



Excerpted from AHCA June 30, 2008 comments re:

CMS-1534-P: Comments on Medicare Program; Prospective Payment System and Consolidated Billing for Skilled Nursing Facilities for FY 2009, Proposed Rule,73 Federal Register 25918 (May 7, 2008)

V. Staff Time and Resource Intensity Verification (STRIVE)

- *In order to address data representativeness issues, CMS should undertake an independent national validation study before implementation of any SNF PPS changes based on STRIVE project data; and*
- *The STRIVE project should work with CMS and SNF stakeholders to improve how NTAS are reimbursed in the SNF PPS.*

In first implementing the SNF PPS, CMS developed the RUG case-mix classification system, which tied the amount of payment to resident resource use in combination with resident characteristic information. The governing statute had specified that the Secretary was to make adjustments to reflect both a resident classification system that the Secretary establishes to account for the relative resource use of different patient types, as well as resident assessment and other data that the Secretary considered appropriate. Staff time measurement (STM) studies conducted in 1990, 1995, and 1997 provided information on resource use (time spent by staff members on residents) and resident characteristics that enabled CMS not only to establish RUG, but also to create CMIs.

Over the years, AHCA has been active in encouraging CMS to update the time studies to help ensure SNF PPS payment rates more fully reflect current care practices and resource requirements. AHCA has argued that the old staff time measurements are likely outdated given acuity and technological changes in the post-acute care market place, and thereby the relative nursing and therapy times required for patient care across RUG categories may not fully or accurately reflect resource utilization.

In the fall of 2005, CMS initiated the STRIVE project and retained the Iowa Foundation for Medical Care to update the national staff time measurement study that will provide data and analysis to update the Medicare SNF PPS. Information collected in STRIVE includes the amount of time that staff members spend on resident care and information on residents' physical and clinical status derived from MDS assessment data. Two hundred and five nursing homes from fifteen states and jurisdictions participated in the STRIVE project.

CMS intends to use the STRIVE study process for two distinct purposes:

1. To revise RUG nursing and therapy weights
2. To recommend changes to the RUG classification structure.

CMS intends to incorporate the results of these two efforts in the FY 2010 Notice for Proposed Rulemaking (NPRM). CMS notes that "calculating CMI, based upon STRIVE data for use within a RUG model constructed over a decade ago would create



methodological challenges, and therefore, could only be considered an interim step, as we would have to reexamine the relative weights after changes to the structural model are finalized.”¹ AHCA agrees with this assessment.

The STRIVE process to date has been commendably open for public review and comment with a December 2005 open door forum, a series of technical expert panel (TEP) meetings and the recent convening of a technical analytic panel (TAP) which will meet on a routine basis over the spring, summer and fall of 2008. AHCA is represented on the STRIVE TEP by Mary Ousley, and by Peter Gruhn on the STRIVE TAP.

As part of the TEP meetings, a number of issues have come to light that are of concern to AHCA. In particular these issues include: 1) the representativeness of the STRIVE data, 2) problems with the collection of therapy minutes and the proposed imputation methodology for overcoming the issues, and 3) issues with the analysis of non-therapy ancillary services (NTAS).

A. Representativeness of the STRIVE data

STRIVE gathered data from 205 facilities in 15 states.² While efforts were made to select a broadly representative sample, the sample appears to be hardly representative. Obvious omissions include Oregon and California, the entire mid-section of the country, and all of New England, where there is reason to suspect that relative resource use and costs may differ significantly from that in the STRIVE states as well as the nation overall.

The STRIVE project conducted a series of test on the representativeness of the sample which suggest to them that the STRIVE states and facilities are representative of the nation overall. However, given the lack of face validity in state representativeness, AHCA asked the Lewin Group to examine representativeness of the STRIVE states in comparison to the non-STRIVE states in a variety of dimensions.

The Lewin Group first developed an analytic database and estimated a regression model that examined the effect of service utilization by RUG category and whether residents receiving care in a STRIVE state on the cost (charge) per stay.³ Separate regressions were run with total cost (charges), therapy costs, NTAS costs, and pharmacy costs per stay as dependent variables (See Table A). The results indicate that STRIVE states have significantly lower case mix adjusted case costs (charges) than non-STRIVE states. Although these results do not reflect the representativeness of the actual facilities that are in the STRIVE sample, they do reflect the representativeness of the STRIVE states vis-à-vis the rest of the nation overall, in terms of cost levels.

¹ Insert Reference

² These states were Washington, Nevada, Montana, South Dakota, Texas, Iowa, Louisiana, Illinois, Michigan, Ohio, Kentucky, Florida, New York, Virginia and Washington DC.

³ Cost (charge) per stay = f(Medicare days by RUG category, STRIVE state dummy variable)

**Table 4: Difference between STRIVE States per Diem Cost (Charges) as Compared to Non-STRIVE States**

	\$ Value	Percent of National per Diems Cost (Charge)
Total Charges per Case	-47.08	-10.3%
Therapy CPC	-8.02	-9.2%
NTAS CPC	-23.25	-36.7%
Pharmacy CPC	-11.17	-25.5%

The Lewin Group also conducted a test of the correlation of per diem total charges, therapy costs, and NTAS costs between STRIVE and non-STRIVE states. For this test, the Lewin Group calculated the per diem costs per RUG for STRIVE and non-STRIVE states. These per diems were then converted to a set of relative values by dividing each RUG per diem rate by the overall average within STRIVE and non-STRIVE states. The resultant RUG relative weights for STRIVE states and non-STRIVE states were then correlated.

Table 5: Correlation of Relative Costs between STRIVE and Non-STRIVE States

Category	Coefficient	Significance
Total charges	0.79	Yes (p<.05)
Therapy relative cost	0.93	Yes (p<.05)
NTAS relative cost	0.77	Yes (p<.05)

As shown in Table B, RUG cost/charge relatives across the STRIVE states are correlated with comparable relatives for non-STRIVE states. This is expected. Of concern however is how highly they are correlated. Given that representativeness would imply nearly perfect correlation between the STRIVE and non-STRIVE states, correlation coefficients in the high 70's is cause for some concern.

Since it is expected that the STRIVE data will ultimately be utilized to develop payment weights for nursing and therapy, the Lewin Group also tested whether the relative weights for the RUG categories based on the claims data for the STRIVE versus the non-STRIVE states were different. In order to test this hypothesis, the Lewin Group ran separate sets of regression for the STRIVE and non-STRIVE states with the same model specifications, as mentioned above. Relative weights were derived using the parameter estimates of the RUG categories in the model. The set of relative payment weights for each regression (STRIVE and non-STRIVE) were compared. A paired t-test for each couplet of RUG category (e.g. RUX_{STRIVE} versus $RUX_{non-STRIVE}$) was used to test the statistical significance of the difference between the relative weights. As shown in Table C, the relative weights between STRIVE and non-STRIVE states are generally different, thereby raising further concerns about the representativeness of the STRIVE states to the nation overall for the development of new case-mix weights.



Given the importance of the STRIVE data in updating the time studies data that underlies the nursing and therapy weights of the SNF PPS and indications that the STRIVE data may not be representative of current care practices and resource requirements overall, AHCA urges CMS to set aside funding and conduct a national validation study to ensure the representativeness, reliability, and accuracy of the STRIVE data and the case-mix indexes that will be built upon it.

Furthermore, the STRIVE project was predominantly derived from MDS 2.0. CMS is planning to update the MDS with the MDS 3.0 version of the tool for FY 2010. Given that many of the MDS items are used for payment purposes, a national validation study using the updated MDS items is all the more important.

Aside from issues of representativeness, AHCA notes additional face validity concerns. Figure 1, taken directly from February 13, 2008 STRIVE TEP materials, indicates the relationship of STRIVE relative weights to CMS SNF nursing case mix index (CMI) for each RUG category. The rehabilitation comparisons show the least amount of concordance where in some instances the STRIVE results are directionally different from the current SNF CMI relative value relationships. This has been acknowledged by STRIVE analysts and may well require relevant refinements before STRIVE results can be used by CMS.

Exhibit 2: Initial RUG-53 Nursing Relative Weights (STRIVE) vs. Current Unadjusted SNF Nursing CMIs

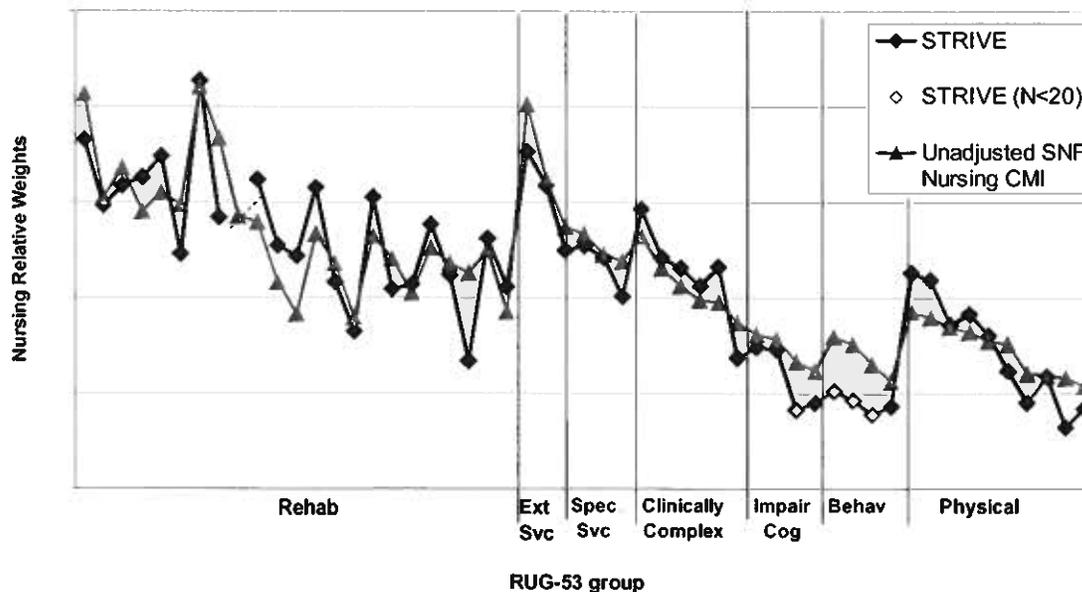




Table 6: Statistical Significance of the Differences in the Relative Weights by RUG Categories and Between STRIVE and non-STRIVE States

	Cost			Total Charges		
	Relative Weight (STRIVE)	Relative Weight (Non-STRIVE)	Difference Statistically Significant	Relative Weight (STRIVE)	Relative Weight (Non-STRIVE)	Difference Statistically Significant
RUX	1.25	0.77	Y	1.248	1.151	Y
RUL	0.96	0.70	Y	1.214	1.151	Y
RVX	1.32	0.91	Y	1.144	1.040	Y
RVL	1.06	0.89	Y	1.116	1.074	Y
RHX	1.84	1.79	N	0.903	1.159	Y
RHL	0.92	2.40	Y	0.850	1.680	Y
RMX	1.30	1.35	Y	1.007	1.078	Y
RML	1.24	1.74	Y	0.978	1.222	Y
RLX	1.19	3.18	Y	0.838	1.334	Y
RUC	0.69	0.47	Y	1.120	0.991	Y
RUB	0.60	0.40	Y	1.136	0.970	Y
RUA	0.66	0.45	Y	1.156	0.952	Y
RVC	0.73	0.44	Y	0.984	0.849	Y
RVB	0.66	0.39	Y	1.014	0.853	Y
RVA	0.75	0.47	Y	1.010	0.845	Y
RHC	0.91	0.58	Y	0.934	0.809	Y
RHB	0.90	0.65	Y	0.949	0.874	Y
RHA	0.95	0.78	Y	0.874	0.844	Y
RMC	0.87	0.59	Y	0.795	0.700	Y
RMB	0.87	0.64	Y	0.844	0.750	Y
RMA	0.91	1.07	Y	0.802	0.841	Y
RLB	0.27	0.38	N	0.603	0.561	N
RLA	0.17	0.78	Y	0.591	0.565	N
SE3	1.68	2.43	Y	0.856	1.166	Y
SE2	1.57	2.01	Y	0.833	1.037	Y
SE1	1.31	0.81	Y	0.716	0.683	N
SSC	0.81	0.28	Y	0.623	0.453	Y
SSB	1.02	0.42	Y	0.657	0.488	Y
SSA	1.40	1.44	Y	0.693	0.835	Y
CC2	0.58	0.15	Y	0.505	0.509	N
CC1	0.57	0.12	Y	0.590	0.463	Y
CB2	0.64	0.22	Y	0.529	0.515	N
CB1	0.72	0.19	Y	0.598	0.456	Y
CA2	0.77	0.42	Y	0.565	0.581	N
CA1	0.89	0.47	Y	0.595	0.553	Y
IB2	0.09	-0.04	N	0.509	0.281	Y
IB1	0.50	0.13	Y	0.491	0.451	Y
IA2	0.37	0.01	N	0.615	0.288	Y
IA1	0.53	0.26	Y	0.571	0.477	Y
BB2	0.19	-0.02	N	0.506	0.340	N
BB1	0.89	0.26	Y	0.582	0.445	N
BA2	0.33	-0.20	N	0.689	0.141	Y
BA1	0.77	0.48	Y	0.820	0.482	Y
PE2	0.01	-0.10	N	0.346	0.205	Y
PE1	0.29	-0.04	Y	0.427	0.392	Y
PD2	0.01	-0.08	N	0.346	0.263	Y
PD1	0.23	-0.01	Y	0.412	0.424	N
PC2	-0.04	-0.21	N	0.293	0.298	N
PC1	0.15	0.01	N	0.469	0.438	N
PB2	-0.02	-0.12	N	0.305	0.347	N
PB1	0.40	0.09	Y	0.467	0.470	N
PA2	0.63	0.05	Y	0.582	0.243	Y
PA1	0.63	0.23	Y	0.472	0.495	N



B. STRIVE and Therapy Minutes

AHCA and others on the STRIVE TEP and TAP have expressed some concerns about problems with the collection of therapy minutes and the proposed data imputation methodology for overcoming the issues. As part of the STRIVE project, two methods were used to collect therapy data: PDA data collection (a handheld electronic data input device) and traditional paper data collection. As shown in Table D, the percentage of weekly total therapy time collected using the PDA represents about 21% to 30% of total time, while data collected using paper for weekdays represents between 10% and 12% of weekly total times. The issue with the method of data collection is most striking on Fridays, where paper data collection represents 12% of weekly total times while PDA data collection represents 21%. As it seems unlikely that facilities surveyed would vary this much on Friday and Tuesday therapy minutes, STRIVE analysts determined that paper data collection grossly under-counted minutes.⁴

Table 7: Determining Therapy Times

Collection Schedule	N	Tu	We	Th	Fr	Sa	Su	Mo	Tu
A	8012	26%	25%	22%	12%	2%	1%	12%	-
B	1193	25%	27%	26%	12%	1%	0%	10%	-
C	516	-	30%	26%	21%	1%	1%	12%	9%
Total	9721	24%	26%	23%	13%	2%	1%	12%	1%

Note: Bold text indicates PDA data collection

To address the issue, the STRIVE project developed a methodology that adjusted therapy minutes collected from the PDAs. Encouragingly the distribution of therapy minutes by RUG largely reflects the distribution of therapy minutes across RUG-53 rehabilitation groups approximated that of Part A claims. Of concern however is that the approach may “force” the STRIVE data to approximate existing distributions of therapy minutes across RUG categories. It also raises the question of to what extent STRIVE therapy minutes may not reflect patient needs so much as they do RUG payment incentives. This would suggest that the distribution of the rehabilitation RUG groups may need to be reconsidered such that RUGs more accurately reflect potential therapy needs. If the above logic is correct, the STRIVE therapy data leaves the fundamental question of how therapy minutes should be ideally distributed across RUG groups largely unanswered.

C. STRIVE and Non-Therapy Ancillary Services (NTAS)

Under the SNF PPS, NTAS costs are reimbursed based on nursing weights. Research by MedPAC, CMS, and AHCA has shown that there is a high degree of variability of NTAS costs (NTAS costs vary by a factor of 9 as compared to nursing costs), and that there is at best a weak relationship between NTAS costs and nursing time. Although CMS added an

⁴ The paper data collection technique may have under reported therapy minutes because the individuals responsible for the data collection were not adequately trained and monitored



adjustment to the nursing weights to help ensure sufficient funds and better take into account the variability in NTAS, the adjustment is not well targeted.

Within this framework, the variation of NTAS costs has been difficult to explain and even more difficult to account for in the SNF PPS. Neither the Abt Associates nor Urban Institute studies were able to develop fully satisfactory policy proposals to address this issue. It is worth mentioning that the STRIVE study was expected to collect information on NTAS resource use. One problem with attempts to address the NTAS payment issues was that CMS considered suggested approaches too complex and unwieldy for regulatory implementation.

The Lewin Group attempted to determine the extent of the NTAS payment problem. In order to do this, Lewin needed to link estimates of NTAS costs at the RUG level to SNF-PPS RUG weights. The Lewin approach was to estimate NTAS costs using claims data charges stepped down to costs (cost report revenue center-specific ratios of cost to charges (RCC) were used to accomplish this).

Using this approach, Lewin was able to estimate the degree to which NTAS costs are explained by RUG categories. Because several RUGs can be reported for a given case, a series of equations were estimated as follows:

$$\begin{aligned} & \text{NTAS costs per day (stay level)} \\ & = f(\text{normalized and weighted RUG days by RUG category for each case}) \end{aligned}$$

Lewin used the distribution of RUG days from the claims file for its RUG day counts.⁵

Numerous NTAS cost regressions were run with R^2 of 5.9% being the result. This is consistent with prior Abt Associates and Urban Institute results, and most recently, with the June 2008 MedPAC Report to the Congress.

STRIVE analysts have noted that NTAS costs cannot be estimated because prescription drug data are not reported in the MDS. Nevertheless, methodologies developed by Abt Associates, the Urban Institute, and the Lewin Group are helpful in determining and explaining NTAS costs, and are a first step in the determination of structural changes and the development of a refinement to the SNF PPS that would better explain and reimburse for NTAS costs.

We further note that at the time of implementation of the SNF PPS, NTAS represented about 5% of SNF costs. Today, it is on the order of 20%. The initial SNF PPS design did not sufficiently recognize NTAS costs. The market basket also does not sufficiently reflect or correct for the inattention to NTAS in the initial design. As such, reallocating resources within the framework of the existing SNF PPS will likely not be sufficient. Additional resources to fix the problem will be needed.

⁵ Lewin had 2.6 million stays in their regression file for 2006.

