

**Office of Rates Management
Washington Department of
Social and Health Services**

**Medicaid Nursing Facility Payment System
Access, Quality of Care and Quality of Life
For Nursing Facility Residents
Evaluation of the Impacts Chapter 322,
Laws of 1998, Section 47(2)
Interim Report of Findings and
Discussion of Further Study**

October 2002

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I. Forward

Chapter 8, Laws of 2001, Section 18(2) requires the Department of Social and Health Services to contract with an independent and recognized organization to study and evaluate the impacts of chapter 74.46 RCW implementation on access, quality of care, quality of life for nursing facility residents, and the wage and benefit levels of all nursing facility employees. A Joint Legislative Task Force On Nursing Facilities, established according to RCW 74.46.838, will approve the study plan and review resulting interim and final reports.

The Aging and Adult Services Administration (AASA) within the Department of Social and Health Services (DSHS) contracted with Myers and Stauffer LC to perform this study and evaluation. Myers and Stauffer specializes in health care consulting and has consulted on payment issues for long term care facilities, home health agencies, hospitals, federally qualified health centers, rural health clinics and pharmacy providers for Medicaid programs in 35 states.

Myers and Stauffer has been at the forefront of developing and implementing the case mix payment approach. Our development efforts include case mix payment systems for the states of Kansas, Pennsylvania, Indiana, Idaho, Colorado, Montana, Kentucky, Iowa, and Louisiana. We are also consulting in the states of Hawaii, Georgia, North Dakota, New Hampshire, Nevada and North Carolina on case mix-related issues. We are currently working with the Centers for Medicare and Medicaid Services in the development of the Minimum Data Set (MDS) manual for swing bed providers, training material for the reduced-burden prospective payment form and the updated Resident Assessment Instrument (RAI) manual. We also provide help desk services nationally for Swing Bed providers.

This evaluation is a continuation of a contract with Myers and Stauffer that began in April 2000 and was to have concluded with delivery of a final report on December 1, 2001. With the “hold harmless” provision in the case mix payment methodology, only a few nursing facilities in Washington received a case mix rate for the original study periods. Due to the number of facilities affected by the “hold harmless” provision and its impact on the number of facilities available for review, it was apparent that further study and evaluation would be required.

II. Executive Summary

The previous study established a baseline of data from January 1, 1998 through June 30, 1998 and compared it to an evaluation or comparison period from January 1, 2000 through June 30, 2000. The payment methodology, implemented effective October 1, 1998, included a “hold harmless” provision intended to minimize any negative impact of implementation of the case mix payment methodology. Under this provision, facilities with a case mix adjusted direct care rate component lower than the equivalent nursing services rate (based on the designated rate period inflated forward), would be “held harmless,” or paid the nursing services rate.

From the collected data, it was determined that only 18 facilities had received a case mix rate and had consistent ownership in all rate periods in the baseline and comparison time frames. Analysis of data collected on this limited number of facilities could not be conclusive. As the hold harmless provision expired on July 1, 2002, it was determined the study should be continued. This would allow more facilities to operate under case mix established payment and report the resulting operational impacts on upcoming cost reports. The study will be continued over the upcoming months with data being collected and analyzed as it becomes available. Two interim reports and a final report will be provided, detailing the data collection, analysis and findings on the following schedule:

1 st Interim Report	October 1, 2002
2 nd Interim Report	July 1, 2003
Final Report	October 1, 2003

For analyses purposes, a facility-specific baseline and comparison period will be established based on each facility’s hold harmless experience and will include the full cost reporting period. Data collection will coincide with these facility-specific time periods and will be aggregated and evaluated for three comparison populations

- Facilities that received case mix adjusted payment since implementation of the payment methodology
- Facilities that received case mix adjusted payment for some but not all of the quarters since implementation
- Facilities that received hold harmless rates through to the expiration of the provision

States have flexibility in the development of Medicaid reimbursement methodologies. It is important to note that although the payment systems are

categorized in general terms such as “cost based” or “case mix,” specific methodologies vary from state to state. Included in this interim report are several tables detailing information obtained through a survey of states that have or are implementing a case mix adjustment to their payment methodology. These tables compare and contrast the various “case mix” systems.

During the previous contract, individuals involved in placing residents in nursing facilities, as well as other stakeholders and interested parties were interviewed to determine if they observed a noticeable impact of the new payment system on access and quality of care and life. Our continued evaluation will include follow-up or additional interviews of selected individuals. Where possible, we will interview the same individuals. If not possible, we will select individuals in similar positions to those previously interviewed.

This new series of interviews will differ from the previous in that they will include a questionnaire, crafted to allow for aggregation and quantification of interviewee responses. This aggregated data will be augmented with statistical information obtained on nursing facility placement, particularly hard-to-place residents.

The relationship between per diem costs for direct care services provided and the facility average and Medicaid average case mix indices will be analyzed. The analyses should include an evaluation of high and low cost facilities, a quartile analysis and evaluations by ownership type, region and provider type.

We will analyze the relationship between per diem costs in direct care services and specific survey citations. These citations are for variances from the laws regulating nursing facilities, as published in the Federal Register. The statements of law are labeled with numeric identifiers called “F-tags.” In this report, we will refer to specific laws by the F-tag numbers. Our comparison analyses will include an evaluation of high and low cost facilities, a quartile analysis, and evaluations by ownership type, region and provider type.

Quality indicators (QI) and quality measures (QM) have been developed for and by CMS and represent common conditions and important aspects of resident care. The QI reflect a measure of the prevalence or incidence of conditions based on MDS assessment data. The QM provides consumers with additional information to make informed decisions about the quality of care in nursing facilities.

We will analyze the relationship between staffing ratios and specific F-tag citations, the relationship between per diem costs in direct care services compared to specific QI and QM, and the relationship between staffing ratios and specific QI and QM.

The completed study will include an analysis of the restorative nursing subcategory. From the MDS data, we will analyze the amount of restorative

nursing provided and any changes in delivery patterns since case mix payment.

The nursing facility industry reports increasing difficulty in the recruitment and retention of qualified staff and understand that this the wage and benefit analysis is a priority of the task force. We will collect and analyze staff wage and benefit information by geographic area, ownership type, and Medicaid payment rate. We will compare staffing hours per resident day, sorted by ownership type, region, and provider type. State wage and benefit information will be compared to national statistics, and statistics on other health care industries within the state and within the same geographic area. Case mix adjusted nursing costs in high and low cost facilities and in high and low case mix facilities will also be reviewed.

We will collect and analyze staff turnover statistics by geographic area, ownership type, and Medicaid payment rate, determine what level of staffing can be supported at prevailing wage rates within the current Medicaid direct care ceilings and evaluate and recommend strategies the state could support (beyond and in addition to higher payment rates) to improve recruitment, retention, and the development of career ladders within the nursing facility and long-term care system.

Evaluating the impact of the case mix payment system would be easier if the changes had occurred in a vacuum. Many issues and changes affect the findings. Contributing factors that will need to be considered during the analyses are: changes in population and increases in special units, innovative programs of care, changes in the Medicare program for skilled nursing facilities including the implementation of Medicare Prospective Payment, waiver programs and closures of nursing facilities, hold-harmless payment provisions, changes in the survey process and the implementation of Quality Indicators, wage add-ons to reduce staff turnover, changes in staffing ratios and changes in ownership.

As all necessary data will not be available until the end of the study, conclusions and any recommendation will be reserved for the final report.

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III. Payment Methodologies

System evaluation requires an understanding of Medicaid and case mix adjusted payment methodologies.

Congress enacted the Medicare and Medicaid programs in 1965, making health care available to a large number of individuals who previously did not have health care coverage. Throughout the legislative history of Medicaid, Congressional intent has been to allow states flexibility in developing payment methodologies appropriate for each state's unique blend of the political, cultural and legal environment.

Because of the broad language in Medicaid legislation, each state develops its own unique nursing facility payment system. These resulting systems may either be nursing facility independent or nursing facility dependent. Flat rate or pricing systems are independent of a particular facility's costs. Facility dependent systems, however, rely on a particular facility's costs to determine its rate. These facility-dependent rates may either be prospective or retrospective in nature.

At present, most states use facility-dependent payment systems with the majority being prospective. That is, providers submit historical cost information on standardized cost reporting forms, either by hard copy or electronically. This information is typically divided into cost centers or components and includes, at a minimum, a direct care cost center, a general and administrative cost center and a capital cost center. This historical cost data is then aggregated, trended forward and used to set future payment rates. There are no retrospective adjustments to the actual cost experience of facilities during the rate period.

In recent years, states have experienced social and fiscal pressures imposed by the rapidly expanding numbers of aging seniors. As the long-term health care needs of this population have multiplied, states have witnessed phenomenal increase in medical service expenditures. In developing the Medicaid nursing facility payment process, states must strive for accountability, prudent use of resources, and administrative efficiency while maintaining sufficient access to quality care for Medicaid recipients.

State agencies must balance the objectives of the recipients, consumer advocacy groups, providers, legislators, and taxpayers. Some objectives may be competing, such as improving quality of care while maintaining fiscal responsibility. Other objectives, such as administrative efficiency, find general acceptance by all stakeholders and interested parties.

Given the discretion and flexibility states have in system development and the need for payment systems to support (or at the least not detract) from the state's goals and objectives, states have implemented various innovative payment methodologies including a "case mix" approach.

Case mix systems base a portion of the payment for services on the projected care needs and the estimated cost of care. Under this type of system, a provider of service is paid according to the mix of “cases” in their client population with higher rates calculated for higher acuity needs.

Nursing facility case mix payment is similar in concept to the Medicare Prospective Payment System (PPS) for acute care hospitals. Both approaches match payment to estimated resource requirements for different types of cases. However, Medicare PPS for acute care hospitals involves payment for an entire episode of care (hospital stay), where nursing facility case mix payment typically pays on a per day basis. In addition, Medicare hospital PPS relies heavily on medical diagnosis (DRG) for defining the various requirements of care. For nursing facility residents, the specialized nursing needs and the resident’s abilities to perform routine activities of daily living (ADL) are better predictors for projecting care requirements and the associated costs.

Case mix adjusted payment based on nursing service needs and resident functional status is the basis for the Medicare Prospective Payment System (PPS) for skilled nursing facilities. It is also increasingly being used by states for Medicaid payment for nursing facilities. As early as 1997, 26 states, according to Harrington, et al (1999), had implemented some form of acuity-based payment. These systems are referred to as case mix payment systems although only certain cost and rate components are acuity adjusted. Throughout this report, our reference to the case mix payment system will follow that nomenclature.

A key component of nursing facility case mix payment is the method used to determine resident care needs. A number of various methods have been developed over the last 20 years. Since the early 1990’s, however, the most widely adopted approach to case mix has been the Resource Utilization Groups (RUG-III). This classification system uses information from the Minimum Data Set (MDS), a component of the federally mandated Resident Assessment Instrument, to classify residents into a series of mutually exclusive groups representing the residents’ relative direct care resource requirements.

The MDS contains information on the resident’s nursing needs, ADL impairments, cognitive status, behavioral problems, and medical diagnoses. This information is used to define RUG-III subgroups.

The RUG-III groups are organized in a hierarchy, ranging from highest amount of care time provided to the least amount. Residents with more specialized nursing requirements, licensed therapies, greater ADL dependency or other conditions will be assigned to groups higher in the RUG-III hierarchy. Residents who have only routine nursing needs, who are relatively independent in ADL function, and have neither cognitive impairment nor behavioral problems, will be classified in the lower groups.

Access to Care

One reason states have adopted case mix is to overcome access problems inherent in conventional reimbursement systems.

Case mix payment is intended to encourage access to care for Medicaid residents having more intensive care needs.

Typically in conventional reimbursement a single per diem payment is made to providers regardless of resident care needs. The financial incentive, under this system, is to admit residents with less intensive care needs and restrict access to those requiring heavier care. By targeting lighter care or less costly residents, a facility could reduce operating costs in relation to its rate of reimbursement. A case mix payment system

should remove this incentive. With case mix payment the facility is paid according to resident care requirements or costliness of their care. If a provider targets lighter care Medicaid residents, then the calculated payment rate would be less.

Although a case mix system is designed to encourage access to care, there are several critical points to be considered in achieving the objective of unbiased access to care.

Case mix payment rates should be tied to the “true” cost of caring for residents.

Access problems may arise if the case mix payment does not correspond to the cost of care (Nyman and Connor, 1994). If the payment attributed to certain categories were too high or too low compared to the “true” cost of caring for residents in those groups, it may be more profitable to selectively admit residents in specific groups. Inaccurate payment rates can arise if cost estimates built into the case mix index are not properly developed, or if the rate setting methodology is flawed. Careful attention should be given to construction of case mix indices and rate setting methodologies.

Community alternatives should be available for serving residents needing less intensive care who might not be appropriately cared for in nursing facilities.

Weissert and Musliner (1992) suggest that availability of community alternatives may have a stronger influence on nursing facility placement than the method of Medicaid payment. Even if financial incentives for admitting light care residents are removed, residents may still enter nursing facilities if alternatives, such as home care services or assisted living facilities, are not available. Home care alternatives might be restricted because of insufficient funds budgeted for these services (e.g., long waiting lists), or if Medicaid eligibility criteria have a built-in bias toward institutional versus community placement. Even if community alternatives are widely available, states should have effective pre-admission screening and utilization review in order to divert individuals from nursing facility use or to encourage timely discharge to community alternatives. Unless these supporting mechanisms are in place, a change in nursing facility payment policy may not measurably affect access to care.

The supply of nursing facility beds should be adequate to meet the demand of both Medicaid recipients and private paying individuals.

Providers should not have an incentive to either over or under-utilize services.

Changes in Medicaid payment may not facilitate access to care if bed supply is particularly tight or if there is a high demand for care on the part of private pay residents. Providers may be unable to admit heavier care residents because beds are not available. Or, even if providers receive higher rates for Medicaid residents with heavier care needs, these rates may not be competitive with rates charged to private paying residents. When bed supply is limited and private pay demand is high, providers will tend to favor more profitable private pay residents. This line of reasoning suggests that an adequate bed supply is necessary for case mix payment to have its intended effect on access to care.

Case mix classification is linked, at least partly, to the services being provided to a resident. The RUG-III, for example, assigns higher acuity scores (case-mix index) to residents who are receiving IV therapies, parenteral nutrition, tube feedings, suctioning, tracheotomy care, physician's visits, and other services. If payment for a case mix group exceeds the cost of services that would classify residents into that group, providers would have an incentive to over-utilize services. Conversely, if payment for a group were less than the cost of services normally received by that group, the provider would have an incentive to under-utilize services. To guard against either over or under-utilization, the case mix payment system should be carefully designed so that payment associated with a case mix group corresponds closely to the cost of providing necessary services.

Quality of Care

Case mix payment is intended to encourage higher quality of care by providing adequate funding for residents' care.

As discussed above, a conventional payment system typically places a payment limit on high cost facilities. Facilities may reduce their direct care expenditures to operate within the payment limit and potentially threaten quality of resident care. The facility may reduce the nursing staff or other direct care expenditures and it may no longer be able to meet the needs of heavy care residents. In contrast, case mix

adjusted payment systems should provide rates based on resident needs. The extra costs associated with residents with heavy care needs should be recognized by the payment system.

Case mix adjusted payment should also encourage restorative or rehabilitation services by recognizing the additional costs. These services can assist in restoring or maintaining functional status, or delaying declines in health due to degenerative conditions.

The payment system can contain incentives for improvement in health status. Facilities can be rewarded with increased payment if they are able to improve resident health status or avoid deterioration. For example, when the resident improves and moves to a lower case mix group, payment might continue at the higher rate for some period (30-90 days) beyond the change in status.

Therefore, by improving the resident's health status, the facility would temporarily receive payment above the estimated cost of caring for the resident.

Some critics of case mix payment have suggested that linking payment to case mix classifications might have negative consequences for care quality.

A rather extreme argument is that providers might allow a resident's health or functional status to deteriorate in order to obtain higher payment, or that providers might withhold restorative or rehabilitative services if an improvement in health or functioning were to lead to lower payment. There are very few, if any, providers who would consciously allow a resident's condition to deteriorate, or withhold services. Aside from moral concerns, should this happen, the provider would be subject to severe regulatory sanctions and would develop a bad reputation in the community. However, quality of care might suffer if providers became less concerned about changes in a resident's condition. Under a case mix system, if the resident's condition deteriorates the payment for that resident will increase and this will cover the increased cost of care. According to this argument, the provider has no financial incentive to allow a resident's condition to decline; however, there is also no financial incentive for improving the resident's condition.

As in any type of payment system, maintaining quality is a continual challenge. Steps can be taken to encourage higher quality of care with case mix payment. However, providers need to understand the payment system in order to respond appropriately to its financial incentives. Providers should understand the principles of case mix payment, particularly the relationship among payment, the cost of care, and care quality. Provider education on the payment system, care needs, and care quality is essential.

Cost Control

Case mix payment is an allocation methodology in which funds are distributed according to the care needs or estimated costs for different types of nursing facility residents.

Case mix payment is not, per se, a method of cost control. The amount of Medicaid funding devoted to nursing facilities is a policy choice independent of the payment method. Case mix payment could be applied in the context of Medicaid expenditure reductions, a revenue-neutral system, or increased expenditures.

Methods of cost control employed in a case mix system are similar to methods employed in conventional systems. If the state's objective were to control costs, then case mix payment rates could be set

using relatively low cost ceilings. In addition, case mix payment might be indexed to annual rates of inflation or state revenue growth. The effects of these cost control measures would be stronger for facilities that had high costs relative to their residents' acuity. Facilities with low costs relative to resident acuity would be more likely to have costs below cost ceilings or, under a pricing system, would be more likely to show profits (or avoid operating losses).

The direct care component typically represents between 40 and 60% of the Medicaid per diem rate and is the cost center most frequently adjusted for case mix. Cost centers, such as administration and property are usually not case mix adjusted. These costs may be subjected to lower ceilings, efficiency incentives, or more conservative pricing strategies than the direct care component of the rate. Cost controls imposed on the non-direct care areas might have less of an impact on care quality or access than if controls were aimed at expenditures for nursing staff, supplies, or other areas more closely linked to resident care.

Data Accuracy and Verification

MDS data used to classify residents into case mix groups should be carefully monitored for accuracy.

All certified nursing facilities are required to conduct a comprehensive assessment of a resident's care needs, using the resident assessment instrument (RAI) specified by the state. The RAI is composed of a minimum data set (MDS) and common definitions; the resident assessment protocols (RAP) and triggers that are necessary to accurately assess residents and establish care plans; and quarterly reviews based on a subset of the MDS.

These MDS assessments and quarterly reviews are the primary means of classifying residents into case mix groups. If the MDS is inaccurate, then case mix classification will be in error. Some errors in assessment may be difficult to avoid due to variation in resident conditions, or the subjective nature of some MDS assessment items. However, there may be systematic bias in the way MDS assessments are completed; providers may seek to maximize payment by classifying residents into the higher paying groups. Systematic over-classification of residents can lead to "case mix creep," where case mix indices for a facility rise even though the conditions of residents do not change. To avoid this problem, states should have a case mix review or monitoring system to make sure that residents are appropriately classified and that the clinical record supports the reported classification.

IV. State Experiences with Nursing Facility Case Mix

This section summarizes results from studies of early case mix systems and provides a survey of states that currently have or are about to adopt case mix payment illustrating both commonalities and differences in state system approaches.

Results from Studies of Early Case Mix Systems (1984-1994)

Several studies have described the experience of states that adopted case mix payment. These studies are listed in Table 1. Unfortunately, most studies are from the 1980's and were conducted prior to the implementation of Omnibus Budget Reconciliation Act of 1987 (OBRA'87) and the development of the RUG-III classification system. The studies also do not reflect the major changes occurring after passage of the Balanced Budget Act of 1997 (BBA 97). Even considering the timing limitations, they do illustrate the experience of states in implementing and managing a case mix system.

Butler and Schlenker (1989) reported from a study of six case mix states from 1987. Weissert and Musliner (1992) looked at case mix payment in 11 states during the same period, drawing heavily from the findings of Butler and Schlenker. These studies found some evidence for increased access to care with case mix payment. Along with implementation of case mix, some states provided incentive payments to encourage admissions of heavy care residents and they reduced payments for light care residents. The studies found no evidence for a reduction in care quality associated with case mix. In anticipation of potential quality problems, some states increased payments for restorative or rehabilitative services and provided incentives for improvement in health or functioning. The authors could not reach conclusions about the cost impact of case mix payment because the states had different rate setting procedures. It was difficult to separate the effects of case mix payment from other changes that occurred in the states' payment systems.

Schlenker (1991) completed a comparative study in 1984 of 135 facilities in seven states having either a case mix or conventional payment system (class-based or facility-specific). He reviewed facility case mix, reported cost, and profits. He found a strong, positive relationship between case mix and costs in the case mix states but only a weak relationship in states with conventional payment systems. Also, facilities that admitted lighter care residents in class

rate states tended to have higher profits than facilities admitting heavier care residents.

Feder and Scanlon (1989) evaluated the effects of the Maryland case mix system during the period of 1982-84. They concluded that Maryland was successful in shifting nursing facility services away from light care and toward heavy care residents. This was accomplished without apparent declines in quality. Also, they concluded that case mix payment was implemented with little additional administrative cost. Maryland facilities experienced an increase in nursing facility costs during this period, but direct care costs went up less than in administrative and other cost centers.

Nyman and Connor (1994) conducted a study of the marginal costs and payment for different case mix groups in the Minnesota case mix system from 1986-90. Their analysis suggested that costs for some case mix groups did not match payment rates-- some groups were more profitable and others less profitable. When they reviewed the rates of admission for these groups over a four-year period, the admissions of more profitable groups tended to increase while admissions for less profitable groups declined. They concluded that providers may have been selectively admitting more profitable cases, misclassifying residents to obtain higher payment, or admission patterns may have been influenced by factors outside the payment system, such as the growth of community care alternatives.

Thorpe, Gertler, and Goldman (1991) studied the implementation of the New York case mix payment system from 1985-86. They discovered a significant increase in resident days for heavy care residents and a decrease for light care residents. This finding raised concerns about access problems for the light care resident. The New York system was based on a modified pricing approach where payment rates were constrained for certain facilities. These facilities displayed lower cost growth than facilities without rate constraints.

Davis, Freeman and Kirby (1998) examined the implementation of the Kentucky case mix system from 1989-91 (which has since been changed). Their study concentrated on the response by facilities to changes in payment. The Kentucky system had a mixed effect on access to care. On one hand, the implementation of case mix payment was associated with a decrease in average facility case mix. On the other, facilities increased their proportion of Medicaid residents and overall occupancy rates went up between these periods. They also found a change in the relationship between facility case mix and direct care costs: the two were positively related before case mix payment but negatively related after the system went into effect. The authors concluded that facilities tended to pursue a cost minimization strategy leading to less direct care resources available for meeting the needs of heavy care residents. Cost minimization might have resulted from the structure of the Kentucky case mix payment system. It contained a direct care efficiency incentive allowing facilities to retain part of the savings if they reduced their costs below a case mix adjusted cost ceiling. Although this approach may

have limited cost growth, it also may have had deleterious effects on care quality.

Arling and Daneman (1999) looked at provider response to implementation of case mix payment in Mississippi and South Dakota from 1992-94. These states were part of CMS' Multi State Case Mix and Quality Demonstration. They were the only states described in this report that used the MDS and the RUG-III for case mix classification. Also, they set rates according to case mix adjusted cost ceilings without direct care efficiency incentives. Access to nursing facilities for heavy care residents seemed to have improved as a result of the new payment system. Both states displayed an increase in average facility case mix and the percentage of light care residents declined. In addition, there seemed to have been a convergence between case mix changes and direct care expenditures. Increases in facility case mix were associated with increases in direct care expenditures, and there was a stronger relationship between case mix and direct care costs after implementation of the new payment system. The rate of admissions to hospitals among nursing facility residents appeared to increase with the system implementation. The increase in rates of hospitalization may have resulted from the medical instability of the newly admitted heavy care residents, or facilities may have been admitting some residents they were unprepared to care for. The findings from this study must be qualified because Medicare participation by facilities was increasing at the same time as the implementation of the new payment system. Some of the case mix changes might have resulted from higher proportions of Medicare admissions, many of which have specialized nursing or rehabilitation requirements.

Table 1: Studies of State Medicaid Case Mix Payment

Author	Study Time Period	States^a
Schlenker, 1991	1984	Maryland, Ohio, and West Virginia
Feder and Scanlon, 1989	1982-84	Maryland
Thorpe, Gertler, and Goldman, 1991	1985-86	New York
Butler and Schlenker, 1989	1987	Illinois, West Virginia, Ohio, Maryland, Minnesota, and New York
Weissert and Musliner, 1992	1987	Illinois, West Virginia, Ohio, Maryland, Minnesota, New York, Massachusetts, North Dakota, Texas, Ohio, and Pennsylvania
Nyman and Connor, 1994	1986-90	Minnesota
Davis, Freeman, and Kirby, 1998	1989-91	Kentucky
Arling and Daneman, 2002	1992-94	Mississippi and South Dakota

^a Not all states met a strict definition of having a case mix system. Some states relied on expanded levels of care or other broad categories.

Survey of Current State Case Mix Systems

Myers and Stauffer staff conducted a survey of 23 case mix states as part of this project. The purpose of the survey was to describe the case mix systems in these states and to gain a general idea of how they have dealt with various issues associated with the payment system. All states that have or were about to adopt a case mix system were targeted for the survey. These states were identified through Myers and Stauffer records and personal contacts with state administrative staff.

All 23 states with case mix systems agreed to participate in the survey. A state contact person was sent a written questionnaire and asked to either participate in a telephone interview or complete the questionnaire and return it by mail or e-mail. The survey staff made follow-up contacts, if necessary, to make sure all information items were complete.

Results from the survey are summarized in Tables 2- 7. These results will be referred to in each of the discussions below.

Acuity-Based Classification Systems

The vast majority of the 23 states surveyed (20) adopted the RUG-III classification system. Among the three states not using the RUG-III, Minnesota and New York are planning to transition to the RUG-III in the near future, while Texas will stay with its current system, TILE, which is a variation on an earlier version of the RUG-II. States involved in the CMS Multi State Case Mix Payment and Quality Demonstration (Maine, Mississippi, Kansas, and South Dakota) were the first to implement the RUG-III in 1993-94. Most states adopted the RUG-III when they initially made the transition from a conventional to case mix payment system.

Most states use version 5.12-34 of the RUG-III. This is the 34-group “Medicaid version” with the Rehabilitation category collapsed into 4 groups. Intensity of licensed therapies is not recognized by this version of the RUG-III. Maine, Ohio and Washington have the RUG-III 5.12-44, or the 44-group version of the RUG that is the same as the Medicare RUG-III and that includes groups defined by rehabilitation intensity.

Most states have either adopted or moved to the RUG-III 5.12 because it uses the federally mandated MDS 2.0 assessment tool. Earlier RUG-III versions were based on earlier versions of the MDS assessment. Also, most states employ the 34-group version because the algorithm, having fewer groups, is simpler and may be more appropriate for the Medicaid population. The majority of residents receiving licensed therapies are either Medicare eligible or eligible for both Medicare and Medicaid. The cost of therapy is covered through Medicare PPS. Therapy provided to a Medicaid only resident is either included in the standard per diem or paid through a method outside the case mix payment system.

Case Mix Indices (CMI)

All states, with the exception of Nebraska, use CMI from the classification system to set their Medicaid rates. Four states are using the weights established by CMS while the other states interviewed, including Washington, have developed state-specific weights based on the CMS time study results, but taking into account wage rates or other input costs specific to the state.

The majority of states use index maximization when calculating the CMI. If a resident potentially qualifies for more than one case mix group, index maximization assigns the resident to the case mix group with the highest weight or CMI. The hierarchical method of classification, employed in Washington's rate calculation, follows the logic of the RUG-III and assigns the resident to the highest group in the hierarchy, even if it does not correspond to the highest weight.

As a practical matter, most residents are assigned the same group classification regardless of the method chosen as the RUG-III logic generally assigns higher weights to groups higher in the hierarchy.

Direct Care Cost Component

All states divide their rates into a direct care component and other components that include other operating or property costs. The direct care component is subject to case mix payment, whereas other rates are set without regard to case mix. In Washington, nursing (in-house, purchased and allocated), fringe benefits, payroll taxes, nursing supplies, nursing assistants, activities, medical director, pharmaceutical, social worker, medical records, patient care coordinator, staff development director, quality assurance and infection control are included. Other states vary in the types of costs that go into the direct care component.

Nursing Salaries and Benefits—All states include these costs in the direct care component. There is general agreement about including nursing costs in direct care because nurses are the biggest cost item in a facility and they have a very direct impact on resident care.

Director of Nursing — Thirteen percent of the states consider director nursing salary and benefits as a direct care cost that should be reimbursed according to case mix, others consider this cost to be fixed and part of the administrative cost center.

Supplies — Thirty-nine percent of states include medical supplies or routine nursing supplies in the direct care component while others do not.

Social Services and Activities — Although these costs are related to resident care, the majority of states reimburse them outside the direct care component of the rate. They may be considered fixed costs that vary by number of residents in the facility but not by the acuity of residents.

Medical Records and Other Support Staff (including MDS Coordinator) — While a couple of states include these costs in direct care, most consider them administrative costs that do not vary with resident acuity.

Licensed Therapists — A majority of states do not include these costs in the direct care rate and use a different method to reimburse therapies for the relatively small number of Medicaid residents who would not qualify for Medicare payment.

Rate Setting for Direct Care Component

With a typical cost-based approach case mix adjusted, direct care costs for each facility are subjected to a ceiling and the facility receives the lower of costs or a ceiling. With a typical pricing approach, a base price is set statewide (or by facility peer groupings) from aggregate cost data. A facility's unique cost history does not affect the price it will receive; the price is based on the average cost history of all facilities.

The cost-based approach is the most common among the case mix states. Fourteen of the states, including Washington, set prospective direct care rates with a cost-based approach, four have a pricing approach, and five have a blended (cost-based and price) or other approach. Ten of the states rebase their rates annually. That is, they reset the rates according to the cost experience of facilities during the prior year. The remainder of states rebase rates every 2-4 years or on a variable schedule.

All the states use the average CMI for all residents (Medicare, Medicaid, private pay, and other) when case mix adjusting their costs. That is, they arrive at an average direct care cost by taking total facility costs, calculating a per diem, and then adjusting it by the average facility CMI. Case mix adjusted direct care costs are then used to set the base rate or price for the direct care component of the rate.

Most states have add-ons to rates for special populations or services. The most common add-on is for ventilator/respirator care. Also, some states have add-ons for pediatric residents, residents with HIV/AIDS, or residents with behavioral problems. The Washington rate includes add-ons for both ventilator and pediatric residents, as well as, other special populations. Mississippi is the only state that pays an add-on for residents in Alzheimer's special care units (SCU). Finally, the majority of states pay for therapy services for Medicaid residents within the standard per diem rate. A few states use a fee schedule or other method.

Acuity-Based Payment Methods

The most common method for payment determination, and the method used in Washington, is facility-specific. The per diem payment for Medicaid residents is determined by the average CMI for the facility. Also, most states use a point-in-time method. With this method, the facility's CMI is calculated

according to the case mix weights for residents of the facility at a particular point-in-time, e.g., middle of the calendar quarter. This point in time calculation, in most states, is done on a quarterly basis. Three states use a facility average CMI but they calculate a day-weighted average. The day-weighted average CMI is a more accurate measure of acuity because it captures the case mix weights for all residents during the payment period and not just the residents on a particular day. However, the day-weighted average requires more careful monitoring of MDS assessment data and length of resident stays.

Five states use a resident-specific payment method where payment for each resident is tied to the case mix weight for that resident. These states typically track the number of days that each Medicaid resident spends in each case mix group and then they apply the case mix weight for that group in setting the payment rate for the resident. This method is more complex administratively than the facility-specific method, however, it results in the most accurate CMI.

States with resident-specific payment systems do not have to calculate average facility CMI; payment is directed to specific residents and the rate is based on the case mix group of that resident. States with facility-specific systems set schedules for calculating facility average CMI and determine Medicaid payments from these average CMI applied to the base rate or price for the facility. Most states, including Washington, pay according to the average CMI of Medicaid residents, while a few states rely on the average CMI for all residents. Washington, like the majority of states interviewed, calculates facility CMI and adjusts their Medicaid payments on a quarterly schedule. A few states have a semi-annual or annual schedule. Less frequent adjustment provides greater stability in rates over time but it may not be very responsive to changes in facility case mix.

If a provider fails to meet the assessment deadline or turns in an inaccurate assessment, then the resident cannot be classified into a case mix group. The majority of states deal with this problem by assigning delinquent or inaccurate assessments to a default CMI, which is typically the lowest CMI score. Thus, providers have financial incentive to provide timely and accurate MDS data. If they don't, their CMI will be reduced.

Table 2: General System Information

Acuity-Based Classification System							
State	Date Acuity Based System Implemented	Year Current System Adopted	Case Mix Classification System	Any Plans to Change to RUG	If RUG, What Version	Any Plans to Change to 5.12	Has State Used Other RUG/Class System
** Colorado	7/1/00	2000	RUG-III	NA	5.12-34	NA	N
** Georgia	7/1/02	2002	RUG-III	NA	5.12-34	NA	N
** Idaho	2000	2000	RUG-III	NA	5.12-34	NA	N
** Indiana	1998	2001	RUG-III	NA	5.12-34	NA	Y
** Iowa	7/1/01	2001	RUG-III	NA	5.12-34	NA	N
** Kansas	1/1/94	1994	RUG-III	NA	5.01	Y	N
** Kentucky	NA	2000	RUG-III	NA	5.12-34	NA	Y
** Louisiana	1/1/03	*2003	RUG-III	NA	5.12-34	NA	N
Maine	1993	2000	RUG-III	NA	5.12-44	NA	Y
***Minnesota	1985	*2002	Other	Y	5.12-34	Y	Y
Mississippi	1993	1998	RUG-III	NA	5.12-34	NA	Y
** Montana	2001	2001	RUG-III	NA	5.12-34	NA	Y
Nebraska	1992	1992	RUG-III	NA	Other	N	N
** Nevada	2002*	*2002	RUG-III	NA	5.12-34	NA	Y
New Hampshire	1999	2001	RUG-III	NA	5.12-34	NA	Y
New York	1986	1986	RUG-II	N	NA	NA	Y
North Dakota	1990	1999	RUG-III	NA	5.12-34	NA	Y
Ohio	1993	1993	RUG-III	NA	5.12-44	NA	N
**Pennsylvania	1996	1996	RUG-III	NA	Other	N	N
South Dakota	1993	1998	RUG-III	NA	5.12-34	NA	N
Texas	1989	1989	TILE	Y	NA	NA	N
Vermont	1991	1998	RUG-III	NA	Other	N	Y
Washington	1998	2000	RUG-III	NA	5.12-44	N	Y

* Expected year of implementation

** Myers and Stauffer MDS and Case Mix Experience

*** Change to RUG-III 10/01/02

Table 3: Case Mix Indices

State	CMI Used to Adjust Rates	Case Mix Weights Used	Index Max / Hierarchical/ Other
Colorado	Y	State-specific	Index Max
Georgia	Y	Other	Index Max
Idaho	Y	State-specific	Index Max
Indiana	Y	State-specific	Index Max
Iowa	Y	CMS	Index Max
Kansas	Y	State-specific	Index Max
Kentucky	Y	State-specific	Index Max
Louisiana	Y	CMS	Index Max
Maine	Y	State-specific	Index Max
Minnesota	Y	State-specific	Hierarchical
Mississippi	Y	State-specific	Index Max
Montana	Y	Other	Index Max
Nebraska	N	NA	Hierarchical
Nevada	Y	State-specific	Index Max
New Hampshire	Y	CMS	Index Max
New York	Y	State-specific	Index Max
North Dakota	Y	Other	Index Max
Ohio	Y	State-specific	Hierarchical
Pennsylvania	Y	Other	Index Max
South Dakota	Y	State-specific	Index Max
Texas	Y	State-specific	Index Max
Vermont	Y	State-specific	Index Max
Washington	Y	State-specific	Hierarchical

Table 4: Direct Care Costs (acuity adjusted) Component

Colorado	Nursing wages and the % of related taxes & benefits, pooled (temp) nursing costs.
Georgia	Routine services, salaries, benefits, special services, ancillaries
Idaho	Direct nursing wages and benefits, routine nursing supplies, social services, raw food and direct cost associated with Medicaid ancillary services.
Indiana	DON, RN, LPN, Nurses Aides, Medical Director, Other Nursing, Pool Nursing, Routine & Non-Routine Medical Supplies, PEN Costs, NATCEP costs, PT, ST, OT, RT (effective 7/01/02 PT, ST, OT, & RT will not be acuity adjusted.)
Iowa	RN, LPN, Aides, Rehabilitation Aid salaries and benefits, contracted nursing service.
Kansas	Health Care Cost Center, RN, LPN, Aides, benefits, consultants, purchased services, nursing supplies, therapy, activities, social work, medical records, resident activities
Kentucky	Direct Service Costs (DON, RN, LPN, aides, activities staff and medical records), Non-personnel operating (medical supplies and activity supplies)
Louisiana	Direct nursing salaries and wages, benefits and contract nursing
Maine	Direct salaries (does <u>not</u> include DON), supplies, activities
Minnesota	Nursing and benefits, contract nursing, pooled nursing
Mississippi	Direct Care (RN, LPN, Aide) salaries and benefits (excluding DON, Asst. DON and MDS Coordinator) Contract RNs, LPNs and Aides, OTC & Legend drugs not covered by the Medicaid drug program, Medical supplies used in direct care, medical waste disposal
Montana	80% of State-wide price, 20% adjusted by case mix
Nebraska	All nursing staff salaries and benefits (including DON)
Nevada	RN, LPN and Aide wages and benefits
New Hampshire	Salaries of RNs, LPNs and Aides, nursing supplies and ancillaries including therapy services
New York	Nursing admin, activities, social services, transportation, PT, OT, ST, pharmacy, central service supply and direct care nursing. There is also a minimal case mix adjustment to the indirect component that is adjusted annually
North Dakota	Salaries, fringe and other costs for Therapies and Nursing
Ohio	Nursing staff, consulting services, home office, nursing administration, social services and activities.
Pennsylvania	Audited allowable costs for Nursing, DON, related clerical staff, practitioners, Medical Director, Social Services, OTC drugs, Medical Supplies, PT, OT and ST, minor moveable equipment related to resident care and nurse aide training.
South Dakota	RN, LPN, C.N.A., Supplies, PT, OT, ST
Texas	Nurses, nurses aides, therapy, activities, social work, laundry and housekeeping
Vermont	All direct care nursing salaries (LPN, LNA, RN, trainees)
Washington	Nursing (in-house, purchased and allocated), fringe benefits, payroll taxes, nursing supplies, nursing assistants, activities, medical director, pharmaceutical, social worker, medical records, patient care coordinator, staff development director, quality assurance and infection control

Table 5: Rate Setting for Direct Care Component

	Payment Methodology	Re-basing with New Cost Data	Add-On to Rates	Therapy Rate for Medicaid Residents
Colorado	Cost	Annually	NA	Per diem
Georgia	Cost	Annually	NA	Per diem
Idaho	Cost	Annually	Vent; TBI, Behavioral, Trachs, Air Beds	Per diem
Indiana	Cost	Annually	Vent; AIDS (Special Rule)	Per diem
Iowa	Cost	Bi-Annually	Vent; TBI; Peds; Other (Vet Homes)	Fee Schedule
Kansas	Cost	Annually	Vent is pending	Per diem
Kentucky	Price	Every 4 Years	NA	Other
Louisiana	Price	Bi-Annually	Vent: TBI	Per diem
Maine	Cost	Pending	Other (Head Injuries)	Fee Schedule
Minnesota	Cost/Other	Annually	Vent	Fee Schedule
Mississippi	Cost	Annually	Alzheimer's Special Care Units (SCU)	Fee Schedule
Montana	Price	Pending	Vent	Fee Schedule
Nebraska	Cost	Every 3 Years	Vent: TBI; Peds	Fee Schedule
Nevada	Price	Bi-Annually	Vent; Peds	Per diem
New Hampshire	Cost	Periodically	Vent: TBI; Other (Severe Behavioral)	Per diem
New York	Other	NA	Vent; TBI; AIDS; Peds; Other (Behavioral Intervention)	Per diem
North Dakota	Other - Blended	As Directed	Vent; TBI; Other	Per diem
Ohio	Other	Annually	TBI; Peds	Other
Pennsylvania	Other	Annually	Vent; Other	Per diem
South Dakota	Cost	Annually	Vent; TBI	Per diem
Texas	Cost	Bi-Annually	Vent; Peds; Other	Per diem
Vermont	Cost	Every 3 Years	Other	Per diem
Washington	Cost	NA	Vent; Peds; Other	Per diem

Table 6: Acuity-Based Payment Methods

	Payment Determination	Index Calculation	Facility or Medicaid Acuity	Frequency of CMI Calculation	Adjusted for Change in Acuity	Treatment of Delinquent Assessments
Colorado	Facility Specific	Point-in-time	Medicaid Acuity	Quarterly	Semi-annual	Default CMI
Georgia	Facility Specific	Point-in-time	Medicaid Acuity	Quarterly	Quarterly	Default CMI
Idaho	Facility Specific	Point-in-time	Medicaid Acuity	Quarterly	Quarterly	NA
Indiana	Facility Specific	Day-weighted	Medicaid Acuity	Quarterly	Quarterly	Default CMI
Iowa	Facility Specific	Point-in-time	Medicaid Acuity	Quarterly	Quarterly	NA
Kansas	Facility Specific	Point-in-time	Overall Facility Acuity	Quarterly	Quarterly	NA
Kentucky	Facility Specific	Point-in-time	Medicaid Acuity	Quarterly	Quarterly	Default CMI
Louisiana	Facility Specific	Point-in-time	Medicaid Acuity	Quarterly	Quarterly	NA
Maine	Facility Specific	Point-in-time	Medicaid Acuity	Quarterly	Quarterly	Other
Minnesota	Resident Specific	NA	Resident specific	NA	NA	NA
Mississippi	Facility Specific	Day-weighted	Overall Facility Acuity	Quarterly	Quarterly	Default CMI
Montana	Facility Specific	Point-in-time	Medicaid Acuity	4 qrt avg adj Annually	Annual	Other
Nebraska	Resident Specific	NA	Resident Specific	NA	NA	NA
Nevada	Facility Specific	Point-in-time	Medicaid Acuity	Quarterly	Quarterly	NA
New Hampshire	Facility Specific	Point-in-time	Medicaid Acuity	Annually	Semi-annual	Other
New York	Combo	Point-in-time	Medicaid Acuity	See survey	Quarterly	See survey
North Dakota	Resident Specific	Point-in-time	Resident Specific	NA	NA	Default CMI
Ohio	Facility Specific	Point-in-time	Medicaid Acuity	Quarterly	Quarterly	Other
Pennsylvania	Facility Specific	Point-in-time	Medicaid Acuity	Quarterly	Quarterly	Default CMI
South Dakota	Resident Specific	NA	Resident Specific	NA	NA	Default CMI
Texas	Resident Specific	NA	Resident Specific	NA	NA	Default CMI
Vermont	Facility Specific	Point-in-time	Medicaid Acuity	Quarterly	Quarterly	NA
Washington	Facility Specific	Day-weighted	Medicaid Acuity	Quarterly	Quarterly	Default CMI

Table 7: MDS Verification

State	Review Clinical Record	Year Verification Process Implemented	Type of Verification Process	Frequency of On-site Visits	Medicaid MDS Verification Process	Impact of Findings	Staffing Standards
Colorado	N	NA	NA	NA	NA	NA	N
Georgia	N	NA	NA	NA	State staff	NA	Y
Idaho	N	NA	NA	NA	NA	NA	N
Indiana	Y	1998	On-site	Every 15 months	Contractor	Recalc; Fine or Penalty	Y
Iowa	Y	1999	Combo	Annually	Contractor	Education phase	N
Kansas	N	NA	NA	NA	NA	NA	Y
Kentucky	Y	2000	On-site	Quarterly	Contractor	Fine or Penalty	N
Louisiana	Y	2003	Combo	Every 3-5 years	Contractor	Fine or Penalty	N
Maine	Y	1995	On-site	Quarterly	State staff	Education; Fine or Penalty	Y
Minnesota	N	1985	On-site	Annually	State staff	Recalc	Y
Mississippi	Y	1993	On-site	Annually	State staff	Recalc	Y
Montana	N	NA	NA	NA	NA	NA	N
Nebraska	N	NA	NA	NA	NA	NA	NA
Nevada	Y	2002	On-site	Annually	State staff	Education	Y
New Hampshire	N	NA	NA	NA	NA	NA	N
New York	Y	1986	On-site	Annually	Contractor	Recalc	N
North Dakota	Y	1990	On-site	Annually	NA	NA	NA
Ohio	Y	1994	On-site	Quarterly (sample)	State staff	Recalc	Y
Pennsylvania	Y	1994	On-site	Annually	State staff/ Contractor	Education	Y
South Dakota	Y	1993	On-site	Annually	State staff	Recalc	N
Texas	Y	1989	Combo	Other	State staff	Recalc; Education; Fine or Penalty	N
Vermont	Y	1992	On-site	Annually	State staff	Recalc; Education; Fine or Penalty	Y
Washington	Y	1997	On-site	Annually	State staff	Recalc; Education; Fine or	N

V. MDS and QI Analyses

Data Collection

The Omnibus Budget Reconciliation Act of 1987 (OBRA '87) mandated the development of a resident assessment instrument (RAI) for individuals residing in nursing facilities. The tool was required by law to produce a “comprehensive, accurate, standardized and reproducible assessment of each resident’s functional capacity.” The Minimum Data Set (MDS), a resident assessment and care-planning instrument was developed for use in all Medicaid and Medicare-certified facilities. Nursing facilities have been completing the MDS since October 1990. In Washington, facilities began submitting data to the state prior to the June 1998 implementation of the Centers for Medicare and Medicaid Services (CMS) data collection system.

Following obtaining approval from the Department of Social and Health Services, we received several files containing minimum data set assessment data. The most recent data included assessments through June 1, 2002. For this interim report, we are including data assessments through December 31, 2001. The MDS data and RUG-III calculations will continue to be updated as we obtain new cost data and begin the series of analyses.

Using InfoMaker, we converted the data to Oracle 8 data structures. The data includes 100,878 Medicare only assessments, 102,717 admission assessments, 27,879 annual review assessments, 28,273 significant change in condition assessments, 127,258 quarterly reviews, 150,789 discharges (including return anticipated and return not anticipated), 26,315 return tracking documents and 251 correction assessments. This is a total of 387,256 assessments and 177,104 tracking documents.

The 1998 data showed a larger percentage of resident assessments classifying into the extensive services and rehabilitation categories and a smaller percentage in the reduced physical functioning category than the data for the first two quarters of 2000. At that time, we theorized that the observed differences might be due more to the differences in the data collection methods than in the acuity and services provided to the nursing facility population.

When including RUG distribution data for the remaining two quarters of 2000 and all of 2001, as shown on Table 8, we see little variation in the percentage of residents in each category in either the total population or the Medicaid-only population. After reviewing the additional six quarters of data, one would conclude the acuity make-up of the nursing facility population, as measured by RUG-III, is very consistent.

Table 8: Ten-Quarter Analyses of the RUG-III Distribution

**Washington
Nursing Facility RUG-III Distribution**

RUG Major Category		1st Quarter 1998	2nd Quarter 1998	1st Quarter 2000	2nd Quarter 2000	3rd Quarter 2000	4th Quarter 2000	1st Quarter 2001	2nd Quarter 2001	3rd Quarter 2001	4th Quarter 2001
EXTENSIVE SERVICES	Total -	13.92%	10.48%	9.41%	8.95%	8.64%	9.09%	10.18%	9.94%	9.66%	10.17%
	Medicaid - Only	6.43%	4.64%	3.44%	3.25%	3.03%	3.04%	3.17%	3.20%	3.45%	3.49%
REHABILITATION	Total -	20.75%	12.80%	9.90%	9.66%	9.49%	9.74%	9.98%	9.88%	10.06%	10.98%
	Medicaid - Only	7.09%	4.53%	2.59%	2.76%	2.17%	2.23%	2.34%	2.54%	2.97%	2.71%
SPECIAL CARE	Total -	14.07%	13.31%	13.73%	14.07%	13.65%	13.47%	13.53%	13.65%	13.56%	13.89%
	Medicaid - Only	14.30%	14.19%	14.24%	13.89%	13.72%	13.40%	13.25%	13.90%	13.95%	13.81%
CLINICALLY COMPLEX	Total -	15.05%	15.48%	15.91%	15.76%	15.89%	16.49%	16.58%	17.21%	17.05%	16.40%
	Medicaid - Only	18.85%	17.58%	17.62%	17.69%	17.36%	18.34%	18.71%	19.61%	18.73%	19.03%
COGNITIVE IMPAIRMENT	Total -	12.12%	15.66%	15.34%	15.09%	15.21%	14.63%	14.49%	14.42%	14.21%	14.17%
	Medicaid - Only	17.86%	19.43%	19.01%	18.41%	18.63%	18.20%	18.52%	18.15%	17.93%	17.59%
BEHAVIOR PROBLEMS	Total -	0.60%	0.79%	0.81%	0.84%	0.86%	0.74%	0.65%	0.62%	0.65%	0.06%
	Medicaid - Only	1.00%	1.00%	1.15%	1.13%	1.12%	1.00%	0.89%	0.83%	0.84%	0.96%
REDUCED PHYSICAL FUNCTIONING	Total -	23.49%	31.48%	34.89%	35.63%	36.26%	35.83%	34.61%	34.28%	34.81%	33.76%
	Medicaid - Only	34.45%	38.60%	41.95%	42.86%	43.98%	43.79%	43.12%	41.77%	42.13%	42.41%

This RUG-III distribution information is illustrated graphically in the following charts.

Charts 1 shows the RUG distributions for the total population for the four quarters of 2000.

Chart 2 shows the same distribution for 2001.

Charts 3 and 4 include only the Medicaid population for the same time periods.

In Charts 1 and 2 we see that for all eight quarters approximately the Rehabilitation and Extensive Services categories each have about 10% of the residents, while approximately 35% were in the Reduced Physical Functioning category. In Charts 3 and 4 we see the Medicaid population acuity shifts, with a distribution of under 5% in the Rehabilitation and Extensive Services categories and over 40% in the Reduced Physical Functioning.

Chart 1: RUG-III Distribution for Total Population 2000

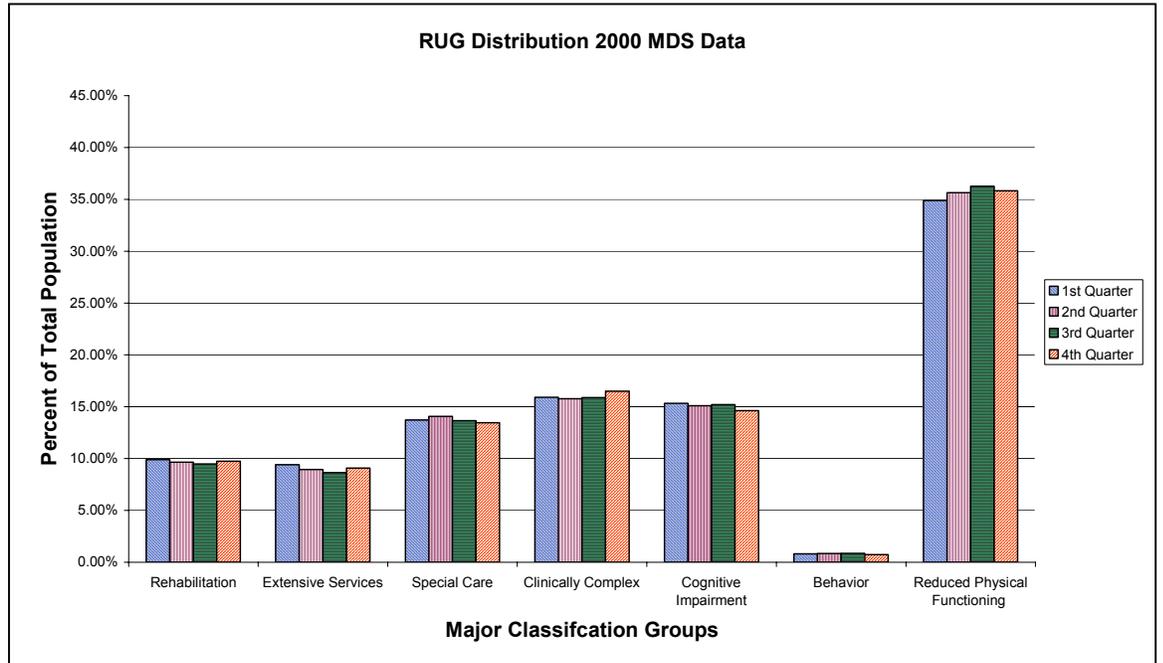


Chart 2: RUG-III Distribution for Total Population 2001

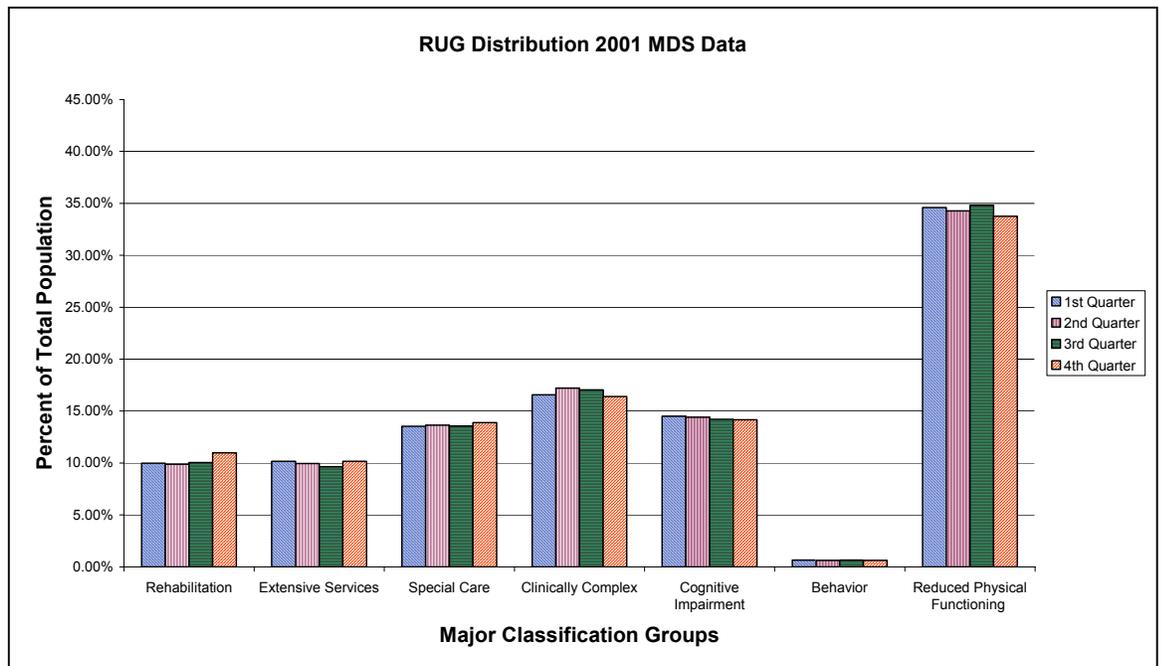


Chart 3: RUG-III Distribution for Medicaid-Only Population 2000

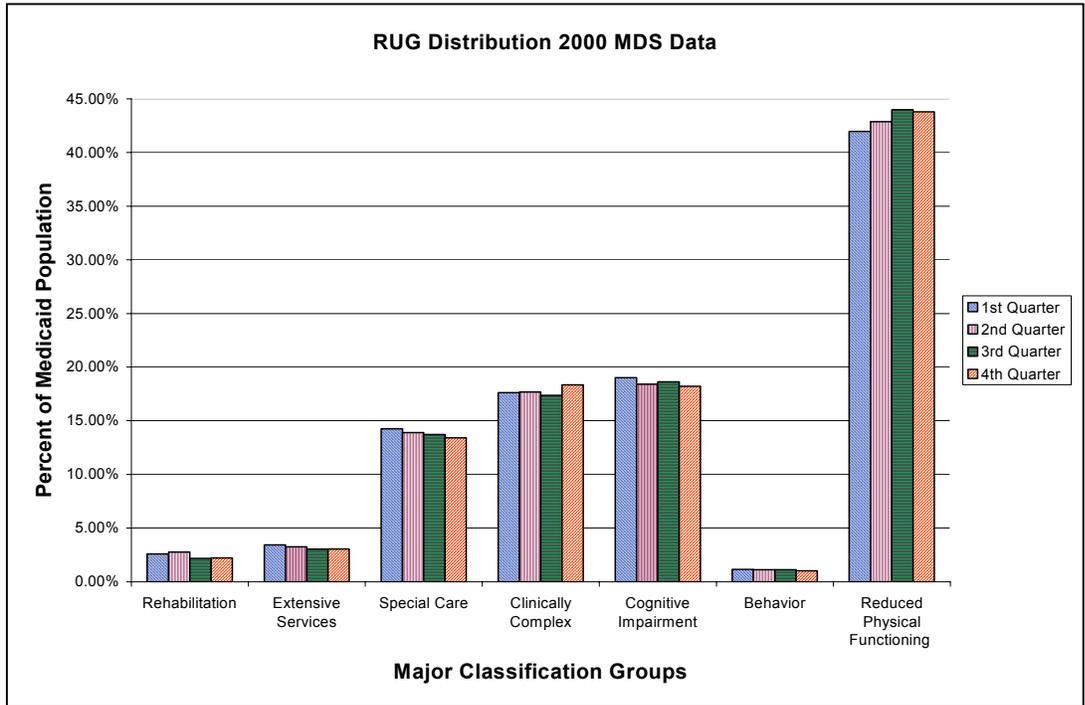
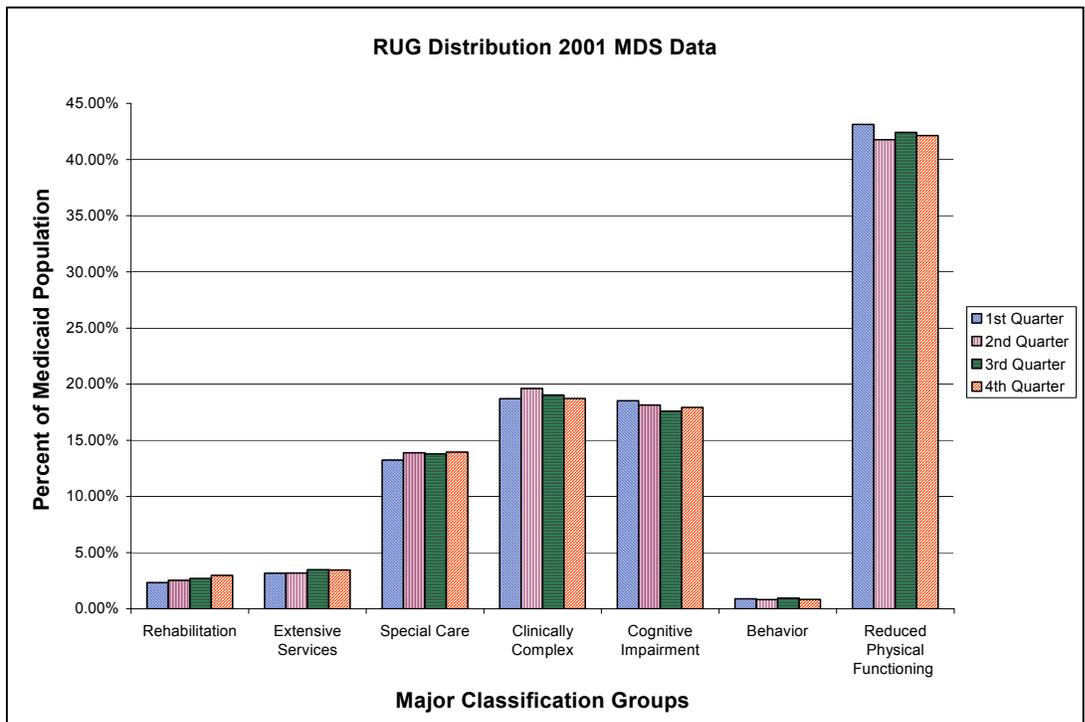


Chart 4: RUG-III Distribution for Medicaid-Only Population 2001



Charts 5 and 6 show this acuity shift by comparing the four-quarter average distributions of the Medicaid-only and total population for 2000 and 2001.

Chart 5: RUG-III Distribution Comparison Total to Medicaid-Only Populations 2000

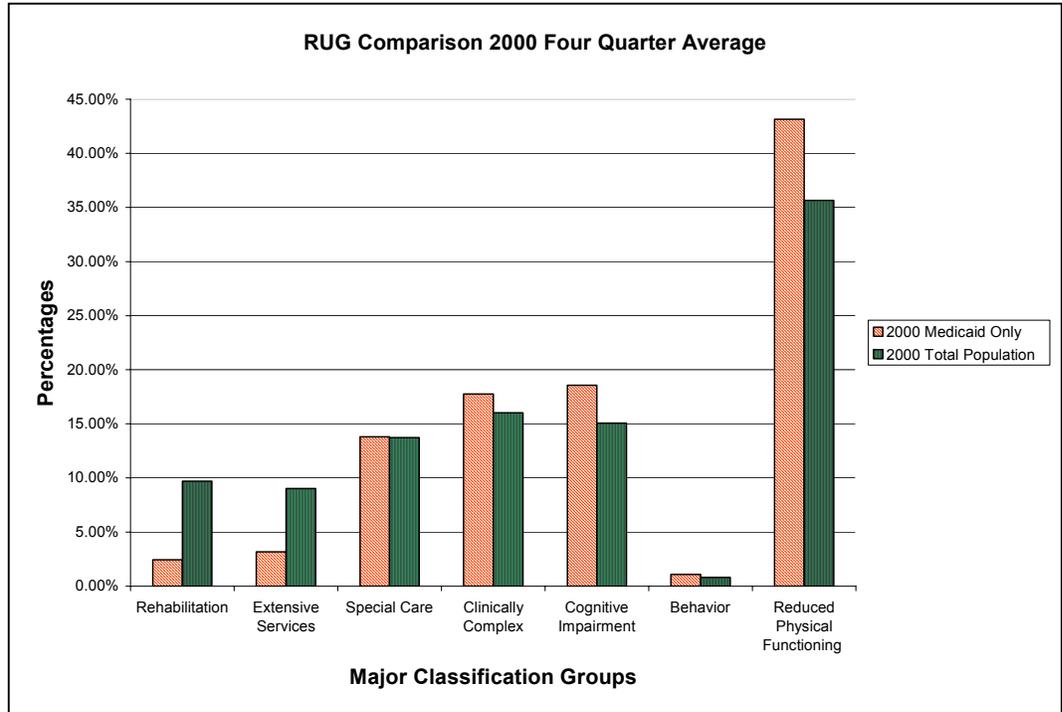
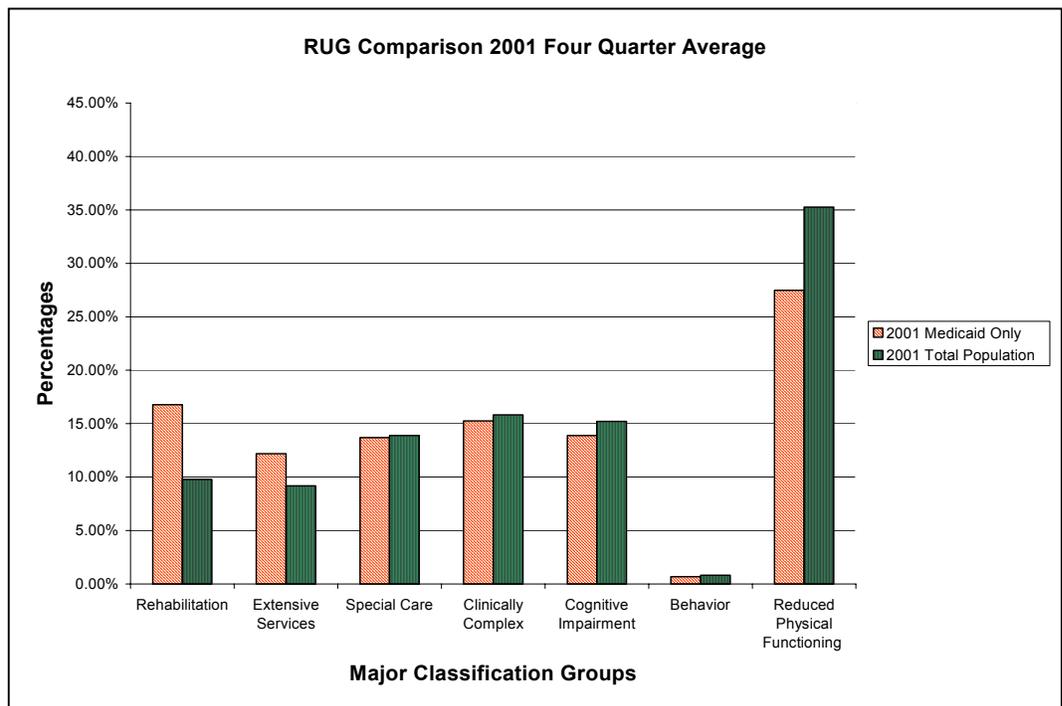


Chart 6: RUG-III Distribution Comparison Total to Medicaid-Only Populations 2001



Admission-only assessments reflect, in Charts 7 and 8, a higher level of acuity at admission for all populations and periods reviewed, as would be anticipated.

Chart 7: RUG-III Distribution Admission Assessments Total Population 2000

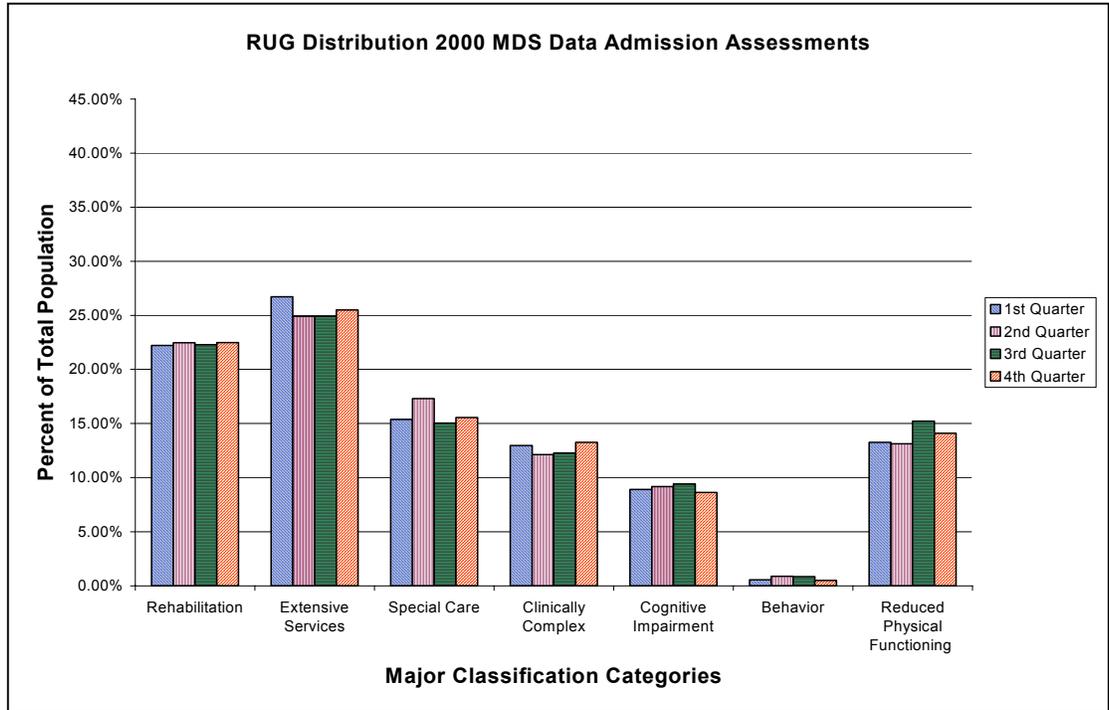
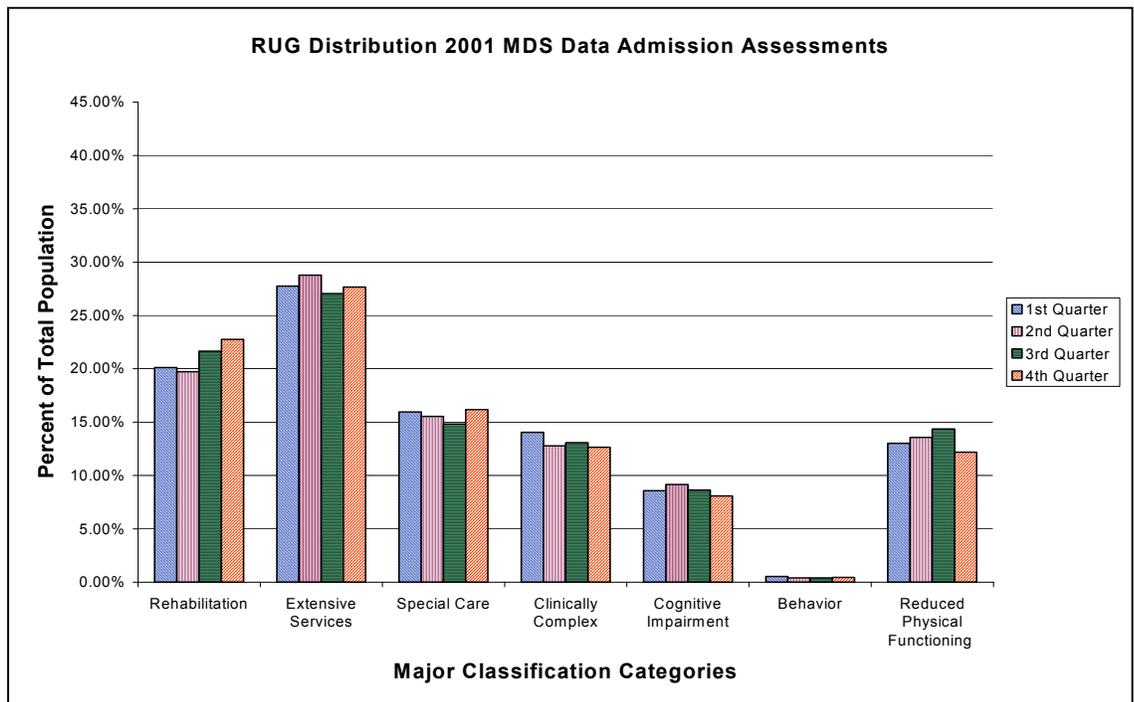


Chart 8: RUG-III Distribution Admission Assessments Total Population 2001



An evaluation of the reasons for discharge, in Charts 9 and 10, demonstrates a very consistent pattern of discharges over time.

Chart 9: Reasons for Discharge 2000

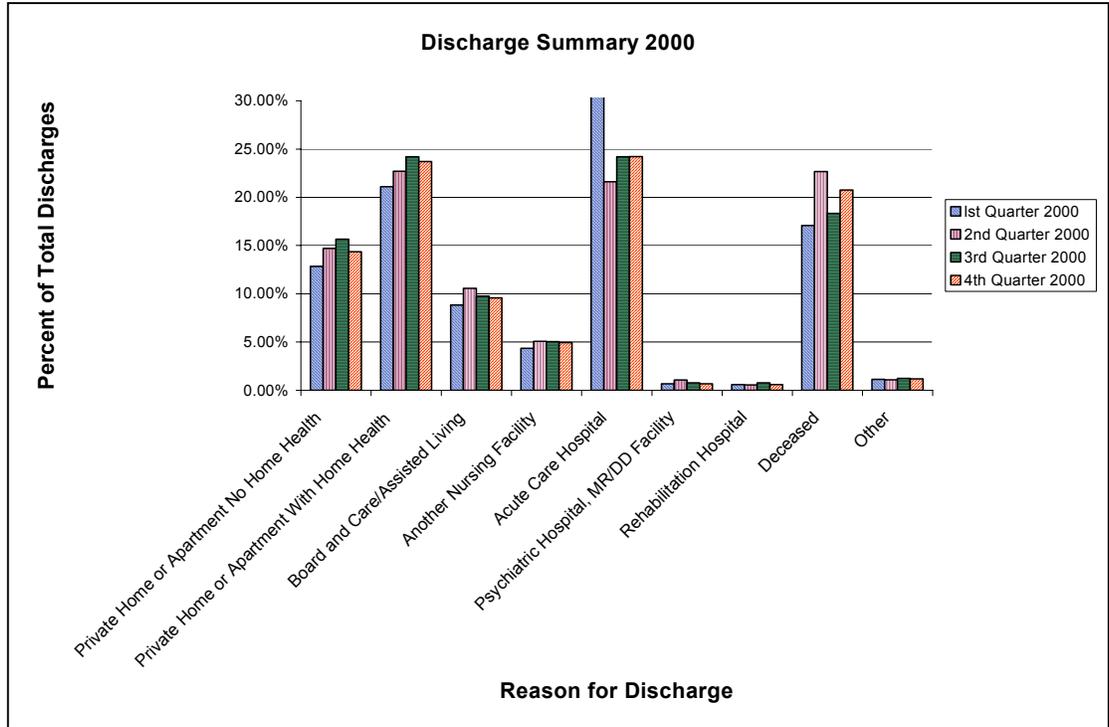
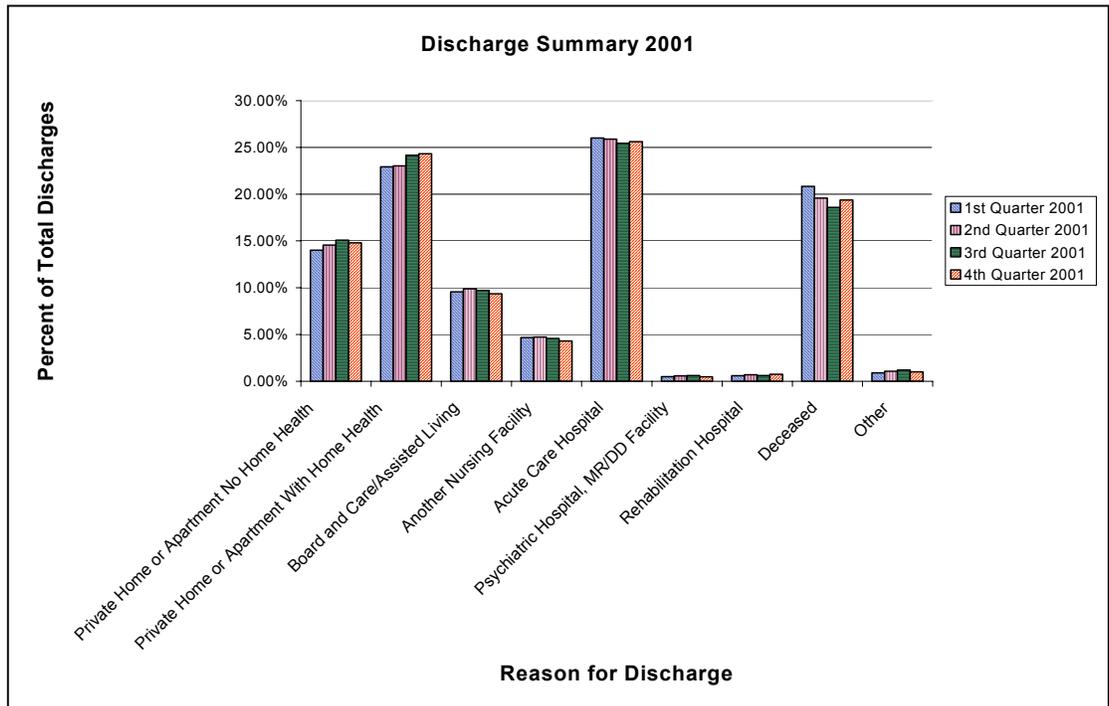


Chart 10: Reasons for Discharge 2001



In addition to working with the MDS data and RUG calculations, we also obtained updated information from the Nursing Home Compare website, sponsored by CMS at:

<http://www.medicare.gov/NHCompare/home.asp>

This website provides detailed information about the performance of every Medicare and Medicaid certified nursing facility in the country. It includes:

- Information about the facility, such as number of beds and type of ownership
- Information about the residents, including statistics on pressure ulcers, urinary incontinence and unexpected weight gain or loss
- Nursing facility inspection results including a side-by-side comparison of the total number of deficiencies the State Survey Agency found during the last three inspections
- Nursing facility staff per resident day

The updated data for Washington is based on the new CMS' Quality Initiative, to be implemented nationally in the fall of 2002.

Washington, Florida, Maryland, Colorado, Ohio and Rhode Island pilot tested this quality initiative, which uses slightly different quality indicators than were reviewed in the initial report.

We collected the quality and staffing data from the Nursing Home Compare site by county, as illustrated on the following map.

We then aggregated the data by the state survey regions listed on the following

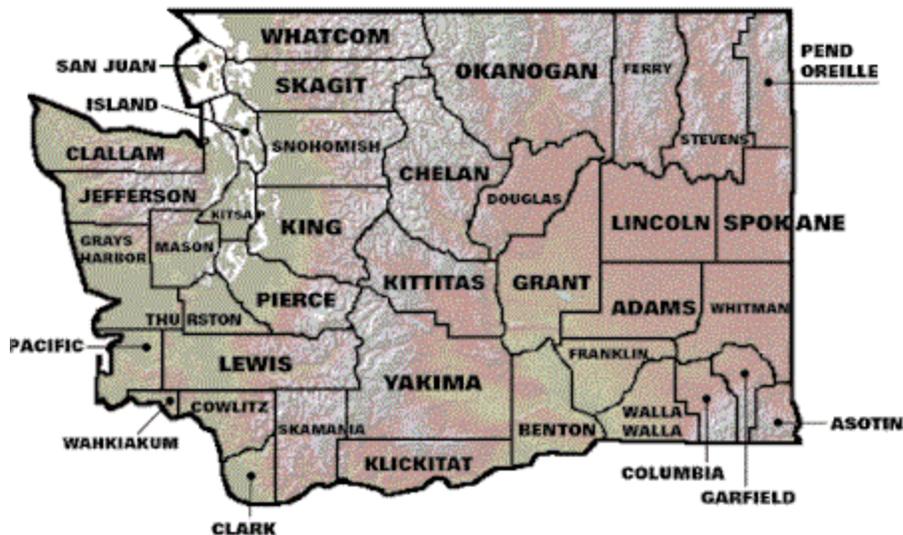


table.

Table 9: Counties in the Survey Regions

Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
Adams	Asotin	Island	King	Kitsap	Clallum
Chelan	Benton	San Juan		Pierce	Clark
Douglas	Columbia	Skagit			Cowlitz
Ferry	Franklin	Snohomish			Grays Harbor
Grant	Garfield	Whatcom			Jefferson
Lincoln	Kittitas				Klickitat
Okanogan	WallaWalla				Lewis
Pend Oreille	Yakima				Mason
Spokane					Pacific
Stevens					Thurston
Whitman					Wahiakum

The following charts reflect the staffing mix of RN, LPN and Nursing Aide and the hours provided per resident day in nursing facilities in each survey region, on a statewide basis and compared to the national statistics.

Chart 11: Staffing Mix

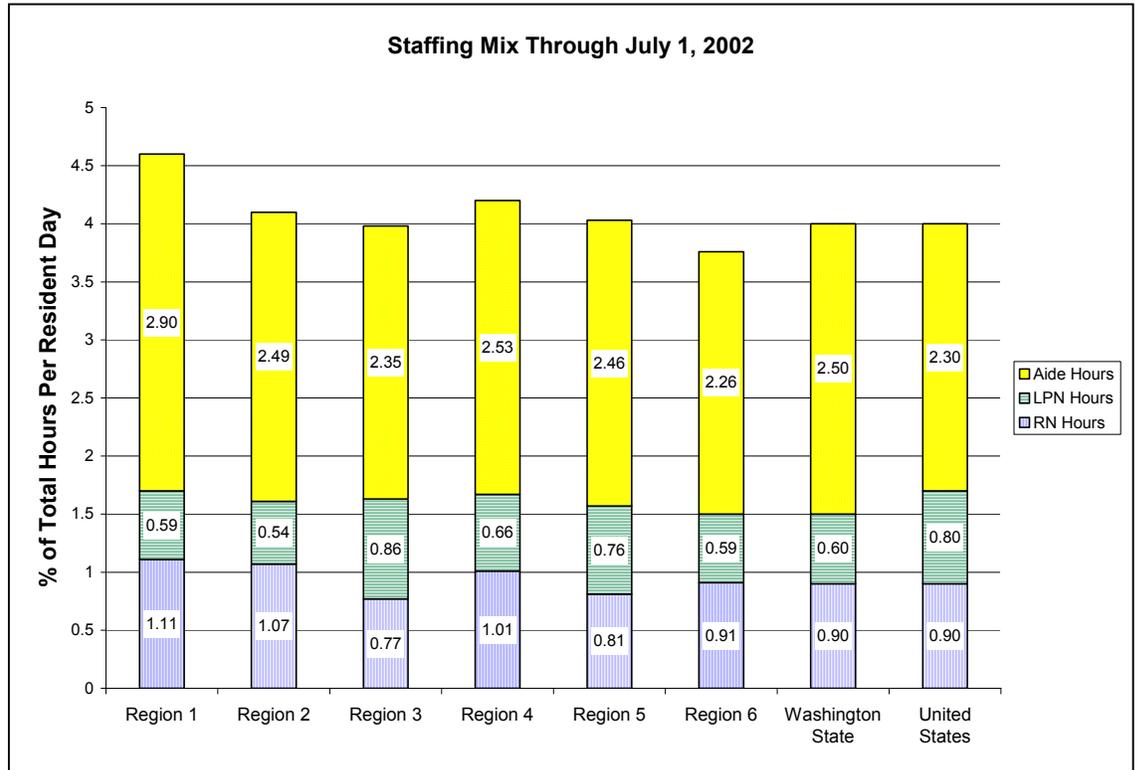
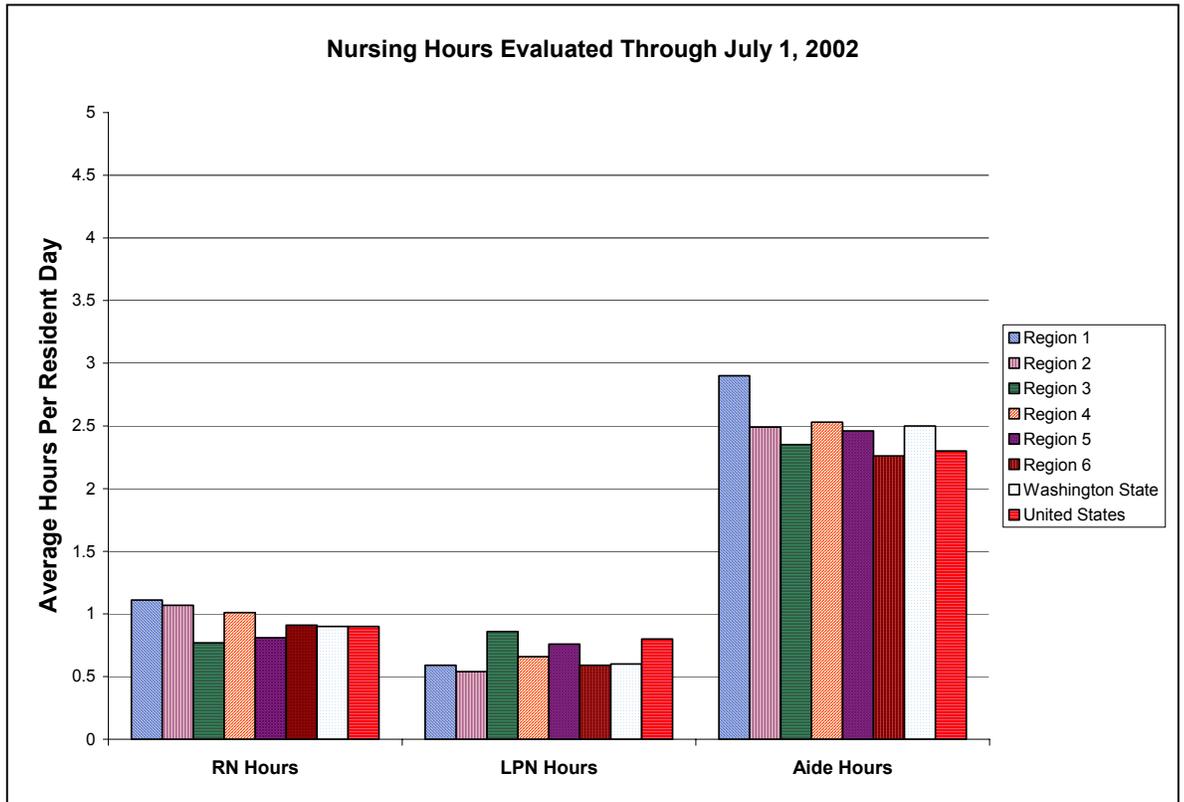


Chart 12: Nursing Hours Per Staff Category



The MDS data can be converted into quality measures providing consumers another source of information on how well nursing facilities are caring for their resident’s physical and clinical needs. CMS, as part of the new quality initiative, selected these specific quality measures for their importance and for the fact that the facility can initiate programs and policies to improve their scores. These measures have been initially validated and pilot tested. They are based on the best research currently available. CMS intends to continue to improve these quality measures over time.

Most of the quality measures reflect a resident’s condition for seven days before they were assessed, not during the entire period between assessments. Also, certain residents are excluded from the calculations so as not to unfairly impact the results. For example, residents admitted to a nursing facility with pressure ulcers are not counted in the pressure ulcer measure until they have been in the facility for more than three months.

The Quality Initiative piloted nine quality measures, all of which are included in this interim report. Six of the measures describe residents in a long-term stay while the other three evaluate the more short-term acute care stays.

The six long-term quality measures are:

1. The percentage of residents who need more help doing daily activities
2. The percentage of residents with infections
3. The percentage of residents with pain
4. The percentage of residents with pressure ulcers
5. The percentage of residents in physical restraints
6. The percentage of residents with unplanned weight loss

The short-term acute care stay quality measures include:

7. The percentage of short stay residents with delirium
8. The percentage of short stay residents with pain
9. The percentage of residents who improved in walking (the only positive indicator – where a high percentage is good.)

Chart 13: Long-Term Quality Measures by Region, State and Compared to Pilot State Average

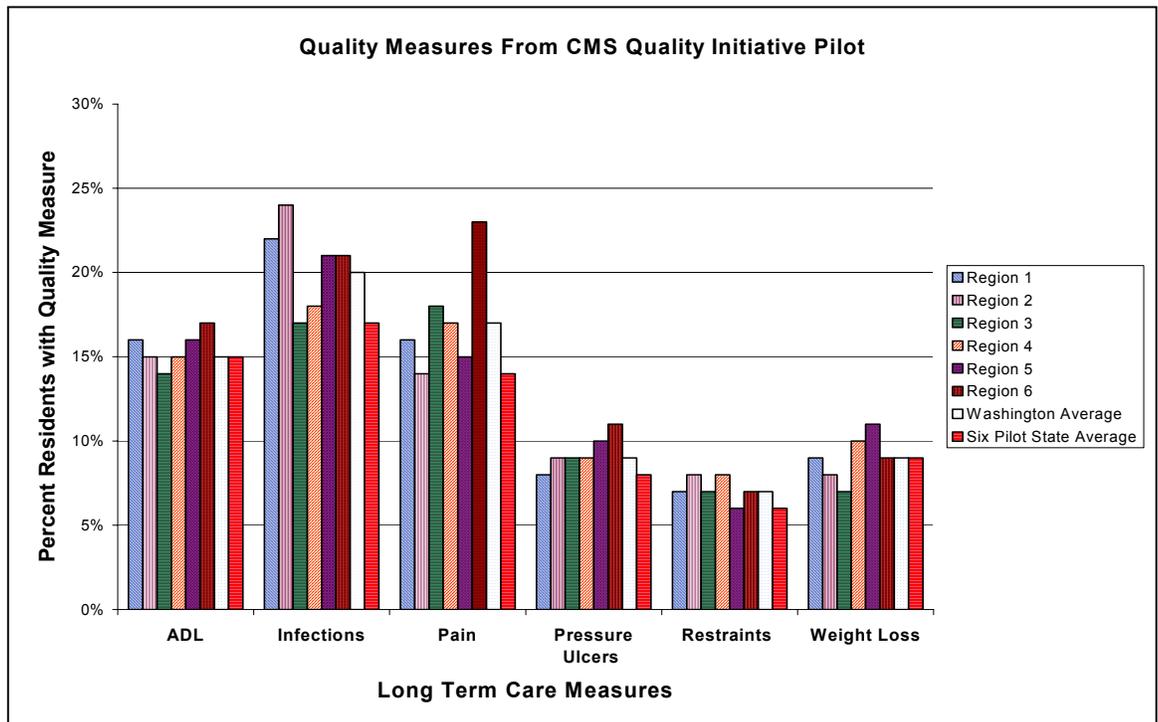
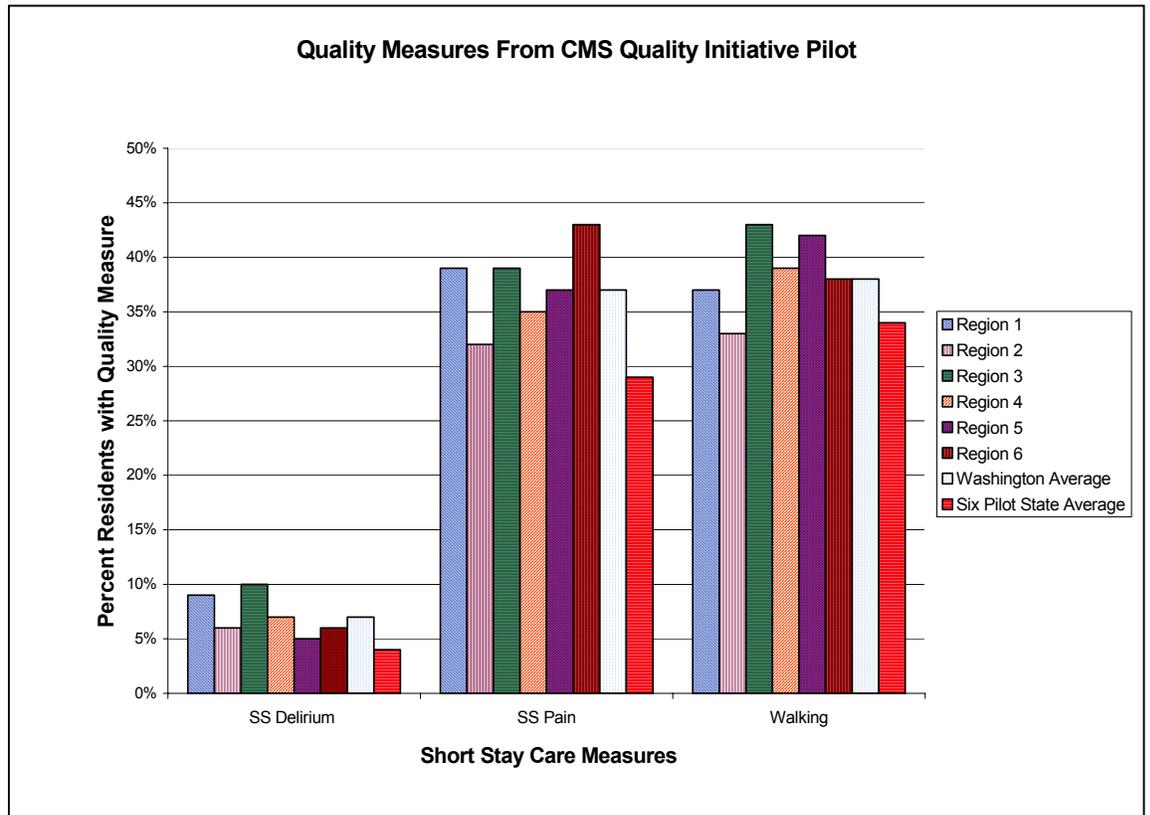


Chart 14: Short Stay Quality Measures by Region, State and Compared to Pilot State Average



The survey information obtained from the Nursing Home Compare site includes health deficiencies found during the three most recent state nursing facility surveys and recent complaint investigations. The range of deficiencies within the state is from zero to 63 with an average of 11 deficiencies. The average number of health deficiencies in the United States is 8.

For comparison purposes, we also included Table 10, listing the range of deficiencies and the state average for all states in CMS Region 10 based in Seattle and all case mix states surveyed for this report. As per the request from the Joint Legislative Task Force, an analysis of this finding will be a priority of the final study.

Table 10: Survey Deficiency Comparison

State or Federal	Range of Deficiencies	Average Deficiencies
United States	NA	8
Idaho	0-27	9
Oregon	0-32	6
Colorado	0-32	7
Georgia	0-43	9
Indiana	0-40	7
Iowa	0-37	5
Kansas	0-40	8
Kentucky	0-53	9
Louisiana	0-44	9
Maine	0-22	7
Minnesota	0-58	5
Mississippi	0-37	6
Montana	0-24	5
Nebraska	0-49	5
Nevada	0-43	12
New Hampshire	0-29	4
New York	0-37	6
North Dakota	0-19	4
Ohio	0-45	6
Pennsylvania	0-58	6
South Dakota	0-23	5
Texas	0-80	9
Vermont	0-13	3
Washington	0-63-	11

Charts 15 through 17 group the health deficiencies into quality of care issues, resident assessment and all others. Quality of care is a specific evaluation issue of the study, while the resident assessment data is a main source of data for this study. Both are important to evaluate separate from the other health deficiencies.

Chart 15: Quality of Care Deficiencies by Survey Region

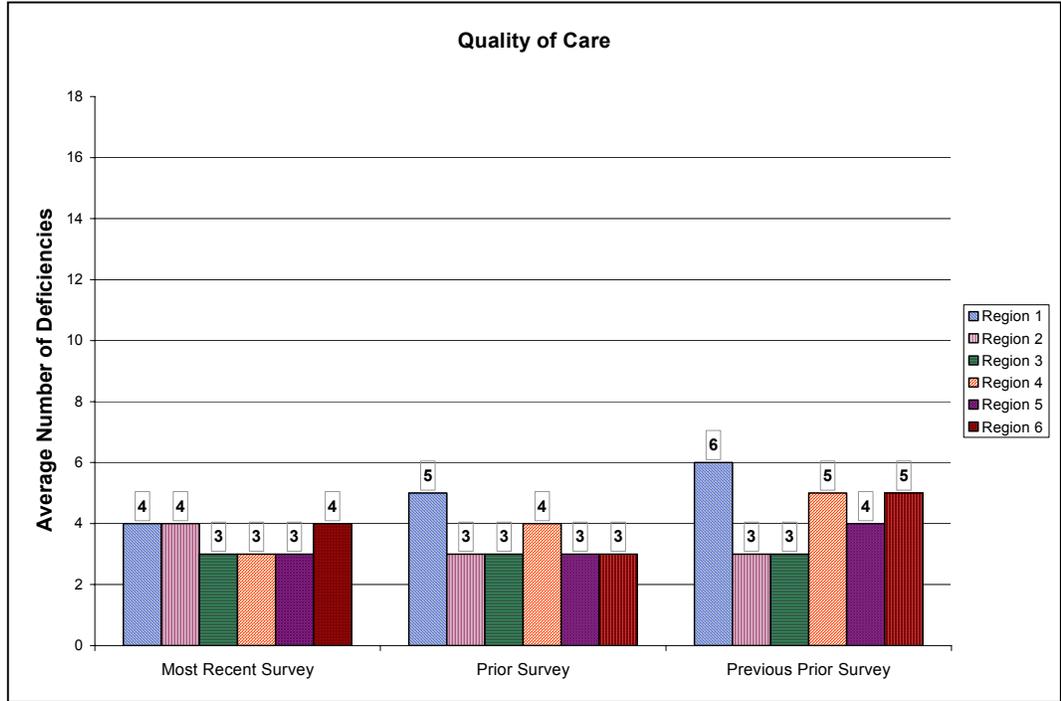


Chart 16: Resident Assessment Deficiencies by Survey Region

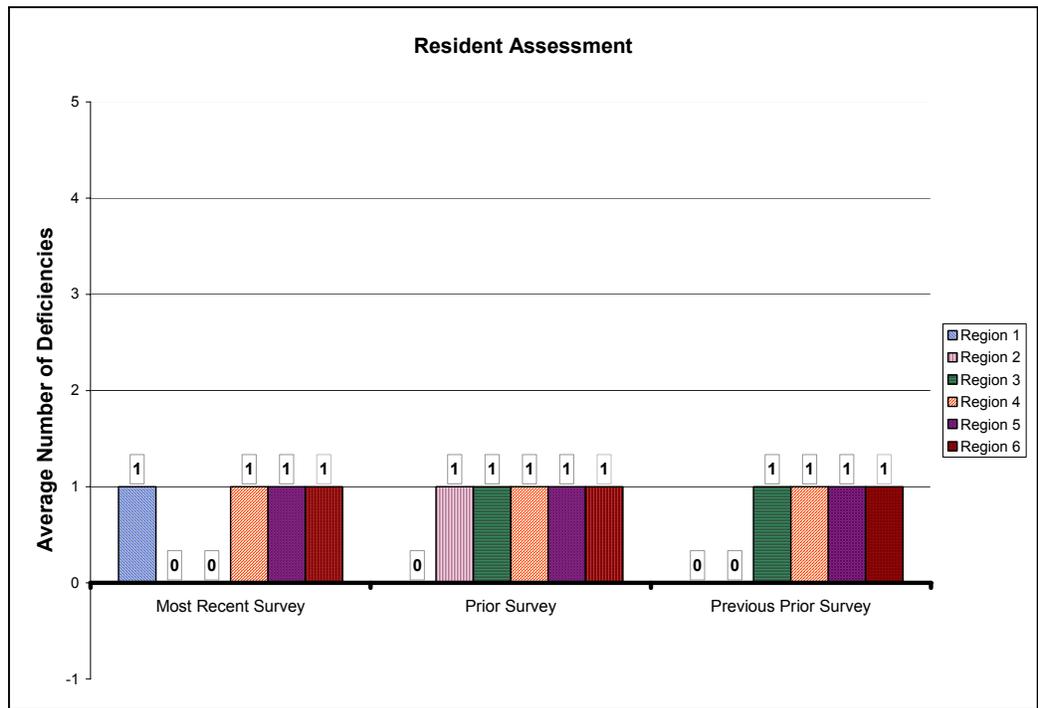
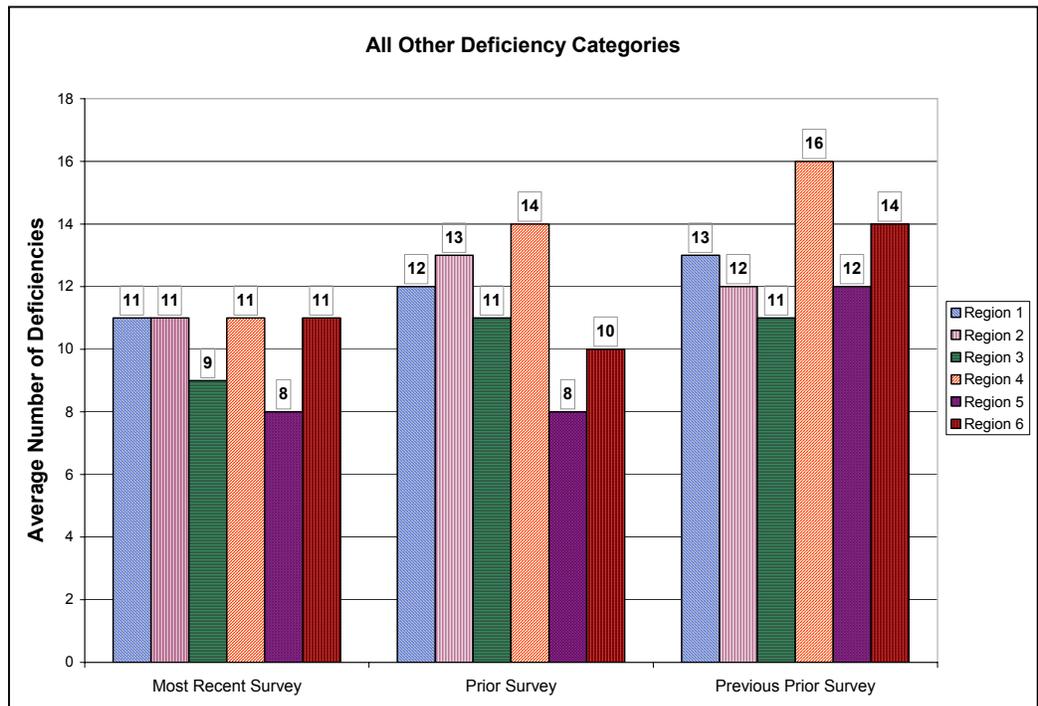


Chart 17: All Other Deficiency Categories by Survey Region



VI. Definitions

AASA: The Aging and Adult Services Administration (AASA) is responsible for developing policies and managing a comprehensive system of long-term care services for disabled adults and older persons in the State of Washington.

Case Mix: A measure of the intensity of care and services used by a group of residents in a facility. The case refers to the overall data collected and used regarding an individual resident. The mix refers to an additive measure of the various profiles seen in a specific facility.

Case Mix Index: A numeric score with a specific range that identifies the relative resources used by a particular group of cases and represents the average resource consumption across a population or sample.

Case Mix Payment: The payment to a nursing facility, per resident or per facility, based on the facility's case mix.

Diagnosis Related Groups (DRG) -are categories that describe the reasons for hospital admission and the treatments a patient received. DRG classify patients into related groups by considering: the reasons for hospitalization, use of hospital services, length of stay, age, and discharge destination, such as home, or rehabilitation center.

Direct Care Costs: Expenses incurred by nursing facilities for the hands-on care of the resident. These costs may include salaries and fringe benefits of RNs, LPN, and nursing assistants.

RUG grouper: Software that classifies residents into the resource utilization groups according to specific criteria as represented on the Minimum Data Set.

CMS: The Centers for Medicare and Medicaid Services, formerly the Health Care Financing Administration, responsible for coordinating federal programs.

Minimum Data Set (MDS): A screening assessment and care-planning tool that indicates strengths, needs and preferences of a nursing facility resident. It consists of core elements, common definitions and guidelines specified by CMS. It is one component of the Resident Assessment Instrument (RAI) as defined in the Nursing Home Reform Act of 1987, also referred to as OBRA '87.

Nursing Facility (NF): Nursing facility as defined in section 1919 (a) of the federal Social Security Act and regulations.

Resource Utilization Groups (RUG-III): A resident classification system that identifies the relative costs (resource use) of providing care for different types of residents in nursing facilities based on their resource use.

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Bibliography

Arling G. and Daneman, B., "Nursing Home Case-Mix Reimbursement in Mississippi and South Dakota," Health Services Research, 2002.

Butler, Patricia A. and Robert E. Schlenker, "Case Mix Reimbursement for Nursing Homes: Objectives and Achievements," Milbank Quarterly, Vol. 67, No. 1, pp. 103-136, 1989

Davis, M.A., Freeman, J.W. and Kirby E.G., "Nursing Home Performance Under Case-Mix Reimbursement: Responding to Heavy Care Incentives and Market Changes," Health Services Research, Oct. 98 33(4): pp. 815-834.

Feder, Judith and Scanlon, William, "Problems and Prospects in Financing Long-Term Care," Chapter 4 in Care and Cost: Current Issues in Health Policy, Kenneth McLennan and Jack A Meyer, eds., Committee for Economic Development, San Francisco: Westview Press, 1989.

Nyman, John A. and Robert A. Connor. "Do Case-Mix Adjusted Nursing Home Reimbursements Actually Reflect Costs? Minnesota's Experience." Journal of Health Economics Vol. 13, No. 2, July 1994. pp. 145-162.

Schlenker, Robert E., "Nursing Home Costs, Medicaid Rates, and Profits under Alternative Medicaid Payment Systems," Health Services Research, Vol. 26, No. 5, December 1991, pp. 623-649.

Thorpe K. and P. Gertler "Resource Utilization Group System: Its Effects on Nursing Home Case-Mix and cost," Inquiry, Vol. 28, No. 4, Winter 1991, pp. 357-365 (co-authored)

Weissert, W. G. and M.C. Musliner, "Case-Mix Adjusted Nursing Home Reimbursement: A Critical Review of the Evidence,," Milbank Quarterly, Vol. 70, No. 3 (1992): 455-490.