2017 Medicaid Provider Rate Review Analysis Report

Physician Services, Surgery, and Anesthesia

Appendix A – Payment Comparison Methodology

Appendix A includes details of the benchmark creation and payment comparison methodology. The Department contracted with Optumas, an actuarial firm, to provide support in comparing Colorado Medicaid rates to those of other payers. This appendix was prepared and written by Optumas.

COLORADO
Department of Health Care Policy & Financing

Physician Services

The Department contracted with the actuarial firm Optumas to provide support in comparing Health First Colorado provider rates to those of other payers. This analysis comprised three main steps: 1) Data Validation, 2) Re-pricing Validation, and 3) Payment Comparison. The following physician services were reviewed: Cardiology; Cognitive Capacity Assessment; Gastroenterology; Ophthalmology; Ear, Nose, and Throat; Respiratory; Speech Therapy; and Vascular.

Results of this analysis show that for FY 2015-16, Colorado reimbursed at approximately 76.34% of the combined benchmark for physician services. All else being equal, if Colorado were to reimburse at 100.00% of the combined benchmark, total physician expenditures for FY 2015-16 would increase by roughly $18,977,428 in total funds.

Physician Services - Data Validation

The Department provided FY 2014-15 and FY 2015-16 fee-for-service claims data for physician services to Optumas.[1] The data validation process included: volume and dollar checks over time to identify potential inconsistencies; a frequency analysis across all fields to fully account for the contents of the claims; and a comparison with datasets from previous fiscal years. Additionally, total dollars were compared with the Department's Budget Division numbers and other external sources for consistency. Results of this process suggested that the relevant physician data was both complete and reliable.

Next, the data was reviewed to determine the relevant utilization and account for applicable exclusions. The exclusion criteria adhere to the general guidelines set forth in the Rate Review Schedule.[2] Claims with denied status or that were otherwise zero paid were excluded, and claims associated with members enrolled in the capitated CHP+ program were also excluded. The total unadjusted paid dollars for FY 2014-15 totaled $52,540,678, and for FY 2015-16 totaled $59,972,342.

Furthermore, the validation process accounted for two additional exclusions:

- 92543 (caloric vestibular test, audiology) was discontinued in December 2015 and was not replaced by another code. Its removal accounted for $10,167 (negligible impact).
- 92499 (unlisted ophthalmological service or procedure) is manually priced, and thus no reliable comparison was possible. Its removal accounted for $227 (negligible impact).

After removing these services, the paid dollars for FY 2015-16 totaled $59,961,948. The summary of exclusions from the FY 2015-16 base data can be found in Appendix P1.

Finally, FY 2015-16 claims data was used to make up the base utilization for the payment rate comparison analysis. This approach was selected because it yields an annualized result derived from the most recent experience. However, since these claims were only provided with three months of runout,

[1] Claims data for procedure codes 36415 and 36416 (routine venipuncture and capillary blood draw, initially planned for review under Surgeries) was also provided and incorporated into the review of physician services.
[2] https://www.colorado.gov/pacific/sites/default/files/Medicaid%20Provider%20Rate%20Review%20Schedule%20FINAL%20October%202015.pdf

an adjustment was necessary to account for claims incurred but not reported (IBNR).[3] The claims processing lag inherent within the FY 2014-15 claims (14 months of runout) was used to infer the completion rate for each of the sub-categories of physician services. Following this adjustment, the paid dollars for FY 2015-16 totaled $60,332,830 and IBNR utilization adjustment factors for each sub-category can be found in Appendix P2.

Physician Services - Re-pricing Validation

Most physician services offered by Colorado are covered by Medicare. To identify comparable rates, publicly available documentation on reimbursement policy and fee schedules was referenced.[4] Then rates for services were assigned by considering the combination of procedure code and modifier present on each claim.[5] Overall, this process was successfully applied to 90.91% of the data.

Additionally, for services without a comparable Medicare rate, supplemental rates were drawn from other state Medicaid programs. The states included Oklahoma, Nebraska, Arizona, Wyoming, and Oregon. These rates were also linked to Health First Colorado claims on a procedure code-modifier basis. In cases where rates from multiple states were available for a single code, the simple average of all corresponding rates was used. Codes that were matched using this methodology accounted for an additional 8.56% of the base data.[6]

Physician Services - Payment Comparison

The final step consisted of applying the base utilization to re-price claims at Colorado's July 1, 2016 fee schedule as well as the matched rates from Medicare and other states. This entailed multiplication of utilization and the corresponding rates from each source, followed by subtraction of third-party liability and copayments, to calculate the estimated total dollars that would theoretically be reimbursed by each source.

Regarding these estimates of total expenditures, two caveats must be mentioned that lend additional perspective to their interpretation:

1. Combining utilization with the fee schedule is an imperfect method of computing final responsibility in Colorado due to the "lower of" payment policy. This policy compares allowed charges with provider billed charges, and reimbursement is then based on the lower of the two.

2. Estimated expenditures were only compared for the subset of physician services that are common between Colorado and another source. In other words, if no comparable rate could be found for a specific service offered in Colorado, then the associated utilization and costs were not counted within the comparison results. An example of this dynamic is laid out in Table P1:

[3] There is often a lag between the time when services are rendered and the time when claims are paid. For example, a claim may not be paid for four months after the service has been rendered. To account for this lag, the IBNR adjustment is necessary to increase the base paid dollars and utilization.
[4] All rates and relevant information in place on January 1, 2016.
[5] Approximately 87.01% of Colorado physician payments were made to a non-facility place of service. Thus, the Medicare non-facility and other states' non-facility benchmarks were used.
[6] Other states selected for this analysis were provided by the Department.

Table P1 – Example of Comparable Rate Not Found

Service	Colorado Rate	Colorado Utilization	Colorado Re-priced	Comparison Rate	Combined Re-priced
A	$2.00	10	$20.00	Not found	N/A
B	$3.00	10	$30.00	$4.00	$40.00

Only the claim for service B would be used for comparison. However, the discounted portion of the base utilization and costs was relatively small and does not detract from the overall validity of the analysis.

The following tables present two summaries: Table P2 summarizes the payment comparison by sub-category of service, and Table P3 summarizes the payment comparison and estimated fiscal impact at the aggregate level. Separate comparison results for Medicare and other states can be found in Appendix P3. Please note that differences may exist when independently calculating due to the rounding of numbers.

Table P2 – Medicare and Other States Combined Comparison Results:

Sub-category of Service	Colorado Re-priced	Comparison Re-priced	Colorado as a % of Comparison
Cardiology	$6,589,457	$7,778,186	84.72%
Cognitive Capacity Assessment	$3,174,868	$2,719,301	116.75%
Gastroenterology	$126,272	$204,955	61.61%
Ophthalmology	$24,047,209	$32,647,894	73.66%
Ear, Nose, and Throat	$966,905	$1,242,392	77.83%
Respiratory	$1,537,593	$2,095,396	73.38%
Speech Therapy	$21,780,736	$30,704,503	70.94%
Vascular	$3,007,447	$2,815,289	106.83%

Table P3 – Physician Services Estimated Fiscal Impact:

Colorado as a % of Medicare/Other States' Expenditures	76.34%
Health First Colorado 7/1/2016 Re-priced Amount	$61,230,487
Medicare/Other States' Re-priced Amount	$80,207,916
Estimated Total Funds Impact	**$18,977,428**

Table P3 can be interpreted to mean that Colorado pays an estimated 23.66% less than the combination of Medicare and other states.[7]

Had Medicaid reimbursed at 100.00% of this combined benchmark's rates in FY 2015-16, it is estimated that Colorado would have spent an additional $18,977,428 in Total Funds.[8] Furthermore, this may be interpreted as the minimum impact for two reasons:

1. As mentioned previously concerning the limitation of data to relevant physician experience, claims that were denied or zero paid were removed along with their corresponding utilization.

2. A small portion of Colorado's expenditures was excluded from the comparison since there were some services for which a comparable rate could not be found.

Appendix P1: Physician Services - Base Data Summary

	Paid Dollars	% of Paid Dollars
Base Data FY 2015-16	$59,972,342	100.00%
Exclusions		
Discontinued Code 92543	$10,167	0.02%
Manually Priced Code 92499	$227	0.00%
Total Exclusions	$10,394	0.02%
Health First Colorado Re-pricing		
Total Base Medicaid Data to Re-price	$59,961,948	99.98%

[7] This statement must be evaluated in the context of both access and quality before drawing conclusions about the appropriateness of rates. There are services for which the Department pays more than 76.34% of the comparable rate, and others for which the Department pays less. In situations where access is sufficient, standards of quality are met, and the intent of the Department is to purchase value, a lower percentage of the benchmark may be appropriate.

[8] The Total Fund and General Fund split refers to federal financial participation. The Total Fund includes both federal and state responsibility, and the General Fund consists of the state portion only.

Appendix P2: Physician Services - Utilization IBNR

Sub-category of Service	Utilization Factor
Cardiology	0.9875
Cognitive Capacity Assessment	0.9913
Gastroenterology	0.9926
Ophthalmology	0.9966
Ear, Nose, and Throat	0.9801
Respiratory	0.9647
Speech Therapy	0.9950
Vascular	0.9570
Total	**0.9831**

Note: as an example, the first figure in this table can be interpreted as an estimate that the raw utilization data for cardiology only made up 98.75% of the true total due to short claims runout.

Appendix P3: Physician Services - Separate Comparison Results

Medicare Comparison Results:

Sub-category of Service	Colorado Re-priced	Medicare Re-priced	Colorado as a % of Medicare
Cardiology	$6,589,255	$7,778,098	84.72%
Cognitive Capacity Assessment	$1,388,974	$1,714,112	81.03%
Gastroenterology	$126,272	$204,955	61.61%
Ophthalmology	$21,469,259	$26,984,859	79.56%
Ear, Nose, and Throat	$777,566	$1,047,836	74.21%
Respiratory	$1,530,566	$2,072,960	73.83%
Speech Therapy	$21,523,174	$30,325,052	70.97%
Vascular	$2,556,474	$2,172,558	117.67%

Other States Comparison Results:

Sub-category of Service	Colorado Re-priced	Other States Re-priced	Colorado as a % of Other States
Cardiology	$201	$88	229.68%
Cognitive Capacity Assessment	$1,785,894	$1,005,188	177.67%
Gastroenterology	$0	$0	0.00%
Ophthalmology	$2,577,950	$5,663,034	45.52%
Ear, Nose, and Throat	$189,339	$194,556	97.32%
Respiratory	$7,026	$22,436	31.32%
Speech Therapy	$257,561	$379,450	67.88%
Vascular	$450,973	$642,731	70.17%

Surgeries and Anesthesia Services

The Department contracted with the actuarial firm Optumas to provide support in comparing Health First Colorado provider rates to those of other payers. This analysis comprised three main steps: 1) Data Validation, 2) Re-pricing Validation, and 3) Payment Comparison. The following surgeries services were reviewed: Cardiovascular, Digestive, Eye and Auditory, Integumentary, Musculoskeletal, and Respiratory Systems. Anesthesia was reviewed in its entirety without being divided into sub-categories.

The rate comparison analysis for surgeries services was conducted under three scenarios as follows:

Scenario 1. Assigned non-facility comparison rates to all of Colorado's base utilization,
Scenario 2. Assigned facility comparison rates to the portion of Colorado's base utilization with a facility place of service code present on the claim, and
Scenario 3. Assigned facility or non-facility comparison rates to all of Colorado's base utilization, using the place of service code present on each claim.

Anesthesia rates were compared without considering place of service since Medicare maintains a single set of rates for these services.

Results of this analysis show that for FY 2015-16, Colorado reimbursed at approximately 54.78% of the combined benchmark for surgeries services under Scenario 1, 106.17% under Scenario 2, and 71.70% under Scenario 3. All else being equal, if Colorado were to reimburse at 100.00% of the combined benchmark, total surgeries expenditures for FY 2015-16 would increase by roughly $54,709,506 under Scenario 1, decrease by $1,413,972 under Scenario 2, and increase by $26,165,096 under Scenario 3.

For anesthesia, the analysis shows that for FY 2015-16, Colorado reimbursed at approximately 131.64% of the Medicare benchmark. All else being equal, if Colorado were to reimburse at 100.00% of the Medicare benchmark, total anesthesia expenditures for FY 2015-16 would decrease by roughly $9,119,002.

Surgeries and Anesthesia Services - Data Validation

The Department provided FY 2014-15 and FY 2015-16 fee-for-service claims data for surgeries and anesthesia services to Optumas.[9] The data validation process included: volume and dollar checks over time to identify potential inconsistencies; a frequency analysis across all fields to fully account for the contents of the claims; and a comparison with datasets from previous fiscal years. Additionally, total dollars were compared with the Department's Budget Division numbers and other external sources for consistency. Results of this process suggested that the relevant surgeries and anesthesia data was both complete and reliable.

Next, the data was reviewed to determine the relevant utilization and account for applicable exclusions. The exclusion criteria adhere to the general guidelines set forth in the Rate Review Schedule.[10] Claims

[9] Claims data for procedure codes 36415 and 36416 (routine venipuncture and capillary blood draw, initially planned for review under Surgeries) was incorporated into the Physician analysis.
[10] https://www.colorado.gov/pacific/sites/default/files/Medicaid%20Provider%20Rate%20Review%20Schedule%20FINAL%20October%202015.pdf

with denied status or that were otherwise zero paid were excluded, and claims associated with members enrolled in the capitated CHP+ program were also excluded. For surgeries, the total unadjusted paid dollars for FY 2014-15 totaled $52,562,259, and for FY 2015-16 totaled $57,278,318. For anesthesia, the total unadjusted paid dollars for FY 2014-15 totaled $27,947,012, and for FY 2015-16 totaled $37,226,378.

Furthermore, the validation process accounted for two additional exclusions from surgeries and one from anesthesia services:

- Surgeries codes that were discontinued in December 2015 and were not replaced by other codes. Their removal accounted for $34,110 (0.06% impact to paid dollars).
- Surgeries codes that are manually priced, and thus no reliable comparison was possible. Their removal accounted for $183,594 (0.32% of the paid dollars).
- Anesthesia code 01999 (unlisted anesthesia procedure(s)) is manually priced, and thus no reliable comparison was possible. Its removal accounted for $1,144 (negligible impact).

After removing these services from surgeries, the paid dollars for FY 2015-16 totaled $57,060,614, while the remaining paid dollars for anesthesia totaled $37,225,234. The summary of exclusions from the FY 2015-16 surgeries and anesthesia base data can be found in Appendix SA4.

Finally, FY 2015-16 claims data was used to make up the base utilization for the payment rate comparison analysis. This approach was selected because it yields an annualized result derived from the most recent experience. However, since surgeries and anesthesia claims were only provided with three months of runout, an adjustment was necessary to account for claims incurred but not reported (IBNR).[11] The claims processing lag inherent within the FY 2014-15 claims (11 months of runout for surgeries, 17 months for anesthesia) was used to infer the completion rate for each of the sub-categories of surgeries services and anesthesia. Following this adjustment to the surgeries claims, the paid dollars for FY 2015-16 totaled $58,482,838, and adjusted paid dollars for anesthesia totaled $37,451,645. The IBNR utilization adjustment factors per service type can be found in Appendix SA5.

Surgeries and Anesthesia Services - Re-pricing Validation

Nearly all surgeries and anesthesia services offered by Colorado are covered by Medicare. To identify comparable rates, publicly available documentation on reimbursement policy and fee schedules was referenced.[12] Then rates for services were assigned by considering the combination of procedure code and modifier present on each claim. Place of service codes on surgeries claims were also considered to compare rates under three scenarios:

Scenario 1. Assigned non-facility comparison rates to all of Colorado's base utilization,
Scenario 2. Assigned facility comparison rates to the portion of Colorado's base utilization with a facility place of service code present on the claim, and
Scenario 3. Assigned facility or non-facility comparison rates to all of Colorado's base utilization, using the place of service code present on each claim.[13]

[11] There is often a lag between the time when services are rendered and the time when claims are paid. For example, a claim may not be paid for four months after the service has been rendered. To account for this lag, the IBNR adjustment is necessary to increase the base paid dollars and utilization.
[12] All Medicare rates and relevant information in place on January 1, 2016.
[13] Approximately 82.24% of Colorado surgeries payments were made to a facility place of service.

This process was successfully applied to 99.70% of the surgeries claims data under Scenarios 1 and 3, and 36.72% under Scenario 2. Medicare rates were sufficient to re-price 100.00% of the anesthesia claims data.

Additionally, for surgeries services without a comparable Medicare rate, supplemental rates were drawn from other state Medicaid programs. The states included Oklahoma, Nebraska, Arizona, Wyoming, and Oregon. These rates were also linked to Health First Colorado claims on a procedure code-modifier basis, and place of service was used under Scenarios 2 and 3 described previously.[14] In cases where rates from multiple states were available for a single code, the simple average of all corresponding rates was used. Codes that were matched using this methodology accounted for an additional 0.27% of the surgeries base data under Scenarios 1 and 3, and 0.07% under Scenario 2.

Surgeries and Anesthesia Services - Payment Comparison

The final step consisted of applying the base utilization to re-price claims at Colorado's July 1, 2016 fee schedule as well as the matched rates from Medicare and other states. This entailed multiplication of utilization and the corresponding rates from each source, followed by subtraction of third-party liability and copayments, to calculate the estimated total dollars that would theoretically be reimbursed by each source.

Regarding these estimates of total expenditures, two caveats must be mentioned that lend additional perspective to their interpretation:

1. Combining utilization with the fee schedule is an imperfect method of computing final responsibility in Colorado due to the "lower of" payment policy. This policy compares allowed charges with provider billed charges, and reimbursement is then based on the lower of the two.
2. Estimated expenditures were only compared for the subset of surgeries and anesthesia services that are common between Colorado and another source. In other words, if no comparable rate could be found for a specific service offered in Colorado, then the associated utilization and costs were not counted within the comparison results. An example of this dynamic is laid out in Table SA1:

Table SA1 – Example of Comparable Rate Not Found

Service	Colorado Rate	Colorado Utilization	Colorado Re-priced	Comparison Rate	Combined Re-priced
A	$2.00	10	$20.00	Not found	N/A
B	$3.00	10	$30.00	$4.00	$40.00

Only the claim for service B would be used for comparison. However, the discounted portion of the base utilization and costs was relatively small and does not detract from the overall validity of the analysis.

[14] Other states selected for this analysis were provided by the Department. All other states used in the comparison except Wyoming had both facility and non-facility rates like Medicare. Wyoming's non-facility rates were used regardless of the place of service code present on each claim.

For surgeries services, Tables SA2-SA4 show the payment comparison for all three Scenarios by sub-category of service. Separate surgeries comparison results for Medicare and other states can be found in Appendix SA6. Table SA5 shows the payment comparison for anesthesia services. Please note that differences may exist when independently calculating these results due to the rounding of numbers.

Table SA2 – Medicare and Other States Combined Surgeries Comparison Results: Scenario 1

Sub-category of Service	Colorado Re-priced	Comparison Re-priced	Colorado as a % of Comparison
Cardiovascular Systems	$12,332,699	$20,374,780	60.53%
Digestive Systems	$17,108,628	$32,857,572	52.07%
Eye and Auditory Systems	$5,748,805	$7,629,586	75.35%
Integumentary Systems	$8,600,665	$18,741,493	45.89%
Musculoskeletal Systems	$18,452,954	$34,422,084	53.61%
Respiratory Systems	$4,036,692	$6,964,434	57.96%
Total	$66,280,443	$120,989,949	54.78%

Table SA3 – Medicare and Other States Combined Surgeries Comparison Results: Scenario 2

Sub-category of Service	Colorado Re-priced	Comparison Re-priced	Colorado as a % of Comparison
Cardiovascular Systems	$7,145,457	$2,540,178	281.30%
Digestive Systems	$8,021,217	$7,091,939	113.10%
Eye and Auditory Systems	$645,561	$792,486	81.46%
Integumentary Systems	$4,291,302	$6,154,215	69.73%
Musculoskeletal Systems	$2,571,817	$5,246,259	49.02%
Respiratory Systems	$1,639,716	$1,076,021	152.39%
Total	$24,315,070	$22,901,098	106.17%

Table SA4 – Medicare and Other States Combined Surgeries Comparison Results: Scenario 3

Sub-category of Service	Colorado Re-priced	Comparison Re-priced	Colorado as a % of Comparison
Cardiovascular Systems	$12,332,699	$9,732,838	126.71%
Digestive Systems	$17,108,628	$22,498,138	76.04%
Eye and Auditory Systems	$5,748,805	$7,376,888	77.93%
Integumentary Systems	$8,600,665	$15,151,436	56.76%
Musculoskeletal Systems	$18,452,954	$32,157,983	57.38%
Respiratory Systems	$4,036,692	$5,528,255	73.02%
Total	$66,280,443	$92,445,540	71.70%

Table SA5 – Medicare Anesthesia Comparison Results

Sub-category of Service	Colorado Re-priced	Comparison Re-priced	Colorado as a % of Comparison
Anesthesia	$37,941,767	$28,822,766	131.64%

For surgeries and anesthesia services, Table SA6 contains aggregate results of the payment comparison, Colorado and Medicare/Other States' re-pricing, and the estimated impact to General and Total Funds.

Table SA6 – Surgeries and Anesthesia Services Estimated Fiscal Impact:

	Surgeries Scenario 1	Surgeries Scenario 2	Surgeries Scenario 3	Anesthesia
Colorado as a % of Medicare/Other States' Expenditures	54.78%	106.17%	71.70%	131.64%
Health First Colorado 7/1/2016 Re-priced Amount	$66,280,443	$24,315,070	$66,280,443	$37,941,767
Medicare/Other States' Re-priced Amount	$120,989,949	$22,901,098	$92,445,540	$28,822,766
Estimated Total Funds Impact	**$54,709,506**	**$(1,413,972)**	**$26,165,096**	**$(9,119,002)**

Table SA6 can be interpreted to mean that Colorado pays an estimated 45.22% less than the combination of Medicare and other states for surgeries services under Scenario 1, 6.17% more under Scenario 2, and 28.30% less under Scenario 3.[15] Results also show that Colorado pays an estimated 31.64% more than Medicare for anesthesia services.

Had Medicaid reimbursed at 100.00% of the combined benchmark's rates in FY 2015-16, it is estimated that Colorado would have spent an additional $54,709,506 in Total Funds on surgeries services under Scenario 1, saved $1,413,972 in Total Funds under Scenario 2, and spent an additional $26,165,096 in Total Funds under Scenario 3.[16] For anesthesia, Colorado would have saved $9,119,002 in Total Funds. Furthermore, these figures may be interpreted as the minimum impact for two reasons:

1. As mentioned previously concerning the limitation of data to relevant surgeries and anesthesia experience, claims that were denied or zero paid were removed along with their corresponding utilization.
2. A small portion of Colorado's expenditures was excluded from the comparison since there were some services for which a comparable rate could not be found.

[15] This statement must be evaluated in the context of both access and quality before drawing conclusions about the appropriateness of rates. There are services for which the Department pays more than 54.78% of the comparable rate, and others for which the Department pays less. In situations where access is sufficient, standards of quality are met, and the intent of the Department is to purchase value, a lower percentage of the benchmark would be acceptable.

[16] The total funds and General Fund split refers to federal financial participation. Total funds include both federal and state responsibility, and the General Fund consists of the state portion only.

Appendix SA4: Surgeries and Anesthesia Services - Base Data Summary

Surgeries:

	Paid Dollars	% of Paid Dollars
Base Data FY 2015-16	$57,278,318	100.00%
Exclusions		
Discontinued Codes	$34,110	0.06%
Manually Priced Codes	$183,594	0.32%
Total Exclusions	$217,705	0.38%
Health First Colorado Re-pricing		
Total Base Medicaid Data to Re-price	$57,060,614	99.62%

Discontinued codes include the following:

31620	37202	37250	37251	39400	47500	47505	47510
47511	47525	47530	47561	47630			

Manually priced codes include the following:

17999	20999	21299	21899	22899	22999	23929	24999
26989	27299	27599	27899	28899	29999	30999	31299
31599	31899	32607	32999	33981	33983	33999	37799
38999	39599	41899	42699	42999	43252	43289	43499
43659	43999	44705	44799	45499	45999	46601	46607
46999	47379	47999	48999	49329	49999	68899	69399
69799							

Anesthesia:

	Paid Dollars	% of Paid Dollars
Base Data FY 2015-16	$37,226,378	100.00%
Exclusions		
Discontinued Code 01999	$1,144	0.00%
Health First Colorado Re-pricing		
Total Base Medicaid Data to Re-price	$37,225,234	100.00%

Appendix SA5: Surgeries and Anesthesia Services - Utilization IBNR

Sub-category of Service	Utilization Factor
Cardiovascular Systems	0.9798
Digestive Systems	0.9924
Eye and Auditory Systems	0.9706
Integumentary Systems	0.9456
Musculoskeletal Systems	0.9398
Respiratory Systems	0.9699
Surgeries Total	**0.9584**

Anesthesia	**0.9934**

Note: as an example, the first figure in this table can be interpreted as an estimate that the raw utilization data for cardiovascular systems only made up 97.98% of the true total due to incomplete claims runout.

Appendix SA6: Surgeries Services - Separate Comparison Results

Medicare Surgeries Comparison Results: Scenario 1

Sub-category of Service	Colorado Re-priced	Medicare Re-priced	Colorado as a % of Medicare
Cardiovascular Systems	$12,332,699	$20,374,780	60.53%
Digestive Systems	$17,108,628	$32,857,572	52.07%
Eye and Auditory Systems	$5,748,805	$7,629,586	75.35%
Integumentary Systems	$8,600,379	$18,741,207	45.89%
Musculoskeletal Systems	$18,452,954	$34,422,084	53.61%
Respiratory Systems	$4,036,692	$6,964,434	57.96%

Medicare Surgeries Comparison Results: Scenario 2

Sub-category of Service	Colorado Re-priced	Medicare Re-priced	Colorado as a % of Medicare
Cardiovascular Systems	$7,140,077	$2,534,798	281.68%
Digestive Systems	$8,021,217	$7,091,939	113.10%
Eye and Auditory Systems	$645,561	$792,486	81.46%
Integumentary Systems	$4,291,302	$6,154,215	69.73%
Musculoskeletal Systems	$2,532,365	$5,190,977	48.78%
Respiratory Systems	$1,639,716	$1,076,021	152.39%

Medicare Surgeries Comparison Results: Scenario 3

Sub-category of Service	Colorado Re-priced	Medicare Re-priced	Colorado as a % of Medicare
Cardiovascular Systems	$12,332,699	$9,732,838	126.71%
Digestive Systems	$17,108,628	$22,498,138	76.04%
Eye and Auditory Systems	$5,748,805	$7,376,888	77.93%
Integumentary Systems	$8,600,379	$15,151,436	56.76%
Musculoskeletal Systems	$18,452,954	$32,157,983	57.38%
Respiratory Systems	$4,036,692	$5,528,255	73.02%

Other States Surgeries Comparison Results: Scenario 1

Sub-category of Service	Colorado Re-priced	Other States Re-priced	Colorado as a % of Other States
Cardiovascular Systems	$8,887	$10,152	87.54%
Digestive Systems	$0	$0	0.00%
Eye and Auditory Systems	$0	$0	0.00%
Integumentary Systems	$286	$286	100.06%
Musculoskeletal Systems	$169,450	$327,625	51.72%
Respiratory Systems	$0	$0	0.00%

Other States Surgeries Comparison Results: Scenario 2

Sub-category of Service	Colorado Re-priced	Other States Re-priced	Colorado as a % of Other States
Cardiovascular Systems	$5,380	$5,380	100.00%
Digestive Systems	$0	$0	0.00%
Eye and Auditory Systems	$0	$0	0.00%
Integumentary Systems	$0	$0	0.00%
Musculoskeletal Systems	$39,452	$55,282	71.37%
Respiratory Systems	$0	$0	0.00%

Other States Surgeries Comparison Results: Scenario 3

Sub-category of Service	Colorado Re-priced	Other States Re-priced	Colorado as a % of Other States
Cardiovascular Systems	$8,887	$9,505	93.49%
Digestive Systems	$0	$0	0.00%
Eye and Auditory Systems	$0	$0	0.00%
Integumentary Systems	$286	$0	0.00%
Musculoskeletal Systems	$169,450	$313,032	54.13%
Respiratory Systems	$0	$0	0.00%