



COLORADO

Department of Health Care
Policy & Financing

**FY 2017–2018
Denver Health
412 Independent Audit Report**

June 2018

*This report was produced by Health Services Advisory Group, Inc.,
for the Colorado Department of Health Care Policy and Financing.*



FY 2017–2018 Denver Health 412 Independent Audit Report.....	1
Background	1
Methodology	2
Results	4
Desk Review	4
Over-Read of Sample Cases by Service Category	5
Conclusions	10
Recommendations	11
Appendix A. Physical Health Encounter Data Flat File Specifications	A-1
Appendix B. Response Data Layout for Encounter Quality Audit	B-1
Appendix C. Denver Health Service Coding Accuracy Results	C-1

FY 2017–2018 Denver Health 412 Independent Audit Report

Background

Beginning in fiscal year (FY) 2015–2016, the Colorado Department of Health Care Policy and Financing (the Department) contracted Health Services Advisory Group, Inc. (HSAG), to conduct an encounter data validation for one of the Department’s contracted physical health organizations, a health maintenance organization (HMO), as an optional External Quality Review (EQR) task under the Centers for Medicare & Medicaid Services (CMS) Medicaid Guidelines.¹ The FY 2017–2018 study focuses on encounters submitted by the Denver Health Medicaid Choice managed care plan (Denver Health, or the HMO). To assess the HMO’s data validation capacity, the study aims to evaluate Denver Health’s compliance with State standards regarding encounter data submission as well as the consistency and accuracy with which Denver Health audits encounter data through the use of medical record review. To facilitate this assessment, the Department randomly selected 103 final, adjudicated physical health encounters from four distinct service categories (i.e., a total of 412 encounters) to be audited by Denver Health. These service categories included encounters with services rendered in federally qualified health centers (FQHCs), as well as in inpatient, outpatient, and professional settings. Denver Health submitted the internal audit results and an encounter data quality report to HSAG and the Department.

To further improve the quality of encounter data submitted by Denver Health, the Department developed and implemented the HMO Encounter Data Quality Review Guidelines (guidelines). The guidelines include file format and reporting requirements as well as a specific timeline to guide Denver Health in conducting its internal audit and using the audit results to prepare the Encounter Data Submission Quality Report and Service Coding Accuracy Report.

The Department contracted HSAG to evaluate Denver Health’s capacity to internally audit encounters through an independent assessment of the HMO’s service coding accuracy results. Specifically, the Department requested HSAG to complete the following tasks during FY 2017–2018:

1. Conduct a desk review of Denver Health’s audit process, including any audit documentation submitted by the HMO.
2. Conduct a review of medical records for cases randomly selected from each service category’s 103 sample list, which was generated by the Department.
3. Produce an aggregate report with findings specific to each service category, including a statement regarding HSAG’s assessment of the accuracy of Denver Health’s internal audit results.

¹ Department of Health and Human Services, Centers for Medicare & Medicaid Services. *EQR Protocol 4: Validation of Encounter Data Reports by the MCO: A Voluntary Protocol for External Quality Review (EQR)*. Version 2.0. September 2012. Available at <https://www.medicaid.gov/medicaid/quality-of-care/medicaid-managed-care/external-quality-review/index.html>. Accessed on: June 1, 2017.

Methodology

HSAG’s independent audit consisted primarily of an assessment of Denver Health’s internal audit results through an over-read of medical records for a sample of randomly selected encounters. HSAG recommended a sampling strategy to the Department to ensure that audit cases were generated randomly from a representative base of encounters eligible for inclusion in this study. HSAG’s review of the Department’s sampling protocol was limited to an assessment of sampling methodology documentation provided by the Department.

The second component of HSAG’s independent audit was to evaluate whether Denver Health’s internal audit of the sampled encounters against members’ medical records was accurate and consistent with standard coding manuals. HSAG received a response file containing Denver Health’s internal audit results for the 412 cases sampled by the Department. HSAG then generated an over-read sample of 20 cases for each of the four service categories (80 cases overall). The evaluation process included the following steps:

1. Generation of Over-Read Samples

The Department developed the 412-case sample of final adjudicated Denver Health encounters paid between October 1, 2016, and September 30, 2017, for four physical health service categories.^{2,3} The Department submitted the sample lists to Denver Health and HSAG in January 2018; Denver Health then conducted its internal audit on the sampled encounters.

HSAG used the sample lists from the Department to generate an over-read sample using a two-stage sampling approach. Under this sampling approach, HSAG randomly selected 20 identification numbers for unique individuals from each service category and then selected a single encounter line for each of the 20 individuals, resulting in a list of 20 randomly selected encounter lines per service category (80 cases overall). A single health event could result in a member having encounters for both the Inpatient Services and the Professional Services categories; therefore, HSAG assessed the service category lists to ensure that no members were included in multiple service categories.

2. Audit Tool Development

Denver Health submitted its response file containing internal audit results for the 412 sampled cases to HSAG in March 2018. HSAG designed a web-based data collection tool and tool instructions based on the guidelines and on standard national coding manuals. As a result of the unique data fields and coding standards required for inpatient encounters, HSAG’s web-based tool included separate data collection screens for inpatient encounters versus those used for ambulatory-type encounters (i.e., FQHC,

² Service categories were identified using the `cat_serv` field assigned to each encounter by the Department. `Cat_serv` values of “0” identified Professional Services, “1” identified Inpatient Services, “4” identified services rendered at an FQHC, and “5” identified Outpatient Services. Claims are assigned to service categories according to a hierarchy, and each claim may be assigned to only a single category.

³ The Department’s data layout for HMO encounter data flat files is presented for reference in Appendix A.

outpatient, and professional). A control file containing select fields from the Department’s encounter data flat file as well as Denver Health’s corresponding internal audit values for sampled cases was uploaded into the tool, permitting pre-population of encounter and audit information for each case. Pre-populated information could not be altered, and HSAG’s coders were required to actively select an over-read response for each data element. Corresponding medical records procured by Denver Health were linked to cases within the tool. The web-based tool allowed the HSAG analyst to extract MS Excel files containing encounter data, HMO audit responses, and HSAG coder responses specific to each encounter type (i.e., service category).

3. HSAG’s Over-Read Process

HSAG evaluated the accuracy of the HMO’s audit findings in April 2018. More specifically, the HSAG reviewers validated the HMO’s accuracy in auditing the providers’ submitted encounter data in accordance with the national code sets: International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM); International Classification of Diseases, Procedural Modification (ICD-10-PM); Current Procedural Terminology (CPT); Healthcare Common Procedure Coding System (HCPCS); and the 1995 Evaluation and Management (E&M) documentation guidelines. HSAG’s over-read did not evaluate the quality of the medical record documentation or the provider’s accuracy in submitting encounter data, only whether the HMO’s audit responses were accurate based on the review of the supporting medical record documentation submitted by the HMO. All over-read results were entered into the HSAG audit tool.

HSAG trained five certified coders to conduct the over-read. During the over-read of the outpatient claim types, the coders located the selected date of service in the submitted medical records to determine whether the CPT, HCPCS, and ICD-10-CM codes pre-populated in the audit tool from the encounter data flat file were supported by the submitted medical record documentation and in alignment with the criteria outlined in the review and code set guidelines. During the over-read of the inpatient claim types the coders located the selected date of service in the submitted medical records to determine whether or not the ICD-10-PM and the ICD-10-CM codes pre-populated in the audit tool from the encounter data flat file were supported by the submitted medical record documentation and in alignment with the criteria outlined in the review and code set guidelines. The HSAG coders then determined whether the HMO agreed or disagreed with the accuracy of the codes submitted by the provider. If the HSAG coder agreed with the HMO’s response, an agreement response was recorded in the tool. If the HSAG coder disagreed with the HMO’s response, a disagreement response was recorded in the tool. The findings of this over-read were based on HSAG’s percent of agreement or disagreement with the HMO’s responses.

Prior to beginning abstraction, coders participated in an interrater reliability (IRR) assessment using training cases. To proceed with abstraction on study cases, coders were required to score 95 percent or higher on the post-training IRR. If this threshold was not met, the nurse manager provided re-training, including abstraction of additional test cases.

During the over-read period, HSAG conducted an ongoing IRR assessment by randomly selecting a minimum of 10 percent of cases per claim type and comparing the over-read results to those from a second coder. For cases in which over-read discrepancies were identified between the first and second

coders, a third “Gold Standard” review was conducted and provided a final determination regarding the appropriate over-read result. Any IRR result that fell below 95 percent required further evaluation by the nurse manager and possible re-training of the coder(s).

4. Analysis Process

Following completion of the over-read, the HSAG analyst exported results from the over-read tool for each service category. Because data elements varied by claim type, results were not aggregated across the service categories. The coders’ over-read notes were reviewed by the analyst, and notes requiring further information were addressed with the nurse manager.

The HSAG analyst assessed the over-read results to determine the percentage of records per service category for which the HSAG coder agreed with the internal audit response from Denver Health. Results were displayed by service category for data elements that were audited by Denver Health and overread by HSAG. Over-read analysis results were independently verified by a second HSAG analyst.

Results

Desk Review

Sampling Methodology

The Department provided a brief description of the process used to randomly select Denver Health encounter for Denver Health to audit. The Department’s documentation listed the criteria by which encounters are assigned to service categories and noted that that sample was restricted to final adjudicated encounters paid within the study period. The Department also detailed its two-stage random sampling process for identifying 103 unique encounters per service category and how a single encounter line was randomly selected from each unique encounter; encounters were defined based on the claim number data field.

HSAG reviewed the sample list provided by the Department, the sampling process description, as well as a portion of the sampling code used to generate the sample. Sample selection was performed in SAS using the “SURVEYSELECT” procedure to obtain a random sample of claim numbers from each service category and to then select a random encounter line for each of the encounters selected during the first stage of sampling.

Denver Health’s Internal Audit Methodology

To help provide context for Denver Health’s Encounter Data Submission Quality Report and Service Coding Accuracy Report, the Department requested Denver Health’s internal audit methodology documentation as a component of the Service Coding Accuracy Report. HSAG’s review of Denver Health’s internal audit methodology documentation verified the presence of:

- The coding guidelines referenced for its auditing process.
- A description of the record procurement and audit process, including the use of a company subsidiary (i.e., Denver Health Enterprise Compliance Services within Denver Health and Hospital Authority) for various audit tasks.
- A brief description of the audit tool.
- The credentials, training, and experience of all reviewers.
- The rater reliability testing process for audit validation.

Over-Read of Sample Cases by Service Category

The audit response file submitted by Denver Health contained all required audit fields and aligned with the audit response file layout required by the Department and outlined in the guidelines. Though Denver Health was unable to procure medical records for one over-read professional case, HSAG's coders agreed with Denver Health's audit responses for this case. In one additional over-read professional case, Denver Health determined that the available medical records were insufficient for its audit; HSAG's coders disagreed with this determination. The audit response data layout is presented in Appendix B.

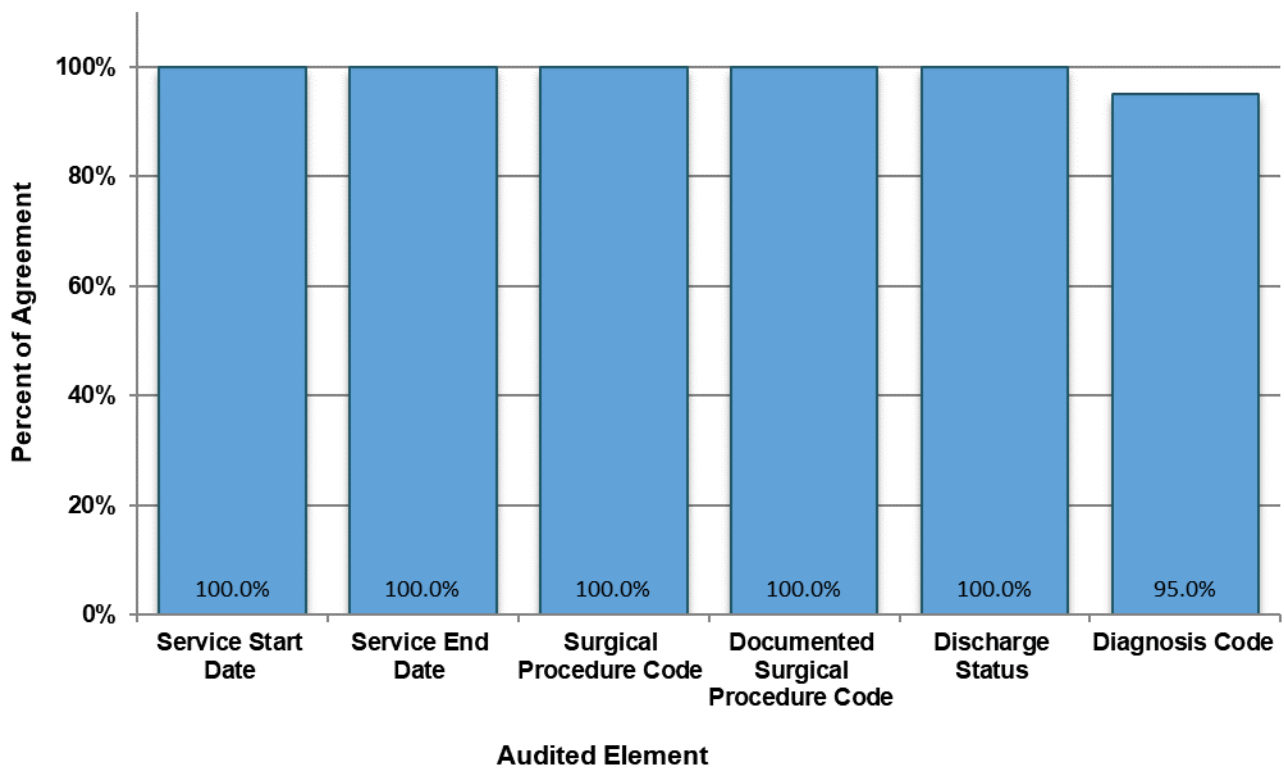
The remainder of this section details HSAG's over-read findings by service category. For reference, Appendix C presents, by service category, Denver Health's internal audit results found in its Service Coding Accuracy Report.

In addition to the results presented in this report, HSAG has provided the Department with supplemental spreadsheets detailing, by claim type, the nature of the disagreement for any data element about which HSAG's coder disagreed with Denver Health's audit determination. This MS Excel workbook is referenced in the remainder of the report as the Case-Level Disagreement List.

Inpatient Cases

Figure 1 presents the aggregate results from HSAG’s over-read of the 20 inpatient cases. Agreement values range from 95.0 percent to 100 percent for individual elements, where 100 percent represents complete agreement between Denver Health’s internal audit results and HSAG’s over-read results, and 0 percent represents complete disagreement.

Figure 1—Aggregated Percent of Agreement Between HSAG’s Over-Read and Denver Health’s Internal Audit Findings, by Data Element Inpatient Services



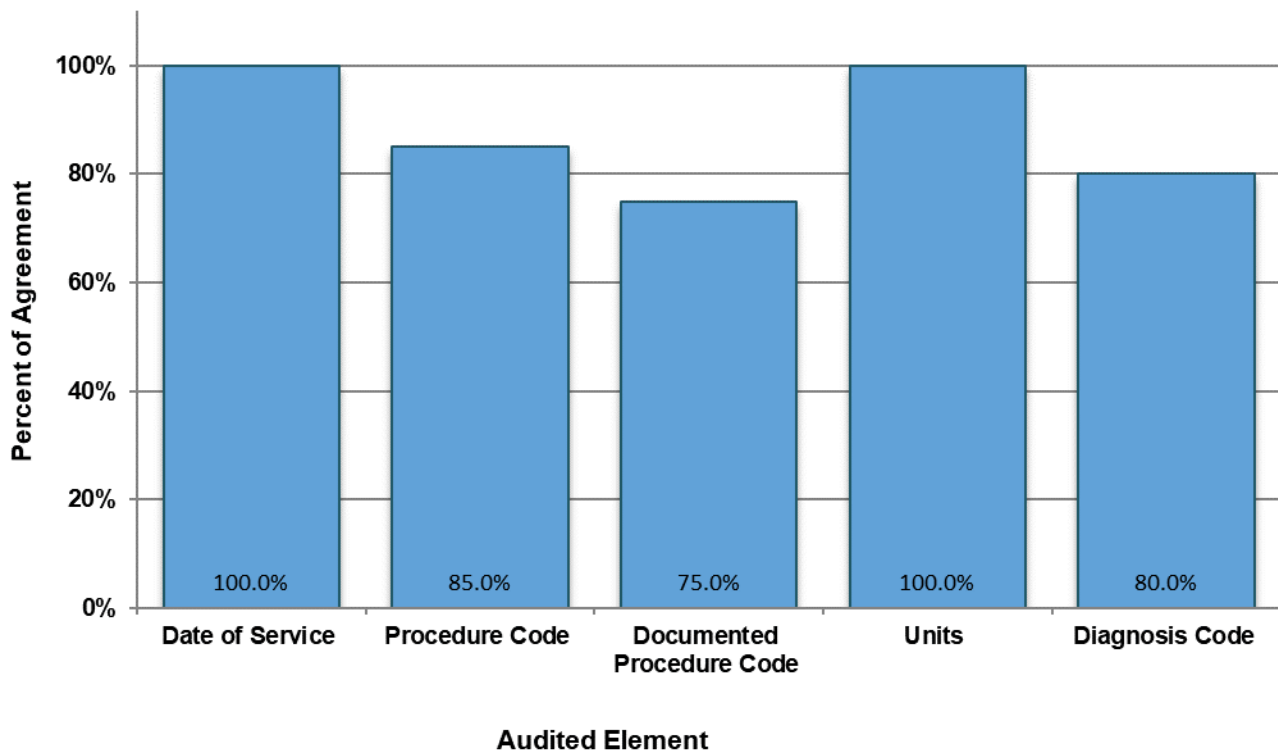
Complete agreement for a sampled inpatient encounter occurred when HSAG’s over-read results indicated agreement with Denver Health’s audit response for each of the six assessed data elements. Of the 20 sampled inpatient encounters, over-read results demonstrated complete agreement for 19 cases, producing an aggregate agreement rate of 95.0 percent. HSAG’s over-read results agreed with Denver Health’s audit responses for all cases (i.e., complete agreement) for the *Service Start Date*, *Service End Date*, *Surgical Procedure Code*, *Documented Surgical Procedure Code*, and *Discharge Status* data elements. The lowest agreement rate (95.0 percent) was observed for *Diagnosis Code*.

As noted in the Case-Level Disagreement List for Inpatient Services, HSAG’s reviewers determined that medical record documentation did not align with the encounter data for the one audited data element for which Denver Health’s audit results were inconsistent with HSAG’s over-read results.

Outpatient Cases

Figure 2 presents the aggregate results from HSAG’s over-read of the 20 outpatient cases. Agreement values range from 75.0 percent to 100 percent for individual elements, where 100 percent represents complete agreement between Denver Health’s internal audit results and HSAG’s over-read results, and 0 percent represents complete disagreement.

Figure 2—Aggregated Percent of Agreement Between HSAG’s Over-Read and Denver Health’s Internal Audit Findings, by Data Element Outpatient Services



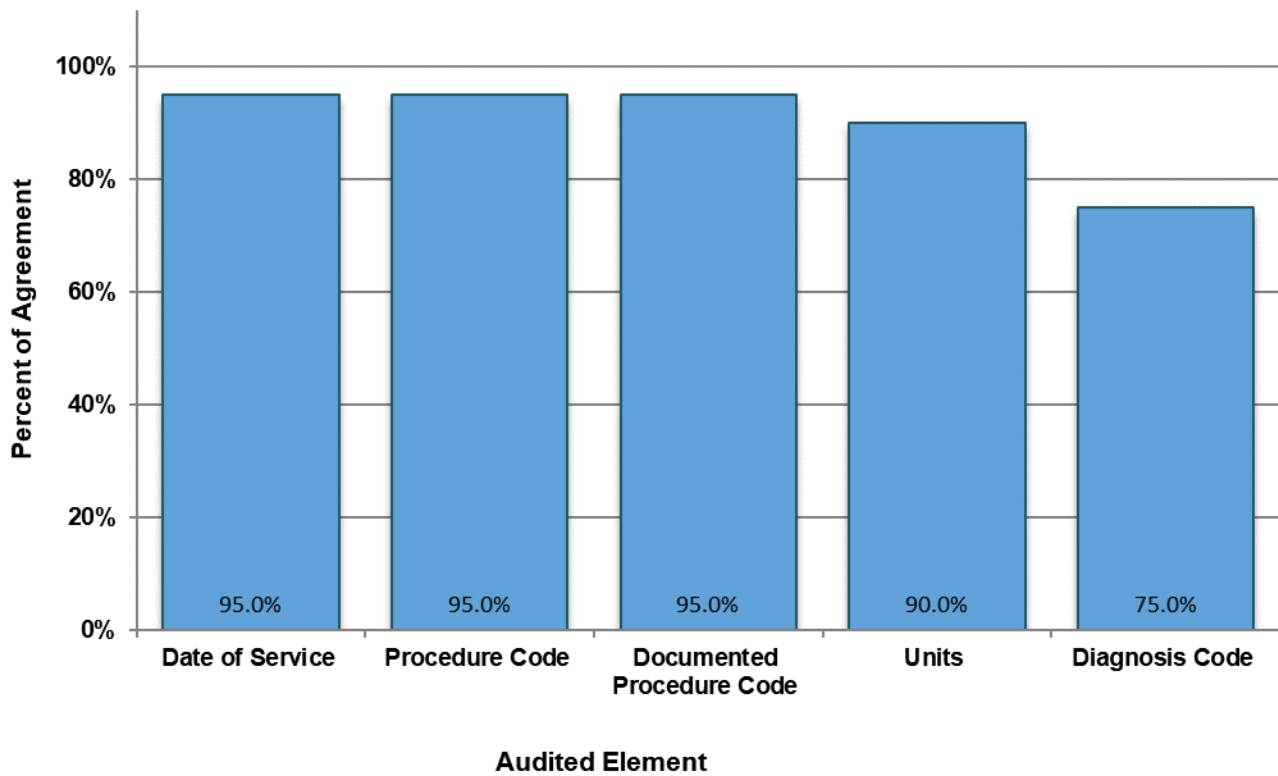
Complete agreement occurred when HSAG’s over-read results indicated agreement with Denver Health’s audit response for each of the five individual data elements assessed for a sampled outpatient encounter. Of the 20 sampled outpatient encounters, over-read results demonstrated complete agreement for 11 cases, producing an aggregate agreement rate of 55.0 percent. HSAG’s over-read results agreed with Denver Health’s audit responses for all cases (i.e., complete agreement) for the *Date of Service* and *Units* data elements. The lowest agreement rate (75.0 percent) was observed for *Documented Procedure Code*.

As noted in the Case-Level Disagreement List for Outpatient Services, HSAG reviewers determined that medical record documentation did not align with the encounter data for the 12 audited data elements for which Denver Health’s audit results were inconsistent with HSAG’s over-read results. The 12 data elements in disagreement represented nine sampled over-read cases.

Professional Cases

Figure 3 presents the aggregate results from HSAG’s over-read of the 20 professional cases. Agreement values range from 75.0 percent to 95.0 percent for individual elements, where 100 percent represents complete agreement between Denver Health’s internal audit results and HSAG’s over-read results, and 0 percent represents complete disagreement.

Figure 3—Aggregated Percent of Agreement Between HSAG’s Over-Read and Denver Health’s Internal Audit Findings, by Data Element Professional Services



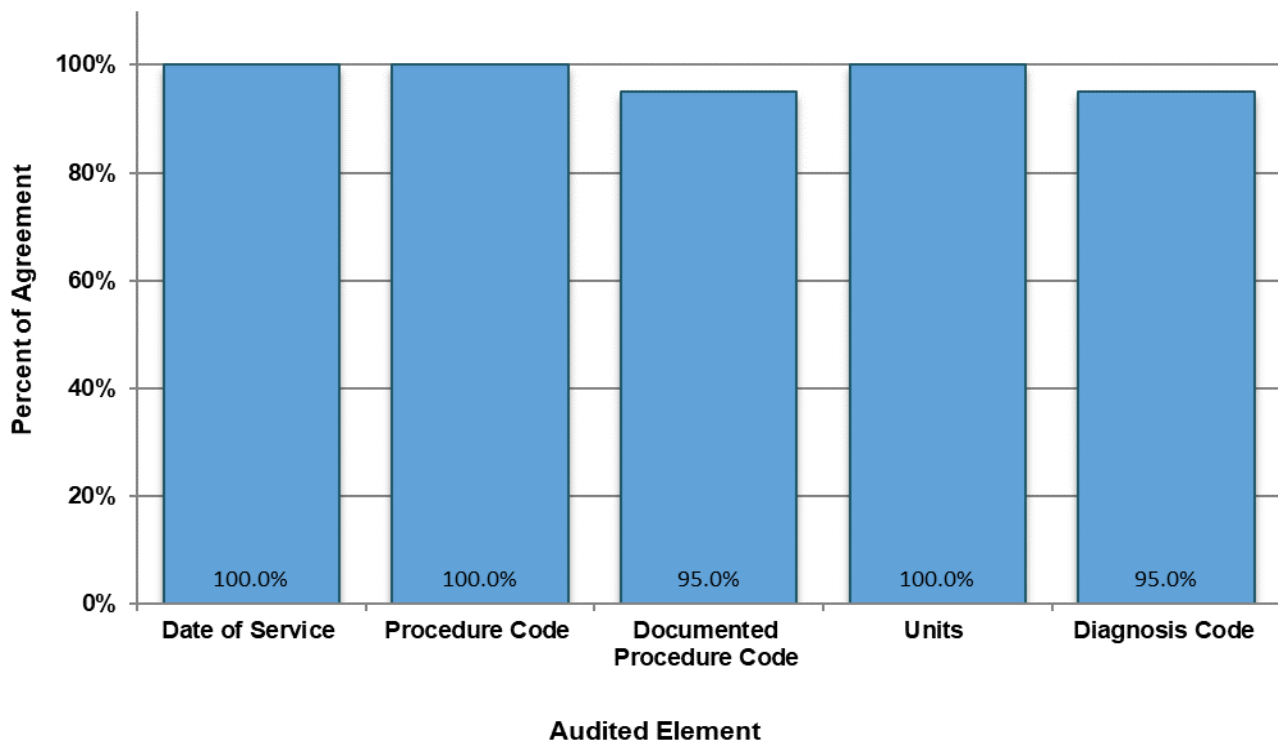
Complete agreement occurred when HSAG’s over-read results indicated agreement with Denver Health’s audit response for each of the five individual data elements assessed for a sampled professional encounter. Of the 20 sampled professional encounters, over-read results demonstrated complete agreement for 14 cases, producing an aggregate agreement rate of 70.0 percent. No audited elements demonstrated complete agreement. The lowest agreement rate (75.0 percent) was observed for *Diagnosis Code*.

As noted in the Case-Level Disagreement List for Professional Services, HSAG reviewers determined that medical record documentation did not align with the encounter data for nine of the 10 audited data elements for which Denver Health’s audit results were inconsistent with HSAG’s over-read results. Five of the 10 data elements were related to a single sampled over-read case.

FQHC Cases

Figure 4 presents the aggregate results from HSAG’s over-read of the 20 FQHC cases. Agreement values range from 95.0 percent to 100 percent for individual elements, where 100 percent represents complete agreement between Denver Health’s internal audit results and HSAG’s over-read results, and 0 percent represents complete disagreement.

Figure 4—Aggregated Percent of Agreement Between HSAG’s Over-Read and Denver Health’s Internal Audit Findings, by Data Element FQHC Services



Complete agreement occurred when HSAG’s over-read results indicated agreement with Denver Health’s audit response for each of the five individual data elements assessed for a sampled FQHC encounter. Of the 20 sampled FQHC encounters, over-read results demonstrated complete agreement for 18 cases, producing an aggregate agreement rate of 90.0 percent. HSAG’s over-read results agreed with Denver Health’s audit responses for all cases (i.e., complete agreement) for the *Date of Service*, *Procedure Code*, and *Units* data elements. The lowest agreement rates (each 95.0 percent) were observed for *Documented Procedure Code* and *Diagnosis Code*.

As noted in the Case-Level Disagreement List for FQHC Services, HSAG reviewers determined that medical record documentation did not align with the encounter data for the two audited data elements for which Denver Health’s audit results were inconsistent with HSAG’s over-read results.

Conclusions

HSAG performed a desk review of the Department’s sampling methodology, assessing documentation that outlined key steps in the Department’s generation of the 412-case sample. This review confirmed that the Department took steps to select a random sample of unique encounters from the four service categories of interest within the specified study time frame. A three-month data run-out period was permitted, but no further details regarding the adequacy of this interval were reported.

HSAG’s over-read results indicated complete agreement with Denver Health’s internal audit results for 62.0 of the 80.0 sampled encounters, resulting in an agreement rate of 77.5 percent. The individual service categories had the following complete agreement rates: 95.0 percent (inpatient cases), 55.0 percent (outpatient cases), 70.0 percent (professional cases), and 90.0 percent (FQHC cases).

Only one sampled inpatient case revealed disagreement with *Diagnosis Code*, resulting in an agreement rate of 95 percent for this data element. Overall, five of the six inpatient data elements demonstrated 100 percent agreement rates between HSAG’s coders and Denver Health’s auditors.

The same data elements were audited for outpatient, professional, and FQHC cases. *Date of Service* showed high agreement rates across the three service categories, with a range of 95.0 percent to 100 percent and an overall agreement rate of 98.3 percent. *Units* also presented high agreement rates, ranging from 90.0 percent to 100 percent, with an overall agreement rate of 96.7 percent. The lowest level of agreement was seen for *Diagnosis Code*, ranging from 75.0 percent to 95.0 percent, with an overall agreement rate of 83.3 percent.

HSAG’s coders determined that, rather than insufficient medical record documentation, misalignment between medical record documentation and encounter data contributed to nearly all cases in which HSAG’s coders disagreed with Denver Health’s audit results. Notes from Denver Health’s reviewers indicated that one case selected for the over-read did not have supporting medical records; HSAG’s coders disagreed with Denver Health’s audit responses for this case. This discrepancy resulted in complete disagreement for one professional case. Denver Health provided medical record documentation for 79 of the 80 sampled over-read cases, and HSAG’s over-read results were not impacted by Denver Health’s medical record procurement for this study.

Results from HSAG’s FY 2017–2018 HMO over-read suggest a moderate level of confidence that Denver Health’s audit findings accurately reflect its encounter data quality, with clear improvements over HSAG’s FY 2016–2017 HMO over-read results. Overall, results from HSAG’s FY 2017–2018 HMO over-read showed that HSAG’s coders agreed with Denver Health’s reviewers for 94.0 percent of individual audited data elements. Agreement rates among the different services categories were highest for inpatient cases (99.2 percent) and lowest among outpatient cases (88.0 percent). As reported in Denver Health’s Service Coding Accuracy Report, Denver Health’s reviewers consistently recorded lower agreement rates for *Diagnosis Code* and *Procedure Code*, suggesting opportunities for root cause analyses to determine barriers to encounter data quality.

Recommendations

The Department designed this study to assess the accuracy with which Denver Health audits physical health encounters in support of the Department’s overall encounter data quality efforts. Therefore, HSAG recommends that findings associated with this independent audit be used only for the Department’s information and not for performance measurement or compliance monitoring purposes.

The Department is currently transitioning its encounter data process to a new Medicaid Management Information System (MMIS), interChange; and Denver Health will submit encounter data directly into the MMIS. For validation purposes, Denver Health will continue to submit encounter data flat files to the Department in parallel with MMIS submissions for a period of time determined by the Department. This change to the encounter data process will require enhanced data monitoring by the Department and Denver Health to ensure encounter data timeliness and accuracy as well as comparability between encounter data provided by Denver Health under the new and legacy systems.

As FY 2017–2018 is the third year of the independent HMO audit, HSAG requested feedback from the Department regarding quality improvement actions resulting from recommendations in the FY 2016–2017 study. In advance of the recommendations noted below, the Department met with HSAG and indicated that it has updated its previously submitted sampling methodology for the FY 2017–2018 study, changing the sampling approach to prevent the selection of encounters from the same member across service categories. Though not applicable to the current study findings, the Department also noted the following actions are planned to establish a robust encounter data system with the move to interChange:

- The Department will work with its encounter data system vendor to improve encounter data documentation to guide the HMO’s data submissions.
- The HMO will directly submit standardized electronic data files to the Department, allowing for cleaner data handling over the previous text file format for the encounter data flat file.

While the current over-read results show progress by Denver Health, note that similar recommendations from the FY 2016–2017 study are still relevant. As such, HSAG offers the following recommendations to improve the quality of Denver Health’s encounter data.

- The Department should comprehensively document its sampling methodology to ensure future replicability. Definitions can be added to describe terms found in the document, and background information regarding methodology approaches (e.g., the decision to use a two-stage sampling approach) can be noted for future reference.
- Denver Health’s Service Coding Accuracy Report provided detailed information on medical record procurement and the coding standards considered by its reviewers. However, descriptions of the audit tool, including Denver Health’s methods for pre-populating the tool with encounter data values and maintaining data integrity during the audit were limited. In future service coding accuracy reports, Denver Health should more thoroughly document audit tool(s) to prevent data integrity

issues during data abstraction. Examples of specific documentation details include, but are not limited to, the following:

- Adding built-in logic to the data collection tool to limit the reviewers’ responses to established values (e.g., reviewers can only enter “0” or “1” in the tool for the specified data element).
- Verifying that the data collected from the tool is accurately tabulated for the Service Coding Accuracy Report.
- Based on self-reported service coding accuracy results, Denver Health should establish training or corrective actions to address providers’ encounter submission errors. If Denver Health is currently offering these services, the Department should request copies of the training and/or corrective action procedures and materials. Reviewing these documents may identify opportunities for improvement or standardization.
- The Department may consider requiring Denver Health to develop and conduct periodic provider education and training on encounter data submissions, medical record documentation, and coding practices. The Department could work with Denver Health to develop these trainings to ensure that the training materials support the Department’s encounter data quality efforts and align with the Department’s encounter data reporting requirements for Denver Health. Continuing over-read activities will help to determine whether or not educational efforts affect encounter data quality.
- Denver Health’s Service Coding Accuracy Report showed variation in the HMO’s disagreement with encounter data service coding within the four categories of service. To improve encounter data quality among all service categories, the Department should request copies of Denver Health’s policies and procedures for monitoring providers’ data submissions and addressing concerns identified in the data, including sample monitoring reports and corrective materials as applicable.

Appendix A. Physical Health Encounter Data Flat File Specifications

This table was copied from the *FY 2017–2018 Annual HMO Encounter Data Quality Review Guidelines Appendix I, Encounter Data Flat File Specifications for HMOs*. Please note that column headings have been aligned with the Department’s encounter data layout.

	Data Element (Field)	Status*	Length	Valid Value
0	Record No	R	3(0)	Sequential number
1	Year_Month	C	X(6)	Encounter data
2	Claim_Type	R	X(1)	Encounter data
3	Member_ID	R	X(9)	Encounter data
4	Subscriber_ID	R	X(7)	Encounter data
5	Rate_Code	C	X(6)	Encounter data
6	Eligibility_Sequence	C	X(9)	Encounter data
7	Member_DOB	R	X(8)	Encounter data
8	Member_Age	C	9(3)	Encounter data
9	Client Last Name	R	X(20)	Encounter data
10	Client First Name	R	X(20)	Encounter data
11	Client Middle Initial	C	X(1)	Encounter data
12	Claim_Number	R	X(20)	Encounter data
13	Line_Number	R	9(3)	Encounter data
14	Rev_Code	R	X(5)	Encounter data
15	Rev_Description	R	X(35)	Encounter data
16	Proc_Code	R	X(8)	Encounter data
17	Proc_Code_Modifier_1	R	X(2)	Encounter data
18	Proc_Code_Modifier_2	C	X(2)	Encounter data
19	Proc_Code_Modifier_3	C	X(2)	Encounter data
20	Proc_Code_Modifier_4	C	X(2)	Encounter data
21	Proc_Code_Modifier_5	C	X(2)	Encounter data
22	Proc_Code_Desc	R	X(35)	Encounter data
23	HCPCS_Proc_Code	R	X(8)	Encounter data
24	HCPCS_Desc	R	X(35)	Encounter data
25	ICD_Version	R	X(2)	Encounter data
26	Diag_Code_1	R	X(6)	Encounter data
27	Diag_Code_2	R	X(6)	Encounter data
28	Diag_Code_3	R	X(6)	Encounter data
29	Diag_Code_4	R	X(6)	Encounter data
30	Diag_Code_5	C	X(6)	Encounter data
31	Diag_Code_6	C	X(6)	Encounter data
32	Diag_Code_7	C	X(6)	Encounter data
33	Diag_Code_8	C	X(6)	Encounter data

	Data Element (Field)	Status*	Length	Valid Value
34	Diag_Code_9	C	X(6)	Encounter data
35	Diag_Code_Desc_1	R	X(25)	Encounter data
36	Diag_Code_Desc_2	R	X(25)	Encounter data
37	Diag_Code_Desc_3	R	X(25)	Encounter data
38	Diag_Code_Desc_4	R	X(25)	Encounter data
39	Diag_Code_Desc_5	C	X(25)	Encounter data
40	Diag_Code_Desc_6	C	X(25)	Encounter data
41	Diag_Code_Desc_7	C	X(25)	Encounter data
42	Diag_Code_Desc_8	C	X(25)	Encounter data
43	Diag_Code_Desc_9	C	X(25)	Encounter data
44	SurgicalProcedure1	R	X(6)	Encounter data
45	Surgical_Proc_Code1_Desc	R	X(30)	Encounter data
46	SurgicalProcedure2	R	X(6)	Encounter data
47	Surgical_Proc_Code2_Desc	R	X(30)	Encounter data
48	SurgicalProcedure3	R	X(6)	Encounter data
49	Surgical_Proc_Code3_Desc	R	X(30)	Encounter data
50	SurgicalProcedure4	R	X(6)	Encounter data
51	Surgical_Proc_Code4_Desc	R	X(30)	Encounter data
52	SurgicalProcedure5	R	X(6)	Encounter data
53	Surgical_Proc_Code5_Desc	R	X(30)	Encounter data
54	SurgicalProcedure6	R	X(6)	Encounter data
55	Surgical_Proc_Code6_Desc	R	X(30)	Encounter data
56	DRG	R	X(4)	Encounter data
57	Service_Date	R	X(8)	Encounter data
58	Thru_Date	R	X(8)	Encounter data
59	Discharge_Status	R	X(3)	Encounter data
60	Date_Received	R	X(8)	Encounter data
61	Post_Date	R	X(8)	Encounter data
62	Check_Date	R	X(8)	Encounter data
63	Quantity	R	9(15)	Encounter data
64	Place_of_Service	R	X(5)	Encounter data
65	Place_of_Service_Desc	R	X(25)	Encounter data
66	Billed_Amount	R	9(18,2)	Encounter data
67	Allowed_Amount	R	9(18,2)	Encounter data
68	Not_Covered_Amount	R	9(18,2)	Encounter data
69	Copay_Amount	R	9(18,2)	Encounter data
70	Deductible_Amount	R	9(18,2)	Encounter data
71	Other_Carrier_Amount	R	9(18,2)	Encounter data
72	Withhold_Amount	R	9(18,2)	Encounter data
73	Net_Amount	R	9(18,2)	Encounter data
74	Paid_Net	R	9(18,2)	Encounter data

	Data Element (Field)	Status*	Length	Valid Value
75	Claim_Status	R	X(1)	Encounter data
76	Claimline_Status	R	X(1)	Encounter data
77	Vendor_Type	R	X(6)	Encounter data
78	Provider_ID	R	X(15)	Encounter data
79	Provider_Type	R	X(10)	Encounter data
80	Provider_Spec	R	X(10)	Encounter data
81	Provider_Name	R	X(30)	Encounter data
82	Provider_MedicaidID	R	X(15)	Encounter data
83	Provider_NPI	R	X(15)	Encounter data
84	Provider_Tax_ID	R	X(10)	Encounter data
85	Provider_Zip_Code	R	X(5)	Encounter data
86	AttProvider_ID	R	X(15)	Encounter data
87	AttProvider_Type	R	X(10)	Encounter data
88	AttProvider_Spec	R	X(10)	Encounter data
89	AttProvider_Name	R	X(30)	Encounter data
90	AttProvider_MedicaidID	R	X(15)	Encounter data
91	AttProvider_NPI	R	X(15)	Encounter data
92	AttProvider_Tax_ID	R	X(10)	Encounter data
93	Vendor_Tax_ID	R	X(15)	Encounter data
94	BillTypeCode	R	X(3)	Encounter data

*R = Required, C = Conditional

Appendix B. Response Data Layout for Encounter Quality Audit

This table was copied from the *FY 2017–2018 Annual HMO Encounter Data Quality Review Guidelines Appendix II, Response Data Layout*. Please note that HSAG made minimal edits to the table for readability.

Data Element (Field)		Data Description	Format	Length
0	Record_No	Sequential number for each of 412 records	X	Integer
1	Encounter_Procedure_Code	0 = No or insufficient documentation, incorrect code utilized for procedure performed 1 = Correct Code 9 = If data element does not pertain to encounter service type <i>Required for Professional, Outpatient, and FQHC Encounters</i> <i>See further details following this table*</i>	X	1
2	Encounter_Procedure_Code_Modifier	0 = No or insufficient documentation, incorrect code modifier utilized for procedure performed 1 = Correct Code Modifier 9 = If data element does not pertain to encounter service type <i>Required for Professional, Outpatient, and FQHC Encounters</i>	X	1
3	Encounter_Surgical_Procedure_Code	0 = No or insufficient documentation, incorrect code utilized for surgical procedure performed 1 = Correct code 9 = If data element does not pertain to encounter service type <i>Required for Inpatient Encounters</i>	X	1
4	Encounter_Primary_Diagnosis_Code	0 = No or insufficient documentation, assignment of incorrect primary diagnosis code, diagnosis not treated during encounter 1 = Correct code <i>Required for Inpatient, Professional, Outpatient, and FQHC Encounters</i>	X	1
5	Encounter_Units	0 = No or insufficient documentation, incorrect units 1 = Correct units 9 = Data element does not pertain to encounter service type <i>Required for Professional, Outpatient, and FQHC Encounters</i>	X	1
6	Encounter_Service_Date	0 = No or insufficient documentation, incorrect service start date 1 = Correct service start date 9 = If data element does not pertain to encounter service type <i>Required for Inpatient, Professional, Outpatient, and FQHC Encounters</i>	X	2

Data Element (Field)		Data Description	Format	Length
7	Encounter_Thru_Date	0 = No or insufficient documentation, incorrect service end date 1 = Correct service end date 9 = If data element does not pertain to encounter service type <i>Required for Inpatient Encounters</i>	X	2
8	Encounter_Discharge_Status	0 = No or insufficient documentation, incorrect discharge status 1 = Correct discharge status 9 = If data element does not pertain to encounter service type <i>Required for Inpatient Encounters</i>	X	2
9	Doc_Procedure_Code	Enter correct procedure code if present in the supporting documentation. Enter 'No Doc' if no or insufficient documentation of correct procedure code. Enter 'NA' if data element does not pertain to encounter service type. <i>Required for Professional, Outpatient, and FQHC Encounters</i>	X	7
10	Doc_Procedure_Code_Modifier	Enter correct procedure code modifier if present in the supporting documentation. Enter 'No Doc' if no or insufficient documentation of correct procedure code modifier. Enter 'NA' if data element does not pertain to encounter service type. <i>Required for Professional, Outpatient, and FQHC Encounters</i>	X	7
11	Doc_Surgical_Code	Enter correct surgical procedure code if present in supporting documentation. Enter 'No Doc' if no or insufficient documentation of correct surgical procedure code. Enter 'NA' if data element does not pertain to encounter service type. <i>Required for Inpatient Encounters</i>	X	7
12	Doc_Diag	Enter correct primary diagnosis code if present in the supporting documentation. Enter 'No Doc' if no or insufficient documentation of correct diagnosis code. <i>Required for Inpatient, Professional, Outpatient, and FQHC Encounters</i>	X	7
13	Doc_Units	Enter correct units if present in the supporting documentation. Enter 'No Doc' if no or insufficient documentation of correct units. <i>Required for Professional, Outpatient, and FQHC Encounters</i>	X	Integer

Data Element (Field)		Data Description	Format	Length
14	Doc_Service_Date	Enter correct start date if present in supporting documentation. Enter 'No Doc' if no or insufficient documentation of correct start date. <i>Required for Inpatient, Professional, Outpatient, and FQHC Encounters</i>	X	8
15	Doc_Thru_Date	Enter correct end date if present in supporting documentation. Enter 'No Doc' if no or insufficient documentation of correct end date. Enter 'NA' if data element does not pertain to encounter service type. <i>Required for Inpatient Encounters</i>	X	8
16	Doc_Encounter_Discharge_Status	Enter correct discharge status if present in supporting documentation. Enter 'No Doc' if no or insufficient documentation of correct discharge status. Enter 'NA' if data element does not pertain to encounter service type. <i>Required for Inpatient Encounters</i>	X	8
17	E&M Guidelines Version	1 = 1995 version of Evaluation and Management Services Documentation Guidelines 2 = 1997 version of Evaluation and Management Services Documentation Guidelines 9 = Does Not Apply	X	1
18	Comments (optional)	Any comments, for example 'no documentation received from provider'	X	Flexible

* To assess encounter data quality, data elements are contingent on corresponding medical record documentation. Medical records correspond to the encounter data when the member information (i.e., name, date of birth, and/or Medicaid ID), provider information, and date of service are in agreement. If the medical records match the member and provider information but the date of service is incorrect, the Encounter_Service_Date will be scored as “0” and the remaining data elements will be scored as “0”. The Comments field should be used to indicate that subsequent data elements were in disagreement due to the invalid date of service.

For Inpatient records or other records with services occurring over a date range, the encounter date of service is acceptable if it falls within the date range.

In the event medical record documentation is unavailable to support the encounter, all elements will be scored as “0” or “No Doc.”

In the event that medical record documentation could support more than one procedure code, auditors should note agreement with the encounter procedure code, if applicable, and use the Comments field to indicate other applicable procedure codes identified in the medical record.

Appendix C. Denver Health Service Coding Accuracy Results

Data from these tables have been copied from the Service Coding Accuracy Report submitted to the Department and HSAG by Denver Health. Data tables were created following the specifications listed in Section 6 of the *FY 2017–2018 Annual HMO Encounter Data Quality Review Guidelines*.

Table C-1—Inpatient Encounters Service Coding Accuracy Summary

Requirement	HMO Name	Numerator	Excluded/ Does Not Apply	Total Denominator	Modified Denominator	Overall Percent	Modified Percent
Date of Service*	Denver Health Medicaid Choice	102	0	103	103	97.09%	97.09%
Through Date	Denver Health Medicaid Choice	102	0	103	103	99.03%	99.03%
Diagnosis Code	Denver Health Medicaid Choice	84	0	103	103	81.55%	81.55%
Surgical Procedure Code	Denver Health Medicaid Choice	93	0	103	103	90.29%	90.29%
Discharge Status	Denver Health Medicaid Choice	95	0	103	103	92.23%	92.23%

* The values in Table C-1 represent the data submitted by Denver Health Medicaid Choice. However, based on the numerator and denominator provided for *Date of Service*, the expected value is 99.03 percent in each of the “overall percent” and “modified percent” columns.

Table C-2—Outpatient Encounters Service Coding Accuracy Summary

Requirement	HMO Name	Numerator	Excluded/ Does Not Apply	Total Denominator	Modified Denominator	Overall Percent	Modified Percent
Date of Service	Denver Health Medicaid Choice	102	0	103	103	99.03%	99.03%
Diagnosis Code	Denver Health Medicaid Choice	76	0	103	103	73.79%	73.79%
Procedure Code	Denver Health Medicaid Choice	86	0	103	103	83.50%	83.50%
Procedure Code Modifier	Denver Health Medicaid Choice	91	0	103	103	88.35%	88.35%
Units	Denver Health Medicaid Choice	99	0	103	103	96.12%	96.12%

Table C-3—Professional Encounters Service Coding Accuracy Summary

Requirement	HMO Name	Numerator	Excluded/ Does Not Apply	Total Denominator	Modified Denominator	Overall Percent	Modified Percent
Date of Service*	Denver Health Medicaid Choice	91	0	103	103	88.34%	88.34%
Diagnosis Code	Denver Health Medicaid Choice	80	0	103	103	77.67%	77.67%
Procedure Code	Denver Health Medicaid Choice	77	0	103	103	74.76%	74.76%
Procedure Code Modifier	Denver Health Medicaid Choice	88	0	103	103	85.44%	85.44%
Units	Denver Health Medicaid Choice	87	0	103	103	84.47%	84.47%

* The values in Table C-3 represent the data submitted by Denver Health Medicaid Choice. However, based on the numerator and denominator provided for *Date of Service*, the expected value is 88.35 percent in each of the “overall percent” and “modified percent” columns.

Table C-4—FQHC Encounters Service Coding Accuracy Summary

Requirement	HMO Name	Numerator	Excluded/ Does Not Apply	Total Denominator	Modified Denominator	Overall Percent	Modified Percent
Date of Service	Denver Health Medicaid Choice	102	0	103	103	99.03%	99.03%
Diagnosis Code	Denver Health Medicaid Choice	82	0	103	103	79.61%	79.61%
Procedure Code	Denver Health Medicaid Choice	88	0	103	103	85.44%	85.44%
Procedure Code Modifier	Denver Health Medicaid Choice	99	0	103	103	96.12%	96.12%
Units	Denver Health Medicaid Choice	101	0	103	103	98.06%	98.06%