

Differences in Resident Case-mix Between Medicare and Non-Medicare Nursing Home Residents

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1. Overview

The purpose of the analyses contained within this report is to examine differences in resident case-mix levels between Medicare and non-Medicare nursing home residents in the years 2010 and 2011. Because the transition to use of Minimum Data Set (MDS) version 3.0 occurred in October 2010, our analysis uses MDS 2.0 data for the first three quarters of 2010 and MDS 3.0 data for 2011. Differences in the types of information captured in the two assessment instruments limit our ability to measure changes across time.

Case-mix classification was determined using the 53-group Resource Utilization Group Version III (RUG-III) and Version IV of the RUG system (RUG-IV), which replaced RUG-III in October 2010.¹ A RUG-based system has been used in the Medicare Skilled Nursing Facility Prospective Payment System since its inception on July 1, 1998.

¹ “Medicare Program; Prospective Payment System and Consolidated Billing for Skilled Nursing Facilities for FY 2012; Final Rule.” *Federal Register* 76.152 (August 8, 2011): 48486-48562.

2. Data Sources and Methods

2.1 Data Sources

Minimum Data Set (MDS) assessments were the data source used for the analyses. We examined both MDS 2.0 and MDS 3.0 data:

- **MDS 2.0 (2010):** Results for 2010 are based on analyses of MDS 2.0 assessments. We included assessments through September 30, 2010, the last date that MDS 2.0 was used. The analyses include 3,925,624 assessments. These analyses used the Nursing Home Resident Profile Tables, an extract of the MDS data that includes information about active nursing home residents and SNF patients.
- **MDS 3.0 (2011):** Results for 2011 use CMS MARET data, which replaced the Resident Profile Tables following implementation of MDS 3.0. Note that the fourth quarter of 2011 is the first quarter for which MARET data are available (and the only MDS 3.0 data used in these analyses. The 2011 data include 1,357,721 assessments.

Both the MDS 2.0 Resident Profile Tables and the MDS 3.0 MARET data include one record for each active nursing home resident in a quarter. An active resident is defined as a resident who, on the last day of the quarter, has no discharge assessment and whose most recent MDS transaction is less than 180 days old (this allows for 93 days between quarterly assessments, 14 days for completion, 31 days for submission after completion, and about one month grace period for late assessments).

In the Nursing Home Resident tables, a summary of MDS information is used to create a profile of the most recent standard information for the resident. The active resident information can represent a composite of items taken from the most recent comprehensive, full, quarterly, PPS, and admission MDS assessments. Values for specific MDS 2.0 items are taken from the most recent assessment for which the item is available. For example, if the most recent assessment is a quarterly assessment, values for MDS items that are not included in the quarterly assessment were taken from the most recent full assessment for the resident. The intention is to create a profile with the most recent standard information for an active resident, regardless of source of information. Because all MDS 3.0 assessments contain complete information, it is not necessary to combine information across multiple assessments in the MARET data.

2.2 Methods

To perform this analysis, we need information on resident case-mix and payment source.

2.2.1 Resident Case-Mix

Since its inception, the Medicare Skilled Nursing Facility Prospective Payment System has used the RUGs classification system. This classification system uses information from the MDS assessment to classify SNF residents into a series of groups representing the residents' relative direct care resource requirements. Each RUG-III group has an associated nursing and therapy case-mix component

- **Nursing component:** The nursing component of the payment rate is intended to cover the costs of nursing services, social services, and non-therapy ancillary costs (i.e., prescription

drugs, respiratory therapy, equipment and supplies). CMS assigns each RUG-III group a nursing index score based on the amount of staff time (weighted by salary levels) associated with caring for residents classified to that group. The nursing weight includes both resident-specific time spent daily on behalf of each patient by RNs, LPNs, and nurse aides and other non-resident specific time spent on other necessary functions such as staff education, administrative duties, and other tasks.

- **Therapy case-mix component:** The therapy case-mix component is a measure of the amount of rehabilitation therapy time associated with caring for residents in each case-mix group. The therapy index includes costs associated with occupational, physical, and speech therapy.

Analyses of 2010 data use the 53-group version of the RUG-III, using the case-mix group assignment included in the Resident Profile Table (MDS 2.0) data. The MARET (MDS 3.0) data include both RUG-III and RUG-IV case-mix values. For the analyses of 2011 data, we analyzed both RUG-III weights (using the same 53-group RUG-III weights that were used for the 2010 analyses) and RUG-IV weights. Note that it is not possible to calculate RUG-IV weights using MDS 2.0 data, so the 2010 analyses do not include RUG-IV analyses. Case-mix weights for the analyses were determined using information from the Federal Register:

- **RUG-III:** For the RUG-53 analyses, we used the nursing and therapy index values obtained from the August 4, 2005 Federal Register (Table 4A on page 45038 – 45039).
- **RUG-IV:** Results for the RUG-IV analyses are based on a reweighted case-mix that adjusts nursing weights to achieve budget neutrality. When CMS raised the nursing weights, they should have raised them by 22.55% not the 61% that was actually used (Source: Federal Register, May 6, 2011, page 26371). The reweighted case-mix index values are calculated as the original values (from the July 22, 2010 Federal Register, pages 42894-42895) multiplied times 0.76118 (1.2255/1.61). Appendix B presents both the original and reweighted RUG-IV case-mix index values that we used in our analyses.

We present index values for the RUG-III system in Appendix A and RUG-IV index values in Appendix B.

2.2.2 RUG-III and RUG-IV: Major Differences

The results presented in this report differ depending on whether they are based on RUG-III or RUG-IV. While the RUG-III results allow us to examine trends observed between 2010 and 2011, the most accurate information on 2011 differences in case-mix by payor source is likely given by the RUG-IV analyses. This is because RUG-IV case-mix weights are based on more recent data and because the RUG-IV system incorporates several refinements intended to improve the accuracy of the classification system for resource use. Major differences between the two classification systems include:

- **Data source for nursing weights:** RUG-IV weights are based on CMS's Staff Time and Resource Intensity Verification (STRIVE) project, data for which were collected in 2006 and 2007. RUG-III case-mix weights are based on older data from the CMS 1995 and 1997 Staff Time Measurement Studies. The newer staff time data presumably reflects changes in care

patterns, staff mix, and technological changes that occurred since the 1990s. Note that CMS made adjustments to the RUG-IV nursing weights so that the total payments (and average payment weights) were the same under both systems.

- ***Allocation of therapy minutes:*** Under RUG-III, no distinction was made between individual and concurrent therapy. Under RUG-IV, the method of allocating therapy minutes for concurrent therapy (one therapist treating two residents receiving different treatments) has been changed. Under RUG-IV, concurrent therapy minutes are allocated among the patients instead of being counted as one-on-one therapy minutes. Unlike its predecessor, MDS 3.0 separately collects information on individual therapy minutes separately from concurrent therapy and group minutes. Eliminating the double counting of therapy minutes provides more accurate estimates of staff resources required to care for residents, but results in some nursing home residents being shifted to lower rehabilitation groups for.
- ***Change in look-back period for some MDS items:*** Under RUG-IV, the look-back provisions that allowed nursing homes to establish diagnoses based on care provided in the hospital were eliminated, except for ventilator patients. Under RUG-III, nursing homes were able to “look back” a certain number of days (14 days for IV meds and 7 days for IV feeding) into the hospital stay of the patient to code certain items that identified a resident as needing high level of staff time, even if this care wasn’t actually received in the nursing home.
- ***Changes to extensive services group:*** Under RUG-IV, IV meds/feeding was moved from the extensive services to the clinically complex group. This change was made based on analysis that showed that the resource needs for those receiving an IV were significantly less than for other extensive care patients. Under RUG-IV, extensive care includes only those that require respiratory care such as post admission ventilator/respirator or tracheotomy care. As a result of these changes, most residents who were classified in extensive services under RUG-III are classified in either the special care or clinically complex groups under RUG-IV.
- ***Changes in payment weights for RUG categories:*** Payments weights for the Extensive Care, Special Care, and Clinically Complex groups are significantly higher under RUG-IV. In general, therapy services are worth less and complex medical services that are actually performed in the nursing home are worth more under RUG-IV. Particularly for the special care and clinically complex groups, payment rates and weights are higher in RUG-IV relative to RUG-III payment rates.

2.2.3 Determining Payor Source: MDS 2.0 Data

For the MDS 2.0 data, payor source was determined as follows:

- ***Medicare and Non-Medicare Assessments:*** We identified Medicare assessments in the MDS 2.0 data based on MDS item A8b (codes for assessments required for Medicare PPS) and MDS item A7b (current payment sources for nursing home stay is Medicare per Diem). To be classified as Medicare, the assessment had to be a Medicare-required assessment and Medicare had to be listed as the payment source. That is, a resident must have both: (1) MDS

item A8b equal to 1, 2, 3, 4, 5, 7, or 8 (the codes for Medicare required assessments) AND (2) A7b equal to 1.²

- We classified assessments as non-Medicare wherever the assessment was not Medicare-required and for which Medicare per diem was not indicated as a payment source (i.e., assessments where A8b did not equal 1, 2, 3, 4, 5, 7, or 8 AND A7b did not equal 1).
- **Medicare, Medicaid, and Other Payment Source Assessments:** For this second classification system, we categorized Medicare assessments in the same way as described above. Assessments were classified as Medicaid if MDS item A7a (current payment source for a nursing home stay was Medicaid per Diem) equaled 1 and MDS item A8b did not equal 1, 2, 3, 4, 5, 7, or 8 (the codes for assessments required for Medicare PPS).

Assessments were classified as having some other payment source if MDS item A7e (Champus), A7f (VA per Diem), A7g (Self/Family Pay), A7i (private insurance payment), or A7j (Other per Diem payment) equaled 1 and the assessment was not previously classified as a Medicare or Medicaid assessment.

2.2.4 Determining Payor Source: MDS 3.0 Data

The MDS 3.0 data do not include a payor source item like items A7a – A7j in MDS 2.0. This change limits our ability to compare changes over time, as we cannot determine the extent to which observed changes in payor source represent real changes vs. changes due to how payment source information is collected in MDS 2.0 and 3.0. For the MDS 3.0 data, payor source was determined as follows:

- **Medicare and Non-Medicare Assessments:** Medicare assessments were identified in the 2011 MDS 3.0 data using items A0310B and A0310C. To be classified as a Medicare assessment, item A0310B (PPS Assessment) had to be equal to 1, 2, 3, 4, 5, or 6, which are the codes for a PPS Scheduled Assessment for a Medicare Part A Stay. If MDS item A0310C (PPS Other Medicare Required Assessment) equaled 1, 2, 3, or 4, the assessment was also classified as a Medicare assessment.

An assessment was classified as a non-Medicare assessment if it did not meet the requirements to be classified as a Medicare assessment as outlined above.

- **Medicare, Medicaid, and Other Payment Source Assessments:** For this second classification system, Medicare assessments were classified in the same way described above. We identified Medicaid assessments using MDS 3.0 item A0700 (the Medicaid provider number). To count as a Medicaid assessment, the Medicaid number needed to be filled in with something other than “N”, “None”, or “^”. We had no way to verify the validity of the Medicaid number provided. Assessments were classified as having some other payment

² Note that the intent of the MDS 2.0 payor source item is to determine the payment source that covers the daily per diem and ancillary services for the residents’ nursing home stay (over the past 30 days). It does not relate to whether or not the resident is a Medicare beneficiary. Thus, Medicare Advantage enrollees could be classified either as having a Medicare payor source (if their stay is paid for by Medicare) or as Medicaid or other payor if the stay is not paid for by Medicare.

source if they did not meet the criteria outlined above for classifying Medicare and Medicaid assessments.

2.3 Sample Selection

We included all 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands in our analyses, but also performed a separate set of analyses on the subset of states that use a RUG-based system for determining their Medicaid payments. Since the 2009 version of this report, three additional states have begun using RUG systems for their Medicaid programs, bringing the number of states utilizing such systems to 28.

The states that use a RUG based system for Medicaid payments include: Colorado, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Minnesota, Mississippi, Montana, Nebraska, Nevada, New Hampshire, New York, North Carolina, North Dakota, Ohio, Pennsylvania, South Dakota, Texas, Utah, Vermont, Virginia, Washington, and West Virginia.

3. Results

3.1 Sample Size

The sample included approximately 3.9 million records in 2010 and 1.3 million records in 2011. In both years, about 59% of assessments came from states using a RUG system to determine Medicaid payments (Table 1). Across all states, 18.3% of assessments had Medicare as the payment source in 2010 and 16.4% in 2011, while 68.8% of 2010 assessments had Medicaid as the payment source compared to 65.2% in 2011. Likely reflecting changes in the available information for identifying Medicaid residents, the proportion of assessments classified as other (i.e., not Medicare or Medicaid) was higher in 2011 (18.3%) than in 2010 (12.6%). Some of the assessments classified as other may be for Medicaid residents whose Medicaid number was not recorded on item A0700, the only item in MDS 3.0 that can be used to identify residents whose stay is paid for by Medicaid. The proportion of assessments by payment source was almost exactly the same in the US as a whole and in the subset of states using RUG systems for Medicaid payments.

Table 1
Number of MDS Assessments Included in Analyses, by Payment Source and Year

Payment Source	All States				States Using RUGs for Medicaid Reimbursement			
	2010		2011		2010		2011	
	Number	%	Number	%	Number	%	Number	%
Medicare	719,046	18.3%	223,118	16.4%	404,307	17.5%	122,699	15.4%
Medicaid	2,701,799	68.8%	885,818	65.2%	1,588,922	68.8%	525,804	66.0%
Other	493,101	12.6%	248,785	18.3%	310,883	13.5%	148,195	18.6%
Non-Medicare	3,194,900	81.4%	1,134,603	83.6%	1,899,805	82.2%	673,999	84.6%
Total	3,925,624		1,357,721		2,310,705		796,698	

Note: The non-Medicare category includes both Medicaid and other payor assessments.

Source: MDS Resident Profile Tables (2010) and MDS MARET data (2011)

3.2 Average Case-Mix

We found that the both the nursing and therapy case-mix indices were higher for Medicare residents than for Medicaid or non-Medicare residents.

- In 2010, the average (RUG-III) nursing index was 1.213 for Medicare residents compared to 0.923 for Medicaid residents and 0.962 for residents with a payor source other than Medicare or Medicaid (Table 2). Across all non-Medicare residents, the average nursing index value was 0.929. Average case-mix was slightly lower for the subset of states that use RUG-III for Medicaid reimbursement.

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- In 2011, using RUG-III, the average nursing index was 1.168 for Medicare residents compared to 0.883 for Medicaid residents, and 0.927 for other payor residents. The lower case-mix values may reflect changes in the items used to calculate case-mix in MDS 3.0 such as the changes in the look-back period allowed on MDS 3.0 that results in fewer residents being classified in the extensive services category.³
 - Using RUG-IV, the average 2011 nursing index was 1.311 for Medicare residents vs. 0.905 for Medicaid residents, and 0.955 for other payor residents (Table 3). Across all non-Medicare residents, the average nursing index was 0.916. The higher nursing index values in RUG-IV reflect the differences in RUG-IV that are described in Section 2.2.2. For residents in every RUG-IV group except two (clinically complex and behavioral problems), RUG-IV nursing index values were higher than the RUG-III nursing index values. For some case-mix groups, the magnitude of these differences was considerable:
 - The average RUG-IV nursing index for residents in a RUG-IV rehabilitation group was 1.308 while the average RUG-III nursing index was 1.178.
 - For residents in a RUG-IV extensive services group, the average nursing index was 2.16 using the RUG-IV nursing index vs. 1.36 using the RUG-III nursing index.⁴
 - The average nursing for residents in the “Special Care High” category was 1.24 using the RUG-IV nursing index compared to 1.14 using RUG-III nursing weights.
 - As expected, the therapy index for Medicare residents was significantly higher than it was for other payment sources:
 - In 2010, the average RUG-III therapy index for Medicare residents was 1.335 versus 0.243 for Medicaid residents, and 0.396 for other payor residents. Across all non-Medicare residents, the average therapy index value was 0.267 (Table 2).
 - In 2011, the RUG-III average therapy index was 1.462, 0.1226 for Medicaid residents, and 0.297 for other payors. The average therapy index value was more than 11 times higher for Medicare residents than for non-Medicare residents, considerably higher than the Medicare-Medicaid difference observed in 2010 with MDS 2.0 data. It is not possible to determine the extent to which this represents real change vs. changes related to the transition to MDS 3.0 or in how residents were selected in the Resident Profile Tables and MARET data.

³ In addition, under RUG-IV, concurrent therapy minutes are allocated among the patients instead of being counted as one-on-one therapy minutes. Unlike its predecessor, the MDS 3.0 separately collects information on individual therapy minutes separately from concurrent therapy and group minutes.

⁴ Note that there were some major changes to the definition of the extensive services category in RUG-III and RUG-IV, resulting in higher nursing index values under RUG-IV. Under RUG-IV, extensive services only include residents who need respiratory care only (e.g., post admission ventilator/respirator care, tracheotomy care, and a new category for “infection isolation”). As a result, there are considerable differences in residents classified as extensive services under RUG-III and RUG-IV.

- Using RUG-IV, the average therapy index was 1.224 for Medicare residents compared to 0.097 for Medicaid residents, and 0.234 for residents with another payor source (Table 3). The lower average therapy index reflects the change made to how concurrent therapy is counted under RUG-IV (see Section 2.2.2). The average therapy index across all non-Medicare residents was 0.127.

Table 2
Average Nursing and Therapy Index, by Payment Source and Year (RUG-III)

Payment Source	All States				States Using RUGs for Medicaid Reimbursement			
	2010		2011		2010		2011	
	Nursing Index	Therapy Index	Nursing Index	Therapy Index	Nursing Index	Therapy Index	Nursing Index	Therapy Index
Medicare	1.213	1.335	1.168	1.462	1.207	1.295	1.165	1.419
Medicaid	0.923	0.243	0.883	0.126	0.939	0.265	0.901	0.159
Other	0.962	0.396	0.927	0.297	0.958	0.388	0.923	0.290
Non-Medicare	0.929	0.267	0.893	0.163	0.942	0.285	0.906	0.188

Note: The non-Medicare category includes both Medicaid and other payor assessments.

Source: MDS Resident Profile Tables (2010) and MDS MARET data (2011)

Table 3
RUG-IV Average Nursing and Therapy Index by Payment Source

Payment Source	All States		States Using RUGs for Medicaid Reimbursement	
	2011		2011	
	Nursing Index	Therapy Index	Nursing Index	Therapy Index
Medicare	1.311	1.224	1.303	1.190
Medicaid	0.905	0.097	0.923	0.122
Other	0.955	0.234	0.959	0.228
Non-Medicare	0.916	0.127	0.931	0.145

Note: The non-Medicare category includes both Medicaid and other payor assessments.

Source: MDS Resident Profile Tables (2010) and MDS MARET data (2011)

3.3 Ratios of Medicare to Non-Medicare Case-Mix

Using the figures in Tables 2 and 3 above, we calculated the ratio of Medicare to non-Medicare, average case-mix.

- Using RUG-III, the ratio of the Medicare to the non-Medicare nursing index was 1.306 in 2010 and 1.308 in 2011 (Table 4). Using RUG-IV for 2011, this ratio increased to 1.431 (Table 5).
- Using RUG-III, we find little change in the ratio of the Medicare to Medicaid nursing index, which increased from 1.314 in 2010 to 1.323 in 2011 (Table 4).
- This ratio was 1.449 using RUG-IV, a higher value than what we observed using RUG-III (Table 5). Given the improvements reflected in RUG-IV (see discussion in Section 2.2.2), the RUG-IV results likely give more accurate information on the relative weights for Medicare and Medicaid patients, although it must be noted that both RUG-III and RUG-IV were designed to predict resource use requirements for Medicare patients, and most of the changes reflected in RUG-IV do not affect non-Medicare patients (although they do affect our estimates of the Medicare to non-Medicare nursing index) .
- The nursing index ratios in the states using a RUG system for the Medicaid program were slightly lower than for the entire U.S. Using MDS 2.0, the Medicare to non-Medicare ratio was 1.281 in 2010 and 1.286 in 2011 (Table 4).
- The ratios for therapy indices were much higher than the nursing ratios. Using RUG-III, the ratio of the Medicare to non-Medicare therapy index increased from 5.000 in 2010 to 8.969 in 2011. There was also a large change in the RUG-III Medicare to Medicaid therapy index ratio, which increased from 5.494 in 2010 to 11.603 in 2011. These differences are mainly due to a lower percentage of non-Medicare patients in a RUG-II rehabilitation group, which decreased from 22.7% in 2010 to 14.3% in 2011, while the proportion of Medicare patients in a RUG-III rehabilitation group increased from 82.6% to 87.8%. It is not clear the extent to which this reflects differences in how we define Medicare and non-Medicare patients in the MDS 2.0 data or other changes such as differences in how therapy minutes are recorded on the MDS 3.0 (see Section 2.2.2) , which may have differential impacts for Medicare and non-Medicare residents.
- As with the nursing index ratios, the ratios were smaller in the states with a RUG-based system for their Medicaid payments.

Table 4
Ratio of Non-Medicare to Medicare Case-mix (RUG-III)

	All States		States Using RUGs for Medicaid Reimbursement	
	2010	2011	2010	2011
Nursing Index				
Ratio of Medicare to Non-Medicare	1.306	1.308	1.281	1.286
Ratio of Medicare to Medicaid	1.314	1.323	1.285	1.293
Ratio of Medicare to Other	1.261	1.260	1.260	1.262
Therapy Index				
Ratio of Medicare to Non-Medicare	5.000	8.969	4.544	7.548
Ratio of Medicare to Medicaid	5.494	11.603	4.887	4.893
Ratio of Medicare to Other	3.371	4.923	3.338	8.925

Note: The non-Medicare category includes both Medicaid and other payor assessments.

Source: MDS Resident Profile Tables (2010) and MDS MARET data (2011)

Table 5
Ratio of Non-Medicare to Medicare Case-mix (RUG-IV)

	All States	States Using RUGs for Medicaid Reimbursement
	2011	2011
Nursing Index		
Ratio of Medicare to Non-Medicare	1.431	1.400
Ratio of Medicare to Medicaid	1.449	1.412
Ratio of Medicare to Other	1.373	1.359
Therapy Index		
Ratio of Medicare to Non-Medicare	9.638	8.207
Ratio of Medicare to Medicaid	12.619	9.754
Ratio of Medicare to Other	5.231	5.219

Note: The non-Medicare category includes both Medicaid and other payor assessments.

Source: MDS Resident Profile Tables (2010) and MDS MARET data (2011)

3.4 Results by State

Tables 6 through 11 contain nursing and therapy index values by state. These tables demonstrate considerable variation across states in the index values in both 2010 and 2011.

- In 2010, the average Medicare nursing index ranged from 1.134 in Oklahoma to 1.275 in New Jersey. The average Medicaid nursing index ranged from 0.801 in Oklahoma to 1.127 in Puerto Rico. The average other payor nursing index ranged from 0.845 in Oklahoma to 1.583 in Puerto Rico. The average non-Medicare nursing index ranged from 0.810 in Oklahoma to 1.292 in Puerto Rico.
- In 2010, the average Medicare therapy index ranged from 0.661 in North Dakota to 1.635 in Utah. The average Medicaid therapy index ranged from 0.060 in Alaska to 0.469 in Pennsylvania. The average other payor therapy index ranged from 0.130 in Montana to 0.566 in Florida. The average non-Medicare therapy index ranged from 0.073 in Alaska to 0.492 in Pennsylvania.
- In 2011, the average RUG-III Medicare nursing index ranged from 0.997 in the Virgin Islands to 1.482 in Illinois. The average RUG-III Medicaid nursing index ranged from 0.777 in Oklahoma to 0.982 in Ohio. The average other payor RUG-III nursing index ranged from 0.731 in the Virgin Islands to 1.087 in Nevada. The average non-Medicare RUG-III nursing index ranged from 0.773 in the U.S. Virgin Islands to 0.992 in Ohio.
- In 2011, the average RUG-III Medicare therapy index ranged from 0.711 in Alaska to 1.734 in Utah. The average RUG-III Medicaid therapy index ranged from 0.091 in North Dakota to 0.372 in Wyoming. The average other payor RUG-III therapy index ranged from 0.047 in North Dakota to 0.480 in Florida. The average RUG-III non-Medicare therapy index ranged from 0.03 in North Dakota to 0.309 in Ohio.
- Using RUG-IV case-mix weights, the average Medicare nursing index in 2011 ranged from 0.960 in the Puerto Rico to 1.401 in Utah. The average Medicaid nursing index ranged from 0.761 in Oklahoma to 1.025 in Pennsylvania. The average other payor nursing index ranged from 0.751 in the Virgin Islands to 1.103 in Nevada. The average non-Medicare nursing index ranged from 0.775 in Oklahoma to 1.036 in Pennsylvania.
- In 2011, the average RUG-IV Medicare therapy index ranged from 0.550 in North Dakota to 1.459 in Utah. The average RUG-IV Medicaid therapy index ranged from 0.031 in Alaska to 0.198 in Ohio. The average other payor RUG-IV therapy index ranged from 0.036 in North Dakota to 0.377 in Arizona. The average RUG-IV non-Medicare therapy index ranged from 0.024 Alaska to 0.236 in Ohio.

Because we have no “gold standard” to use for assessing the accuracy of state MDS assessments, it is not possible to determine the extent to which these across-state differences reflect MDS coding issues in some states, versus true differences in patient acuity across states.

**Table 6
Nursing Index Values by State, 2010**

State	N	Ratio			Average Nursing Index (RUG-III)			
		Medicare to Non-Medicare	Medicare to Medicaid	Medicare to Other	Medicare	Medicaid	Other	Non-Medicare
Alabama	65,078	1.342	1.350	1.269	1.197	0.887	0.943	0.892
Alaska	1,728	1.369	1.375	1.314	1.250	0.909	0.951	0.913
Arizona	31,231	1.306	1.320	1.204	1.229	0.931	1.021	0.941
Arkansas	52,765	1.394	1.399	1.352	1.188	0.849	0.879	0.852
California	282,645	1.320	1.334	1.239	1.243	0.932	1.003	0.942
Colorado	44,995	1.335	1.345	1.293	1.192	0.886	0.922	0.893
Connecticut	72,177	1.357	1.371	1.266	1.182	0.862	0.934	0.871
Delaware	11,913	1.367	1.372	1.345	1.206	0.879	0.897	0.882
D.C.	7,087	1.274	1.277	1.248	1.194	0.935	0.957	0.937
Florida	201,850	1.309	1.330	1.207	1.246	0.937	1.032	0.952
Georgia	98,101	1.285	1.289	1.247	1.218	0.945	0.977	0.948
Hawaii	10,499	1.293	1.298	1.265	1.214	0.935	0.960	0.939
Idaho	12,419	1.265	1.269	1.239	1.218	0.960	0.983	0.963
Illinois	210,183	1.400	1.428	1.296	1.187	0.831	0.916	0.848
Indiana	12,419	1.225	1.222	1.238	1.182	0.967	0.955	0.965
Iowa	71,735	1.414	1.404	1.427	1.216	0.866	0.852	0.860
Kansas	53,858	1.348	1.350	1.345	1.162	0.861	0.864	0.862
Kentucky	66,078	1.256	1.259	1.236	1.235	0.981	0.999	0.983
Louisiana	72,732	1.282	1.285	1.251	1.145	0.891	0.915	0.893
Maine	17,596	1.224	1.224	1.217	1.197	0.978	0.984	0.978
Maryland	69,297	1.321	1.333	1.275	1.230	0.923	0.965	0.931
Massachusetts	116,795	1.346	1.365	1.243	1.222	0.895	0.983	0.908
Michigan	113,435	1.311	1.327	1.176	1.197	0.902	1.018	0.913
Minnesota	81,872	1.340	1.351	1.302	1.213	0.898	0.932	0.905
Mississippi	46,528	1.254	1.258	1.186	1.150	0.914	0.970	0.917
Missouri	106,847	1.397	1.404	1.354	1.171	0.834	0.865	0.838
Montana	13,849	1.402	1.412	1.376	1.193	0.845	0.867	0.851
Nebraska	35,527	1.335	1.335	1.336	1.188	0.890	0.889	0.890
Nevada	13,025	1.286	1.326	1.147	1.232	0.929	1.074	0.958
New Hampshire	19,504	1.285	1.289	1.258	1.160	0.900	0.922	0.903

**Table 6
Nursing Index Values by State, 2010**

State	N	Ratio			Average Nursing Index (RUG-III)			
		Medicare to Non-Medicare	Medicare to Medicaid	Medicare to Other	Medicare	Medicaid	Other	Non-Medicare
New Jersey	125,443	1.389	1.409	1.287	1.275	0.905	0.991	0.918
New Mexico	16,141	1.326	1.323	1.342	1.180	0.892	0.879	0.890
New York	301,430	1.268	1.278	1.188	1.226	0.959	1.032	0.967
North Carolina	106,329	1.239	1.241	1.232	1.196	0.964	0.971	0.965
North Dakota	16,316	1.417	1.420	1.408	1.214	0.855	0.862	0.857
Ohio	219,567	1.258	1.266	1.208	1.248	0.986	1.033	0.992
Oklahoma	54,057	1.400	1.416	1.342	1.134	0.801	0.845	0.810
Oregon	20,677	1.341	1.347	1.317	1.259	0.935	0.956	0.939
Pennsylvania	225,606	1.199	1.202	1.191	1.245	1.036	1.045	1.038
Puerto Rico	901	0.913	1.046	0.745	1.179	1.127	1.583	1.292
Rhode Island	22,409	1.352	1.400	1.208	1.187	0.848	0.983	0.878
South Carolina	48,442	1.316	1.320	1.297	1.183	0.896	0.912	0.899
South Dakota	18,243	1.365	1.368	1.357	1.183	0.865	0.872	0.867
Tennessee	90,171	1.337	1.346	1.268	1.222	0.908	0.964	0.914
Texas	272,697	1.284	1.282	1.314	1.179	0.920	0.897	0.918
Utah	15,032	1.264	1.270	1.240	1.231	0.969	0.993	0.974
Vermont	8,260	1.282	1.281	1.300	1.208	0.943	0.929	0.942
Virgin Islands	22	1.504	1.504	-	1.253	0.833	-	0.833
Virginia	79,475	1.292	1.300	1.256	1.217	0.936	0.969	0.942
Washington	51,107	1.254	1.261	1.223	1.251	0.992	1.023	0.998
West Virginia	27,571	1.288	1.292	1.241	1.231	0.953	0.992	0.956
Wisconsin	86,501	1.324	1.340	1.270	1.222	0.912	0.962	0.923
Wyoming	6,808	1.361	1.374	1.331	1.154	0.840	0.867	0.848

Note: The non-Medicare category includes both Medicaid and other payor assessments.

Source: MDS Resident Profile Tables

Table 7
Therapy Index Values by State, 2010

State	N	Ratio			Average Therapy Index (RUG-III)			
		Medicare to Non-Medicare	Medicare to Medicaid	Medicare to Other	Medicare	Medicaid	Other	Non-Medicare
Alabama	65,078	5.838	6.308	3.439	1.331	0.211	0.387	0.228
Alaska	1,728	9.164	11.150	3.717	0.669	0.060	0.180	0.073
Arizona	31,231	6.608	7.929	2.862	1.348	0.170	0.471	0.204
Arkansas	52,765	5.956	6.231	4.006	1.346	0.216	0.336	0.226
California	282,645	5.950	6.670	3.489	1.434	0.215	0.411	0.241
Colorado	44,995	7.668	8.604	5.168	1.411	0.164	0.273	0.184
Connecticut	72,177	7.184	8.723	3.224	0.977	0.112	0.303	0.136
Delaware	11,913	7.673	8.390	5.339	1.527	0.182	0.286	0.199
D.C.	7,087	5.720	5.942	4.221	1.224	0.206	0.290	0.214
Florida	201,850	4.869	5.546	2.890	1.636	0.295	0.566	0.336
Georgia	98,101	5.288	5.558	3.557	1.195	0.215	0.336	0.226
Hawaii	10,499	8.667	10.078	5.306	1.300	0.129	0.245	0.150
Idaho	12,419	5.280	5.774	3.525	1.357	0.235	0.385	0.257
Illinois	210,183	6.686	8.388	3.761	1.384	0.165	0.368	0.207
Indiana	12,419	4.201	4.546	3.119	1.441	0.317	0.462	0.343
Iowa	71,735	7.471	8.912	5.976	1.016	0.114	0.170	0.136
Kansas	53,858	6.585	7.173	5.332	1.205	0.168	0.226	0.183
Kentucky	66,078	3.895	4.198	2.650	1.293	0.308	0.488	0.332
Louisiana	72,732	4.119	4.212	3.197	1.314	0.312	0.411	0.319
Maine	17,596	5.237	5.463	3.590	1.393	0.255	0.388	0.266
Maryland	69,297	5.582	6.465	3.374	1.390	0.215	0.412	0.249
Massachusetts	116,795	5.615	6.720	2.934	1.297	0.193	0.442	0.231
Michigan	113,435	5.648	6.379	2.646	1.429	0.224	0.540	0.253
Minnesota	81,872	5.514	6.247	3.697	0.987	0.158	0.267	0.179
Mississippi	46,528	4.542	4.680	2.780	1.390	0.297	0.500	0.306
Missouri	106,847	6.243	6.534	4.619	1.261	0.193	0.273	0.202
Montana	13,849	9.511	11.076	6.731	0.875	0.079	0.130	0.092
Nebraska	35,527	6.609	7.397	4.857	1.117	0.151	0.230	0.169
Nevada	13,025	5.576	7.146	2.981	1.422	0.199	0.477	0.255
New Hampshire	19,504	6.197	6.581	4.576	1.382	0.210	0.302	0.223

Table 7
Therapy Index Values by State, 2010

State	N	Ratio			Average Therapy Index (RUG-III)			
		Medicare to Non-Medicare	Medicare to Medicaid	Medicare to Other	Medicare	Medicaid	Other	Non-Medicare
New Jersey	125,443	5.317	6.180	3.030	1.409	0.228	0.465	0.265
New Mexico	16,141	6.340	6.401	5.889	1.325	0.207	0.225	0.209
New York	301,430	4.048	4.536	2.162	1.016	0.224	0.470	0.251
North Carolina	106,329	4.129	4.367	2.828	1.284	0.294	0.454	0.311
North Dakota	16,316	7.264	8.697	4.860	0.661	0.076	0.136	0.091
Ohio	219,567	3.984	4.315	2.675	1.450	0.336	0.542	0.364
Oklahoma	54,057	7.419	8.429	4.956	1.239	0.147	0.250	0.167
Oregon	20,677	6.428	7.218	4.063	1.292	0.179	0.318	0.201
Pennsylvania	225,606	2.783	2.919	2.944	1.369	0.469	0.465	0.492
Puerto Rico	901	2.120	3.876	1.052	0.810	0.209	0.770	0.382
Rhode Island	22,409	5.570	7.810	2.785	1.359	0.174	0.488	0.244
South Carolina	48,442	6.770	7.497	4.592	1.327	0.177	0.289	0.196
South Dakota	18,243	7.199	7.820	6.073	1.087	0.139	0.179	0.151
Tennessee	90,171	5.524	5.833	3.861	1.359	0.233	0.352	0.246
Texas	272,697	4.636	4.700	4.237	1.377	0.293	0.325	0.297
Utah	15,032	6.841	8.472	4.088	1.635	0.193	0.400	0.239
Vermont	8,260	5.195	5.366	4.141	1.143	0.213	0.276	0.220
Virgin Island	22	-	-	-	0.833	-	-	-
Virginia	79,475	5.457	6.052	3.712	1.277	0.211	0.344	0.234
Washington	51,107	5.038	5.841	3.220	1.320	0.226	0.410	0.262
West Virginia	27,571	3.852	4.052	2.517	1.329	0.328	0.528	0.345
Wisconsin	86,501	5.071	5.967	3.290	1.283	0.215	0.390	0.253
Wyoming	6,808	8.183	9.835	5.733	1.072	0.109	0.187	0.131

Note: The non-Medicare category includes both Medicaid and other payor assessments.

Source: MDS Resident Profile Tables

Table 8
RUG-III Nursing Index Values by State, 2011

State	N	Ratio			Average Nursing Index (RUG-III)			
		Medicare to Non-Medicare	Medicare to Medicaid	Medicare to Other	Medicare	Medicaid	Other	Non-Medicare
Alabama	22,232	1.372	1.390	1.299	1.165	0.838	0.897	0.849
Alaska	593	1.304	1.323	1.197	1.150	0.869	0.961	0.882
Arizona	11,036	1.276	1.332	1.110	1.183	0.888	1.066	0.927
Arkansas	17,996	1.431	1.442	1.393	1.148	0.796	0.824	0.802
California	100,150	1.333	1.360	1.219	1.204	0.885	0.988	0.903
Colorado	15,388	1.334	1.365	1.255	1.162	0.851	0.926	0.871
Connecticut	24,481	1.371	1.392	1.288	1.157	0.831	0.898	0.844
Delaware	4,063	1.341	1.361	1.293	1.151	0.846	0.890	0.858
D.C.	2,451	1.303	1.303	1.300	1.200	0.921	0.923	0.921
Florida	70,660	1.301	1.338	1.177	1.176	0.879	0.999	0.904
Georgia	33,493	1.305	1.317	1.237	1.171	0.889	0.947	0.897
Hawaii	3,641	1.539	1.564	1.474	1.411	0.902	0.957	0.917
Idaho	3,979	1.515	1.527	1.477	1.394	0.913	0.944	0.920
Illinois	72,172	1.857	1.902	1.729	1.482	0.779	0.857	0.798
Indiana	38,056	1.227	1.220	1.251	1.146	0.939	0.916	0.934
Iowa	24,491	1.447	1.436	1.457	1.179	0.821	0.809	0.815
Kansas	18,184	1.379	1.387	1.367	1.139	0.821	0.833	0.826
Kentucky	22,393	1.260	1.261	1.249	1.189	0.943	0.952	0.944
Louisiana	25,133	1.309	1.315	1.266	1.127	0.857	0.890	0.861
Maine	6,039	1.290	1.296	1.269	1.169	0.902	0.921	0.906
Maryland	24,006	1.314	1.335	1.262	1.167	0.874	0.925	0.888
Massachusetts	40,833	1.348	1.376	1.253	1.167	0.848	0.931	0.866
Michigan	39,193	1.319	1.351	1.195	1.146	0.848	0.959	0.869
Minnesota	26,675	1.397	1.409	1.371	1.189	0.844	0.867	0.851
Mississippi	15,720	1.298	1.306	1.222	1.123	0.860	0.919	0.865
Missouri	37,064	1.430	1.458	1.357	1.140	0.782	0.840	0.797
Montana	4,633	1.378	1.385	1.368	1.127	0.814	0.824	0.818
Nebraska	12,147	1.359	1.358	1.364	1.150	0.847	0.843	0.846
Nevada	4,523	1.230	1.288	1.087	1.182	0.918	1.087	0.961
New Hampshire	6,791	1.335	1.355	1.273	1.141	0.842	0.896	0.855

Table 8
RUG-III Nursing Index Values by State, 2011

State	N	Ratio			Average Nursing Index (RUG-III)			
		Medicare to Non-Medicare	Medicare to Medicaid	Medicare to Other	Medicare	Medicaid	Other	Non-Medicare
New Jersey	44,062	1.314	1.329	1.264	1.200	0.903	0.949	0.913
New Mexico	5,926	1.323	1.358	1.239	1.142	0.841	0.922	0.863
New York	106,835	1.268	1.282	1.201	1.182	0.922	0.984	0.932
North Carolina	36,520	1.252	1.258	1.223	1.162	0.924	0.950	0.928
North Dakota	5,529	1.439	1.427	1.457	1.163	0.815	0.798	0.808
Ohio	74,991	1.208	1.220	1.165	1.198	0.982	1.028	0.992
Oklahoma	18,920	1.403	1.421	1.353	1.104	0.777	0.816	0.787
Oregon	7,028	1.311	1.356	1.211	1.201	0.886	0.992	0.916
Pennsylvania	76,431	1.239	1.249	1.206	1.199	0.960	0.994	0.968
Puerto Rico	845	-	-	-	1.121	-	-	-
Rhode Island	7,914	1.349	1.410	1.204	1.141	0.809	0.948	0.846
South Carolina	16,464	1.318	1.327	1.288	1.140	0.859	0.885	0.865
South Dakota	6,227	1.432	1.432	1.429	1.173	0.819	0.821	0.819
Tennessee	30,378	1.352	1.372	1.280	1.180	0.860	0.922	0.873
Texas	98,367	1.258	1.254	1.288	1.146	0.914	0.890	0.911
Utah	5,507	1.242	1.258	1.194	1.194	0.949	1.000	0.961
Vermont	2,729	1.320	1.328	1.292	1.189	0.895	0.920	0.901
Virgin Island	31	1.290	1.136	1.364	0.997	0.878	0.731	0.773
Virginia	27,809	1.293	1.310	1.239	1.161	0.886	0.937	0.898
Washington	16,538	1.281	1.303	1.204	1.200	0.921	0.997	0.937
West Virginia	9,398	1.303	1.316	1.221	1.190	0.904	0.975	0.913
Wisconsin	28,566	1.354	1.383	1.291	1.185	0.857	0.918	0.875
Wyoming	2,400	1.397	1.407	1.376	1.148	0.816	0.834	0.822

Note: The non-Medicare category includes both Medicaid and other payor assessments.

Source: MDS MARET data

Table 9
RUG-III Therapy Index Values by State, 2011

State	N	Ratio			Average Therapy Index (RUG-III)			
		Medicare to Non-Medicare	Medicare to Medicaid	Medicare to Other	Medicare	Medicaid	Other	Non-Medicare
Alabama	22,232	15.543	24.655	5.885	1.430	0.058	0.243	0.092
Alaska	593	20.314	35.550	5.555	0.711	0.020	0.128	0.035
Arizona	11,036	9.090	19.215	3.169	1.518	0.079	0.479	0.167
Arkansas	17,996	20.818	31.227	9.411	1.374	0.044	0.146	0.066
California	100,150	12.367	19.543	4.447	1.583	0.081	0.356	0.128
Colorado	15,388	13.235	22.183	6.377	1.575	0.071	0.247	0.119
Connecticut	24,481	13.741	25.391	4.787	1.168	0.046	0.244	0.085
Delaware	4,063	18.629	36.844	8.127	1.658	0.045	0.204	0.089
D.C.	2,451	10.222	10.824	6.976	1.472	0.136	0.211	0.144
Florida	70,660	9.583	17.250	3.594	1.725	0.100	0.480	0.180
Georgia	33,493	8.836	11.217	3.794	1.290	0.115	0.340	0.146
Hawaii	3,641	10.151	21.060	4.423	1.411	0.067	0.319	0.139
Idaho	3,979	8.243	10.969	4.479	1.393	0.127	0.311	0.169
Illinois	72,172	17.233	29.059	7.600	1.482	0.051	0.195	0.086
Indiana	38,056	6.016	6.691	4.427	1.492	0.223	0.337	0.248
Iowa	24,491	22.245	28.071	17.597	1.179	0.042	0.067	0.053
Kansas	18,184	13.959	18.240	10.059	1.368	0.075	0.136	0.098
Kentucky	22,393	6.422	7.368	4.204	1.400	0.190	0.333	0.218
Louisiana	25,133	7.906	8.620	5.166	1.431	0.166	0.277	0.181
Maine	6,039	11.376	15.290	5.427	1.422	0.093	0.262	0.125
Maryland	24,006	12.684	23.935	5.730	1.484	0.062	0.259	0.117
Massachusetts	40,833	11.321	19.013	4.453	1.483	0.078	0.333	0.131
Michigan	39,193	12.134	23.348	3.982	1.541	0.066	0.387	0.127
Minnesota	26,675	11.808	18.266	6.797	1.169	0.064	0.172	0.099
Mississippi	15,720	10.324	11.480	4.443	1.435	0.125	0.323	0.139
Missouri	37,064	16.107	25.528	8.006	1.353	0.053	0.169	0.084
Montana	4,633	17.034	28.229	9.980	0.988	0.035	0.099	0.058
Nebraska	12,147	12.833	18.954	8.676	1.232	0.065	0.142	0.096
Nevada	4,523	7.545	13.718	3.252	1.509	0.110	0.464	0.200
New Hampshire	6,791	11.066	16.183	5.637	1.505	0.093	0.267	0.136

Table 9
RUG-III Therapy Index Values by State, 2011

State	N	Ratio			Average Therapy Index (RUG-III)			
		Medicare to Non-Medicare	Medicare to Medicaid	Medicare to Other	Medicare	Medicaid	Other	Non-Medicare
New Jersey	44,062	9.147	12.082	4.906	1.619	0.134	0.330	0.177
New Mexico	5,926	9.660	16.214	4.555	1.362	0.084	0.299	0.141
New York	106,835	7.065	9.028	3.430	1.300	0.144	0.379	0.184
North Carolina	36,520	6.266	7.360	3.558	1.391	0.189	0.391	0.222
North Dakota	5,529	24.700	39.000	15.766	0.741	0.019	0.047	0.030
Ohio	74,991	5.049	5.909	3.355	1.560	0.264	0.465	0.309
Oklahoma	18,920	25.314	39.121	12.657	1.291	0.033	0.102	0.051
Oregon	7,028	8.653	19.442	3.599	1.497	0.077	0.416	0.173
Pennsylvania	76,431	5.084	6.054	3.474	1.459	0.241	0.420	0.287
Puerto Rico	845	-	-	-	0.836	-	-	-
Rhode Island	7,914	10.057	19.145	4.463	1.589	0.083	0.356	0.158
South Carolina	16,464	14.644	24.650	5.988	1.479	0.060	0.247	0.101
South Dakota	6,227	17.492	22.294	12.920	1.137	0.051	0.088	0.065
Tennessee	30,378	12.649	19.486	5.589	1.442	0.074	0.258	0.114
Texas	98,367	6.803	6.898	6.205	1.483	0.215	0.239	0.218
Utah	5,507	9.527	14.098	4.599	1.734	0.123	0.377	0.182
Vermont	2,729	8.503	10.577	5.004	1.301	0.123	0.260	0.153
Virgin Island	31	-	-	-	0.987	-	-	-
Virginia	27,809	9.173	13.105	4.556	1.376	0.105	0.302	0.150
Washington	16,538	8.629	13.336	3.840	1.467	0.110	0.382	0.170
West Virginia	9,398	5.939	6.860	2.963	1.372	0.200	0.463	0.231
Wisconsin	28,566	8.935	13.713	4.843	1.385	0.101	0.286	0.155
Wyoming	2,400	20.190	3.419	11.564	1.272	0.372	0.110	0.063

Note: The non-Medicare category includes both Medicaid and other payor assessments.

Source: MDS MARET data

Table 10
RUG-IV Reweighted Nursing Index Values by State, 2011

State	N	Ratio			Average Nursing Index (RUG-IV)			
		Medicare to Non-Medicare	Medicare to Medicaid	Medicare to Other	Medicare	Medicaid	Other	Non-Medicare
Alabama	22,232	1.492	1.518	1.387	1.298	0.855	0.936	0.870
Alaska	593	1.231	1.238	1.184	1.089	0.880	0.920	0.885
Arizona	11,036	1.400	1.453	1.242	1.305	0.898	1.051	0.932
Arkansas	17,996	1.580	1.596	1.525	1.296	0.812	0.850	0.820
California	100,150	1.464	1.488	1.381	1.370	0.921	0.992	0.936
Colorado	15,388	1.536	1.583	1.420	1.338	0.845	0.942	0.871
Connecticut	24,481	1.445	1.471	1.349	1.233	0.838	0.914	0.853
Delaware	4,063	1.510	1.523	1.471	1.330	0.873	0.904	0.932
D.C.	2,451	1.445	1.447	1.427	1.347	0.931	0.944	0.932
Florida	70,660	1.482	1.526	1.339	1.378	0.903	1.029	0.930
Georgia	33,493	1.385	1.403	1.276	1.284	0.915	1.006	0.927
Hawaii	3,641	1.340	1.347	1.320	1.317	0.978	0.998	0.983
Idaho	3,979	1.328	1.342	1.284	1.271	0.947	0.990	0.957
Illinois	72,172	1.628	1.681	1.479	1.294	0.770	0.875	0.795
Indiana	38,056	1.351	1.352	1.341	1.310	0.969	0.977	0.970
Iowa	24,491	1.490	1.481	1.501	1.222	0.825	0.814	0.820
Kansas	18,184	1.473	1.491	1.445	1.230	0.825	0.851	0.835
Kentucky	22,393	1.322	1.328	1.295	1.323	0.996	1.022	1.001
Louisiana	25,133	1.471	1.482	1.415	1.258	0.849	0.889	0.855
Maine	6,039	1.315	1.321	1.292	1.297	0.982	1.004	0.986
Maryland	24,006	1.429	1.450	1.375	1.309	0.903	0.952	0.916
Massachusetts	40,833	1.451	1.477	1.357	1.307	0.885	0.963	0.901
Michigan	39,193	1.459	1.497	1.318	1.280	0.858	0.974	0.880
Minnesota	26,675	1.414	1.432	1.377	1.234	0.862	0.896	0.873
Mississippi	15,720	1.445	1.455	1.324	1.286	0.884	0.971	0.890
Missouri	37,064	1.566	1.607	1.465	1.226	0.763	0.837	0.783
Montana	4,633	1.391	1.403	1.366	1.132	0.807	0.829	0.814
Nebraska	12,147	1.398	1.396	1.401	1.209	0.866	0.863	0.865
Nevada	4,523	1.416	1.476	1.266	1.396	0.946	1.103	0.986
New Hampshire	6,791	1.436	1.454	1.380	1.259	0.866	0.912	0.877

Table 10
RUG-IV Reweighted Nursing Index Values by State, 2011

State	N	Ratio			Average Nursing Index (RUG-IV)			
		Medicare to Non-Medicare	Medicare to Medicaid	Medicare to Other	Medicare	Medicaid	Other	Non-Medicare
New Jersey	44,062	1.488	1.508	1.425	1.378	0.914	0.967	0.926
New Mexico	5,926	1.443	1.468	1.380	1.224	0.834	0.887	0.848
New York	106,835	1.384	1.405	1.295	1.329	0.946	1.026	0.960
North Carolina	36,520	1.332	1.341	1.293	1.287	0.960	0.995	0.966
North Dakota	5,529	1.361	1.353	1.375	1.104	0.816	0.803	0.811
Ohio	74,991	1.332	1.355	1.261	1.334	0.986	1.059	1.002
Oklahoma	18,920	1.569	1.598	1.488	1.216	0.761	0.817	0.775
Oregon	7,028	1.379	1.423	1.278	1.292	0.908	1.011	0.937
Pennsylvania	76,431	1.309	1.323	1.270	1.356	1.025	1.068	1.036
Puerto Rico	845	-	-	-	0.960	-	-	-
Rhode Island	7,914	1.507	1.573	1.355	1.257	0.799	0.928	0.834
South Carolina	16,464	1.461	1.481	1.397	1.312	0.886	0.939	0.898
South Dakota	6,227	1.449	1.465	1.424	1.198	0.818	0.841	0.827
Tennessee	30,378	1.470	1.495	1.385	1.335	0.893	0.964	0.908
Texas	98,367	1.403	1.400	1.419	1.303	0.931	0.918	0.929
Utah	5,507	1.402	1.431	1.317	1.401	0.979	1.064	0.999
Vermont	2,729	1.365	1.366	1.360	1.295	0.948	0.952	0.949
Virgin Island	31	1.196	1.020	1.285	0.965	0.946	0.751	0.807
Virginia	27,809	1.383	1.403	1.320	1.278	0.911	0.968	0.924
Washington	16,538	1.348	1.371	1.274	1.335	0.974	1.048	0.990
West Virginia	9,398	1.370	1.386	1.268	1.306	0.942	1.030	0.953
Wisconsin	28,566	1.416	1.440	1.360	1.289	0.895	0.948	0.910
Wyoming	2,400	1.545	1.573	1.496	1.236	0.786	0.826	0.800

Note: The non-Medicare category includes both Medicaid and other payor assessments.

Source: MDS MARET data

Table 11
RUG-IV Reweighted Therapy Index Values by State, 2011

State	N	Ratio			Average Therapy Index (RUG-IV)			
		Medicare to Non-Medicare	Medicare to Medicaid	Medicare to Other	Medicare	Medicaid	Other	Non-Medicare
Alabama	22,232	17.246	27.674	6.432	1.190	0.043	0.185	0.069
Alaska	593	24.458	45.154	6.451	0.587	0.013	0.091	0.024
Arizona	11,036	9.614	20.468	3.366	1.269	0.062	0.377	0.132
Arkansas	17,996	23.040	34.909	10.195	1.152	0.033	0.113	0.050
California	100,150	12.942	20.828	4.565	1.333	0.064	0.292	0.103
Colorado	15,388	14.348	24.444	6.769	1.320	0.054	0.195	0.092
Connecticut	24,481	14.294	27.000	4.909	0.972	0.036	0.198	0.068
Delaware	4,063	19.169	38.886	8.299	1.361	0.035	0.164	0.071
D.C.	2,451	11.598	12.410	7.387	1.241	0.100	0.168	0.107
Florida	70,660	10.288	19.067	3.824	1.430	0.075	0.374	0.139
Georgia	33,493	9.755	12.477	4.049	1.073	0.086	0.265	0.110
Hawaii	3,641	10.174	20.526	4.466	1.170	0.057	0.262	0.115
Idaho	3,979	8.636	11.753	4.634	1.140	0.097	0.246	0.132
Illinois	72,172	18.821	31.525	8.242	1.261	0.040	0.153	0.067
Indiana	38,056	6.516	7.273	4.739	1.251	0.172	0.264	0.192
Iowa	24,491	24.512	31.406	19.706	1.005	0.032	0.051	0.041
Kansas	18,184	15.132	20.175	10.748	1.150	0.057	0.107	0.076
Kentucky	22,393	6.905	7.993	4.454	1.167	0.146	0.262	0.169
Louisiana	25,133	8.556	9.346	5.523	1.215	0.130	0.220	0.142
Maine	6,039	12.302	16.634	5.847	1.181	0.071	0.202	0.096
Maryland	24,006	13.582	26.298	6.089	1.236	0.047	0.203	0.091
Massachusetts	40,833	11.854	20.016	4.590	1.221	0.061	0.266	0.103
Michigan	39,193	12.822	24.434	4.177	1.295	0.053	0.310	0.101
Minnesota	26,675	12.667	19.373	7.319	0.988	0.051	0.135	0.078
Mississippi	15,720	11.241	12.515	5.017	1.214	0.097	0.242	0.108
Missouri	37,064	17.859	28.575	8.594	1.143	0.040	0.133	0.064
Montana	4,633	20.610	32.500	12.246	0.845	0.026	0.069	0.041
Nebraska	12,147	14.292	21.000	9.708	1.029	0.049	0.106	0.072
Nevada	4,523	8.127	15.470	3.424	1.284	0.083	0.375	0.158
New Hampshire	6,791	11.853	17.522	5.926	1.209	0.069	0.204	0.102

Table 11
RUG-IV Reweighted Therapy Index Values by State, 2011

State	N	Ratio			Average Therapy Index (RUG-IV)			
		Medicare to Non-Medicare	Medicare to Medicaid	Medicare to Other	Medicare	Medicaid	Other	Non-Medicare
New Jersey	44,062	9.869	13.386	5.180	1.352	0.101	0.261	0.137
New Mexico	5,926	10.270	17.015	4.893	1.140	0.067	0.233	0.111
New York	106,835	7.566	9.623	3.694	1.097	0.114	0.297	0.145
North Carolina	36,520	6.841	8.133	3.838	1.163	0.143	0.303	0.170
North Dakota	5,529	23.913	39.286	15.278	0.550	0.014	0.036	0.023
Ohio	74,991	5.525	6.586	3.524	1.304	0.198	0.370	0.236
Oklahoma	18,920	27.923	41.885	13.785	1.089	0.026	0.079	0.039
Oregon	7,028	9.058	21.339	3.703	1.259	0.059	0.340	0.139
Pennsylvania	76,431	5.507	6.724	3.644	1.217	0.181	0.334	0.221
Puerto Rico	845	-	-	-	0.668	-	-	-
Rhode Island	7,914	10.370	19.955	4.573	1.317	0.066	0.288	0.127
South Carolina	16,464	15.897	26.957	6.526	1.240	0.046	0.190	0.078
South Dakota	6,227	19.388	24.359	14.394	0.950	0.039	0.066	0.049
Tennessee	30,378	13.759	21.375	6.076	1.197	0.056	0.197	0.087
Texas	98,367	7.361	7.494	6.688	1.244	0.166	0.186	0.169
Utah	5,507	10.132	15.358	4.815	1.459	0.095	0.303	0.144
Vermont	2,729	9.025	11.305	5.239	1.074	0.095	0.205	0.119
Virgin Island	31	-	-	-	0.822	-	-	-
Virginia	27,809	9.720	13.988	4.779	1.147	0.082	0.240	0.118
Washington	16,538	9.090	14.224	4.017	1.209	0.085	0.301	0.133
West Virginia	9,398	6.523	7.553	3.189	1.148	0.152	0.360	0.176
Wisconsin	28,566	9.661	14.987	5.127	1.169	0.078	0.228	0.121
Wyoming	2,400	22.978	38.296	13.089	1.034	0.027	0.079	0.045

Note: The non-Medicare category includes both Medicaid and other payor assessments.

Source: MDS MARET data

Appendices

Appendix A		
RUG-III Nursing and Therapy Indices		
RUG-III Group	Nursing Index	Therapy Index
BA1	0.52	0
BA2	0.6	0
BB1	0.69	0
BB2	0.73	0
CA1	0.8	0
CA2	0.9	0
CB1	0.91	0
CB2	0.98	0
CC1	1.06	0
CC2	1.22	0
IA1	0.56	0
IA2	0.61	0
IB1	0.72	0
IB2	0.74	0
PA1	0.5	0
PA2	0.53	0
PB1	0.54	0
PB2	0.55	0
PC1	0.69	0
PC2	0.71	0
PD1	0.76	0
PD2	0.78	0
PE1	0.82	0
PE2	0.85	0
RHA	0.94	0.94
RHB	1.11	0.94
RHC	1.22	0.94
RHL	1.37	0.94
RHX	1.42	0.94
RLA	0.85	0.43
RLB	1.14	0.43
RLX	1.31	0.43
RMA	1.04	0.77
RMB	1.09	0.77
RMC	1.15	0.77
RML	1.68	0.77
RMX	1.93	0.77
RUA	0.84	2.25
RUB	0.99	2.25
RUC	1.28	2.25
RUL	1.4	2.25
RUX	1.9	2.25
RVA	0.82	1.41
RVB	1.09	1.41

Appendix A RUG-III Nursing and Therapy Indices		
RUG-III Group	Nursing Index	Therapy Index
RVC	1.23	1.41
RVL	1.33	1.41
RVX	1.54	1.41
SE1	1.26	0
SE2	1.49	0
SE3	1.86	0
SSA	1.1	0
SSB	1.13	0
SSC	1.23	0

Source: Federal Register, August 4, 2005 (pg. 45037 - 45038)

Appendix B RUG-IV Nursing and Therapy Indices				
	Original		Reweighted	
RUG-IV Group	Nursing Index	Therapy Index	Nursing Index	Therapy Index
RUX	3.59	1.87	2.73	1.87
RUL	3.45	1.87	2.63	1.87
RVX	3.51	1.28	2.67	1.28
RVL	2.95	1.28	2.25	1.28
RHX	3.43	0.85	2.61	0.85
RHL	2.89	0.85	2.20	0.85
RMX	3.31	0.55	2.52	0.55
RML	2.95	0.55	2.25	0.55
RLX	3.04	0.28	2.31	0.28
RUC	2.10	1.87	1.60	1.87
RUB	2.10	1.87	1.60	1.87
RUA	1.33	1.87	1.01	1.87
RVC	2.02	1.28	1.54	1.28
RVB	1.49	1.28	1.13	1.28
RVA	1.48	1.28	1.13	1.28
RHC	1.94	0.85	1.48	0.85
RHB	1.60	0.85	1.22	0.85
RHA	1.23	0.85	0.94	0.85
RMC	1.83	0.55	1.39	0.55
RMB	1.63	0.55	1.24	0.55
RMA	1.13	0.55	0.86	0.55
RLB	2.01	0.28	1.53	0.28
RLA	0.95	0.28	0.72	0.28
ES3	3.58	0.00	2.73	0.00
ES2	2.67	0.00	2.03	0.00
ES1	2.32	0.00	1.69	0.00
HE2	2.22	0.00	1.69	0.00
HE1	1.74	0.00	1.32	0.00
HD2	2.04	0.00	1.55	0.00
HD1	1.60	0.00	1.22	0.00
HC2	1.89	0.00	1.44	0.00
HC1	1.48	0.00	1.13	0.00
HB2	1.86	0.00	1.42	0.00
HB1	1.46	0.00	1.11	0.00
LE2	1.96	0.00	1.49	0.00
LE1	1.54	0.00	1.17	0.00
LD2	1.86	0.00	1.42	0.00

Appendix B RUG-IV Nursing and Therapy Indices				
	Original		Reweighted	
RUG-IV Group	Nursing Index	Therapy Index	Nursing Index	Therapy Index
LD1	1.46	0.00	1.11	0.00
LC2	1.56	0.00	1.19	0.00
LC1	1.22	0.00	0.93	0.00
LB2	1.45	0.00	1.10	0.00
LB1	1.14	0.00	0.87	0.00
CE2	1.68	0.00	1.28	0.00
CE1	1.50	0.00	1.14	0.00
CD2	1.56	0.00	1.19	0.00
CD1	1.38	0.00	1.05	0.00
CC2	1.29	0.00	0.98	0.00
CC1	1.15	0.00	0.88	0.00
CB2	1.15	0.00	0.88	0.00
CB1	1.02	0.00	0.78	0.00
CA2	0.88	0.00	0.67	0.00
CA1	0.78	0.00	0.59	0.00
BB2	0.97	0.00	0.74	0.00
BB1	0.90	0.00	0.69	0.00
BA2	0.70	0.00	0.53	0.00
BA1	0.64	0.00	0.49	0.00
PE2	1.50	0.00	1.14	0.00
PE1	1.40	0.00	1.07	0.00
PD2	1.38	0.00	1.05	0.00
PD1	1.28	0.00	0.97	0.00
PC2	1.10	0.00	0.84	0.00
PC1	1.02	0.00	0.78	0.00
PB2	0.84	0.00	0.64	0.00
PB1	0.78	0.00	0.59	0.00
PA2	0.59	0.00	0.45	0.00
PA1	0.54	0.00	0.41	0.00

Notes: Reweighted nursing index values are calculated as the original values (from the July 22, 2010 Federal Register, pages 42894-42895) multiplied by 0.76118 (1.2255/1.61). When CMS raised the nursing weights, they should have raised them by 22.55% not the 61% that was actually used (Source: Federal Register, May 6, 2011, page 26371).

Source: Federal Register, July 22, 2010