

August 23, 2012

Mr. Edward Zimmerman
Director
Department of Practice
American Academy of Pediatrics
141 Northwest Point Boulevard
Elk Grove Village, IL 60007

RE: 2011 AMERICAN ACADEMY OF PEDIATRICS MEDICAL COST MODEL

Dear Mr. Zimmerman:

INTRODUCTION

On July 1998, the American Academy of Pediatrics (AAP) engaged Towers Perrin to complete an actuarial analysis of the state-specific utilization and cost of children's health insurance. The intent of the original analysis was to provide benchmark information to AAP's constituents seeking that type of information. Since then, the cost of children's health insurance has changed due to several factors including: utilization patterns, the scope of covered services, advances in technology, shifts in demographics, and the increased cost to provide medical and pharmacy services.

On November 2002 and then again on February 2006, the AAP engaged Reden & Anders, formerly Towers Perrin, to update its 1998 study and to supply updated actuarial pediatric medical cost models. The 2002 and 2006 were predominately based on detailed claim information incurred during calendar years 2000 and 2004, respectively, and with additional supporting summary data from calendar years 2001 and 2005, respectively. National utilization and unit cost assumptions for commercial and Medicaid were derived using the same underlying demographic assumptions as in the original study. Furthermore, the age/sex factors used to produce age/sex-specific per member per month (PMPM) rates were derived from total medical costs including pharmacy and did not vary by service category.

On October 2008, the AAP again engaged Ingenix Consulting, formerly Reden & Anders, to produce a payment ratio study that illustrates state-specific Commercial and Medicaid reimbursement levels relative to current Medicare fee-for-service (FFS) reimbursement rates. Payment ratios and PMPM cost estimates were supplied in two broad service categories: 1) All Physician Services and 2) Evaluation & Management and Immunization procedures only, a subset of the former category.

In May 2012, the AAP again engaged OptumInsight, formerly Ingenix Consulting, to reproduce its model. The intent of the model is to again offer benchmark information to AAP's constituents.

The following document outlines the methodology used by OptumInsight to construct the model. The document outlines key components such as data sources, adjustments, and assumptions.

SCOPE OF ANALYSIS

The scope of this engagement is the construction of pediatric medical cost model. OptumInsight has developed a pediatric model that enables the user to isolate state-specific utilization and cost patterns. The focus of this model is to provide AAP constituents an opportunity to compare and contrast average utilization and reimbursement levels in a spectrum of potential settings.

A pivotal piece of the model is a payment ratio study. The study reflects the state-specific reimbursement levels to current Medicare FFS reimbursement rates in two, distinct child enrollment groups: Medicaid and Commercial. The groups are distinguished by the source of reimbursement, whether private (Commercial) or governmental (Medicaid).

DATA SOURCE

For both Medicaid and Commercial data sets, OptumInsight relied on its proprietary databases to extract utilization and cost data for the study population. To the extent that limited data was available for specific geographic localities, OptumInsight relied on adjusted experience to proxy reasonable results.

The baseline data is Calendar Year 2011 experience and captures utilization and cost experience for individuals in the 0 to 21 age group. No adult data (ages 21+) is reflected in the baseline data. Furthermore, no adult data is used in the calculation of any adjustments reflected in the model.

Commercial Data Source

The Commercial data reflects claim experience that is produced almost in entirely FFS environment (i.e. not in a capitated environment). Costs reflect allowable charges (i.e. after provider discounts applied and before member cost sharing). OptumInsight did not audit or adjust service types that may be charged by the physician as a visit or some other unit rather than a procedure. OptumInsight solely relied on what was embedded within the data.

Medicaid Data Source

The Medicaid information is a combination of both managed and unmanaged FFS claim experience. The proportion that is managed significantly outweighs the non-managed portion for most states. However, for a few states, the opposite is true. To the extent that each state's coverage or reimbursement policy varies across cohort, service, geography, or physician

specialty type, the claim experience included in OptumInsight's study reflects an average utilization composition within the respective state.

Service Mapping

Service categories are generally differentiated by the professional that delivers the service, whether primary care physician (evaluation and management services), specialist (all services), or other dedicated professional. Other dedicated professionals may include individuals such as nurse practitioners and these services are also included with the baseline data.

DATA ANALYSIS

Utilization Data

The utilization is consistent with the previously mentioned Commercial and Medicaid sources. The Calendar Year 2011 baseline data was then adjusted to specifically reflect the model user's selections. These adjustments represent geographic differences that are inherent in the underlying utilization patterns.

Utilization adjustments are a function of a service category- and state-specific relativity factors applied to a national set of baseline experience. These factors were generated through detailed analysis and comparison of the model's underlying baseline data to each respective geographic area.

OptumInsight relied on a consistent universe of members (ages 0 to 21) to ensure that the calculated adjustments reflect the appropriate baseline utilization patterns. No adult (i.e. ages 21+) data was used in either the baseline or the development of the adjustments.

The product of these factors is then applied to the baseline experience to produce state-specific, urban/rural/statewide utilization data for each selected service category.

Allowable Cost per Service Data

The allowable cost per service is calculated by multiplying the 2011, geographic-specific Medicare RVU data (which takes into account the unique rates by locality) and the 2011 conversion factor of \$33.98. Similar to the utilization data, geographic-specific adjustments were developed to differentiate Medicare rates in an urban and a rural setting.

Consistent with the utilization adjustments, the factors were developed by a comparison of relativities. The resulting factors are then, depending on the model user's selections, multiplied with the RVU data to calculate an estimated Medicare allowable charge.

OptumInsight relied on a consistent universe of members (ages 0 to 21) to ensure that the calculated adjustments reflect the appropriate baseline allowable cost patterns. No adult (i.e. ages 21+) data was used in either the baseline or the development of the adjustments.

The Medicare allowable charge is then multiplied with the 2011 payment ratios (subsequently discussed) to estimate a reasonable, corresponding Commercial and Medicaid allowable charge. The payment ratios are calculated using a combination of proprietary and public data sources.

Payment Ratio Analysis

To calculate the various payment ratios between Commercial-Medicare and Medicaid-Medicare, OptumInsight relied on its proprietary database to extract a representative utilization distribution at the procedure code level of detail. The underlying data is consistent with the model's baseline utilization.

Furthermore, the payment ratio data reflects a universe of members ages 0 to 21. OptumInsight did not include any adult data (i.e. ages 21+) in the development of the study. The data reflects a consistent universe of members as the model's underlying baseline data.

OptumInsight relied on the 2011 Centers for Medicare & Medicaid Services (CMS's) Resource Based Relative Value Scale (RBRVS) RVUs, conversion factor of \$33.98, and Geographic Practice Cost Indices (GPCIs) to assign appropriate RVUs and to calculate applicable fees. Work, Practice Expense Facility or Non-Facility) and Malpractice RVUs were assigned to the baseline data. Procedure-specific Medicare fees are calculated as the product of the procedure's RVU, adjusted by its respective GPCI factors, and the Medicare conversion factor.

For the Medicaid component, OptumInsight incorporated a combination of its own proprietary data, physician fee schedules published by state Medicaid offices, CMS Medicaid Analytic eXtract (MAX) files and other published sources including, but not limited to, the AAP's 2010/2011 Medicaid Reimbursement Survey.

The Commercial component was sourced from solely from OptumInsight's proprietary database. The experience represents reasonable payment rates for the respective geographic areas.

The final result was a table of payment ratios for both each individual state (including the District of Columbia) and National average. For comparison purposes with prior versions of this report, Exhibit 1 illustrates the following two ratios:

1. Evaluation and Management (E&M)
2. All Services

Member Cost Sharing

The cost model offers the functionality for model users to input member cost sharing in the form of copayments (applied per procedure/unit) or coinsurance (percent of gross allowed charges). Users have the flexibility to input various member cost sharing measures to see the overall impact net PMPM cost.

OptumInsight has not made any specific adjustment with regard to induced utilization. Therefore, no adjustment to utilization is made to reflect a change in benefit parameters. At this time, the member cost sharing functionality is available for the sole purpose of illustrative results.

Net PMPM Cost

The net PMPM cost, available to the model user for illustrative purposes, is the subtraction of member cost sharing from the allowable PMPM charges.

SUMMARY

Based on information its internal research database, as well as from publically published sources, OptumInsight has constructed a model and payment ratio study for a pediatric population (i.e. ages 0 to 21) that varies by study cohort (i.e. Commercial versus Medicaid), by state and by broad physician service category. The study enables AAP constituents to compare their own respective experience against the normative measures.

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Any questions regarding the analysis and results of the study can be emailed to costmodel@aap.org.

Best regards,



Mark Peterson, FSA, MAAA
Associate Director, Actuarial Consulting

MHP:mje

EXHIBIT 1: 2011 PAYMENT RATIO STUDY

State Name	State	Medicaid-to-Medicare Physician Payment Ratio		Commercial-to-Medicare Physician Payment Ratio	
		All Physician Services	E&M + Immunizations ¹ Only	All Physician Services	E&M + Immunizations ¹ Only
Alabama	AL	76%	74%	118%	89%
Alaska	AK	132%	128%	195%	179%
Arizona	AZ	95%	82%	131%	103%
Arkansas	AR	87%	68%	134%	113%
California	CA	54%	42%	138%	125%
Colorado	CO	83%	80%	142%	130%
Connecticut	CT	71%	79%	134%	118%
Delaware	DE	102%	97%	149%	129%
District of Columbia	DC	47%	47%	121%	109%
Florida	FL	53%	50%	132%	102%
Georgia	GA	86%	86%	149%	122%
Hawaii	HI	67%	53%	123%	106%
Idaho	ID	99%	98%	147%	152%
Illinois	IL	60%	65%	134%	120%
Indiana	IN	68%	55%	136%	117%
Iowa	IA	93%	80%	156%	149%
Kansas	KS	91%	66%	136%	123%
Kentucky	KY	82%	76%	133%	119%
Louisiana	LA	84%	75%	136%	113%
Maine	ME	64%	60%	150%	153%
Maryland	MD	83%	74%	117%	100%
Massachusetts	MA	75%	71%	139%	132%
Michigan	MI	60%	54%	128%	111%
Minnesota	MN	71%	74%	181%	184%
Mississippi	MS	85%	70%	136%	113%
Missouri	MO	68%	51%	124%	108%
Montana	MT	101%	96%	165%	155%
Nebraska	NE	84%	81%	160%	168%
Nevada	NV	87%	72%	134%	110%
New Hampshire	NH	63%	63%	157%	167%
New Jersey	NJ	61%	59%	131%	89%
New Mexico	NM	104%	90%	144%	142%
New York	NY	45%	46%	131%	99%
North Carolina	NC	95%	95%	149%	134%
North Dakota	ND	124%	128%	183%	175%
Ohio	OH	62%	61%	132%	118%
Oklahoma	OK	100%	95%	142%	121%
Oregon	OR	78%	78%	174%	182%
Pennsylvania	PA	58%	49%	136%	115%
Rhode Island	RI	41%	31%	112%	106%
South Carolina	SC	88%	81%	146%	117%
South Dakota	SD	86%	70%	171%	162%
Tennessee	TN	77%	71%	145%	118%
Texas	TX	76%	60%	151%	124%
Utah	UT	85%	69%	130%	113%
Vermont	VT	87%	87%	155%	159%
Virginia	VA	86%	83%	138%	117%
Washington	WA	78%	90%	151%	151%
West Virginia	WV	77%	71%	144%	121%
Wisconsin	WI	74%	57%	197%	193%
Wyoming	WY	109%	110%	160%	142%
US Average²		70%	64%	142%	121%

¹ Includes the following services:

E&M - Office Visits (99201-99215, 99341-99350); E&M - Preventive Visits/Well Baby Care (99381-99387, 99391-99436) and Immunizations (90291-90749).

² US Average based on collective physician claim experience of children ages 0 to 21 within the Ingenix Consulting database. State-specific results were derived from the same database used to produce the US Average.

OptumInsight Pediatric Medical Cost Model

Calendar Year 2011 Medical Cost

Service Area Type of Service	National/Statewide			Line of Business					Commercial
	Include Svc?	Cost Share:		Type of Util	Util/ 1,000	Cost/ Unit	Gross PMPM	Copay PMPM	Net PMPM
		Flat Copay	Member Coins %						
Physician Services:									
Surgery - Non-Maternity	Y			Procedures	256.2	\$364.21	\$7.78	\$0.00	\$7.78
Surgery - Maternity - Non-Deliv	Y			Procedures	2.8	255.24	0.06	0.00	0.06
Surgery - Maternity - Deliveries	Y			Procedures	2.2	2,737.86	0.50	0.00	0.50
Venipuncture	Y			Procedures	147.9	7.92	0.10	0.00	0.10
Anesthesia	Y			Procedures	52.9	705.14	3.11	0.00	3.11
Radiology	Y			Procedures	413.4	68.16	2.35	0.00	2.35
Pathology/Lab	Y			Procedures	965.0	22.38	1.80	0.00	1.80
E&M - Office Visits	Y			Visits	2,298.8	84.37	16.16	0.00	16.16
E&M - Preventive Visits/Well Baby	Y			Visits	762.9	103.82	6.60	0.00	6.60
E&M - Inpatient Visits	Y			Visits	160.8	166.53	2.23	0.00	2.23
E&M - Consultations	Y			Visits	102.6	244.85	2.09	0.00	2.09
E&M - Emerg Room/Crit Care	Y			Visits	194.0	230.24	3.72	0.00	3.72
E&M - Miscellaneous	Y			Visits	4.8	164.95	0.07	0.00	0.07
Immunizations	Y			Procedures	2,099.2	57.17	10.00	0.00	10.00
Injections/Infusions/G-Codes	Y			Procedures	43.9	41.95	0.15	0.00	0.15
Psychiatry/Biofeedback	Y			Procedures	292.8	153.01	3.73	0.00	3.73
Dialysis	Y			Procedures	0.8	191.64	0.01	0.00	0.01
Gastroenterology	Y			Procedures	0.6	244.57	0.01	0.00	0.01
Ophthalmology - Exams	Y			Procedures	51.8	187.18	0.81	0.00	0.81
Ophthalmology - Services	Y			Procedures	47.8	68.28	0.27	0.00	0.27
Otorhinolaryngology	Y			Procedures	242.1	67.76	1.37	0.00	1.37
Cardiovascular - Surgery	Y			Procedures	0.8	544.48	0.03	0.00	0.03
Cardiovascular - Other	Y			Procedures	79.0	86.61	0.57	0.00	0.57
Non-Invasive Vascular Diagnostics	Y			Procedures	3.2	148.26	0.04	0.00	0.04
Pulmonology	Y			Procedures	72.1	44.89	0.27	0.00	0.27
Allergy Tests	Y			Procedures	20.2	15.36	0.03	0.00	0.03
Allergy Treatment	Y			Procedures	130.5	20.85	0.23	0.00	0.23
Neurology	Y			Procedures	91.9	77.36	0.59	0.00	0.59
Chemotherapy	Y			Procedures	3.1	192.95	0.05	0.00	0.05
Dermatology	Y			Procedures	2.9	145.65	0.04	0.00	0.04
Physical Medicine	Y			Procedures	587.9	50.15	2.46	0.00	2.46
Other Medicine	Y			Procedures	44.4	38.16	0.14	0.00	0.14
Drugs (J-Codes)	Y			Procedures	71.7	22.23	0.13	0.00	0.13
HCPCS not included elsewhere	Y			Procedures	93.8	63.24	0.49	0.00	0.49
Total Physician Cost							\$67.99	\$0.00	\$67.99

OptumInsight Pediatric Medical Cost Model

Calendar Year 2011 Medical Cost

Service Area Type of Service	National/Statewide			Line of Business					Medicaid
	Include Svc?	Cost Share:		Type of Util	Util/ 1,000	Cost/ Unit	Gross PMPM	Copay PMPM	Net PMPM
		Flat Copay	Member Coins %						
Physician Services:									
Surgery - Non-Maternity	Y			Procedures	275.3	\$153.45	\$3.52	\$0.00	\$3.52
Surgery - Maternity - Non-Deliv	Y			Procedures	2.9	107.54	0.03	0.00	0.03
Surgery - Maternity - Deliveries	Y			Procedures	2.3	1,153.52	0.22	0.00	0.22
Venipuncture	Y			Procedures	167.1	3.34	0.05	0.00	0.05
Anesthesia	Y			Procedures	59.0	297.09	1.46	0.00	1.46
Radiology	Y			Procedures	433.3	28.72	1.04	0.00	1.04
Pathology/Lab	Y			Procedures	1,062.8	9.43	0.83	0.00	0.83
E&M - Office Visits	Y			Visits	2,575.3	48.68	10.45	0.00	10.45
E&M - Preventive Visits/Well Baby	Y			Visits	924.3	63.89	4.92	0.00	4.92
E&M - Inpatient Visits	Y			Visits	201.5	70.16	1.18	0.00	1.18
E&M - Consultations	Y			Visits	114.6	103.16	0.98	0.00	0.98
E&M - Emerg Room/Crit Care	Y			Visits	221.9	97.00	1.79	0.00	1.79
E&M - Miscellaneous	Y			Visits	5.7	69.50	0.03	0.00	0.03
Immunizations	Y			Procedures	2,636.7	24.09	5.29	0.00	5.29
Injections/Infusions/G-Codes	Y			Procedures	48.0	17.67	0.07	0.00	0.07
Psychiatry/Biofeedback	Y			Procedures	278.4	64.47	1.50	0.00	1.50
Dialysis	Y			Procedures	0.9	80.74	0.01	0.00	0.01
Gastroenterology	Y			Procedures	0.6	103.04	0.01	0.00	0.01
Ophthalmology - Exams	Y			Procedures	53.4	78.86	0.35	0.00	0.35
Ophthalmology - Services	Y			Procedures	50.1	28.77	0.12	0.00	0.12
Otorhinolaryngology	Y			Procedures	282.9	28.55	0.67	0.00	0.67
Cardiovascular - Surgery	Y			Procedures	0.9	229.40	0.02	0.00	0.02
Cardiovascular - Other	Y			Procedures	88.4	36.49	0.27	0.00	0.27
Non-Invasive Vascular Diagnostics	Y			Procedures	3.3	62.46	0.02	0.00	0.02
Pulmonology	Y			Procedures	79.9	18.91	0.13	0.00	0.13
Allergy Tests	Y			Procedures	22.4	6.47	0.01	0.00	0.01
Allergy Treatment	Y			Procedures	126.7	8.78	0.09	0.00	0.09
Neurology	Y			Procedures	113.7	32.59	0.31	0.00	0.31
Chemotherapy	Y			Procedures	3.1	81.29	0.02	0.00	0.02
Dermatology	Y			Procedures	2.8	61.37	0.01	0.00	0.01
Physical Medicine	Y			Procedures	579.9	21.13	1.02	0.00	1.02
Other Medicine	Y			Procedures	51.6	16.08	0.07	0.00	0.07
Drugs (J-Codes)	Y			Procedures	78.6	9.37	0.06	0.00	0.06
HCPCS not included elsewhere	Y			Procedures	97.9	26.64	0.22	0.00	0.22
Total Physician Cost							\$36.77	\$0.00	\$36.77