COLORADO

Department of Health Care Policy & Financing

Fiscal Year 2024–2025 412 Encounter Data Validation Over-Read Report

for Denver Health Medical Plan

June 2025

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

HSAG HEALTH SERVICES ADVISORY GROUP

Contents

1. Executive Summary

In fiscal year (FY) 2024–2025, the Colorado Department of Health Care Policy & Financing (the Department) contracted Health Services Advisory Group, Inc. (HSAG) to conduct the encounter data validation (EDV) study for the Department's contracted limited managed care capitated initiative plans (Medicaid managed care organizations [Medicaid MCOs]). The purpose of the study was to assess the Medicaid MCOs' independent data validation capacity by having the Medicaid MCOs conduct a medical record review. The Medicaid MCOs validated a sample of physical health encounters against the corresponding medical record documentation. HSAG then over-read a random sample of the validated records to calculate and report on the validation agreement of key data elements.

Table 1-1 presents HSAG's aggregate over-read results and Denver Health Medical Plan's (DHMP's) self-reported service coding accuracy results by encounter type. Results from HSAG's FY 2024-2025 MCO 412 over-read suggest a high level of confidence that DHMP's independent validation findings accurately reflect its encounter data quality. HSAG's reviewers agreed with DHMP's reviewers on 100 percent of the data elements for outpatient services. HSAG reviewers also agreed with 98.3 percent (118 of 120) of the inpatient data elements and 98.0 percent (98 of 100) of the professional and federally qualified health center (FQHC) data elements. Among the four encounter types, the percentage of accuracy for the self-reported data elements was highest among inpatient encounters (95.1 percent) and lowest among professional encounters (86.8 percent). Based on the self-reported accuracy for the professional encounters, 72.8 percent of the *Procedure Code* data elements and 75.7 percent of the *Diagnosis Code* data elements were supported by the medical record. The overall self-reported accuracy among the outpatient encounters was 93.4 percent. Based on the self-reported accuracy for outpatient encounters, 78.6 percent of the *Diagnosis Code* data elements were supported by the medical records. Based on these results, HSAG encourages ongoing quality improvement efforts to increase service coding accuracy.

Table 1-1—FY 2024–2025 HSAG Over-Read Results and Self-Reported Element Accuracy Results, by Encounter Type

Encounter Type	Percentage of Over-Read Cases With Complete Agreement	Percentage of Over-Read Data Elements With Agreement[1]	Percentage of Accuracy for Self-Reported Data Elements[1]
Inpatient	90.0%	98.3%	95.1%
Outpatient	100.0%	100.0%	93.4%
Professional	95.0%	98.0%	86.8%
FQHC	95.0%	98.0%	93.0%
Total	**95.0%**	**98.6%**	**92.1%**

[1] HSAG reviewed six data elements for inpatient cases and five data elements for outpatient, professional, and FQHC cases.

2. Overview

In FY 2024–2025, the Department contracted HSAG to conduct an EDV among the Department's Medicaid MCOs as an optional external quality review (EQR) activity under the Centers for Medicare & Medicaid Services (CMS) EQR *Protocol 5. Validation of Encounter Data Reported by the Medicaid and CHIP [Children's Health Insurance Program] Managed Care Plan: An Optional EQR-Related Activity*, February 2023.[1]

The study assessed the Medicaid MCOs' data validation capacity among physical health encounters submitted to the Department by each Medicaid MCO. The study evaluated each Medicaid MCO's compliance with State standards regarding encounter data submission, as well as the consistency and accuracy with which each Medicaid MCO validated encounter data using medical record reviews.

To facilitate this study, the Department randomly selected 103 final, adjudicated physical health encounters from four distinct service categories (i.e., a total of 412 encounters) to be independently validated by DHMP. These service categories included encounters with services rendered in FQHCs, as well as in inpatient, outpatient, and professional settings. DHMP submitted its internal validation results and an Encounter Data Quality Report to HSAG and the Department.

To further improve the quality of encounter data submitted by DHMP, the Department developed and implemented the *Annual MCO Encounter Data Quality Review Guidelines* (guidelines). The guidelines include file format and reporting requirements, as well as a specific timeline to guide DHMP in conducting its internal validation and using the results to prepare the Encounter Data Quality Report.

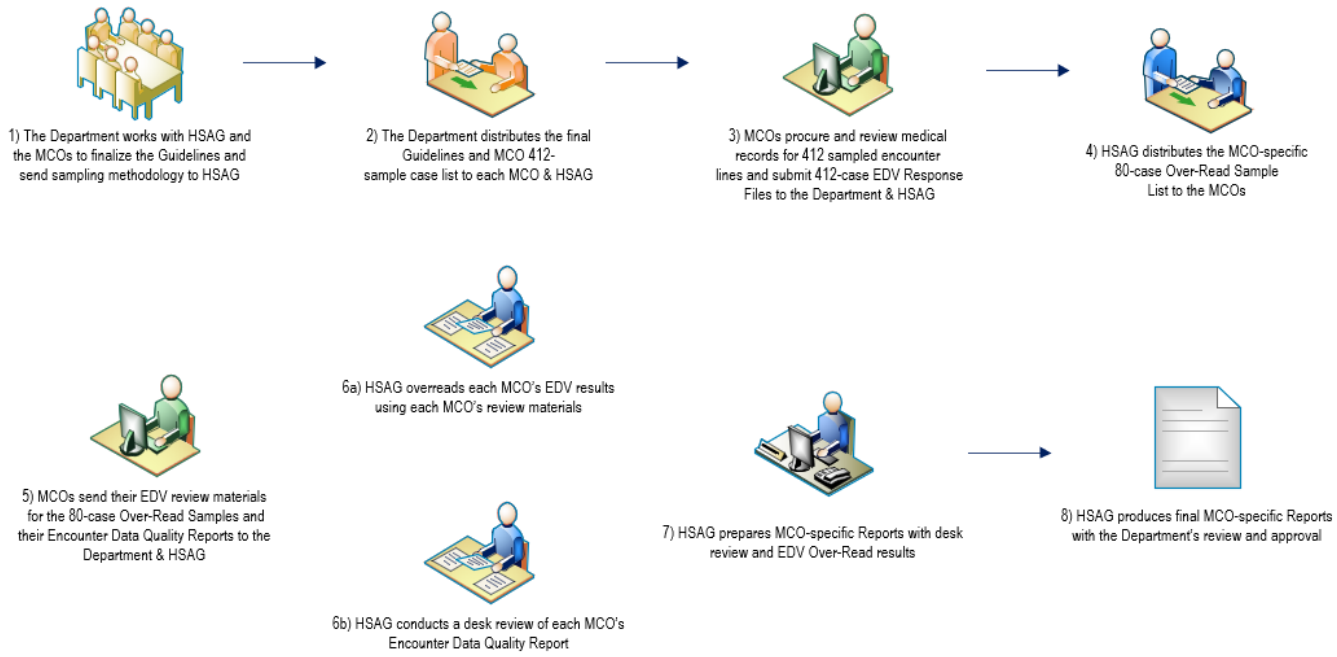
The Department contracted HSAG to evaluate DHMP's capacity to internally validate encounters through an independent assessment of the Encounter Data Quality Report submitted by DHMP. Specifically, the Department requested that HSAG complete the following tasks during FY 2024–2025:

1. Conduct a desk review of DHMP's validation process, including any process documentation submitted by DHMP.
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 a report for DHMP, containing findings specific to each service category, including a statement regarding HSAG's assessment of the accuracy of DHMP's internal validation results.
4. Generate disagreement case lists by encounter type based on abstraction results.

[1] Department of Health and Human Services, Centers for Medicare & Medicaid Services. *Protocol 5. Validation of Encounter Data Reported by the Medicaid and CHIP Managed Care Plan: An Optional EQR-Related Activity*, February 2023. Available at: https://www.medicaid.gov/medicaid/quality-of-care/downloads/2023-eqr-protocols.pdf. Accessed on: June 4, 2025.

Figure 2-1 diagrams the high-level steps involved in HSAG's 412 EDV over-read process, beginning in the upper left corner of the image. HSAG's FY 2024–2025 412 EDV methodology is presented in Appendix A.

Figure 2-1—FY 2024–2025 412 EDV Over-Read Process



3. Encounter Data Validation Over-Read Results

HSAG compiled the FY 2024–2025 412 EDV findings based on three tasks: a desk review of the Department's sampling methodology, a desk review of DHMP's internal EDV methodology, and an over-read validation of a sample of DHMP's 412 EDV medical record review cases. The remainder of this section describes the results for these tasks.

Desk Review of the Department's Sampling Methodology

The Department provided HSAG with a description of the process used to generate a random sample of DHMP's encounters. The Department's documentation listed the criteria by which it assigned encounters to service categories and noted that the sample is restricted to final, adjudicated encounters with dates of service from July 1, 2023, through June 30, 2024, and paid dates between July 1, 2023, and September 30, 2024. The Department also detailed the random sampling process for identifying 103 unique encounters per encounter type and randomly selecting a single encounter line; the Department defined encounters using the member identification data field. The Department did not include any information documenting the steps taken to verify that the correct sample frame was chosen, or to validate that the final sample was representative of the sampling frame. However, the Department did perform checks to make sure there were not any duplicate Medicaid IDs selected.

HSAG reviewed the sample list provided by the Department, the sampling description, and the portion of sampling code that the Department reported using to generate the sample. The Department created the sample by identifying a service category and selecting 70 percent of the claim lines within that category. Next, a random value was assigned to each line and the claim lines were sorted based on the random value. The claim lines were then deduplicated and the top 103 remaining lines were selected to create the sample. The Department repeated these steps for each of the four service categories.

During FY 2024-25, the Department continued to transition its encounter data process to a new Medicaid Management Information System (MMIS), interChange; DHMP will submit encounter data directly into the MMIS. For validation purposes, DHMP 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 DHMP to ensure encounter data timeliness and accuracy as well as comparability between encounter data provided by DHMP under the new and legacy systems. The flat file submitted by DHMP will be used as the data source until the transition is complete.

Desk Review of DHMP's Internal Validation Methodology

To provide context for DHMP's service coding accuracy results, the Department requested DHMP's internal validation methodology documentation as a component of the Encounter Data Quality Report. HSAG's review of DHMP's internal validation methodology documentation verified the presence of:

- A description of the record procurement and validation process, including the use of a company subsidiary (i.e., Denver Health Enterprise Compliance Services) for various tasks.
- A brief description of the validation tool, a Microsoft Excel spreadsheet shared by DHMP's reviewers, and the internal logic present in the tool.
- The credentials, training, and experience of all reviewers.
- A list of the coding guidelines referenced during DHMP's internal validation process.
- A brief description of the training provided to the EDV staff members.
- The interrater reliability (IRR) testing process for validation of staff members.

HSAG also reviewed DHMP's self-reported service coding accuracy summary results containing DHMP's validation results by encounter type. This information was submitted as part of DHMP's Encounter Data Quality Report.

Overall, DHMP's reviewers reported that the data elements reviewed for inpatient services had the highest rates of being supported by the medical record documentation compared to the data elements among the other encounter types (Table 1-1). As seen in Table 3-1, medical records supported at least 88.3 percent of each of the data elements, according to DHMP's reviewers. The highest rate of medical record support was for the *Through Date* data element (99.0 percent), and the lowest rate was for the *Date of Service* data element (88.3 percent).

Table 3-1—DHMP's Self-Reported Service Coding Accuracy Summary for Inpatient Services

Data Element	Numerator	Excluded/ Does Not Apply	Total Denominator	Modified Denominator	Overall Percent	Modified Percent
Date of Service (Service_Date)	91	0	103	103	88.3%	88.3%
Through Date (Thru_Date)	102	0	103	102	99.0%	99.0%
Diagnosis Code (Diag_Code_1)	99	0	103	103	96.1%	96.1%
Surgical Procedure Code (SurgicalProcedure1)	100	0	103	103	97.1%	97.1%
Discharge Status (Discharge_Status)	98	0	103	103	95.1%	95.1%

DHMP's reviewers reported that the reviewed data elements for outpatient services had the second highest rates of being supported by the medical record documentation compared to the data elements among the other encounter types (Table 1-1). Table 3-2 presents DHMP's self-reported service coding accuracy for the outpatient EDV cases. The *Date of Service* data element had the highest rate of being supported by the medical record documentation (100 percent), while the *Diagnosis Code* data element had the lowest rate of being supported by the medical record documentation (78.6 percent).

Table 3-2—DHMP's Self-Reported Service Coding Accuracy Summary for Outpatient Services

Data Element	Numerator	Excluded/ Does Not Apply	Total Denominator	Modified Denominator	Overall Percent	Modified Percent
Date of Service (Service_Date)	103	0	103	103	100%	100%
Diagnosis Code (Diag_Code_1)	81	0	103	103	78.6%	78.6%
Procedure Code (Proc_Code)	96	0	103	103	93.2%	93.2%
Procedure Code Modifier (Proc_Code_Modifier)	102	0	103	103	99.0%	99.0%
Units (Quantity)	99	0	103	103	96.1%	96.1%

Overall, DHMP's reviewers reported that the reviewed data elements for professional services had the lowest rates of being supported by the medical record documentation compared to the data elements among the other encounter types (Table 1-1). Table 3-3 presents DHMP's self-reported service coding accuracy for the professional EDV cases. The *Units* data element had the highest rate of being supported by the medical record documentation (97.1 percent), while the *Procedure Code* data element had the lowest rate of being supported by the medical record documentation (72.8 percent). The rate of medical record support for the *Procedure Code* data element was the lowest among all four encounter types.

Table 3-3—DHMP's Self-Reported Service Coding Accuracy Summary for Professional Services

Data Element	Numerator	Excluded/ Does Not Apply	Total Denominator	Modified Denominator	Overall Percent	Modified Percent
Date of Service (Service_Date)	98	0	103	103	95.1%	95.1%
Diagnosis Code (Diag_Code_1)	78	0	103	103	75.7%	75.7%
Procedure Code (Proc_Code)	75	0	103	103	72.8%	72.8%
Procedure Code Modifier (Proc_Code_Modifier)	96	0	103	103	93.2%	93.2%
Units (Quantity)	100	0	103	103	97.1%	97.1%

Table 3-4 presents DHMP's self-reported service coding accuracy for FQHC EDV cases. The *Date of Service* data element had the highest rate of being supported by the medical record documentation (100 percent), while the *Procedure Code* data element had the lowest rate of being supported by the medical record documentation (81.6 percent).

Table 3-4—DHMP's Self-Reported Service Coding Accuracy Summary for FQHC Services

Data Element	Numerator	Excluded/ Does Not Apply	Total Denominator	Modified Denominator	Overall Percent	Modified Percent
Date of Service (Service_Date)	103	0	103	103	100%	100%
Diagnosis Code (Diag_Code_1)	91	0	103	103	88.3%	88.3%
Procedure Code (Proc_Code)	84	0	103	103	81.6%	81.6%
Procedure Code Modifier (Proc_Code_Modifier)	100	0	103	103	97.1%	97.1%
Units (Quantity)	101	0	103	103	98.1%	98.1%

Over-Read of Sample Cases by Encounter Type

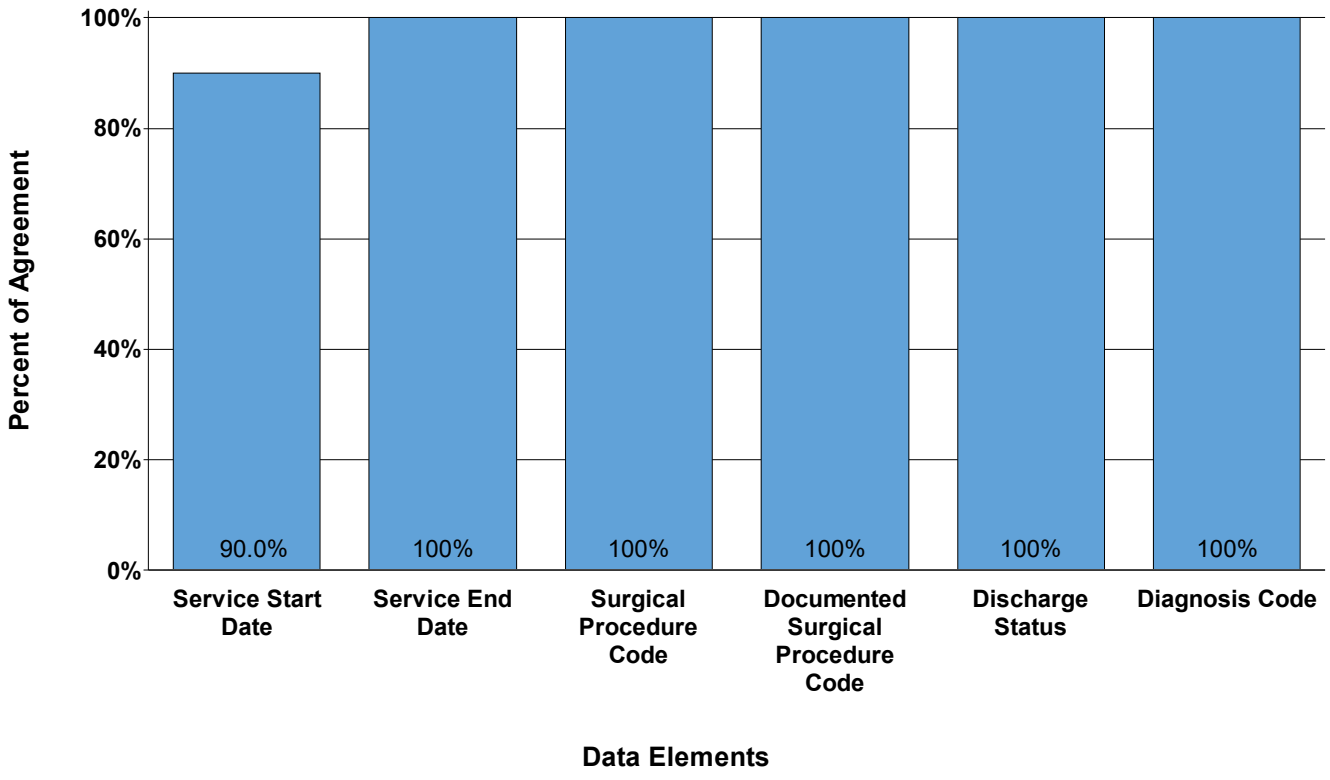
The EDV response file submitted to HSAG and the Department by DHMP contained all required fields and aligned with the EDV response file layout required by the Department and outlined in the guidelines. The EDV response data layout was defined in the guidelines and is presented in Appendix A. Methodology of this report. Additionally, DHMP reported that it was able to procure medical records for all 80 sampled over-read cases.

The remainder of this section details HSAG's over-read findings by encounter type.

Inpatient Cases

Figure 3-1 presents the aggregate results from HSAG's over-read of the 20 inpatient cases. Agreement values ranged from 90.0 percent to 100 percent for individual data elements, where 100 percent represents complete agreement between DHMP's internal validation results and HSAG's over-read results, and 0.0 percent represents complete disagreement.

Figure 3-1—Aggregated Percent of Agreement Between HSAG's Over-Read and DHMP's Internal EDV Findings, by Data Element for Inpatient Services

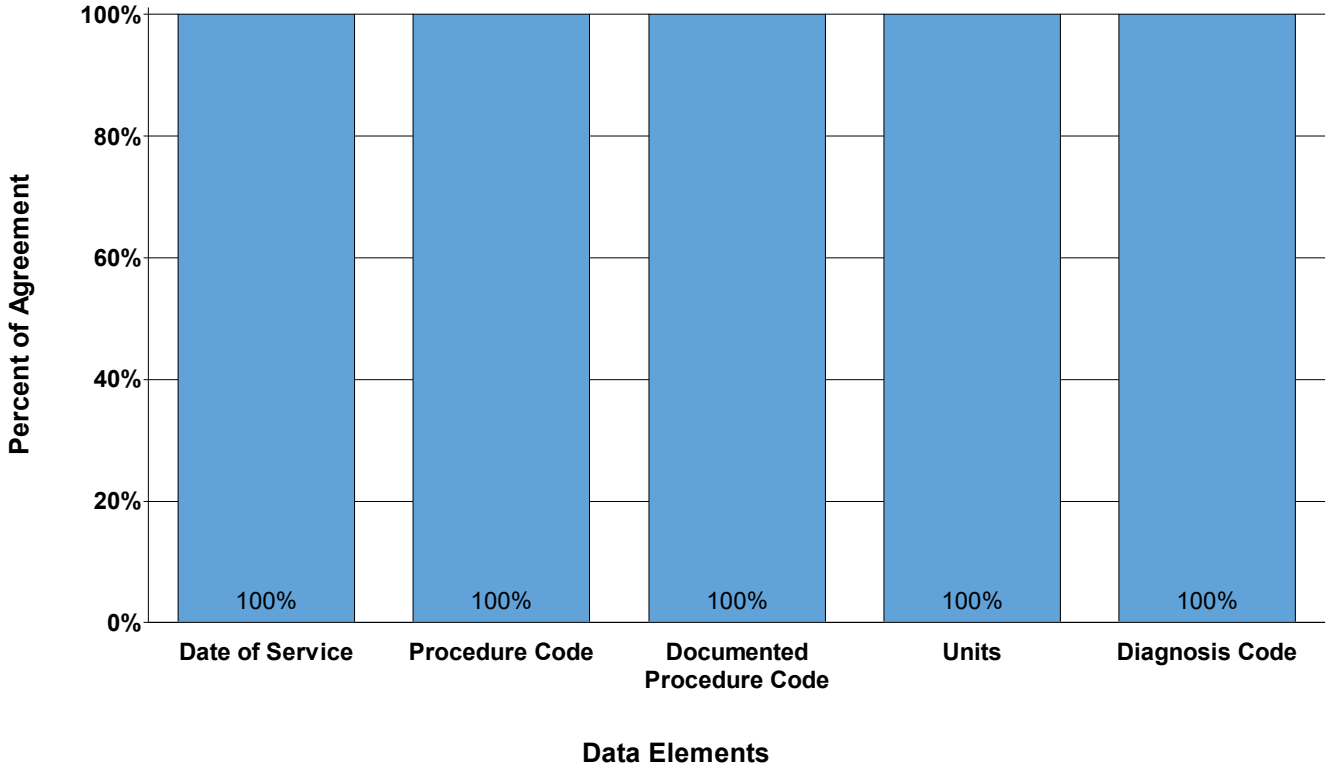


Complete agreement occurred when HSAG's over-read results indicated agreement with DHMP's validation response for each of the six individual data elements assessed for a sampled inpatient case. Among the 20 sampled inpatient cases, HSAG's over-read results demonstrated complete agreement with all data elements in 18 of the sampled cases, a 90.0 percent aggregate agreement rate. The highest agreement rates (each at 100 percent) were observed for the *Service End Date*, *Surgical Procedure Code*, *Documented Surgical Procedure Code*, *Discharge Status*, and *Diagnosis Code* data elements. The *Service Start Date* data element had an agreement rate of 90.0 percent.

Outpatient Cases

Figure 3-2 presents the aggregate results from HSAG's over-read of the 20 outpatient cases. Agreement values were 100 percent for each individual data element, where 100 percent represents complete agreement between DHMP's internal validation results and HSAG's over-read results, and 0.0 percent represents complete disagreement.

Figure 3-2—Aggregated Percent of Agreement Between HSAG's Over-Read and DHMP's Internal EDV Findings, by Data Element for Outpatient Services



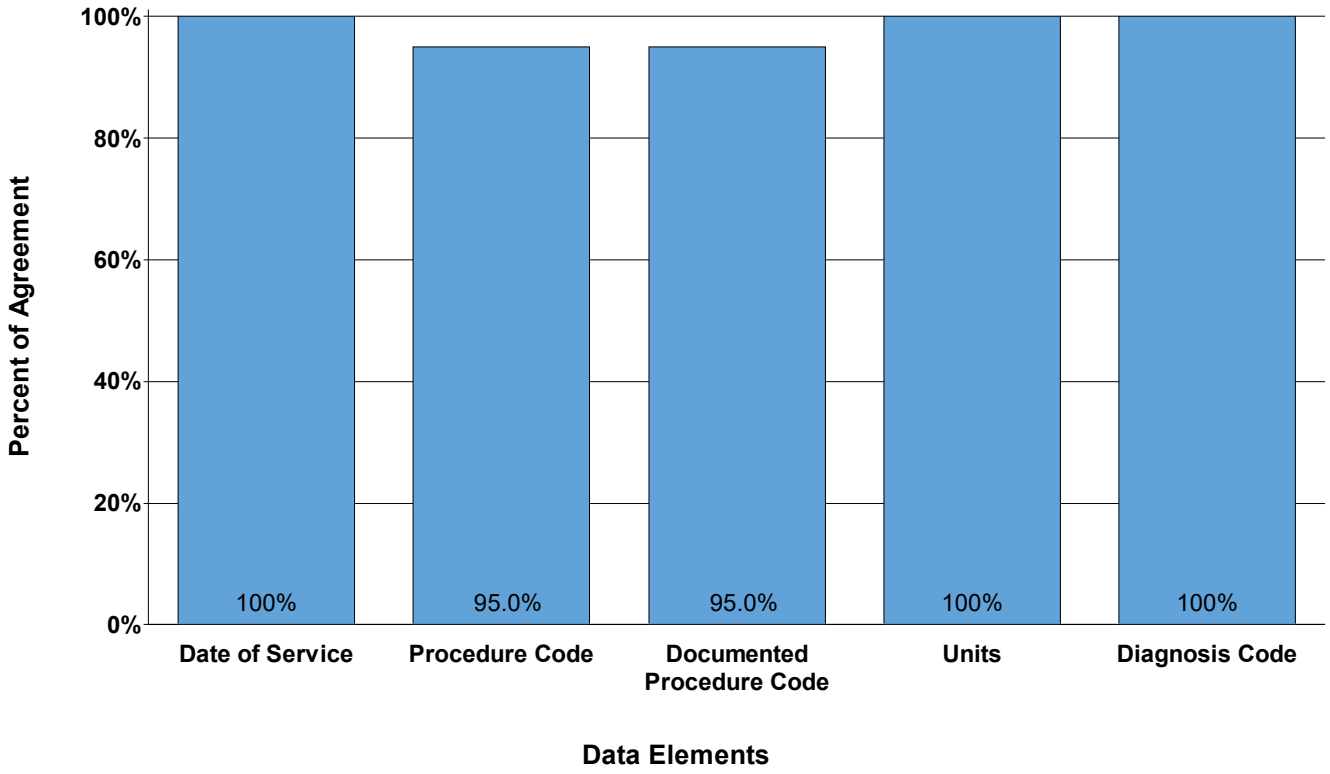
Complete agreement occurred when HSAG's over-read results indicated agreement with DHMP's validation response for each of the five individual data elements assessed for a sampled outpatient case. Among the 20 sampled outpatient cases, HSAG's over-read results demonstrated complete agreement with all data elements in 20 cases, a 100 percent aggregate agreement rate. HSAG's over-read results

agreed with DHMP's responses for all cases (i.e., complete agreement) for the *Date of Service*, *Procedure Code*, *Documented Procedure Code*, *Units*, and *Diagnosis Code* data elements.

Professional Cases

Figure 3-3 presents the aggregate results from HSAG's over-read of the 20 professional cases. Agreement values ranged from 95 percent to 100 percent for individual data elements, where 100 percent represents complete agreement between DHMP's internal validation results and HSAG's over-read results, and 0.0 percent represents complete disagreement.

Figure 3-3—Aggregated Percent of Agreement Between HSAG's Over-Read and DHMP's Internal EDV Findings, by Data Element for Professional Services

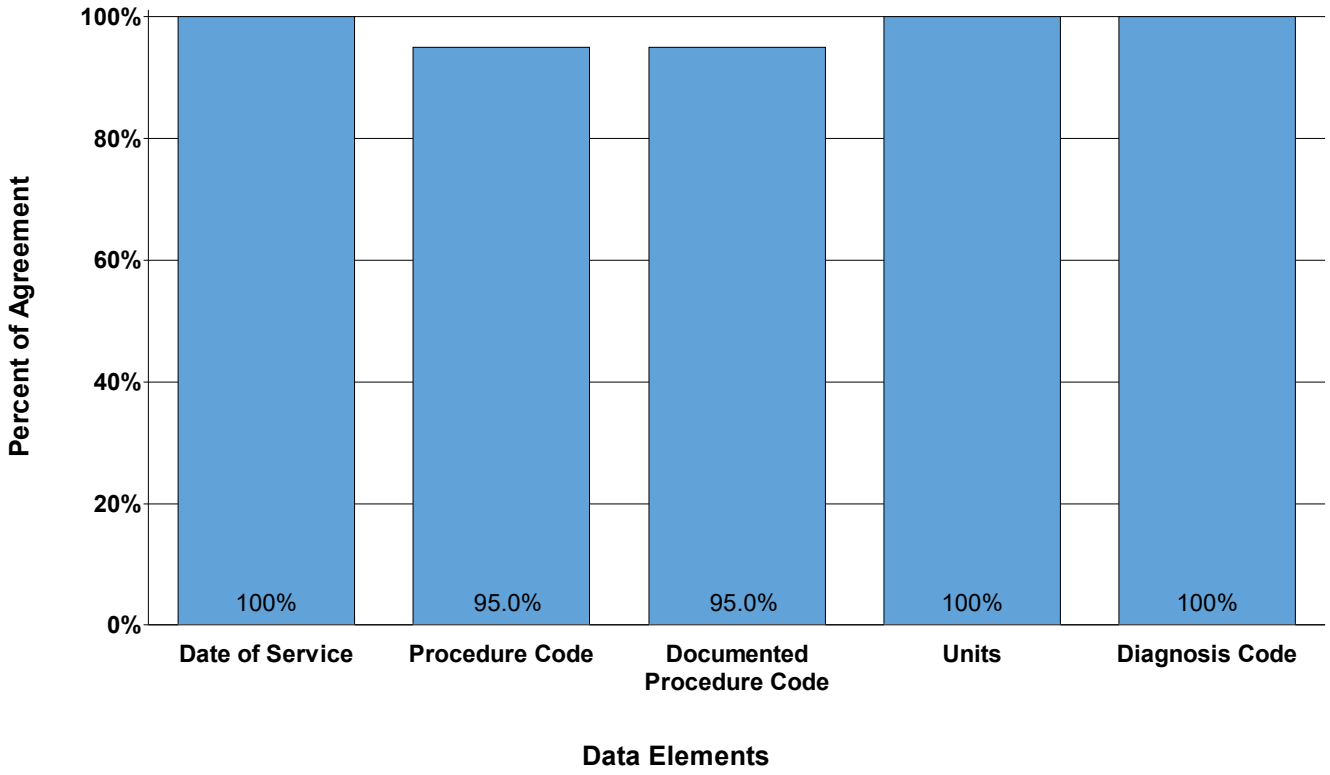


Complete agreement occurred when HSAG's over-read results indicated agreement with DHMP's validation response for each of the five individual data elements assessed for a sampled professional case. Among the 20 sampled professional cases, HSAG's over-read results demonstrated complete agreement with all data elements in 19 of the sampled cases, a 95.0 percent aggregate agreement rate. The highest agreement rates (each 100 percent) were observed for the *Date of Service, Units,* and *Diagnosis Code* data elements. The *Procedure Code* and *Documented Procedure Code* data elements both had an agreement rate of 95.0 percent.

FQHC Cases

Figure 3-4 presents the aggregate results from HSAG's over-read of the 20 FQHC cases. Agreement values ranged from 95.0 percent to 100 percent for individual data elements, where 100 percent represents complete agreement between DHMP's internal validation results and HSAG's over-read results, and 0.0 percent represents complete disagreement.

Figure 3-4—Aggregated Percent of Agreement Between HSAG's Over-Read and DHMP's Internal EDV Findings, by Data Element for FQHC Services



Complete agreement occurred when HSAG's over-read results indicated agreement with DHMP's validation response for each of the five individual data elements assessed for a sampled FQHC case. Among the 20 sampled FQHC cases, HSAG's over-read results demonstrated complete agreement with all data elements in 19 of the sampled cases, a 95.0 percent aggregate agreement rate. The highest agreement rates (each 100 percent) were observed for the *Date of Service, Units,* and *Diagnosis Code* data elements. The *Procedure Code* and *Documented Procedure Code* data elements both had an agreement rate of 95.0 percent.

4. Discussion

Conclusions

The annual study was designed to assess the consistency and accuracy with which each Medicaid MCO validates its physical health encounter data using medical record reviews. DHMP's EDV service coding accuracy results show that only one encounter type had an accuracy rate less than 90 percent (professional, 86.8 percent). However, some of the individual data elements had accuracy rates below 80 percent. For example, among professional services, the *Diagnosis Code* data element had an accuracy rate of 75.7 percent, and the *Procedure Code* data element had an accuracy rate of 72.8 percent. In addition, among outpatient encounters, the *Diagnosis Code* data element had an accuracy rate of 78.6 percent

Results from HSAG's FY 2024–2025 412 EDV over-read (summarized in Table 1-1) suggest a high level of confidence that DHMP's independent validation findings accurately reflect its encounter data quality. Overall, the FY 2024–2025 results indicate complete case-level agreement with DHMP's internal validation results for 95.0 percent of cases and an element-level agreement rate of 98.6 percent.

HSAG also reported the aggregated percent of agreement between HSAG's over-read results and DHMP's internal EDV findings, by encounter type and data element. Among inpatient services, the percent of agreement ranged from 90.0 percent (*Service Start Date*) to 100 percent (*Service End Date*, *Surgical Procedure Code*, *Documented Surgical Procedure Code*, *Discharge Status,* and *Diagnosis Code*). The outpatient cases had 100 percent agreement for all five data elements—*Date of Service*, *Procedure Code*, *Documented Procedure Code*, *Units*, and *Diagnosis Code*. Among the professional cases, the percent of agreement ranged from 95.0 percent (*Procedure Code* and *Documented Procedure Code*) to 100 percent (*Date of Service*, *Units*, and *Diagnosis Code*); and among the FQHC cases, the percent of agreement ranged from 95.0 percent (*Procedure Code* and *Documented Procedure Code*) to 100 percent (*Date of Service*, *Units*, and *Diagnosis Code*).

The service coding accuracy results show that among the sampled professional cases, approximately 24 percent of the diagnosis codes and approximately 27 percent of the procedure codes were not supported by the medical record documentation. Among outpatient cases, approximately 21 percent of diagnosis codes were not supported by the medical record documentation. HSAG's over-read of 80 sampled cases found that HSAG agreed with 98.6 percent of DHMP's data element results. The study documentation, provided by the Department and DHMP, show that all parties followed the project guidelines and HSAG found no systematic errors in its review of DHMP's processes. The high level of agreement and the well-documented and administered EDV suggest that the data in the Encounter Data Quality Report are valid. This points to the completeness and accuracy of encounter data as potential targets for root cause analysis.

Analytic Considerations

Various factors associated with this study can affect the validity or interpretation of the data presented in this report. The following analytic points should be considered when reviewing this report:

- The Department samples 412 encounters to ensure sufficient statistical power to draw reliable conclusions; however, including multiple service categories could reduce the statistical precision and make it challenging to generalize results across the different service categories with the same level of confidence. It is important that the sample the Department generates is representative of all encounters eligible for study inclusion. HSAG has provided recommendations to the Department meant to ensure that the sampling approach is well documented and thoroughly described.
- To conduct the over-read activity, HSAG samples 80 cases from the 412 encounters. To ensure that the sample is valid and representative of the original source, HSAG performs a two-step sampling procedure.
- Medical record abstraction requires the expertise of medical coders who may apply varying, though legitimate, interpretations for coding rules and processes. Such variation between HSAG's reviewers and DHMP's reviewers may lead to reduced agreement rates among the over-read results. To minimize the effects of this variation, the Department and HSAG solicited DHMP's input on the guidelines, and DHMP was directed to include abstraction notes to communicate its decisions and findings to HSAG for specific review scenarios.
- Two Medicaid MCOs participate in the EDV process, and each is responsible for independently following the EDV guidelines. For this reason, the results of the Medicaid MCO-specific reports are not meant to compare the MCOs to each other.

Recommendations

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

Based on the EDV and over-read results described in this report, HSAG recommends the Department collaborate with DHMP to identify best practices regarding provider education to support service coding accuracy. Identifying such practices may involve requesting and reviewing copies of DHMP's provider training and/or corrective action documentation, reviewing DHMP's policies and procedures for monitoring providers' physical health encounter data submissions, and verifying that DHMP is routinely monitoring encounter data quality beyond the annual 412 EDV.

HSAG's FY 2024–2025 over-read results show a slight decline in agreement between HSAG's and DHMP's reviewers compared to the previous year, making selected recommendations from the FY 2023–2024 still relevant. Based on HSAG's document review, DHMP's service coding accuracy

results, and HSAG's over-read results, HSAG offers the following recommendations to improve the quality of DHMP's encounter data:

- The Department's sampling methodology was limited to SQL code and a bulleted summary of the SQL code steps; therefore, HSAG recommends that the Department thoroughly document the sampling methodology to ensure the sample is representative of all encounters eligible for study inclusion.
  - The Department's Rates Section should update the MS Word sampling documentation to define the terms used in the documentation, include an excerpt of sampling code, and describe any limitations on the sample frame (e.g., how to limit the universe of encounters or the code values for the different encounter types).
  - The Department's Rates Section should perform validity checks on the annual 412 EDV sample lists to verify that each Medicaid MCO's sample is representative of the encounter data from which it was selected (e.g., compare distribution of the submission dates and/or providers between the sampled encounters and the sample frame).
  - The Department's Rates Section should verify the accuracy and format of the data fields and values within the 412-case sample list used to identify each of the cases.
- FY 2024–2025 is the 10th year of the independent 412 EDV study for DHMP, and does not include a year-to-year comparison displaying the service coding accuracy rates submitted by DHMP. This information could be used to track the service coding accuracy reports in a single report.
  - HSAG recommends the addition of report tables in future reports comparing the service coding accuracy rates over time. The comparison could begin with including information from the FY 2022–2023 project year to provide four years of results for the FY 2025–2026 project year.
- While the service coding accuracy section of DHMP's Encounter Data Quality Report provided detailed information on medical record procurement and the coding standards considered by DHMP's reviewers, HSAG recommends the following opportunities to supply additional details regarding DHMP's EDV process:
  - The report offered only a limited description of DHMP's reviewer training and supporting materials. HSAG recommends that DHMP thoroughly document its EDV training materials and procedures, including examples of written training materials and/or decision documents.
- DHMP's service coding accuracy results show that approximately 27 percent of the professional cases and 21 percent of the outpatient cases had diagnosis codes that were not supported by medical record documentation. To ensure that DHMP has implemented quality improvement actions to address these encounter data deficiencies, HSAG recommends that the Department's contract administrator for DHMP:
  - Request copies of DHMP's provider training and/or corrective action documentation.
  - Request copies of DHMP's policies and procedures for monitoring providers' data submissions.
  - Collaborate with the Department's Rates Section to review DHMP's encounter data quality documents and verify that DHMP is monitoring encounter data quality and ensuring that providers are trained to submit encounters that accurately reflect the medical record documentation.

Complete and accurate encounter data require ongoing efforts from multiple stakeholders, including the Department, DHMP, and DHMP's contracted providers. Although the Department provided no additional input on quality improvement actions resulting from recommendations in the FY 2023–2024 412 EDV report, focused quality improvement efforts are underway, including an annual EQR activity in which the Department requires DHMP to develop and implement a Quality Improvement Plan based on its prior year's 412 EDV service coding accuracy results. HSAG encourages ongoing quality improvement efforts to increase service coding accuracy.

Appendix A. Methodology

HSAG's independent EDV consisted primarily of an assessment of DHMP's internal validation 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 selected 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 EDV was to evaluate whether DHMP's internal validation of the sampled encounters against members' medical records was accurate and consistent with standard coding manuals. HSAG received a response file containing DHMP's internal validation results for the 412 cases sampled by the Department. Prior to receiving DHMP's internal validation results, HSAG 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 a 412-case sample of final, adjudicated DHMP encounters with a date of service from July 1, 2023, through June 30, 2024, and paid dates between July 1, 2023, and September 30, 2024, for four physical health service categories.[2,3] The Department submitted the sample lists to DHMP and HSAG in January 2023; DHMP then conducted its internal validation 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 and 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. Encounter Data Validation Tool Development

DHMP submitted its response file containing internal validation results for the 412 sampled cases to HSAG in March 2025. HSAG designed a web-based data collection tool and tool instructions based on

[2] Service categories were identified using the review_typ field assigned to each encounter by the Department. Review_typ values of "PHY" identified Professional Services, "IP" identified Inpatient Services, "FQ" identified services rendered at an FQHC, and "OP" identified Outpatient Services. The Department assigns claims 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 DHMP encounter data flat files is presented in Table I-1 from Appendix I of the *Annual MCO Encounter Data Quality Review Guidelines*.

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, outpatient, and professional). A control file containing select fields from the Department's encounter data flat file as well as DHMP's corresponding internal validation values for sampled cases was uploaded into the tool, permitting pre-population of encounter and validation 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 DHMP were linked to cases within the tool. The web-based tool allowed the HSAG analyst to extract Microsoft (MS) Excel files containing encounter data, DHMP validation 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 DHMP's internal validation findings in April 2025. More specifically, the HSAG reviewers validated DHMP's accuracy in abstracting 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, Tenth Revision, 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 DHMP's validation responses were accurate based on the review of the supporting medical record documentation submitted by DHMP. All over-read results were entered into the HSAG data collection tool.

HSAG trained four certified coders to conduct the over-read. During the over-read of the ambulatory (i.e., FQHC, outpatient, or professional) encounters, the coders located the selected date of service in the submitted medical records to determine whether the ICD-10-CM and CPT or HCPCS codes pre-populated in the data collection 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 encounters, 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 data collection 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 DHMP agreed or disagreed with the accuracy of the codes submitted by the provider. If the HSAG coder agreed with DHMP's response, an agreement response was recorded in the tool. If the HSAG coder disagreed with DHMP'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 DHMP'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 retraining, 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 coder 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 that 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 retraining of the coder(s).

4. Analysis Process

Following completion of the over-read, the HSAG analyst exported results from the data collection tool for each service category. Since data elements varied by claim type, results were not aggregated across the service categories. The analyst reviewed the coders' over-read notes, 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 DHMP's internal validation response. Results were displayed by service category for data elements that were abstracted by DHMP and overread by HSAG. Over-read analysis results were independently verified by a second HSAG analyst.

5. Response Data Layout for MCOs

This section was copied from the *Annual MCO Encounter Data Quality Review Guidelines, Appendix II.* Please note that HSAG made minimal edits to the response data layout table for readability. Guidance for specific encounter data scenarios is shown following the table.

Table A-1—Response Data Layout

Data Element (Field)		Data Description	Format	Length
0	Record_No	Sequential number for each of 412 records *This field will contain a number between 001 and 412 and align with the ROWID provided by the Department of Health Care Policy and Financing (HCPF) in the 412 encounter line sample list.*	X	integer
1	Encounter_Procedure_Code	0 = No or insufficient documentation, incorrect code utilized for procedure performed 1 = Correct code, including appropriately missing values. Please see guidance scenario 8. 9 = If data element does not pertain to encounter service type (i.e., for Inpatient encounters) *Required for Professional, Outpatient, and FQHC Encounters*	X	1
2	Encounter_Procedure_Code_ Modifier	0 = No or insufficient documentation, incorrect code modifier utilized for procedure performed	X	1

Data Element (Field)		Data Description	Format	Length
		1 = Correct code modifier, including appropriately missing values. Please see guidance scenario 8. 9 = If data element does not pertain to encounter service type (i.e., for Inpatient encounters) *Required for Professional, Outpatient, and FQHC Encounters*		
3	Encounter_Surgical_Procedure_Code	0 = No or insufficient documentation, incorrect code utilized for surgical procedure performed 1 = Correct code, including appropriately missing values. Please see guidance scenario 8. 9 = If data element does not pertain to encounter service type *Required for Inpatient Encounters*	X	1
4	Encounter_Primary_Diagnosis_Code	0 = No or insufficient documentation, assignment of incorrect primary diagnosis code 1 = Correct primary diagnosis code *Required for Inpatient, Professional, Outpatient, and FQHC Encounters*	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.e., for Inpatient encounters) *Required for Professional, Outpatient, and FQHC Encounters*	X	1
6	Encounter_Service_Date	0 = No or insufficient documentation, incorrect service start date (All categories use the Service Start Date) 1 = Correct service start date 9 = If data element does not pertain to encounter service type *Required for Inpatient, Professional, Outpatient, and FQHC Encounters*	X	1
7	Encounter_Thru_Date	0 = No or insufficient documentation, incorrect service end date (All categories use the Service End Date) 1 = Correct service end date 9 = If data element does not pertain to encounter service type *Required for Inpatient Encounters*	X	1
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 *Required for Inpatient Encounters*	X	1

	Data Element (Field)	Data Description	Format	Length
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 Enter "NR" if data element is not populated in the encounter data line *Required for Professional, Outpatient, and FQHC Encounters*	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 Enter "NR" if data element is not populated in the encounter data line *Required for Professional, Outpatient, and FQHC Encounters*	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 Enter "NR" if data element is not populated in the encounter data line *Required for Inpatient Encounters*	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 *Required for Inpatient, Professional, Outpatient, and FQHC Encounters*	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 *Required for Professional, Outpatient, and FQHC Encounters*	X	integer
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 *Required for Inpatient, Professional, Outpatient, and FQHC Encounters*	X	8

Data Element (Field)		Data Description	Format	Length
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 *Required for Inpatient Encounters*	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 *Required for Inpatient Encounters*	X	8
17	E&M Guidelines Version	1 = 2021 version of Evaluation and Management Services Documentation Guidelines 2 = 2023 version of Evaluation and Management Services Documentation Guidelines 9 = Does Not Apply	X	1
18	Comments (conditionally required)	Reviewer should enter comments supporting the decision made. <u>Comments are required in the following scenarios:</u> • If no supporting medical records were provided, enter, "no documentation received from provider" • If medical records do not support the date of service and subsequent data elements were scored "0", enter, "No DOS in MR" • If a leveling tool (decision support tool) was used, enter, "refer to leveling tool: <tool name>" • If the case includes supplemental medical record pages without patient identifiers, enter, "Supplemental medical record pages without patient identifiers were submitted but not used for validation" <u>Comments are required to support the following scenarios:</u> • To provide details regarding non-specific primary diagnosis codes • To provide details regarding agreement or disagreement with the encounter start date for inpatient stays that began as an observation stay	X	flexible

Data Element (Field)		Data Description	Format	Length
		• To provide details regarding the documentation supporting an inpatient discharge status determination		

Guidance for Specific Encounter Data Scenarios

1. 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 all other applicable data elements were in disagreement due to the invalid date of service.

2. The MCO 412 data quality review considers individual encounter lines that are sampled from encounter data submitted to the Department by the Medicaid MCOs. Reviewers should focus on the information found in the encounter line and determine whether the encounter values are supported by medical record documentation, with the consideration that the medical record documentation may support services captured on separate encounter lines outside the scope of this review.

3. 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.

4. In the event medical record documentation is unavailable to support the encounter, all elements will be scored as "0" or "No Doc."
   - In cases where the medical record does not contain patient identifiers on each page of the record, encounter data elements found on medical record pages without identifiers should be scored as "0" or "No Doc."

5. In the event that medical record documentation could support more than one procedure code, reviewers should note agreement with the encounter procedure code, if applicable, and use the *Comments* to note other applicable procedure codes identified in the medical record.
   - If the HCPCS code "T1015" is present in the sampled encounter, reviewers should note agreement if the medical record documentation supports at least one additional procedure code.

6. To ensure consistency between each MCO's review and the independent auditor's over-read, MCOs should provide the independent auditor with all medical records and supporting documentation used by the MCO during its 412 EDV. Examples of such documentation include internal leveling tools, crosswalks, or any other such supporting materials used by the MCO in the completion of the 412 EDV.

7. In the event that the encounter line reflects a radiology or laboratory result, supporting medical record documentation must contain a signed order listing the test to be performed and the reason for

ordering the test. An interpretation and report of the result must also be included to fully support the encounter data value. Score the applicable EDV Response elements with "0" or "No Doc" if signed documentation from a qualified provider is not available to support the radiology or laboratory order.

8. The Table A-1 data elements Procedure Code, Procedure Code Modifier, and Surgical Code each have a response option of "NR" and Table A-2 offers examples for the use of the "NR" EDV response.

Table A-2—412 EDV Data Element "NR" Response Guidance

Encounter Line Data and Medical Record Findings	Example	Anticipated EDV Response Data
The encounter line contains no value and the medical record supports the lack of a data value.	The encounter line does not contain a procedure code modifier and the medical record supports the lack of a procedure code modifier.	Encounter_Procedure_Code_Modifier = "1" Doc_Procedure_Code_Modifier = "NR"
The encounter line contains a value and the medical record supports the data value.	The encounter line contains a modifier code (e.g., "59") and the medical record supports this modifier code.	Encounter_Procedure_Code_Modifier = "1" Doc_Procedure_Code_Modifier = "59"
The encounter line contains no value, but the medical record supports a data value.	The encounter line does not contain a modifier, but the medical record supports a procedure code modifier (e.g., "59").	Encounter_Procedure_Code_Modifier = "0" Doc_Procedure_Code_Modifier = "59"
The encounter line contains a value, but the medical record does not support the data value.	The encounter line contains a modifier value (e.g., "59") but the medical record indicates that a procedure modifier is not needed.	Encounter_Procedure_Code_Modifier = "0" Doc_Procedure_Code_Modifier = "No Doc"