportion of residents receiving nine or more medications is partially explained by the reversal in average number of medications and average number of active ingredients. Greater use of combination drugs (medicines with two or more active ingredients) decreases the proportion of residents on nine or more medications. Similarly, distinct orders for the administration of the same drug (e.g., a routine order and an as-needed order) increase the proportion of residents on nine or more drugs. Given the magnitude of the observed increase, it seems likely that at least a portion of it represents an actual increase in the prevalence of polypharmacy; and this is consistent with the increase in Quality Indicator 6 (see section 4.1).

#### 3.10.4. Quality Improvement Trend for Beers List of Medications

The Beers List consists of 48 medications or medication classes that should generally be avoided in persons 65 years or older because they are either ineffective, pose unnecessarily high risks of adverse effect or because safer alternatives are available (Fick et al., 2003). These medications can contribute to worsening health status among persons who take them (Fu et al., 2004). Table 3.19 shows the prevalence of nursing facility residents, 65 years and older, receiving at least one Beers List medication. A separate measure for propoxyphene, a Beers List medication, is also shown because in 2004, Quality Monitoring quality consultants (nurses and pharmacists) began providing technical assistance to discourage its use (see Table 3.5) in the management of pain.

**Table 3.19 Use of Beer’s List of Medications**

<b>Medication Safety Measures</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
1. Proportion of residents receiving at least one Beers List medication	13.8%	20.3% (18.3-22.2)	20.8% (18.9-22.7)	25.4% (23.3-27.5)
2. Proportion of residents receiving propoxyphene	7.0%	7.9% (6.7-9.3)	4.9% (3.8-5.9)	4.9% (3.8-5.9)

Since last year, there has been a statistically significant increase in the use of Beers List medications. About 25% of older nursing facility residents take medications that have

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poor safety profiles, and five of these medications (alprazolam, lorazepam, ferrous sulfate, digoxin, and propoxyphene) accounted for 65% of all such medication orders in the 2006 Nursing Facility Quality Review sample. Alprazolam and lorazepam are sedating anti-anxiety medications, and propoxyphene is a medication for pain that has no advantage over acetaminophen and is rarely appropriate in older persons. Some orders for ferrous sulfate and digoxin likely represent medically appropriate therapy. The reduction in propoxyphene orders for residents 65 and older was achieved after the Quality Monitoring program's technical assistance for pain management began in 2004, and this improvement has been maintained.

### 3.10.5. Quality Improvement Trend for Drug Interactions

The 2006 Nursing Facility Quality Review focuses on ten high-risk medication combinations that are associated with adverse resident outcomes including hospitalization and death. These Top Ten Dangerous Drug Interactions in long term care were identified in 2002 by a multidisciplinary group convened by the American Medical Directors Association and the American Society of Consultant Pharmacists (American Medical Directors Association and American Society of Consultant Pharmacists, 2002). The figures in Table 3.20 are based on the overall Nursing Facility Quality Review sample (i.e., for 2004, n=1990; for 2005, n=2003; and for 2006, n=1986).

**Table 3.20 Drug Interactions**

<b>Medication Safety Measure</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
1. Proportion of residents whose medication regimen includes a Top Ten interaction	11.2% (9.7-12.6)	11.8% (10.3-13.2)	11.0% (9.6-12.4)
2. Proportion of residents on angiotensin-converting enzyme-inhibitors and potassium supplement	7.9% (6.7-9.2)	8.4% (7.1-9.6)	8.9% (7.6-10.2)
3. Proportion of residents on angiotensin-converting enzyme-inhibitors and spironolactone	0.7% (0.3-1.0)	0.8% (0.4-1.2)	0.9% (0.4-1.3)
4. Proportion of residents on digoxin and amiodarone	0.4% (0.1-0.7)	0.3% (0.1-0.5)	0.4% (0.1-0.6)
5. Proportion of residents on digoxin and verapamil	0.1% (0.0-0.2)	0.2% (0.0-0.5)	0.1% (0.0-0.2)
6. Proportion of residents on theophylline and quinolone antibiotics	0.1% (0.0-0.2)	0.1% (0.0-0.3)	0.1% (0.0-0.2)
7. Proportion of residents on warfarin and macrolide antibiotics	0.1% (0.0-0.2)	0.1% (0.0-0.2)	0.1% (0.0-0.2)
8. Proportion of residents on warfarin and NSAID analgesics	1.4% (0.9-1.9)	1.3% (0.8-1.8)	0.4% (0.1-0.6)
9. Proportion of residents on warfarin and phenytoin	0.8% (0.4-1.2)	0.6% (0.3-0.9)	0.7% (0.3-1.0)
10. Proportion of residents on warfarin and quinolone antibiotics	0.2% (0.0-0.4)	0.5% (0.2-0.9)	0.5% (0.2-0.8)
11. Proportion of residents on warfarin and sulfa antibiotics	0.2% (0.0-0.4)	0.1% (0.0-0.2)	0.1% (0.0-0.2)

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From 2005 to 2006, there has been a significant decrease in interaction #8, the proportion of residents taking both the anticoagulant warfarin and a non-steroidal anti-inflammatory drug (NSAID). The prevalence of the remaining ten most hazardous drug combinations remains unchanged. As in prior years, the most common hazardous combination, angiotensin-converting enzyme inhibitors and potassium supplements, was mitigated in 90% of instances by the use of diuretics that would typically reduce the risk (a dangerously high level of potassium). Thus, at most 2.9% of all residents were on hazardous drug combinations in the absence of mitigation.

#### 3.10.6. Discussion

Older Texas nursing facility residents take complex medication regimens consisting of nine or more medications. The Texas trend for the last four years is an increase in polypharmacy. Paralleling the trend toward greater numbers of medications is a greater risk of prescribing medications that have poor safety profiles among the elderly. In 2006, there was a small but significant increase in the likelihood of such medication orders. Among the Nursing Facility Quality Review resident sample, 25% of older nursing facility residents were given at least one medication that had a poor safety profile.

Fortunately, the prevalence of the ten most hazardous drug combinations is relatively uncommon in Texas nursing facilities, and the majority involves a single interaction (angiotensin-converting enzyme-inhibitors and potassium) that is most often mitigated by diuretic medications in the resident's medication regimen. In 2006, the prevalence of drug regimens that included both warfarin and a non-steroidal anti-inflammatory drug (a combination associated with a high risk of life-threatening hemorrhage) decreased significantly. This improvement cannot be attributed to the Texas Department of Aging and Disability Services technical assistance program, and is more likely attributable to other factors such as medical direction and oversight, physician education, and consultant pharmacist review of residents' medication regimens.

### **3.11. Quality of Life and Consumer Satisfaction**

#### 3.11.1. Overview

The Centers for Medicare and Medicaid Services has contracted with researchers to develop Minimum Data Set assessment items that address quality of life (Kane, 2003). These items appear in the draft MDS 3.0 instrument that will be deployed nationally in the future. Anticipating this valuable addition to the Minimum Data Set, the 2006 Nursing Facility Quality Review discards most of the consumer satisfaction items used in prior Nursing Facility Quality Review cycles retaining only the overall satisfaction item, and it incorporates the new MDS 3.0 quality of life items.

In the draft MDS 3.0, quality of life is examined in several domains including privacy, activities, meals, personal safety, and the security of one's possessions. Research using this instrument has shown that 9% of the variation in self-reported quality of life is determined by differences among nursing facilities and 91% is determined by differences among the residents themselves (Degenholtz et al., 2006). That is, differences in health conditions, relationships, psychological health, and other personal attributes play a dominant role in determining self-reported quality of life.

### 3.11.2. Findings

Only residents themselves were allowed to respond to the quality of life items. If a resident was unable to respond, the resident's legal representative was asked to respond to the consumer satisfaction item. Seventy-six residents required the use of a translator.

Table 3.21 shows the percentage of respondents who answered yes to each of the quality of life items. The number below each percentage is the number of respondents.

**Table 3.21 Residents' Quality of Life**

Item	Issue	% Yes (N)
		2006
12.3	Can you find a place to be alone when you wish?	82.4% (1235)
12.4	Can you make a private phone call?	84.2% (1230)
12.5	When you have a visitor, can you find a place to visit in private?	88.2% (1238)
12.6	Can you be together in private with another resident (other than your roommate)?	76.1% (1003)
12.7	Do you participate in religious activities here?	64.4% (1323)
12.8	Do the religious observances here have personal meaning for you?	70.3% (1218)
12.9	Do you enjoy the organized activities here at the nursing home?	64.7% (1299)
12.10	Outside of religious activities, do you have enjoyable things to do at the nursing home during the weekends?	40.5% (1176)
12.11	Do you like the food here?	79.9% (1304)
12.12	Do you enjoy mealtimes here?	84.7% (1269)
12.13	Can you get your favorite foods here?	64.3% (1130)
12.14	Do you feel that your possessions are safe at this nursing home?	79.3% (1278)

12.15	Do your clothes get lost or damaged in the laundry?	38.3% (1128)
12.16	Do you feel safe and secure?	94.4% (1311)

It is notable most residents enjoy a feeling of safety and security in their nursing facility.

Table 3.22 shows the average level of overall satisfaction as well as the proportion of residents who answered that they were either satisfied or very satisfied overall.

**Table 3.22 Overall Satisfaction**

Item	Issue	Satisfaction Score (Number of Responses)			
		2003	2004	2005	2006
12.17	Overall, how satisfied are you with your (your family member's) experience in this nursing facility?	5.97 (1487)	5.85 (1556)	5.87 (1612)	5.62 (1454)
-	Proportion that was satisfied or very satisfied	83%	74%	77%	72%

From 2005-2006, there has been some decline in the overall satisfaction that residents and families report with Texas nursing facility services.

### 3.11.3. Discussion

The quality of life measures in Table 3.21 establish a baseline for some important aspects of residents' quality of life. The greatest opportunities for improving these aspects of residents' quality of life appear to lie in the domains of privacy and enjoyable activities. Other domains in which quality of life could be improved are the security of one's possessions, and in meeting residents' food preferences.



## 4. Statewide Quality Indicator Values 2002-2005

### 4.1. Overview of Quality Indicators

Table 4.1 Statewide Quality Indicator Values\*

Indicator	Description	2003 Value	2004 Value	2005 Value	2006 Value
QI 1	Incidence of New Fractures	1.27%	1.28%	1.34%	1.33%
QI 2	Falls	10.76%	10.68%	10.97%	10.95%
QI 3Hi	Behavioral Symptoms - High Risk	18.94%	18.23%	17.56%	16.49%
QI 3Lo	Behavioral Symptoms - Low Risk	6.14%	6.06%	5.38%	5.38%
QI 3	Behavioral Symptoms - Overall	15.95%	15.40%	14.81%	14.05%
QI 4	Symptoms of Depression	6.28%	6.05%	5.96%	5.44%
QI 5	Depression and No Medication	2.93%	2.57%	2.46%	2.15%
QI 6	Use of 9 or more Medications	54.19%	58.04%	61.50%	63.90%
QI 7	New Onset Cognitive Impairment	11.04%	11.25%	11.49%	11.48%
QI 8Hi	Incontinence - High Risk	93.96%	93.63%	93.62%	93.54%
QI 8Lo	Incontinence - Low Risk	43.68%	44.54%	44.76%	44.95%
QI 8	Incontinence - Overall	57.76%	57.73%	57.50%	57.29%
QI 9	Incontinence and No Toileting	69.09%	66.94%	62.75%	62.91%
QI 10	Indwelling Catheter	7.07%	6.89%	6.85%	6.55%
QI 11	Fecal Impaction	0.14%	0.11%	0.09%	0.04%
QI 12	Urinary Tract Infection	7.40%	7.41%	7.46%	7.58%
QI 13	Weight Loss	9.64%	9.14%	9.47%	9.04%
QI 14	Tube Feeding	8.66%	8.62%	8.50%	8.22%
QI 15	Dehydration	0.39%	0.31%	0.29%	0.27%
QI 16	Prevalence of Bedfast Residents	7.80%	7.10%	6.68%	6.50%
QI 17	Decline in Activities of Daily Living (ADLs)	16.06%	16.08%	16.25%	16.08%
QI 18	Decline in Range of Motion (ROM)	6.45%	5.88%	6.23%	5.95%
QI 19Hi	Antipsychotic Use - High Risk	50.06%	49.28%	48.01%	47.11%
QI 19Lo	Antipsychotic Use - Low Risk	22.00%	21.70%	21.02%	19.94%
QI 19	Antipsychotic Use - Overall	25.51%	24.97%	24.08%	22.82%
QI 20	Anti-anxiety/Hypnotic Use	20.57%	20.75%	21.11%	22.34%
QI 21	Hypnotics Use > 2 days	5.92%	6.13%	6.51%	7.07%
QI 22	Physical Restraints	13.87%	8.72%	6.64%	5.32%
QI 23	Little or No Daily Activity	13.55%	11.09%	9.18%	8.73%
QI 24Hi	Pressure Ulcers - High Risk	14.07%	13.43%	13.41%	12.99%
QI 24Lo	Pressure Ulcers - Low Risk	2.41%	2.08%	2.11%	1.68%
QI 24	Pressure Ulcers - Overall	8.68%	8.20%	8.24%	7.89%

\* The Quality Indicators represent statewide population prevalence or incidence as determined April 30 each year. The highlighting identifies the Quality Indicator issues for which the Quality Monitoring program provides technical assistance.

## **4.2. Minimum Data Set Quality Indicators for Nursing Facility Quality Review and Quality Outreach Focus Areas**

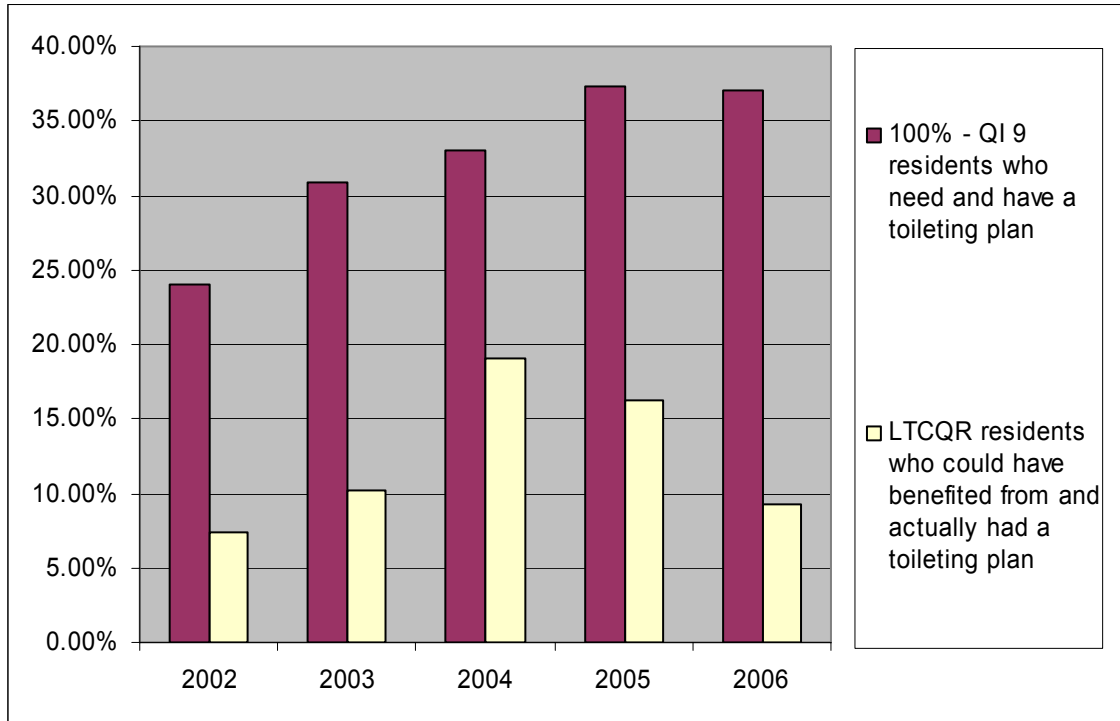
### **4.2.1. Quality Indicator 9: Prevalence of Urinary Incontinence without a Toileting Plan**

Using the complement of Quality Indicator 9, Figure 4.1 depicts changes in the use of continence promotion interventions among persons who experience occasional or more frequent incontinence. The Nursing Facility Quality Review measure that corresponds most closely to Quality Indicator 9 is the proportion of residents who could have benefited from a toileting plan and actually had one (see Table 3.1). Although the Minimum Data Set-based quality indicator suggests that there has been steady improvement in the use of continence promotion interventions, the Nursing Facility Quality Review trend shows an initial two-year improvement followed by a steady erosion of that initial improvement.

Some or all of this apparent inconsistency is attributable to differences in the definitions of Quality Indicator 9 and the corresponding Nursing Facility Quality Review quality measure. That is, by classifying a resident as experiencing daily incontinence, facilities can alter the denominator of the quality indicator and improve the apparent percentage of residents receiving continence promotion. The Nursing Facility Quality Review measure does not lend itself to such inflation because it does not exclude residents who experience daily incontinence from the measure. Hence, the apparent improvement in Quality Indicator 9 is unlikely to represent true improvement in resident care.



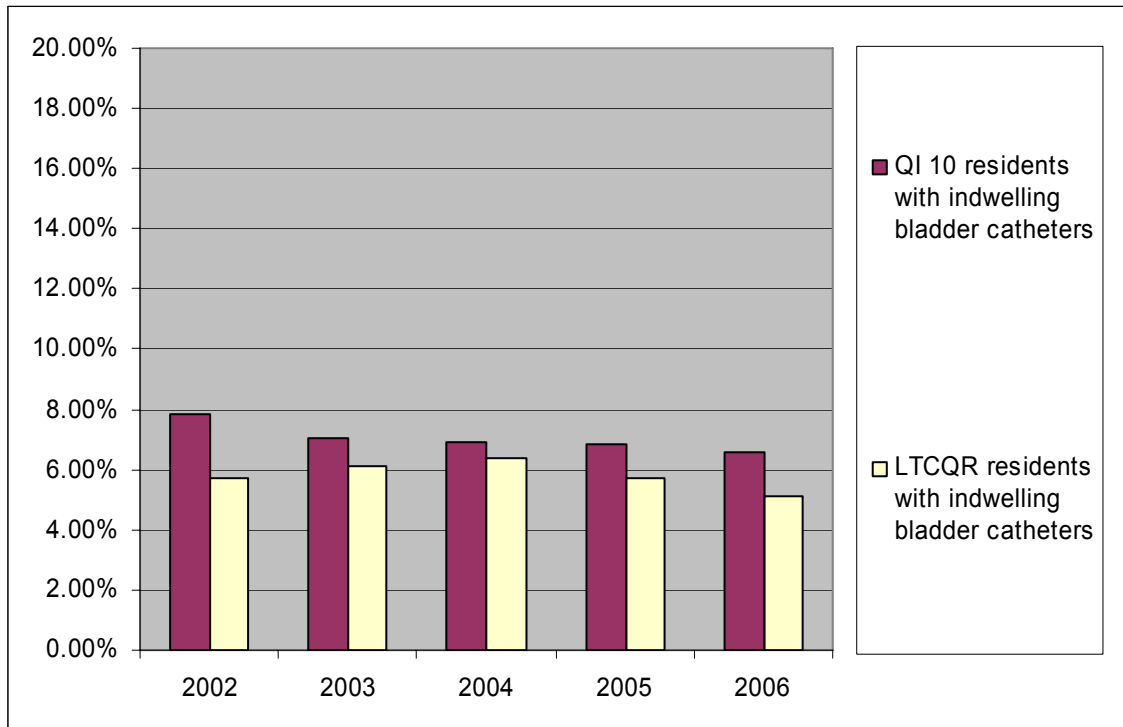
**Figure 4.1 Quality Indicator 9 vs. Nursing Facility Quality Review Measure for Urinary Incontinence**



4.2.2. Quality Indicator 10: Prevalence of Indwelling Bladder Catheters

Quality Indicator 10 is the prevalence of indwelling bladder catheters. The Nursing Facility Quality Review measure that corresponds to Quality Indicator 10 is the Nursing Facility Quality Review prevalence for indwelling catheters (see Table 3.3). Figure 4.2 shows both Quality Indicator 10 and the Nursing Facility Quality Review prevalence together.

**Figure 4.2 Quality Indicator 10 vs. Nursing Facility Quality Review Measure for Indwelling Bladder Catheters**



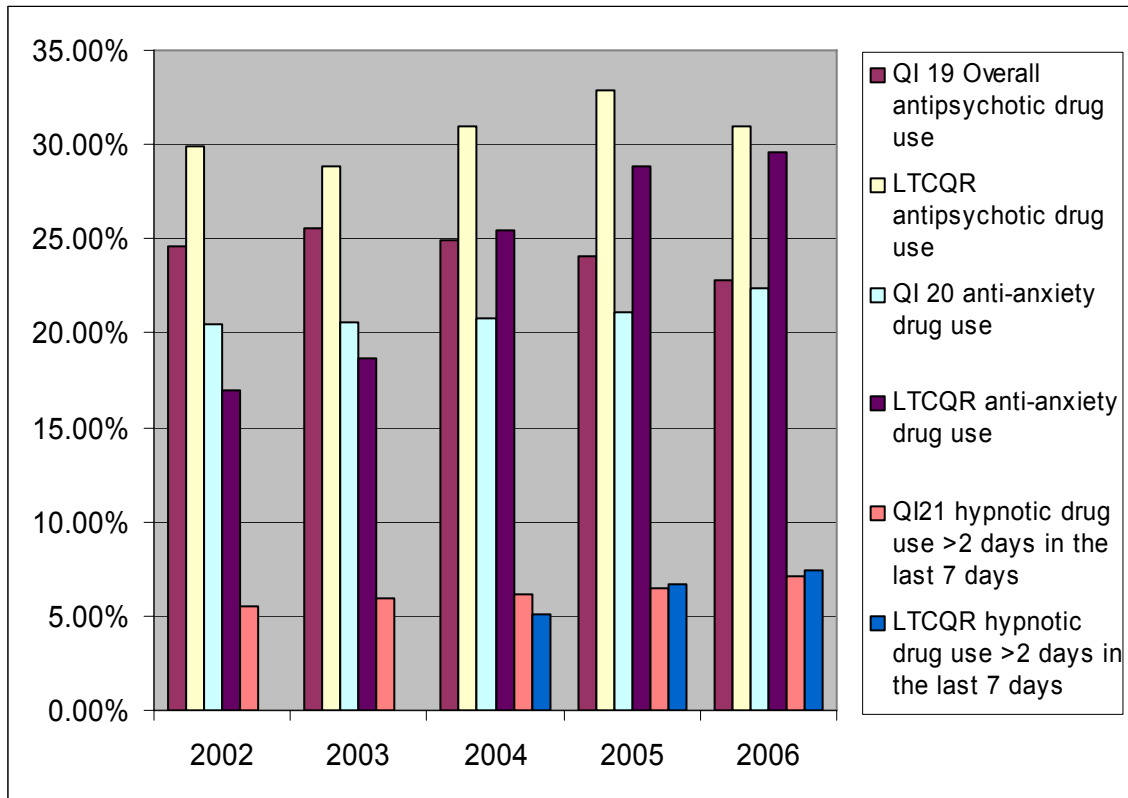
Both the quality indicator and the Nursing Facility Quality Review show that there has been no increase in the use of indwelling bladder catheters. The prevalence of catheter use in Texas nursing facilities in 2006 has been slightly lower than the national average (Centers for Medicare and Medicaid Services, 2006).<sup>###</sup>

#### 4.2.3. Quality Indicator 19-21: Psychotropic Medication Use

The prevalence of antipsychotic use (Quality Indicator 19 Overall), anti-anxiety/hypnotic use (Quality Indicator 20) and hypnotic use for more than two of the last seven days (Quality Indicator 21) all have analogous Nursing Facility Quality Review measures. Because these Nursing Facility Quality Review measures are based on samples too small to show small changes in medication use patterns, the quality indicator values provide a better picture of actual statewide change. Figure 4.3 shows the yearly values for these quality indicators and their corresponding Nursing Facility Quality Review measures.

<sup>###</sup> Quality Indicator and Resident Reports; First Quarter 2006.  
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**Figure 4.3 Quality Indicator 19-21 vs. Nursing Facility Quality Review Measures for Psychotropic Drug Use**



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

- Since 2003, Quality Indicator 19 has shown a slow but steady decrease in the use of antipsychotics among persons who have no psychosis or related disorder. This improvement likely reflects the combined impacts of growing medical consensus regarding the inappropriateness of using these medications for the behavioral symptoms of dementia, the work of Quality Monitoring pharmacist consultants, the Food and Drug Administration’s 2005 “black box” warning, and the educational efforts of physicians’ professional organizations.

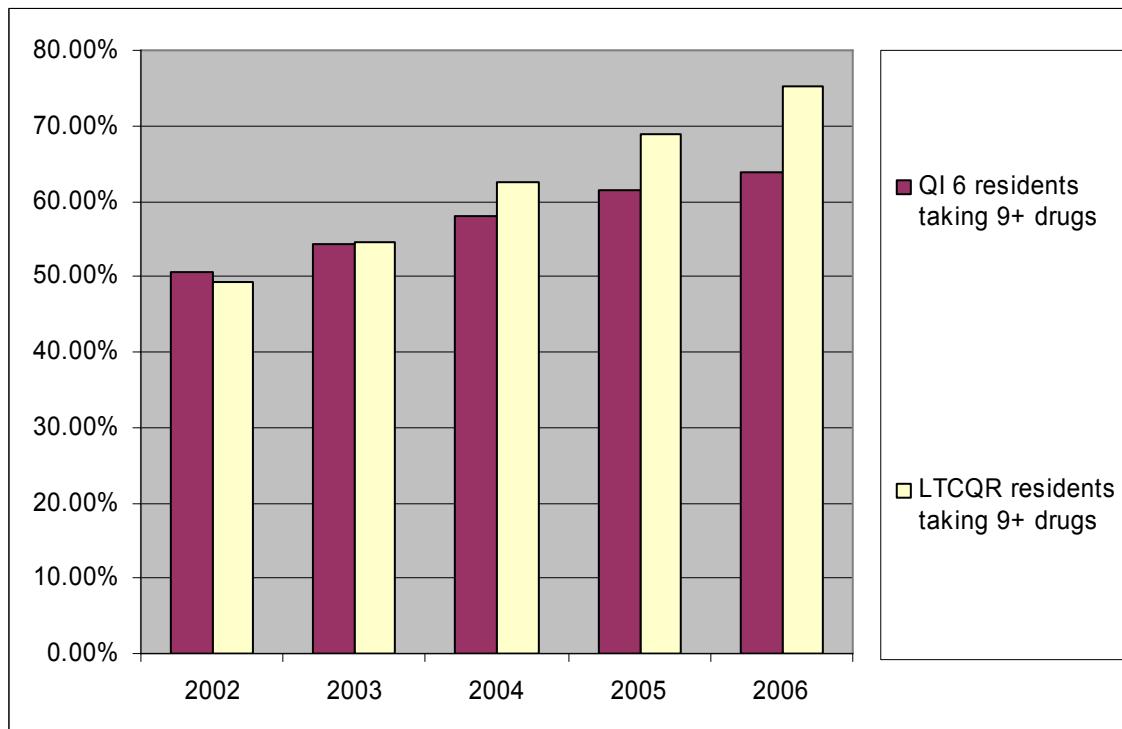
Quality Indicator 20 has increased slowly for several years whereas the corresponding Nursing Facility Quality Review measure has increased more dramatically. In addition, the rate of increase in both Quality Indicator 20 and the corresponding Nursing Facility Quality Review measure is opposite to the decline in antipsychotic drug use suggesting that sedating anti-anxiety drugs, rather than behavioral and environmental interventions, are being used as substitutes for antipsychotics to manage the behavioral symptoms of dementia.

- Quality Indicator 21 is consistent with the observed prevalence of hypnotic use among the Nursing Facility Quality Review resident sample, and there is a gradual increase in the use of these medications despite Quality Monitoring program efforts to discourage their use.

#### 4.2.4. Quality Indicator 6: Prevalence of Nine or More Medications

Quality Indicator 6 is the Minimum Data Set-based quality indicator for polypharmacy; it depicts the proportion of residents taking nine or more medications in the preceding seven days. The corresponding Nursing Facility Quality Review quality measure (see Table 3.18) is based on the same definition. Both the quality indicator and Nursing Facility Quality Review measure show a trend toward increased polypharmacy.

**Figure 4.4 Quality Indicator 6 vs. Nursing Facility Quality Review Measure for Nine or More Drugs**



### 4.3. Discussion

Changes in the Minimum Data Set-based quality indicators are generally consistent with changes in corresponding Nursing Facility Quality Review measures. The only quality indicator that does not track Nursing Facility Quality Review findings is Quality Indicator 9 for incontinence without a toileting plan. The definition of that quality indicator permits

the appearance of improvement in the absence of actual improvement simply through the exclusion of persons as potential candidates for continence promotion. The Nursing Facility Quality Review measure does not allow such exclusions and serves therefore as a more rigorous metric of actual improvement.

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## **Appendix A: Nursing Facility Quality Review Resident Assessment Instrument**

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# Department of Aging and Disability Services

## Nursing Facility Resident Assessment

**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 Texas Department of Aging and Disability ServicesID  
\_\_\_\_\_

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 have a palliative plan of care?

<sup>1</sup> Yes     <sup>2</sup> No

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

<sup>1</sup> 0-3 months     <sup>2</sup> 3-6 months     <sup>3</sup> 6-9 months  
 <sup>4</sup> 9-12 months     <sup>5</sup> 1-2 years     <sup>6</sup> more than 2 years

#### NOTE:

For all questions in Parts 2 through 12, with a few exceptions that are noted explicitly in the guidance, each question is meant to be answered independently of all other questions.

## Part 2. Assessment of Urinary Continence

Questions 2.1 through 2.8 MUST BE ANSWERED. Questions 2.9 through 2.12 MUST BE ANSWERED when the answer to 2.8 is NO.

**NOTE:** Perform a continence check (**ITEM 2.1**) 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?**

- <sup>1</sup> Yes       <sup>2</sup> No

**2.2\* Is the resident unresponsive (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.)

- <sup>1</sup> Yes       <sup>2</sup> No

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

- <sup>1</sup> Yes       <sup>2</sup> No

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

- <sup>1</sup> Yes       <sup>2</sup> No

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

- <sup>1</sup> Yes       <sup>2</sup> No

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

(NOTE: If more than one applies, answer with first answer from the list that applies to this resident)

- <sup>1</sup> Yes-PV       <sup>2</sup> Yes-SV       <sup>3</sup> Yes-BR       <sup>4</sup> No

**2.7\* Is the plan based on the individual's voiding pattern and needs?**

- <sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> q2h SV       <sup>4</sup> There is no plan

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

- <sup>1</sup> Yes       <sup>2</sup> No

----- If item 2.8 was answered YES, then skip to Part 3 -----

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

- <sup>1</sup> Yes       <sup>2</sup> No

**2.10 Have any of these episodes occurred during normal waking hours?**

- <sup>1</sup> Yes       <sup>2</sup> No

**2.11 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.)

- <sup>1</sup> Yes       <sup>2</sup> No

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

- <sup>1</sup> Yes       <sup>2</sup> No

### **Part 3. Use of Indwelling Bladder Catheter**

Question 3.1 MUST BE ANSWERED. Questions 3.2 through 3.9 MUST BE ANSWERED when the answer to 3.1 is YES.

**3.1\* Does the resident have an indwelling bladder catheter?**

- <sup>1</sup> Yes       <sup>2</sup> No

----- If item 3.1 was answered NO, then skip to Part 4 -----

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

- <sup>1</sup> Yes       <sup>2</sup> No

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

- <sup>1</sup> Yes       <sup>2</sup> No



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

<sup>1</sup> Yes       <sup>2</sup> 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.)

<sup>1</sup> Yes       <sup>2</sup> No

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

<sup>1</sup> Yes       <sup>2</sup> No

**3.7 Does this resident have evidence 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.)

<sup>1</sup> Yes       <sup>2</sup> No

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

<sup>1</sup> Yes       <sup>2</sup> No

**3.9 Does the resident have active, Stage III or IV pressure sores that would be vulnerable to urinary moisture?** (Regardless of location if urine would affect the sores)

<sup>1</sup> Yes       <sup>2</sup> No

## **Part 4. Infectious Illnesses**

All questions in this section MUST BE ANSWERED.

**4.1\* Has the resident had a urinary tract infection at any time in the last 7 days?**

<sup>1</sup> Yes-MRSA       <sup>2</sup> Yes-VRE       <sup>3</sup> Yes-other       <sup>4</sup> No

**4.2\* Has the resident had a skin or wound infection at any time in the last 7 days?**

<sup>1</sup> Yes-MRSA       <sup>2</sup> Yes-VRE       <sup>3</sup> Yes-other       <sup>4</sup> No

**4.3\* Has the resident had pneumonia at any time in the last 7 days?**

- <sup>1</sup> Yes-MRSA     <sup>2</sup> Yes-VRE     <sup>3</sup> Yes-other     <sup>4</sup> No

**4.4\* Has the resident had diarrhea AND fever at any time in the last 7 days?**

- <sup>1</sup> Yes-C. dif     <sup>2</sup> Yes-other     <sup>3</sup> No

**4.5\* Has the resident had any other infection at any time in the last 7 days?**

- <sup>1</sup> Yes-MRSA     <sup>2</sup> Yes-VRE     <sup>3</sup> Yes-other     <sup>4</sup> No

## **Part 5. Pain Assessment**

All questions in this section **MUST BE ANSWERED**.

**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.)

- <sup>1</sup> no pain     <sup>2</sup> mild     <sup>3</sup> moderate  
 <sup>4</sup> severe     <sup>5</sup> very severe     <sup>6</sup> worst     <sup>7</sup> 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.)

- <sup>1</sup> no pain     <sup>2</sup> mild     <sup>3</sup> moderate  
 <sup>4</sup> severe     <sup>5</sup> very severe     <sup>6</sup> worst     <sup>7</sup> Unable to determine

**5.3\* Is an observational pain assessment tool (e.g., PAINAD, ADD, or Abbey Pain Scale) being used to assess the resident's pain?**

- <sup>1</sup> Yes     <sup>2</sup> No

**5.4\* Is the same assessment tool (used for 5.3) used every time the resident is assessed for pain?** (Answer this item NA if 5.3 is answered NO.)

- <sup>1</sup> Yes     <sup>2</sup> No     <sup>8</sup> Not Applicable

**5.5\* Is a validated self-report pain assessment tool 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)

- <sup>1</sup> Yes       <sup>2</sup> No

**5.6\* Is the same assessment tool (used for 5.5) used every time the resident is assessed for pain?** (Answer this item NA if 5.5 is answered NO.)

- <sup>1</sup> Yes       <sup>2</sup> No       <sup>8</sup> Not Applicable

**5.7\* 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.)

- <sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> Unable to determine

## Part 6. Fall Risk Assessment

Questions 6.1 and 6.2 MUST BE ANSWERED. Question 6.3 MUST BE ANSWERED when the answer to 6.2 is YES.

**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 Minimum Data Set assessment?** (Use most recent event.)

- <sup>1</sup> Yes       <sup>2</sup> 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 hours?**

- <sup>1</sup> Yes       <sup>2</sup> No

----- If item 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?**

- <sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> Transferred to ER or Hospital

## Part 7. Immunizations

All questions in this section MUST BE ANSWERED.

**7.1\* Is there any documentation that the resident has ever received polyvalent (including trivalent) Pneumococcal vaccine?** (Any form of documentation is acceptable.)

- <sup>1</sup> Yes       <sup>2</sup> No

**7.2\* Is there proper documentation of the pneumococcal vaccine that the resident received?** (Look for documentation of Pneumovax or Pneu-Immune or Pneumococcal vaccine. Documentation must be by the entity that actually gave it and must include date, name of vaccine, and signature. "Received at hospital," is not sufficient. The documentation of the event must be from the hospital, clinic or doctor's office itself, and the same data elements must be present.)

- <sup>1</sup> Yes       <sup>2</sup> No

**7.3\* Is there any documentation that Influenza vaccine for the 2005 Influenza Season was given?** (Any form of documentation is acceptable.)

- <sup>1</sup> Yes       <sup>2</sup> No

**7.4\* Is there proper documentation that Influenza vaccine for the 2005 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," is not sufficient. The documentation of the event must be from the hospital, clinic or doctor's office itself, and the same data elements must be present.)

- <sup>1</sup> Yes       <sup>2</sup> No

**7.5\* In what month did the resident receive a 2005 Influenza Season Vaccine?** (See documentation requirements in 7.1.)

- <sup>1</sup> Aug '05       <sup>2</sup> Sep '05       <sup>3</sup> Oct '05       <sup>4</sup> Nov '05  
 <sup>5</sup> Dec '05       <sup>6</sup> Jan '06       <sup>7</sup> Feb '06       <sup>8</sup> Mar '06  
 <sup>9</sup> Apr '06       <sup>9</sup> May '06       <sup>10</sup> Influenza Vaccine was Not Given

**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)?**

- <sup>1</sup> Yes       <sup>2</sup> No

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

- <sup>1</sup> Yes       <sup>2</sup> No

## Part 8. Advance Care Planning

Questions 8.1 through 8.3 MUST BE ANSWERED. Questions 8.4 and 8.5 MUST BE ANSWERED when the answer to any item from 8.1a-8.1e is YES.

**After a thorough search of the clinical record, which of the following advanced care planning documents did you find?**

8.1a\* Out of Hospital DNR (OOHDNR)       <sup>1</sup> Yes       <sup>2</sup> No

8.1b\* Directive to Physicians       <sup>1</sup> Yes       <sup>2</sup> No

8.1c\* Durable Medical Power of Attorney       <sup>1</sup> Yes       <sup>2</sup> No

8.1d\* DNR order       <sup>1</sup> Yes       <sup>2</sup> No

8.1e\* Other intervention-limiting orders       <sup>1</sup> Yes       <sup>2</sup> No

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

- <sup>1</sup> Prior to admission
- <sup>2</sup> Within 21 days of admission
- <sup>3</sup> Within the first 90 days of admission
- <sup>4</sup> 90 or more days after admission
- <sup>5</sup> 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 Minimum Data Set assessment?**

<sup>1</sup> Yes       <sup>2</sup> No

----- If ALL items 8.1a-8.1e were 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?**

<sup>1</sup> Yes       <sup>2</sup> No

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

<sup>1</sup> Yes       <sup>2</sup> No

## Part 9. Tube Feeding

Question 9.1 MUST BE ANSWERED. Questions 9.2 through 9.6 MUST BE ANSWERED when the answer to 9.1 is YES.

**9.1\* Is the resident receiving tube feedings?** (Includes NG tube, PEG, or other enteral tube providing artificial nutrition and/or hydration)

<sup>1</sup> Yes       <sup>2</sup> No

----- If item 9.1 was answered NO, then skip to Part 10 -----

**9.2 Is the reason for tube feeding the occurrence of aspiration pneumonia or pressure sores in the context of late-stage dementia (non-verbal, non-ambulatory)?**

<sup>1</sup> Yes       <sup>2</sup> No

**9.3 Does the resident have late-stage dementia (non-verbal, non-ambulatory) or end-stage illness such as metastatic cancer or organ failure or poor performance status (ECOG performance score 3 or greater) related to advanced cancer?**

<sup>1</sup> Yes       <sup>2</sup> No

**9.4 Is there evidence that the resident or resident's representative provided informed consent for tube feeding?** (See the Guidance. More than a form is required.)

<sup>1</sup> Yes       <sup>2</sup> No

**9.5 Has tube feeding been provided for more than 30 days?**

<sup>1</sup> Yes       <sup>2</sup> No

**9.6 If the resident has been receiving tube feeding for more than 30 days, has there been a reassessment of the effectiveness of the feeding tube in the last 30 days?** (Reassessment must be based on progress toward specific measurable goals.)

<sup>1</sup> Yes       <sup>2</sup> No       <sup>8</sup> Not Applicable

## Part 10. Use of Anti-anxiety Medications

All questions in this section MUST BE ANSWERED. Each of these questions must be answered independently (For examples, see items 10.3 through 10.5 “If there is no valid anxiety diagnosis...” in the Guidance).

**10.1\* 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?**

<sup>1</sup> Yes       <sup>2</sup> No

**10.2\* Is there documentation of one or more anxiety symptoms characteristic of the disorder identified in 10.1?** (If item 10.1 is answered NO, then answer 10.2 Not Applicable. If 10.1 is answered YES, then refer to the symptom list in the guidance.)

<sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> Not Applicable

**10.3\* 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?**

<sup>1</sup> Yes       <sup>2</sup> No

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

<sup>1</sup> Yes       <sup>2</sup> No

**10.5\* Is there documentation of ongoing anxiety symptom assessment (at least every 2 weeks) for the stated, measurable therapeutic goals of anti-anxiety therapy?**

<sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> Not Applicable (i.e., no measurable goals)

## Part 11. Use of Hypnotic Medications

All questions in this section MUST BE ANSWERED.

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

<sup>1</sup> Yes       <sup>2</sup> No

**11.2\* 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)

<sup>1</sup> Yes       <sup>2</sup> No

**11.3\* Do the last 14 days of MAR show an active prescription for sleep problems?**

<sup>1</sup> Yes       <sup>2</sup> No

**11.4\* Is there evidence that the resident has been evaluated for sleep hygiene including all of the following: diet history, daytime habits, sleeping habits, and sleeping environment?** (Refer to the Guidance for examples.)

<sup>1</sup> Yes       <sup>2</sup> No

**11.5\* Has the resident's sleep pattern been consistently monitored during the last 14 days?**

<sup>1</sup> Yes       <sup>2</sup> No

## **Part 12. Quality of Life / Consumer Satisfaction**

Questions 12.1 & 12.2 MUST BE ANSWERED. If the resident is unable to answer, then a family member or guardian may only answer item 12.17. No other individual may answer for the resident. If ANY question from 12.2 to 12.16 is answered, then EVERY question in this section must be answered.

**12.1\* Who is responding to this survey?**

<sup>1</sup> Resident       <sup>2</sup> Family member or Guardian       <sup>3</sup> Neither

**12.2\* Was a translator used for this survey?**

<sup>1</sup> Yes       <sup>2</sup> No

---- If 12.1 was answered, "Family member or Guardian" then SKIP to 12.17 ----

----- If item 12.1 was answered, "Neither" then STOP -----

**12.3 Can you find a place to be alone when you wish?**

<sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> No Answer



**12.4 Can you make a private phone call?**

<sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> No Answer

**12.5 When you have a visitor, can you find a place to visit in private?**

<sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> No Answer

**12.6 Can you be together in private with another resident (other than your roommate)?**

<sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> No Answer

**12.7 Do you participate in religious activities here?**

<sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> No Answer

**12.8 Do the religious observances here have personal meaning for you?**

<sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> No Answer

**12.9 Do you enjoy the organized activities here at the nursing home?**

<sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> No Answer

**12.10 Outside of religious activities, do you have enjoyable things to do at the nursing home during the weekends?**

<sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> No Answer

**12.11 Do you like the food here?**

<sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> No Answer

**12.12 Do you enjoy mealtimes here?**

<sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> No Answer

**12.13 Can you get your favorite foods here?**

<sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> No Answer

**12.14 Do you feel that your possessions are safe at this nursing home?**

- <sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> No Answer

**12.15 Do your clothes get lost or damaged in the laundry?**

- <sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> No Answer

**12.16 Do you feel safe and secure?**

- <sup>1</sup> Yes       <sup>2</sup> No       <sup>3</sup> No Answer

**12.17 Overall, how satisfied are you with your (your family member's) experience in this nursing facility?**

- <sup>1</sup> Very Dissatisfied       <sup>2</sup> Dissatisfied       <sup>3</sup> Somewhat Dissatisfied  
 <sup>4</sup> Neither       <sup>5</sup> Somewhat Satisfied       <sup>6</sup> Satisfied  
 <sup>7</sup> Very Satisfied       <sup>8</sup> Not applicable

I certify by my signature below that the *Texas Department of Aging and Disability Services*/ID 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** \_\_\_\_\_