



Facility Payment Rates in Alaska and Comparison States

Prepared for:
Alaska Health Care Commission

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TABLE OF CONTENTS

1. EXECUTIVE SUMMARY	1
2. DETAILED RESULTS	4
3. METHODOLOGY	7
4. LIMITATIONS AND CONSIDERATIONS.....	8

EXHIBITS

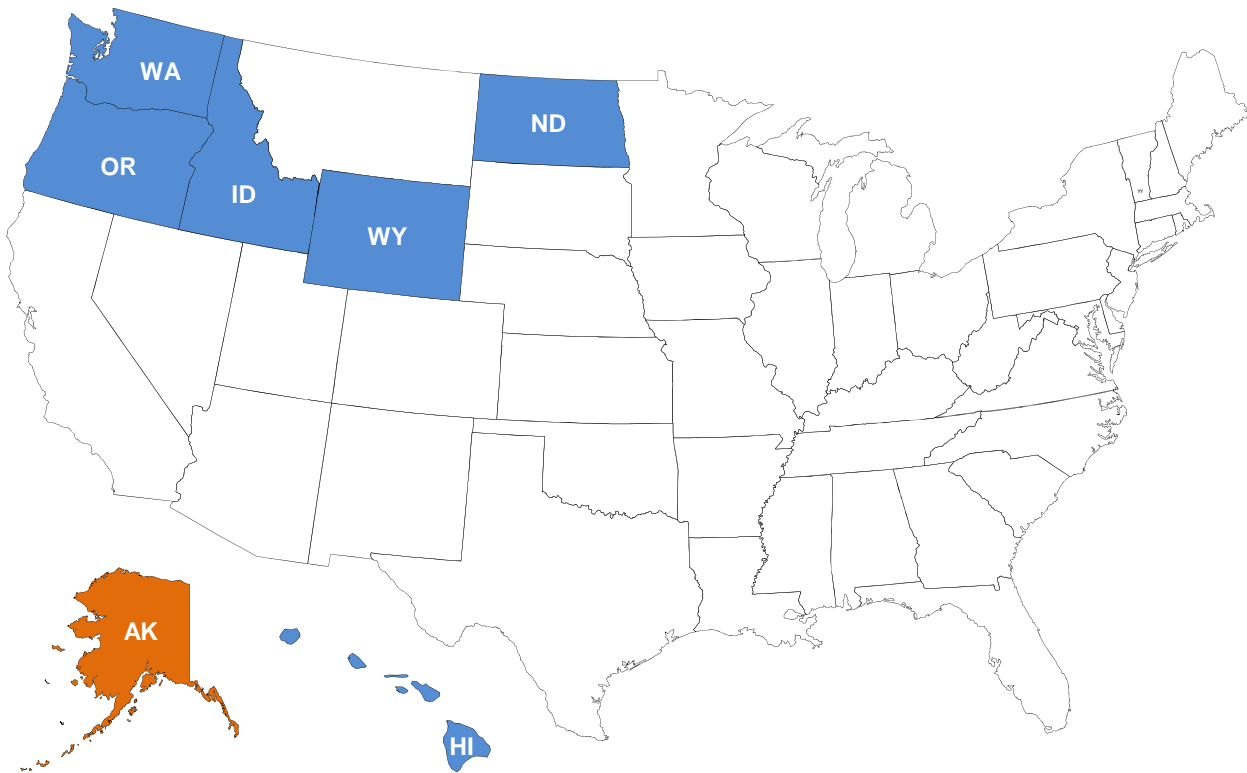
EXHIBIT 1	COMMERCIAL ALLOWED PER RVU
EXHIBIT 2	MEDICARE ALLOWED CHARGES PER RVU
EXHIBIT 3	BILLED CHARGES PER RVU
EXHIBIT 4	GEOGRAPHICALLY ADJUSTED COMMERCIAL ALLOWED PER RVU
EXHIBIT 5	MEDICARE ALLOWED CHARGES PER RVU

APPENDICES

APPENDIX 1	RBRVS FOR HOSPITALS™
APPENDIX 2	ALASKA HOSPITAL LIST

1. EXECUTIVE SUMMARY

The Alaska Health Care Commission (“AHCC”) engaged Milliman to compare Alaska’s health care payment rates and underlying drivers to those in certain other states. The comparison states are Washington, Oregon, Idaho, Wyoming, and North Dakota. For this facility payment report, Hawaii is included as another comparison state.



This report is the second of three reports. This report is focused on how Alaska’s facility payment rates compare to other states. The first report analyzed physician payment rates in Alaska. The final report will identify the key drivers of the cost differences across states.

This report focuses on commercial and Medicare hospital payment rates. The results presented in this report are based on analyses of large medical claims databases for claims incurred in 2009. Payments to specific providers, both by commercial payers and by Medicare, can vary significantly from the averages presented here.

Table 1 presents commercial allowed payment levels in Alaska relative to the six comparison states. Table 2 presents similar values for Medicare. The payment levels measure the total payment received by the facility, either paid by the insurer/Medicare or by the patient as copay, coinsurance, or deductible.

Tables 1 and 2 report payment levels relative to the straight (equal-weighted) average in the six comparison states. For example, Table 1 shows that the Alaska total commercial hospital payment level is 37% higher than the average in the six comparison states. Table 2 shows that the Alaska total Medicare hospital payment level is 36% higher than the average in the six comparison states.

**Table 1
Commercial Hospital Allowed Unit Cost
Relative to the Comparison State Average**

Region	Inpatient Average	Outpatient Average	Total Average
Anchorage/Frbnks/Mat-Su	138%	132%	135%
Non-MSA Area	134%	149%	141%
AK	138%	135%	137%
HI	117%	99%	108%
ID	79%	102%	91%
ND	72%	70%	71%
OR	103%	111%	107%
WA	113%	88%	100%
WY	116%	130%	123%
Comparison States	100%	100%	100%

**Table 2
Medicare Hospital Allowed Unit Cost
Relative to the Comparison State Average**

Region	Inpatient Average	Outpatient Average	Total Average
Anchorage/Frbnks/Mat-Su	128%	116%	126%
Non-MSA Area	151%	215%	175%
AK	132%	145%	136%
HI	104%	97%	102%
ID	95%	97%	95%
ND	83%	93%	86%
OR	107%	104%	106%
WA	110%	98%	106%
WY	102%	111%	105%
Comparison States	100%	100%	100%

Table 3 presents the ratio of commercial payment levels to Medicare payment levels by state.

Table 3
Hospital Allowed Unit Cost
Commercial / Medicare

Region	Inpatient Average	Outpatient Average	Total Average
Anchorage/Frbnks/Mat-Su	225%	253%	226%
Non-MSA Area	185%	154%	171%
AK	219%	208%	213%
HI	235%	229%	223%
ID	175%	233%	202%
ND	182%	169%	175%
OR	202%	238%	215%
WA	214%	200%	199%
WY	237%	260%	249%
Comparison States	209%	223%	212%

Table 3 shows that commercial payment levels are approximately 213% of Medicare payment levels in Alaska. The relationship in other states varies from 175% in North Dakota to 249% in Wyoming but is similar on average between Alaska and the comparison group.

For a list of Alaska hospitals included in the Medicare portion of this analysis, see Appendix 2. The commercial data did not specifically identify facilities; Alaska facilities were identified and mapped to MSAs using the zip code of the service.

The results in this report should be interpreted with caution since they only identify the relative unit cost reimbursement among states and do not analyze reasons for the differences such as staff wages, cost of living, cost of business operation, or provider availability, which may account for some or all of the relative differences in reimbursement. Analysis of the drivers behind the differences will be presented in the third report in this series.

2. DETAILED RESULTS

This report evaluates hospital allowed payment levels. These are the total payment amounts that are either contractually agreed upon by the hospital and a commercial insurer, or administratively set by Medicare. These “allowed amounts” include member-paid amounts such as co-pays, co-insurance, and deductibles, as well as amounts paid by the insurer/Medicare.

This report also includes a summary of the billed charge levels among the states.

To measure relative hospital allowed payment levels among the states, we employ a metric called the “Hospital Allowed per Relative Value Unit (RVU)”. Relative value units are assigned to detailed claims data. The RVUs assigned reflect the amount of resources required to perform the given hospital service. Higher intensity services are assigned more RVUs; lower intensity services are assigned fewer RVUs. Both inpatient and outpatient services are assigned RVUs. The RVUs we use are the Milliman *RBRVS for Hospitals*[™] RVUs. These provide the best case-mix and severity adjustment available. Appendix 1 presents more in depth information about the Milliman *RBRVS for Hospitals*[™] approach.

The commercial results are based on analysis of the 2009 Thomson Reuters MarketScan[®] Database. The Medicare results are based on analysis of the 2009 Medicare Provider Analysis and Review (MedPAR) file for inpatient services, and the 2009 Medicare Outpatient Prospective Payment System (OPPS) and the Medicare Standard Analytic File 5% Sample (5% Sample) files for outpatient services. The billed charge analysis is also based on the MedPAR, OPPS, and 5% Sample files.

RVUs are assigned to the detailed claims data, and then allowed amounts from the same claims are summed. The total allowed amount divided by the total RVUs results in a conversion factor. The application of the RVUs provides the case-mix and severity adjustment, such that the conversion factors can be compared directly at whatever level of aggregation is desired.

Exhibit 1, at the end of this report, presents the detailed conversion factor results for the commercial allowed level. This presents results by detailed service category within the larger inpatient and outpatient categories. These results are consistent with the summary presented in Table 1 earlier in this report.

Exhibit 2 presents analogous information for Medicare payment levels. Table 2, earlier in this report, is based on the results from Exhibit 2.

Exhibit 3 presents the same for billed charge levels. This exhibit shows that Alaska has approximately 39% higher billed charges than the comparison states. The difference in billed charges is roughly similar to both the difference in commercial (35%) and Medicare (36%) payment levels between Alaska and the comparison states.

Exhibit 4 presents the commercial allowed charge results on a basis that is adjusted for expected geographic cost differences. The geographic adjustment factors are based on the geographic adjustment factors that Medicare uses for IPPS and OPPS hospital payments, including the Wage Index and Capital Geographic Adjustment Factor. These exhibits show that the difference between Alaska and the comparison states shrinks when geographic adjustments are taken into account, indicating that part of Alaska's higher reimbursement is due to area.

Medicare pays many hospitals on a prospective payment basis for both inpatient (IPPS) and outpatient (OPPS) services. However, certain hospitals such as Critical Access Hospitals, Cancer Hospitals and Children's Hospitals are paid on an alternate, cost-based basis. This is one reason why the Medicare geographically adjusted payment levels are still higher in Alaska than in other states. The Medicare geographic adjustment factors are applied to IPPS and OPPS payment, but not to cost-based payments.

Exhibit 5 presents results by state and type of hospital – either paid by OPPS or not. We divided hospitals into two categories based on whether Medicare pays outpatient services based on the Outpatient Prospective Payment System. This was a convenient attribute for us to use to split the data since our data source for Medicare outpatient services was split between OPPS and non-OPPS facilities. It also nicely defines a split between hospitals that are generally paid on a type of cost basis (non-OPPS) versus a prospective payment, fee schedule basis (OPPS).

Exhibit 5 show that, Medicare's inpatient payments tend to be very similar for hospitals that are paid under OPPS compared to those reimbursed on a cost-basis. However payments for outpatient services are considerably higher for those facilities not paid under OPPS, particularly in Alaska.

Other Payers

The above discussion dealt with commercial and Medicare payment levels. No comparable claims databases are available to perform similar analyses for other payers, such as Medicaid, Workers' Compensation, TRICARE, or the Veterans Administration.

However, we have reviewed the fee schedules for other payers in Alaska and the comparison states, where available. We include here more qualitative observations on these fee schedules.

- TRICARE is transitioning payment for hospital outpatient services to use Medicare's payment methodology. For hospital inpatient services, TRICARE pays using a DRG approach that is similar to Medicare, but with some differences. The amount paid for Indirect Medical Education (IME) is similar for both Medicare and TRICARE in each state. However, Medicare makes additional Disproportionate Share (DSH) payments in all states and cost-of-living adjustment (COLA) payments in Alaska and Hawaii. The combined impact of these payments varies greatly across states. For example, the DSH and COLA payments in Alaska are approximately 17% of the total, while in Wyoming they are only 3%. Overall, TRICARE inpatient reimbursement in Alaska is approximately 125% – 130% of the comparison states average (about 10% lower than the 138% under Medicare).
- Medicaid payments for hospitals in Alaska are based on per diem rates for inpatient services (varying by facility) and on discounts from billed charges for outpatient services. Medicaid in Washington State applies a DRG approach for inpatient services for most payers and a fee schedule approach for outpatient services, so the two states cannot be easily compared.
- For Workers' Compensation, Alaska pays inpatient services on a per diem basis. Washington, Idaho and North Dakota use a DRG based approach, while Wyoming pays on a usual and customary basis, which is likely to produce higher fees than the other methods.

Utilization Efficiency

We note that this report considers only the relative cost per unit of service provided, but does not consider the relative efficiency of resource utilization. More efficient health care systems may discharge equivalent patients with shorter lengths of stay, or may direct more patients to outpatient settings instead of incurring more expensive inpatient care. Better preventive care and community health may avoid medical claims altogether. More efficient use of resources will reduce overall health care costs in an area and could offset higher unit costs. The third report in this series will review some aspects of resource utilization efficiency, among other things.

3. METHODOLOGY

The commercial results are based on analysis of the 2009 Thomson Reuters MarketScan[®] Database. This database contains detailed claims data for commercially insured individuals. The data is submitted by large employer groups and health plans.

The RVU assignment process is dependent on the quality of diagnosis and procedure coding in the data. As a compilation of claims data from several different sources, the coding quality found in the data varies significantly. We limited our analysis to contributors that we determined to have well-coded diagnosis and procedure code data.

The coding quality can vary between inpatient and outpatient services, even from the same data contributor. After poorly coded data is excluded, the remaining data likely will have an inpatient/outpatient mix that varies from that of the full data. Therefore, to estimate the overall hospital results, inpatient and outpatient combined, we applied a standardized weighting to the inpatient and outpatient categories. We applied a 49% weight to inpatient services and a 51% weight to outpatient services, based on a typical distribution of services for a commercial population.

We assigned Milliman *RBRVS for Hospitals*[™] RVUs into both the inpatient and outpatient claims data. The commercial contractual allowed amounts were summed and divided by RVUs from the same claims to create the conversion factors.

As the MarketScan[®] data is a compilation of many payers, our results reflect the average payment level for payers in the data, weighted by the volume of data. The payers included vary from market to market.

The Medicare inpatient results are based on analysis of the publicly available 2009 Medicare Provider Analysis and Review (MedPAR) file. The Medicare outpatient results are based on analysis of the publicly available 2009 Medicare Outpatient Prospective Payment System (OPPS) data and the publicly available 2009 Medicare Standard Analytic File 5% Sample (5% Sample). The OPPS data only includes data on services paid under the OPPS payment system. We used the 5% Sample data to supplement the OPPS data set, in order to include results for Critical Access hospitals and other hospitals not paid on OPPS. We defined the split of OPPS/non-OPPS on whether a hospital's provider ID appeared in the OPPS data set.

The 5% Sample, not surprisingly, includes data for 5% of Medicare fee-for-service beneficiaries. In order to combine the Medicare outpatient results obtained from the 5% sample with those from the OPPS data (which is a 100% sample), we multiplied the 5% Sample results by a weighing factor of 20 ($5\% \times 20 = 100\%$).

4. LIMITATIONS AND CONSIDERATIONS

Any opinions expressed in this report are solely those of the authors.

Any reader of this report must possess a certain level of expertise in areas relevant to this analysis to appreciate the significance of the approaches and assumptions and the impact of these approaches and assumptions on the results. The reader should be advised by their own actuaries or other qualified professionals competent in the subject matter of this report, so as to properly interpret the material.

This report is not intended to benefit third parties. Regarding the contents of this report, Milliman makes no representations or warranties to third parties. Third parties are to place no reliance upon this report that would result in the creation of any duty or liability for Milliman or its employees to third parties, under any theory of law. Third parties receiving this report must rely on their own experts to draw conclusions about the report's contents.

As documented in the report, this analysis has relied extensively on historical data. The data were reviewed for reasonableness, but no independent audits were performed. Should errors or omissions be discovered in the source data, the results of our analysis would need to be modified. Future results will differ from the historic estimates in this report.

Guidelines issued by the American Academy of Actuaries require actuaries to include their professional qualifications in all actuarial communications. We are members of the American Academy of Actuaries and meet the qualification standards for performing the analyses in this report.

Exhibit 1
Commercial Allowed per RVU
By State and Alaska MSA

Region	Average Allowed Conversion Factor											Allowed Amounts (millions)		
	Inpatient (CY 2009)					Outpatient (CY 2009)						Total Avg	Inpatient	Outpatient
	Med	Surg	Mat	MH/SA	Avg	ER	Surg	Rad	Lab	Other	Avg			
Anchorage/Frbnks/Mat-Su Non-MSA Area	\$136	\$132	\$95	\$110	\$125	\$128	\$86	\$136	\$156	\$109	\$116	\$120	\$12.3	\$13.6
AK	\$123	\$111	\$131	\$143	\$121	\$114	\$97	\$178	\$201	\$116	\$131	\$126	\$1.1	\$2.8
HI	\$134	\$131	\$99	\$110	\$125	\$124	\$88	\$145	\$163	\$111	\$119	\$122	\$13.5	\$16.4
ND	\$128	\$93	\$93	\$120	\$105	\$117	\$59	\$70	\$118	\$103	\$87	\$96	\$4.7	\$2.9
OR	\$81	\$72	\$66	\$49	\$72	\$91	\$67	\$119	\$136	\$101	\$89	\$81	\$23.1	\$36.0
WA	\$66	\$70	\$55	\$54	\$65	\$53	\$40	\$85	\$114	\$57	\$62	\$64	\$18.2	\$11.5
WY	\$115	\$88	\$97	\$55	\$93	\$116	\$81	\$105	\$105	\$94	\$98	\$96	\$67.1	\$208.6
Comparison States	\$109	\$105	\$94	\$50	\$102	\$133	\$73	\$60	\$98	\$80	\$77	\$89	\$96.9	\$276.0
	\$101	\$111	\$101	\$70	\$105	\$92	\$95	\$142	\$169	\$116	\$114	\$110	\$24.6	\$27.6
	\$100	\$90	\$84	\$66	\$90	\$100	\$69	\$97	\$123	\$92	\$88	\$89	\$234.7	\$562.7

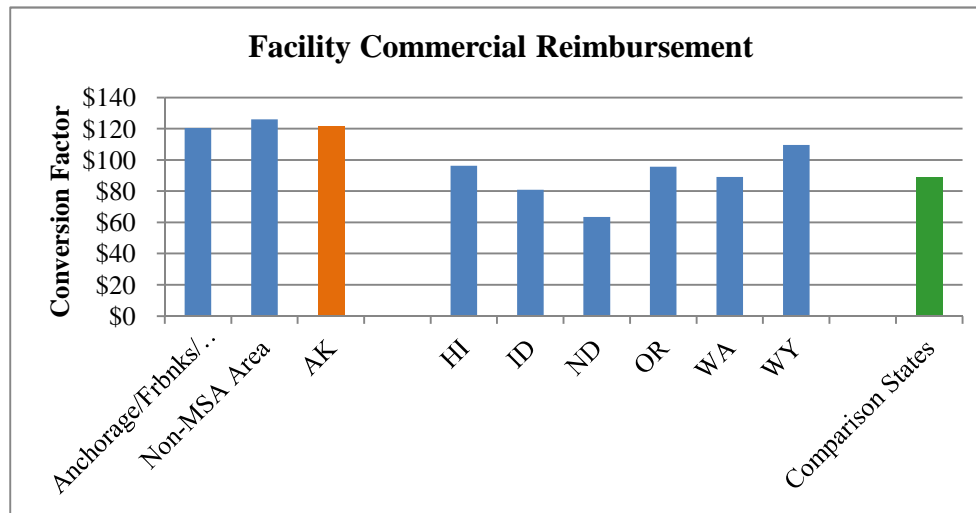


Exhibit 2
Medicare Allowed Charges per RVU
By State and Alaska MSA

Region	Number of Facilities	Average Allowed Conversion Factor											Total Avg
		Inpatient (CY 2009)					Outpatient (CY 2009)						
		Med	Surg	Mat	MH/SA	Avg	ER	Surg	Rad	Lab	Other	Avg	
Anchorage/Frbnks/Mat-Su	9	\$57	\$54	\$71	\$48	\$55	\$48	\$34	\$41	\$36	\$72	\$46	\$53
Non-MSA Area	19	\$68	\$56	\$91	\$70	\$65	\$77	\$54	\$87	\$138	\$93	\$85	\$74
AK	28	\$60	\$55	\$74	\$53	\$57	\$59	\$37	\$55	\$81	\$80	\$57	\$57
HI	62	\$46	\$44	\$74	\$42	\$45	\$43	\$34	\$40	\$44	\$40	\$38	\$43
ID	112	\$44	\$39	\$55	\$35	\$41	\$43	\$33	\$46	\$63	\$36	\$38	\$40
ND	117	\$37	\$35	\$41	\$33	\$36	\$42	\$30	\$42	\$55	\$37	\$37	\$36
OR	152	\$49	\$44	\$58	\$44	\$46	\$44	\$37	\$49	\$59	\$38	\$41	\$44
WA	304	\$50	\$46	\$56	\$35	\$48	\$41	\$35	\$46	\$51	\$37	\$39	\$45
WY	54	\$47	\$41	\$64	\$44	\$44	\$41	\$38	\$54	\$76	\$39	\$44	\$44
Comparison States	801	\$46	\$41	\$58	\$39	\$43	\$42	\$34	\$46	\$58	\$38	\$39	\$42

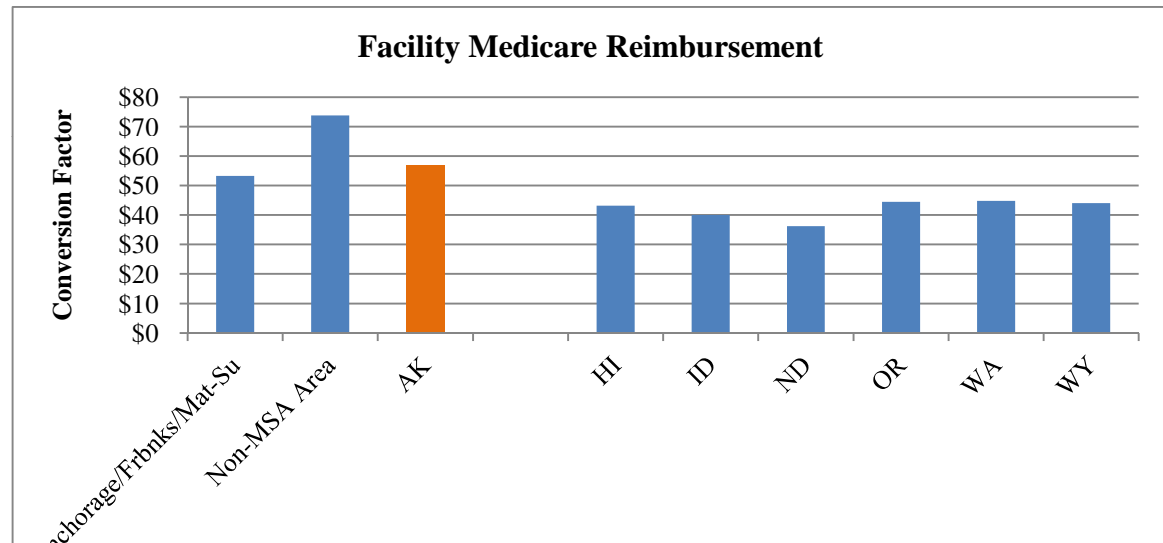


Exhibit 3
Billed Charges per RVU
By State and Alaska MSA

Region	Number of Facilities	Average Allowed Conversion Factor											Total Avg
		Inpatient (CY 2009)					Outpatient (CY 2009)						
		Med	Surg	Mat	MH/SA	Avg	ER	Surg	Rad	Lab	Other	Avg	
Anchorage/Frbnks/Mat-Su Non-MSA Area	9	\$158	\$172	\$138	\$104	\$164	\$188	\$115	\$207	\$331	\$157	\$156	\$162
AK	28	\$146	\$168	\$140	\$107	\$156	\$173	\$115	\$204	\$303	\$148	\$155	\$156
HI	62	\$116	\$108	\$163	\$90	\$112	\$185	\$104	\$172	\$276	\$99	\$129	\$116
ID	112	\$91	\$101	\$100	\$70	\$95	\$115	\$90	\$143	\$180	\$84	\$102	\$98
ND	117	\$74	\$87	\$92	\$67	\$80	\$96	\$77	\$131	\$161	\$74	\$91	\$84
OR	152	\$117	\$115	\$135	\$105	\$116	\$139	\$105	\$158	\$195	\$97	\$120	\$117
WA	304	\$138	\$148	\$178	\$75	\$141	\$170	\$132	\$211	\$221	\$111	\$145	\$142
WY	54	\$103	\$121	\$100	\$87	\$111	\$105	\$111	\$172	\$219	\$96	\$125	\$115
Comparison States	801	\$107	\$113	\$128	\$82	\$109	\$135	\$103	\$164	\$209	\$93	\$119	\$112

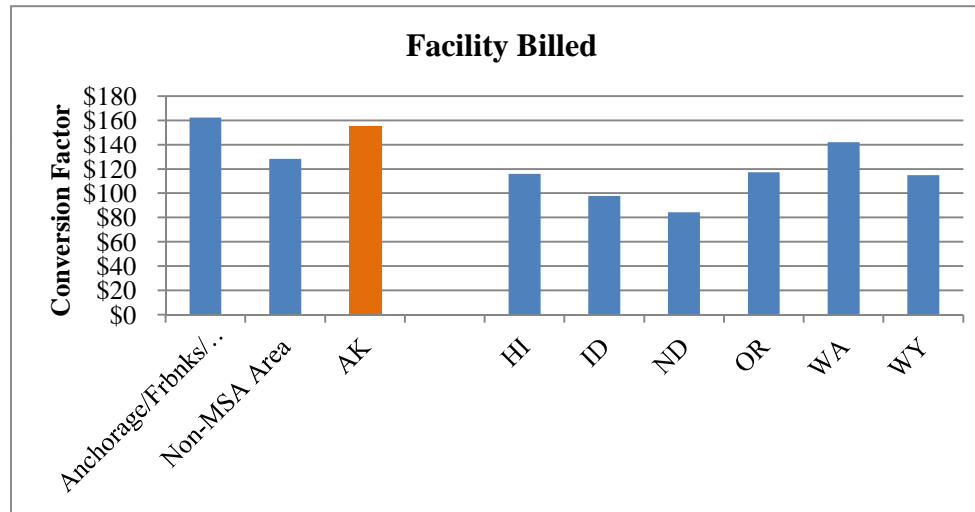


Exhibit 4
Geographically Adjusted Commercial Allowed per RVU
By State and Alaska MSA

Region	Average Allowed Conversion Factor											Allowed Amounts (millions)		Medicare Geographic Payment Adjustment		
	Inpatient (CY 2009)					Outpatient (CY 2009)						Total Avg	Inpatient	Outpatient	Inpatient	Outpatient
	Med	Surg	Mat	MH/SA	Avg	ER	Surg	Rad	Lab	Other	Avg					
Anchorage/Frbnks/Mat-Su Non-MSA Area	\$121	\$117	\$84	\$97	\$111	\$117	\$80	\$125	\$151	\$100	\$107	\$109	\$12.3	\$13.6	1.129	1.077
AK	\$109	\$99	\$116	\$127	\$107	\$104	\$90	\$163	\$195	\$107	\$121	\$114	\$1.1	\$2.8	1.129	1.076
HI	\$119	\$116	\$88	\$98	\$110	\$113	\$82	\$133	\$158	\$101	\$110	\$110	\$13.5	\$16.4	1.102	1.061
WA	\$117	\$85	\$84	\$109	\$96	\$109	\$56	\$66	\$115	\$97	\$82	\$89	\$4.7	\$2.9	0.923	0.952
OR	\$88	\$78	\$72	\$53	\$78	\$98	\$70	\$127	\$134	\$107	\$94	\$86	\$23.1	\$36.0	0.852	0.897
ID	\$77	\$82	\$65	\$62	\$77	\$60	\$45	\$97	\$113	\$64	\$69	\$73	\$18.2	\$11.5	1.074	1.043
ND	\$107	\$82	\$90	\$51	\$87	\$110	\$78	\$100	\$102	\$89	\$94	\$90	\$67.1	\$208.6	1.081	1.051
WY	\$101	\$97	\$88	\$46	\$94	\$124	\$70	\$57	\$99	\$75	\$73	\$83	\$96.9	\$276.0	0.955	0.968
WY	\$106	\$117	\$106	\$73	\$110	\$96	\$97	\$148	\$177	\$120	\$118	\$114	\$24.6	\$27.6		
Comparison States	\$99	\$90	\$84	\$66	\$90	\$99	\$69	\$99	\$123	\$92	\$88	\$89	\$234.7	\$562.7		

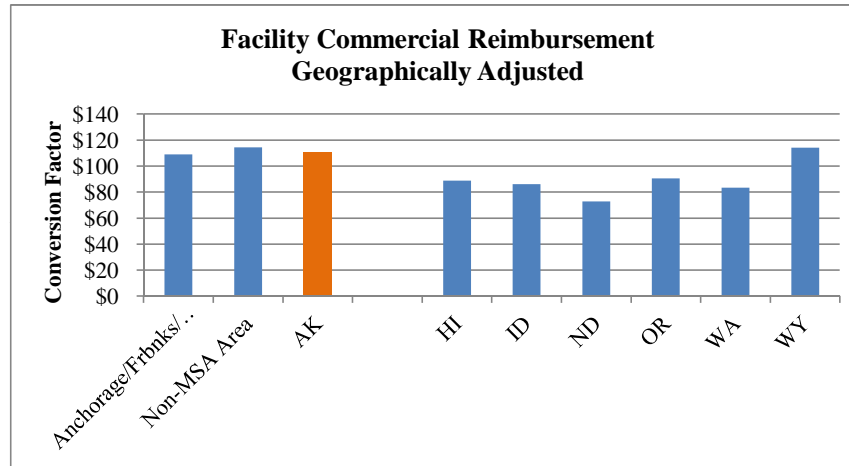


Exhibit 5
Medicare Allowed Charges per RVU
By Facility Type

Region	OPPS Facilities		Non-OPPS Facilities		Ratio: Non-OPPS / OPPS
	# of Facilities	Total	# of Facilities	Total	
Anchorage/Frbnks/Mat-Su	4	\$51	5	\$63	1.24
Non-MSA Area	2	\$52	17	\$92	1.78
AK	6	\$51	22	\$75	1.47
HI	14	\$43	48	\$55	1.30
ID	18	\$38	94	\$52	1.37
ND	10	\$34	107	\$44	1.29
OR	33	\$42	119	\$53	1.25
WA	51	\$44	253	\$52	1.18
WY	13	\$41	41	\$54	1.32
Comparison States	139	\$40	662	\$52	1.28

APPENDIX 1
RBRVS FOR HOSPITALS™

Milliman RBRVS for Hospitals



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 Charlie Mills, ASA, MAAA

WHAT IS RBRVS FOR HOSPITALS?

The Milliman RBRVS for Hospitals™ Fee Schedule provides a simple solution for comparing hospital contractual allowed amounts, billed charge master levels, efficiency, and patient mix differences. The fee schedule is based on Relative Value Units (RVUs). The RVUs are the same for procedures that require the same relative resources.

ADVANTAGES OF RBRVS FOR HOSPITALS

- RVUs have been developed for all hospital services (inpatient and outpatient), so they reflect the relative resources required to perform the care.
- The concept is similar to Medicare's RBRVS physician fee schedule, in that a conversion factor provides a valid comparison even for widely different provider types and patient populations.
- A single conversion factor can be used to benchmark a hospital contract. Lengthy summaries of hospital contracts with medical/surgical per diems, maternity case rates, ICU per diems, outlier arrangements, and miscellaneous outpatient reimbursement structures are no longer necessary.
- Allows insurers and hospitals to benchmark and compare contractual reimbursement levels, efficiency, billed charge master levels, and benchmark patient mix differences.

DEVELOPING RBRVS FOR HOSPITALS RVUS

All inpatient and outpatient procedures are assigned RVUs. Procedures requiring the same level of resources have the same RVUs. Both the inpatient and outpatient RVUs are developed using Medicare payment rates, which are then converted to RVUs using

Medicare's RBRVS conversion factor. Therefore, inpatient and outpatient RVUs are directly comparable.

INPATIENT RVU DEVELOPMENT AND ADJUDICATION

Inpatient RVUs are developed at the most detailed level possible using data commonly available in administrative claims, resulting in a very refined patient severity adjustment

- RVUs are assigned per day, rather than per case. The RBRVS for Hospitals RVUs are comprised of Diagnosis Related Group (DRG) specific First Day and Additional Day RVUs. The First Day RVUs are an estimate of the resources required for the first day of each admission. DRG-specific Additional Day RVUs are assigned for each additional day of acute care. The Additional Day RVUs are an estimate of the resources required for each subsequent day of acute care.
- The Additional Day RVUs are lower than the First Day RVUs, reflecting lower resource use on the additional days. Thus, the RVU fee schedule adjusts for differences in length of stay and patient mix among hospitals. As a result, hospital specific average inpatient conversion factors developed using the RVUs provide a direct comparison of historic or projected fee levels for different hospitals, even if the fee schedules for each hospital are structured differently.
- Using Medicare's average length of stay, the Milliman RVUs and the Medicare RBRVS conversion factor will produce payments that are similar to Medicare's case rates, as demonstrated in Table A.
- For more refined risk adjustment, Milliman has developed RVUs for inpatient services based on APR-DRGs at each severity level within the APR-DRG system (1,266 DRGs/severity levels versus

TABLE A

INPATIENT EXAMPLE #1
FY 2010 MEDICARE RELATIVE WEIGHTS TO MILLIMAN RBRVS FOR HOSPITALS RVUS (V2010.0)
COMPARISON FOR DRG 069 – TRANSIENT ISCHEMIA

MEDICARE (FY 2010)		MILLIMAN RBRVS (V2010.0) – MS DRG	
RELATIVE WEIGHT	0.7289	INITIAL DAY RVU	66.848
CONVERSION FACTOR (NATIONWIDE)	\$5,652.40	ADDITIONAL DAY RVU	24.490
CASE PAYMENT	\$4,120.03	MEDICARE ALOS	2.933
		TOTAL RVUS FOR ALOS	114.187
		RBRVS CONVERSION FACTOR	\$36.0846
		AVERAGE CASE PAYMENT	\$4,120.40

746 MS DRGs). In Table B, we provide a comparison of the MS-DRG RVUs to the APR-DRG RVUs.

The RVUs for any inpatient admission are calculated as:

$$(First\ Day\ RVUs + (Additional\ Day\ RVUs))$$

Note that "Additional Days" includes all days after day 1.

RVUs can be assigned to claims on either a per case or a per day basis. The formula above illustrates the calculation of RVUs using a "per day" approach and incorporates the LOS in estimating the resources used to treat a patient. Alternatively, Case RVUs represent the average resources used for the given service independent of LOS.

Case RVUs are created to be consistent with the characteristics of the population to be measured. For example, resource consumption for a given APR-DRG may differ between commercial and Medicare populations, or potentially between populations in different geographic areas based on LOS management. Milliman develops population-specific case-based RVUs by setting average LOS assumptions using client and/or benchmark data combined with actuarial judgment.

With RVUs assigned on both a per day and per case basis, a LOS efficiency measure can be calculated as:

$$\frac{RVUs\ on\ a\ per\ day\ basis}{RVUs\ on\ a\ per\ case\ basis}$$

Using this method of comparison, a ratio of 1.0 indicates average efficiency. Values lower than 1.0 indicates better than average efficiency, as the hospital required fewer RVUs than average to deliver its mix of services.

Table C shows an example of the implied efficiency for a sample discharge using APR-DRG 047 and Severity Level 1. By summing the RVUs and Case RVUs for each discharge, we estimate the overall efficiency factor for each facility.

OUTPATIENT RVU DEVELOPMENT AND ADJUDICATION

The outpatient case mix and severity adjustment methodology assigns an RVU for each procedure performed by the hospital using HCPCS.

The Milliman RBRVS for Hospitals outpatient RVUs can be viewed as an extension of the Medicare RBRVS schedule. We use the

TABLE B

**INPATIENT EXAMPLE #2
COMPARISON OF MEDICARE AND APR-DRG RVUS (V2010.0)**

DRG	SEVERITY	DESCRIPTION	FIRST DAY RVUS	ADDITIONAL DAY RVUS
MEDICARE-DRG				
069		TRANSIENT ISCHEMIA	66.848	24.490
APR-DRG				
047	1	TRANSIENT ISCHEMIA	65.682	23.666
047	2	TRANSIENT ISCHEMIA	66.145	23.949
047	3	TRANSIENT ISCHEMIA	70.933	25.383
047	4	TRANSIENT ISCHEMIA	88.064	31.381

* THE FOUR SEVERITY LEVELS AVAILABLE USING APR-DRGS ALLOW FOR A MORE REFINED QUANTIFICATION OF THE RESOURCES REQUIRED FOR SPECIFIC PATIENTS.
* MEDICARE SETS DRG RELATIVE WEIGHTS AT THE CASE RATE LEVEL, NOT ACCOUNTING FOR LOS VARIATIONS.

TABLE C

EXAMPLE OF IMPLIED LOS EFFICIENCY

APR-DRG 047, SEVERITY LEVEL 1 (TRANSIENT ISCHEMIA)

BASE RVUS	BASE LOS	ADDITIONAL DAY RVUS	AVERAGE LOS	CASE RVUS
65.682	1.000	23.666	1.711	82.509

EXAMPLE OF EFFICIENCY CALCULATION

	(1)	(2)	(3)	(4) = (2) / (3)
ASSUMED LENGTH OF STAY (LOS)	ACTUAL LOS	LOS-ADJ. RVUS	CASE RVUS	EFFICIENCY FACTOR
AVERAGE LOS PATIENT	1.711	82.509	82.509	1.000
SHORT LOS PATIENT	1.000	65.682	82.509	0.796
LONG LOS PATIENT	3.000	113.014	82.509	1.370

RBRVS technical component RVUs as a basis for many procedures, such as X-rays and cardiovascular testing. We utilize many other data sources to create our outpatient RVUs including Medicare fee schedules, proprietary data sources and public data sources. Clinical and actuarial reviews are used to finalize the relative relationships.

Our 2010 outpatient hospital RVU schedule consists of 14,129 procedure codes. The breakdown of codes by source is as follows:

3,537	Medicare Fee Schedules
10,592	Milliman Defined
14,129	Total

There are many areas where publicly available fee schedules are not adequate for creating RVUs. We used other databases and our internal resources to estimate the relative resources to perform each of these services. For example, Medicare APCs include procedures of which the true cost may be as low as half of the APC average or as high as twice the average. Therefore, the actual resources required for a procedure within an APC can vary significantly. Since Medicare APCs do not define homogeneous patient services, Milliman Outpatient RVUs are assigned at the HCPCS level, rather than APC. By assigning RVUs at the HCPCS level for outpatient services, we are able to more precisely reflect the resources required for each specific service.

Table D illustrates the resource differences by HCPCS for a sample Medicare APC.

Most outpatient services have Milliman RVUs; however, the treatment of services with no RVUs is important in calculating conversion factors. The outpatient RVU fee schedule includes an identification field for all services that have no RVUs. Some procedures are not valued (NVS) because a more specific HCPCS should be coded. Some HCPCS are not valued because they are typically not paid to a facility, but to a professional provider type (NVO). Bundled procedures are labeled as NVB. Finally some low volume procedures

have not yet been valued (NYV) by Milliman and should be excluded from analysis.

Conditionally packaged codes (status indicator Q) have both an RVU value and a not valued reason (either Q-T or Q-STVX, depending upon the bundling rules applicable to each HCPCS).

Following is a summary of entries for codes with no RVUs:

- NYV = Not Yet Valued
- NVS = Not Valued—non-specific procedure code
- NVO = Not Valued—Other provider type should bill
- NVB = Not Valued—Bundled procedure
- Q-T = Bundled if another code with status indicator T is included in the same claim. Otherwise, RVUs are separately assigned.
- Q-STVX = Bundled if another code with status indicator S, T, V, or X is included in the same claim. Otherwise, RVUs are separately assigned.

Reimbursement analyses can usually be performed with less than perfect data, since we can assume that the calculated conversion factor for the partial data is representative of the complete outpatient data set.

The RVU schedule includes a field labeled "maximum procs," which puts a limit on the number of times a procedure should be performed during a single encounter. This field can be helpful in evaluating reimbursement levels (attaching RVUs) and adjudicating claims. Our adjudication process limits units to the maximum procs for a HCPCS.

RBRVS for Hospitals includes a listing of revenue codes that represent bundled services. No RVUs should be calculated for line items with these revenue codes (unless there is a valid non-bundled CPT/HCPCS code), as the workload is implicitly covered in other lines within the encounter. CPT/HCPCS codes with N status indicators have no RVUs since they are bundled items.

TABLE D

**COMPARISON OF 2010 APC VS RBRVS FOR APC 0269
APC 0269 - LEVEL II ECHOCARDIOGRAM WITHOUT CONTRAST**

CPT/ HCPC	STATUS INDICATOR	DESCRIPTION	APC	APC RATE	MILLIMAN	MEDICARE FREQUENCY
76826	S	ECHO EXAM OF FETAL HEART	0269	\$450.97	\$209.44	41
93304	S	ECHO TRANSTHORACIC	0269	\$450.97	\$251.73	414
93306	S	TTE W/DOPPLER, COMPLETE	0269	\$450.97	\$470.22	546,266
93313	S	ECHO TRANSESOPHAGEAL	0269	\$450.97	\$442.72	1,428
93350	S	STRESS TTE ONLY	0269	\$450.97	\$350.42	103,575
				MINIMUM	\$209.44	
				MAXIMUM	\$470.22	
				WEIGHTED AVERAGE	\$450.96	

TABLE E

SAMPLE OUTPATIENT CLAIM RVU ASSIGNMENT								
CLAIM NUMBER	CLAIM LINE	REVENUE CODE	PROCEDURE CODE	STATUS INDICATOR	UNITS	ADJUDICATED		COMMENTS
						RVUS	RVUS	
2004999	1	250			5	-	-	BUNDLED REVENUE CODE AND NO HCPCS.
2004999	2	258			1	-	-	BUNDLED REVENUE CODE AND NO HCPCS.
2004999	3	270	A4649	N	3	-	-	BUNDLED CPT/HCPCS CODE. NO RVUS.
2004999	4	300	88302	X	1	0.354	0.354	PAID IN FULL.
2004999	5	360	49580	T	1	56.505	56.505	1ST "T" PROCEDURE. PAID IN FULL.
2004999	6	360	11100	T	1	2.458	1.229	2ND "T" PROCEDURE. REDUCED TO 50%.
2004999	7	370			4	-	-	BUNDLED REVENUE CODE AND NO HCPCS.
2004999	8	636	J2180	N	1	-	-	BUNDLED CPT/HCPCS CODE. NO RVUS.
2004999	9	636	J2270	N	1	-	-	BUNDLED CPT/HCPCS CODE. NO RVUS.
2004999	10	762			1	-	-	BUNDLED REVENUE CODE AND NO HCPCS.
TOTAL						58.088		

Multiple procedure discounting follows the CMS rules. The code with the greatest RVUs and with status T is paid at 100%. Other codes with a T status are paid at 50% and, therefore, assigned half of the standard RVUs.

Table E shows the adjudication of a sample claim.

Note that, as a result of the bundling rules implicit in RBRVS for Hospitals, payment amounts should be compared on a claim-by-claim basis and should not use individual service lines. Payment systems that separately pay bundled services will have higher values for those amounts, but lower values for the main procedure(s) within each encounter.

Outpatient claims do not fall into homogeneous case categories as easily as inpatient claims. However, RBRVS for Hospitals supports hospital efficiency evaluations for emergency room and surgeries. In addition to the procedure RVUs, the user can assign a separate single RVU for the entire case, allowing the user to evaluate efficiency by comparing the case RVUs to the service RVUs. The efficiency-adjusted RVUs can be used to create efficiency-adjusted outpatient conversion factors.

Emergency Room case RVUs assume an average level of ancillary diagnostic and minor surgical procedures that varies by emergency room encounter level. The surgery case RVUs include an average level of ancillaries and additional surgeries for each primary surgical procedure. On average, the total RVUs should be approximately the same for procedure RVUs or case RVUs.

Case RVUs are not a standard part of the HECS license and need to be customized for the provider practice patterns in each service area. Customizing case RVUs for each line of business is a highly technical undertaking. Contact Milliman for help creating case RVUs.

CALCULATING CONVERSION FACTORS

Benchmarking contracts is as straightforward as adding up the allowed charges and RVUs for all procedures performed under that contract.

Table F shows an example of calculating an average conversion factor for a data set including one inpatient claim and one outpatient claim.

The procedural basis can be a CPT/HCPCS procedure code (i.e., outpatient hospital services) or a DRG (i.e., inpatient hospital stays). For DRGs, the RVUs vary with the LOS to further reflect the severity within a DRG.

A conversion factor may be calculated for any number and/or mix of services performed under the contract. If a procedure can be performed multiple times in one encounter (i.e., 15-minute physical therapy), then the procedure can either be listed multiple times or with multiple units of service on a single line. In either case, the units will be multiplied by the RVUs per unit of service to show RVUs consistent with the charges on the claim.

The HECS case mix and severity adjusted conversion factors provide a means to compare average per-unit costs among contracts, lines of business, health plans, service categories, hospitals or health

TABLE F

CALCULATING A CONVERSION FACTOR			
	ALLOWED CHARGES	LOS	RVUS
APR 047-1	\$6,000	3	113.014
82441	\$20		0.237
99284	\$275		6.185
A4642*	\$95		-
74150	\$425		5.709
TOTAL	\$6,815		125.145
CONVERSION FACTOR			\$54.46
[ALLOWED CHARGES/RVUS]			

* BUNDLED SERVICE. RVUS ARE IMPLICITLY INCLUDED IN RVUS FOR OTHER CPT/HCPCS CODES.

systems. Since the RBRVS for Hospitals RVUs adjust for the relative resources required to perform the services, the calculated conversion factors are comparable regardless of the underlying population, hospital type, or location. See Table G for an example of conversion factors for six contracts and their relative cost differences.

Users interested in developing a better understanding of the components affecting the average conversion factor may drill down to review the results by type of service. Table H expands the six-contract conversion factor summary from Table G to include each major type of inpatient and outpatient service.

A summary like Table H can be useful in identifying where a contract is high or low and allows the user to develop an action plan to change the contract details in order to improve the desired results. For example, assume that Table H represents six contracts for a payer and the payer wants to re-negotiate Contract #3 rates to be more in line with the other contracts. Rather than just ask for an overall rate decrease, the payer may want to focus on a particular area, such as outpatient radiology. The payer may either propose that the contract move to use the RBRVS for Hospitals RVUs and a lower conversion factor, or they may simply negotiate a lower payment using the current payment methodology (e.g., percent of billed charges).

Alternatively, assume that Table H represents six contracts for a hospital and the hospital identifies that Contract #2 is a low outlier. The hospital can use the information in Table G to quantify the amount of increase needed. They may decide that they need a 25% increase in inpatient rates, but the outpatient rates are satisfactory.

RBRVS FOR HOSPITALS USERS AND REVIEWS

There are a large number of companies that have or currently use the RBRVS for Hospitals. They include:

- twenty Blue Cross Blue Shield plans
- many other insurers
- three state Medicaid plans
- hospitals (academic, tertiary, community)
- CalPERS (used to create a high performance network)

The RVUs were first developed in 1994 and are updated and reviewed at least once a year, in accordance with Milliman's strict internal peer-review standards. In addition, the RVUs are receiving continuous outside review as they are used by a wide variety of clients.

At the request of a client, an independent actuarial consulting firm performed a review. This review encompassed not only the RVUs themselves, but also the worksheets used to calculate relative provider costs, and ultimately, determine relative facility rankings.

A complete audit of the RVUs and hospital rankings was performed by the California Bureau of State Audits. The audit was comprehensive, covering all aspects of the hospital ranking process. The audit included an on-site review of the RVU development and documentation by an independent actuary hired by the state.

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TABLE G

CONTRACT SUMMARY TABLE

	TOTAL CONVERSION FACTOR	CONVERSION FACTOR RELATIVE TO TOTAL
CONTRACT #1	\$55.48	1.000
CONTRACT #2	\$46.29	0.834
CONTRACT #3	\$80.43	1.450
CONTRACT #4	\$60.64	1.093
CONTRACT #5	\$63.70	1.148
CONTRACT #6	\$48.46	0.874
TOTAL	\$55.47	1.000

TABLE H

CONVERSION FACTORS BY MAJOR TYPE OF SERVICE

CONTRACT	INPATIENT CFS					OUTPATIENT CFS					AVG	TOTAL AVG
	MED	SURG	MH/SA	MAT	AVG	ER	SURG	RAD	LAB	OTHER		
CONTRACT #1	\$65	\$52	\$61	\$58	\$58	\$53	\$32	\$68	\$89	\$57	\$50	\$55
CONTRACT #2	\$48	\$30	\$37	\$53	\$40	\$45	\$41	\$77	\$60	\$60	\$53	\$46
CONTRACT #3	\$85	\$92	N/A	\$79	\$86	\$49	\$77	\$95	\$94	\$80	\$77	\$80
CONTRACT #4	\$54	\$41	\$70	\$53	\$53	\$36	\$50	\$81	\$83	\$74	\$67	\$61
CONTRACT #5	\$58	\$44	\$75	\$57	\$57	\$42	\$49	\$87	\$88	\$79	\$69	\$64
CONTRACT #6	\$51	\$33	\$56	\$53	\$45	\$38	\$47	\$54	\$58	\$68	\$50	\$48
TOTAL	\$62	\$48	\$59	\$57	\$55	\$47	\$41	\$72	\$77	\$67	\$56	\$55

APPENDIX 2

ALASKA HOSPITAL LIST

Appendix 2 - Alaska Hospital List

Following is the list of facilities included in the analysis of Medicare allowed amounts for this report.

Anchorage / Fairbanks

- Alaska Native Medical Center
- Alaska Psychiatric Institute
- Alaska Regional Hospital
- Denali Center
- Fairbanks Memorial Hospital
- Mat-Su Regional Medical Center
- Providence Alaska Medical Center
- Providence Extended Care Ctr
- St Elias Specialty Hospital

Non-MSA Area

- Bartlett Regional Hospital
- Central Peninsula General Hospital
- Cordova Community Medical Center
- Kanakanak Hospital
- Ketchikan General Hospital
- Maniilaq Health Center
- Mt Edgecumbe Hospital
- Norton Sound Regional Hospital
- Petersburg Medical Center
- Providence Kodiak Island Medical Ctr
- Providence Seward Hospital
- Providence Seward Med & Care Center Ltc
- Providence Valdez Medical Center
- Samuel Simmonds Memorial Hospital
- Sitka Community Hospital
- South Peninsula Hospital
- Wildflower Court
- Wrangell Medical Center
- Yukon Kuskokwim Delta Reg Hospital