COLORADO

Department of Health Care Policy & Financing

Fiscal Year 2020–2021 412 Encounter Data Validation Over-Read Report

for Rocky Mountain Health Plans Medicaid Prime

June 2021

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

HSAG HEALTH SERVICES ADVISORY GROUP

Contents

1. Executive Summary 1-1
Results 1-3
Conclusions 1-5
Analytic Considerations 1-5
Recommendations 1-6

2. Encounter Data Validation Over-Read Results 2-1
Desk Review of the Department's Sampling Methodology 2-1
Desk Review of RMHP Prime's Internal Validation Methodology 2-2
Over-Read of Sample Cases by Encounter Type 2-4
Inpatient Cases 2-4
Outpatient Cases 2-6
Professional Cases 2-7
FQHC Cases 2-8

3. Discussion 3-1
Conclusions 3-1
Analytic Considerations 3-2
Recommendations 3-2

Appendix A. Methodology A-1

1. Executive Summary

In fiscal year (FY) 2020–2021, the Colorado Department of Health Care Policy and Financing (the Department) contracted Health Services Advisory Group, Inc. (HSAG) to conduct encounter data validation (EDV) among the Department's contracted limited managed care capitated initiative plans (Medicaid managed care organizations [MCOs]) as an optional external quality review (EQR) activity under the Centers for Medicare & Medicaid Services (CMS) regulations released in October 2019.[1-1] The 412 EDV among physical health encounters has been an annual EQR activity for **Rocky Mountain Health Plans Medicaid Prime** (**RMHP Prime**) since FY 2018–2019.

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.

This report presents EDV findings for the **RMHP Prime** MCO.

To facilitate this assessment, the Department randomly selected 103 final, adjudicated physical health encounters, with paid dates between October 1, 2019, and September 30, 2020, from four distinct encounter types (i.e., a total of 412 encounters) that **RMHP Prime** will independently validate against medical records. These encounter types included services rendered in federally qualified health centers (FQHCs), as well as in inpatient, outpatient, and professional settings. **RMHP Prime** submitted a data file containing the validation results for the 412 cases and an Encounter Data Quality Report to HSAG and the Department.

To facilitate **RMHP Prime**'s EDV tasks the Department developed and implemented the *Annual MCO Encounter Data Quality Review Guidelines* (guidelines). The guidelines include file format and reporting requirements, and a timeline to guide **RMHP Prime** in conducting its internal validation and using the results to prepare the Encounter Data Quality Report for the Department.

The Department contracted HSAG to evaluate **RMHP Prime**'s capacity to internally validate encounters through an independent assessment of the Encounter Data Quality Report submitted by **RMHP Prime**. Specifically, the Department requested that HSAG complete the following FY 2020–2021 412 EDV over-read tasks:

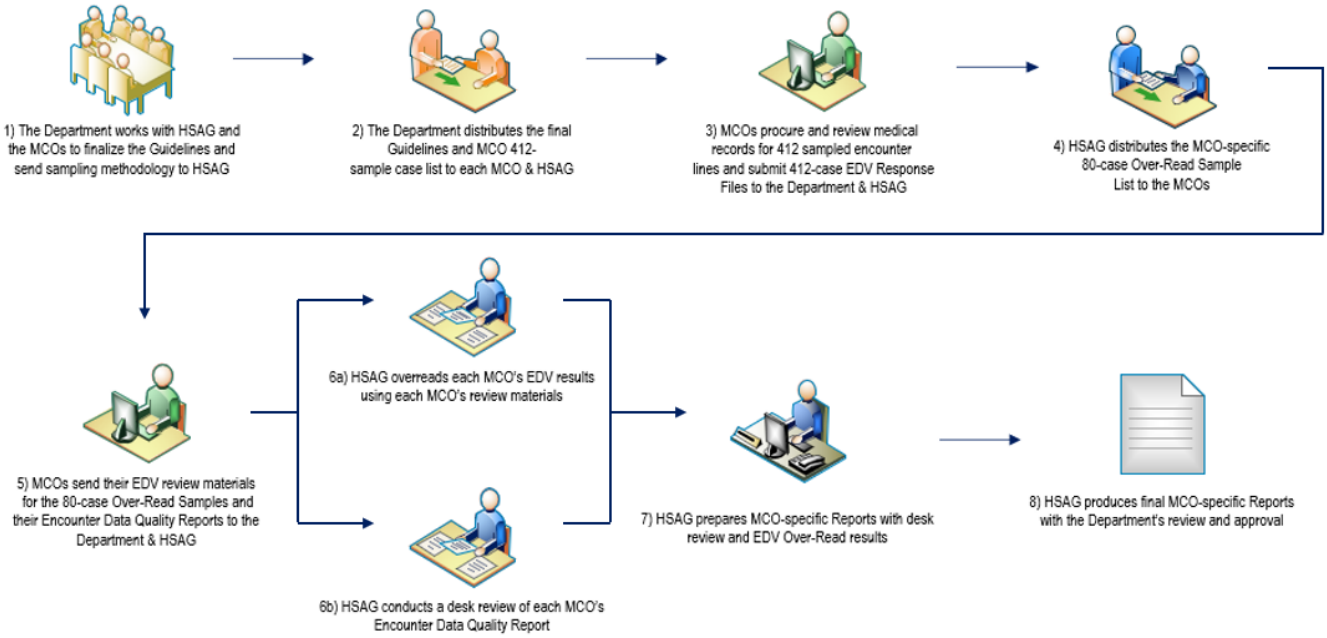
1. Conduct a desk review of **RMHP Prime**'s validation process, including any process documentation submitted by **RMHP Prime**.

[1-1] 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*, October 2019. Available at: https://www.medicaid.gov/medicaid/quality-of-care/downloads/2019-eqr-protocols.pdf. Accessed on: Jun 11, 2021.

2. Conduct a review of medical records for cases randomly selected from each encounter type's 103 sample list, which was generated by the Department.
3. Produce a report for **RMHP Prime** containing findings specific to each encounter type, including a statement regarding HSAG's assessment of the accuracy of **RMHP Prime**'s internal validation results.

Figure 1-1 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 2020–2021 412 EDV methodology is presented in Appendix A.

Figure 1-1—FY 2020–2021 412 EDV Over-Read Process



Results

Table 1-1 summarizes the four service coding accuracy tables submitted to HSAG and the Department in **RMHP Prime**'s Encounter Data Quality Report. Among the four encounter types, the required data elements reviewed for outpatient cases were more likely to be supported by the medical record documentation compared to the remaining encounter types. Among outpatient cases, medical record support for the data elements ranged from 85.4 percent to 89.3 percent. The remaining encounter types showed a wider range of medical record support for the reviewed data elements. For example, **RMHP Prime** reported that medical record support ranged from 55.3 percent (*Diagnosis Code*) to 96.1 percent (*Date of Service*, *Units*) among validated data elements within FQHC cases.

Table 1-1—RMHP Prime Self-Reported Service Coding Accuracy Summary

Data Element	Inpatient		Outpatient		Professional		FQHC	
	Count of Cases Supported by Medical Record[1]	Percent of Cases Supported by Medical Record[2]	Count of Cases Supported by Medical Record[1]	Percent of Cases Supported by Medical Record[2]	Count of Cases Supported by Medical Record[1]	Percent of Cases Supported by Medical Record[2]	Count of Cases Supported by Medical Record[1]	Percent of Cases Supported by Medical Record[2]
Date of Service	90	87.4%	92	89.3%	83	80.6%	99	96.1%
Through Date	89	86.4%	—	—	—	—	—	—
Diagnosis Code	78	75.7%	88	85.4%	74	71.8%	57	55.3%
Surgical Procedure Code	59	57.3%	—	—	—	—	—	—
Procedure Code	—	—	91	88.3%	79	76.7%	96	93.2%
Procedure Code Modifier	—	—	91	88.3%	75	72.8%	88	85.4%
Discharge Status	80	77.7%	—	—	—	—	—	—
Units	—	—	90	87.4%	79	76.7%	99	96.1%

[1] This column aligns with the Numerator column found in the service coding accuracy tables of RMHP Prime's Encounter Data Quality Report.

[2] This column aligns with the Overall% column found in the Service Coding Accuracy Report.

"—" Indicates the requirement is not validated for the encounter type.

As shown in Table 1-2, HSAG's over-read results indicate complete case-level agreement with **RMHP Prime**'s internal validation results for 67 of the 80 sampled cases, resulting in a 83.8 percent complete case-level agreement rate. The total case-level agreement rate is less than the 87.5 percent total agreement reported by HSAG for the FY 2019–2020 412 EDV. Additionally, HSAG agreed with 94.8 percent of **RMHP Prime**'s internal validation results for the total number of individual data elements reviewed. This number is lower than the 95.7 percent agreement rate reported for **RMHP Prime** in FY 2019–2020.

Table 1-2—FY 2020–2021 HSAG Over-Read Results by Percent of Cases in Total Agreement and Percent of Element Accuracy, by Encounter Type

	Case-Level Accuracy		Element-Level Accuracy	
Service Category	Total Number of Over-Read Cases	Percent With Complete Agreement	Total Number of Over-Read Elements	Percent With Complete Agreement
Inpatient	20	85.0%	120	95.0%
Outpatient	20	80.0%	100	93.0%
Professional	20	100.0%	100	100.0%
FQHC	20	70.0%	100	91.0%
Total	**80**	**83.8%**	**420**	**94.8%**

HSAG performed additional tasks to evaluate the Department's role in the EDV and to identify potential concerns with the 412-case sample. First, 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 measurement period. However, the Department provided no details regarding a run-out interval between the study measurement period and the date on which the encounters were compiled for sample generation. Depending on the Department's data collection and storage processes, the length of a run-out interval prior to sampling could limit the encounters included in the study, biasing the sample toward encounters for services occurring earlier in the study period.

Second, HSAG performed a review of the Encounter Data Quality Report submitted by the Medicaid MCO. The review confirmed that the Medicaid MCO took steps to ensure trained staff members were assigned to the EDV, familiarize the staff members with the guidelines, create a document to capture EDV information, and train staff members on the use of the data capture document. The report also noted that development of the EDV data capture tool included coding and logic to help reduce data entry errors and identify misalignments from the rules described in the guidelines.

The Department continues to transition its encounter data process to a new Medicaid Management Information System (MMIS), interChange; **RMHP Prime** will submit encounter data directly into the MMIS. For validation purposes, **RMHP Prime** 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 **RMHP Prime** to ensure encounter data timeliness and accuracy as well as comparability between encounter data provided by **RMHP Prime** under the new and legacy systems.

Conclusions

The annual encounter data quality review study was designed to assess the consistency and accuracy with which each Colorado Medicaid MCO validates its physical health encounter data using medical record reviews. The service coding accuracy results of **RMHP Prime**'s EDV show a wide range of coding accuracy rates (i.e., medical record support of the data element) within the different encounter types as well as between the different encounter types. The five data elements reviewed for outpatient cases all had accuracy rates greater than 85.0 percent, but none exceeded 90.0 percent. Among the inpatient and professional cases, none of the data element accuracy rates exceeded 88.0 percent. Within the FQHC cases, accuracy rates ranged from 55.3 percent for *Diagnosis Code* and 96.1 percent for *Date of Service* and *Units*.

Results from HSAG's FY 2020–2021 412 EDV over-read (summarized in Table 1-2) suggest a moderate level of confidence that **RMHP Prime**'s independent validation findings accurately reflect the encounter data quality summarized in **RMHP Prime**'s service coding accuracy results. Overall, the FY 2020–2021 results indicate complete case-level agreement with **RMHP Prime**'s internal validation results for 83.8 percent of cases and an element-level agreement rate of 94.8 percent.

RMHP Prime's service coding accuracy results show an accuracy rate of 57.3 percent for the *Surgical Procedure Code* element among inpatient cases and an accuracy rate of 55.3 percent for the *Diagnosis Code* element among FQHC cases. When examining **RMHP Prime**'s self-reported service coding accuracy rates among each data element (i.e., a total of 20 data elements across the encounter types), **RMHP Prime** reported rates less than 80.0 percent for eight data elements. HSAG's over-read of 80 sampled cases found that HSAG generally agreed with **RMHP Prime**'s results. HSAG's review of the study documentation provided by the Department and **RMHP Prime** suggests that all parties followed the guidelines while conducting the EDV. The high level of over-read agreement and the well-documented EDV combined with **RMHP Prime**'s low service coding accuracy rates support the conclusion that **RMHP Prime** has opportunities to improve its encounter data quality. This points to the completeness, accuracy, and timeliness 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 considerations should be considered when reviewing this report.

- Each MCO conducted medical record procurement for EDV cases between January 6, 2021, and March 12, 2021, and the FY 2020–2021 412 EDV assessed final paid encounters with paid dates from October 1, 2020, through September 30, 2020. During each of these time frames, the coronavirus disease 2019 (COVID-19) public health emergency may have affected the timeliness of providers' data submissions to the MCOs, as well as the MCOs' ability to procure medical records from providers' offices in a timely manner. It is beyond the scope of the current EDV to evaluate the impact of the public health emergency on the timeliness and/or accuracy of the MCOs' physical health encounter data.

- A sample size of 412 encounters is utilized in this study to reduce the need for resources. It is important that the sampling methodology utilized by the Department ensures that the sample is representative of all encounters eligible for study inclusion. HSAG has provided recommendations to the Department meant to ensure that the methodology is well documented and thoroughly described.
- Medical record abstraction requires the expertise of nurse reviewers and medical coders who may apply varying, though legitimate, interpretations for coding rules and processes. Such variation between HSAG's reviewers and **RMHP Prime**'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 **RMHP Prime**'s input on the guidelines, and **RMHP Prime** was directed to include abstraction notes to communicate its decisions and findings to HSAG for specific review scenarios.

Recommendations

The Department designed this study to assess the accuracy with which **RMHP Prime** validates physical health encounters in support of the Department's overall encounter data quality efforts. Therefore, HSAG recommends that findings associated with this 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 that the Department collaborate with **RMHP Prime** to identify best practices regarding provider education to support service coding accuracy. Identifying such practices may involve requesting and reviewing copies of **RMHP Prime**'s provider training and/or corrective action documents, reviewing **RMHP Prime**'s policies and procedures for monitoring providers' physical health encounter data submissions, and verifying that **RMHP Prime** is routinely monitoring encounter data quality beyond the annual 412 EDV. Detailed recommendations for the Department and **RMHP Prime** are presented in Section 3.

Timely, accurate encounter data require ongoing efforts from multiple stakeholders among the Department, **RMHP Prime**, and **RMHP Prime**'s contracted providers. As FY 2020–2021 is the third year of the 412 EDV for **RMHP Prime**, focused quality improvement efforts are underway, including an annual EQR activity in which the Department requires **RMHP Prime** to develop and implement a Quality Improvement Plan based on its prior year's 412 EDV service coding accuracy results. The Department provided no additional input on quality improvement actions resulting from recommendations in the FY 2019–2020 412 EDV report.

2. Encounter Data Validation Over-Read Results

HSAG compiled the FY 2020–2021 412 EDV findings based on three tasks: a desk review of the Department's sampling methodology, a desk review of **RMHP Prime**'s internal EDV methodology, and an over-read validation of a sample of **RMHP Prime**'s 412 EDV medical record review cases.

Desk Review of the Department's Sampling Methodology

The Department provided HSAG with a brief description of the process used to generate a random sample of **RMHP Prime**'s encounters. The Department's documentation listed the criteria by which encounters were assigned to service categories and noted that the sample was restricted to final, adjudicated encounters with paid dates between October 1, 2019, and September 30, 2020. 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. Based on the information provided, HSAG was unable to determine if the Department ensured that the sample was representative of the underlying data.

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 category of service and selecting 10 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's documentation indicated these steps were repeated for each of the four service categories.

The Department continues to transition its encounter data process to a new MMIS, interChange; **RMHP Prime** will submit encounter data directly into the MMIS. For validation purposes, **RMHP Prime** 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 **RMHP Prime** to ensure encounter data timeliness and accuracy as well as comparability between encounter data provided by **RMHP Prime** under the new and legacy systems.

Desk Review of RMHP Prime's Internal Validation Methodology

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

- A list of the coding guidelines referenced during **RMHP Prime**'s abstraction process.
- A brief description of the record procurement process.
- A brief description of the validation tool, a shared Microsoft (MS) Excel spreadsheet, and a brief description of the instructions provided to the reviewers. The validation tool contained internal rules and logic associated with validation criteria.
- The interrater reliability (IRR) testing process for validation of staff members.

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

Overall, **RMHP Prime**'s reviewers found that only the FQHC cases had requirements with a coding accuracy rate indicating that greater than 90.0 percent (*Date of Service*, *Procedure Code*, and *Units*) of selected data elements were supported by medical record documentation. In addition, **RMHP Prime** noted varying levels of coding accuracy within encounter types. Table 2-1 shows that the service coding accuracy among inpatient cases ranged from 57.3 percent (*Surgical Procedure Code*) to 87.4 percent (*Date of Service*).

Table 2-1—RMHP Prime Self-Reported Service Coding Accuracy Summary for Inpatient Encounters

Data Element	Numerator	Excluded/ Does Not Apply	Total Denominator	Modified Denominator	Overall Percent	Modified Percent
Date of Service (Service_Date)	90	0	103	103	87.4%	87.4%
Through Date (Thru_Date)	89	0	103	103	86.4%	86.4%
Diagnosis Code (Diag_Code_1)	78	0	103	103	75.7%	75.7%
Surgical Procedure Code (SurgicalProcedure1)	59	0	103	103	57.3%	57.3%
Discharge Status (Discharge_Status)	80	0	103	103	77.7%	77.7%

Table 2-2 presents **RMHP Prime**'s self-reported service coding accuracy for the outpatient EDV cases. The coding accuracy ranged from 85.4 percent (*Diagnosis Code*) to 89.3 percent (*Date of Service*). Also, the coding accuracy among the different data elements show the smallest variation compared to those of the other encounter types (i.e., inpatient, professional, and FQHC).

Table 2-2—RMHP Prime Self-Reported Service Coding Accuracy Summary for Outpatient Encounters

Data Element	Numerator	Excluded/ Does Not Apply	Total Denominator	Modified Denominator	Overall Percent	Modified Percent
Date of Service (Service_Date)	92	0	103	103	89.3%	89.3%
Diagnosis Code (Diag_Code_1)	88	0	103	103	85.4%	85.4%
Procedure Code (Proc_Code)	91	0	103	103	88.3%	88.3%
Procedure Code Modifier (Proc_Code_Modifier)	91	0	103	103	88.3%	88.3%
Units (Quantity)	90	0	103	103	87.4%	87.4%

Table 2-3 presents **RMHP Prime**'s self-reported service coding accuracy for the professional EDV cases. The coding accuracy ranged from 71.8 percent (*Diagnosis Code*) to 80.6 percent (*Date of Service*). The range of coding accuracy rates is not very large, but only one requirement (*Date of Service*) shows a rate higher than 80.0 percent.

Table 2-3—RMHP Prime Self-Reported Service Coding Accuracy Summary for Professional Encounters

Data Element	Numerator	Excluded/ Does Not Apply	Total Denominator	Modified Denominator	Overall Percent	Modified Percent
Date of Service (Service_Date)	83	0	103	103	80.6%	80.6%
Diagnosis Code (Diag_Code_1)	74	0	103	103	71.8%	71.8%
Procedure Code (Proc_Code)	79	0	103	103	76.7%	76.7%
Procedure Code Modifier (Proc_Code_Modifier)	75	0	103	103	72.8%	72.8%
Units (Quantity)	79	0	103	103	76.7%	76.7%

Table 2-4 presents **RMHP Prime**'s self-reported service coding accuracy for the FQHC EDV cases. The coding accuracy among FQHC encounters ranged from 55.3 percent (*Diagnosis Code*) to 96.1 percent (*Date of Service* and *Units*).

Table 2-4—RMHP Prime Self-Reported Service Coding Accuracy Summary for FQHC Encounters

Data Element	Numerator	Excluded/ Does Not Apply	Total Denominator	Modified Denominator	Overall Percent	Modified Percent
Date of Service (Service_Date)	99	0	103	103	96.1%	96.1%
Diagnosis Code (Diag_Code_1)	57	0	103	103	55.3%	55.3%
Procedure Code (Proc_Code)	96	0	103	103	93.2%	93.2%
Procedure Code Modifier (Proc_Code_Modifier)	88	0	103	103	85.4%	85.4%
Units (Quantity)	99	0	103	103	96.1%	96.1%

Over-Read of Sample Cases by Encounter Type

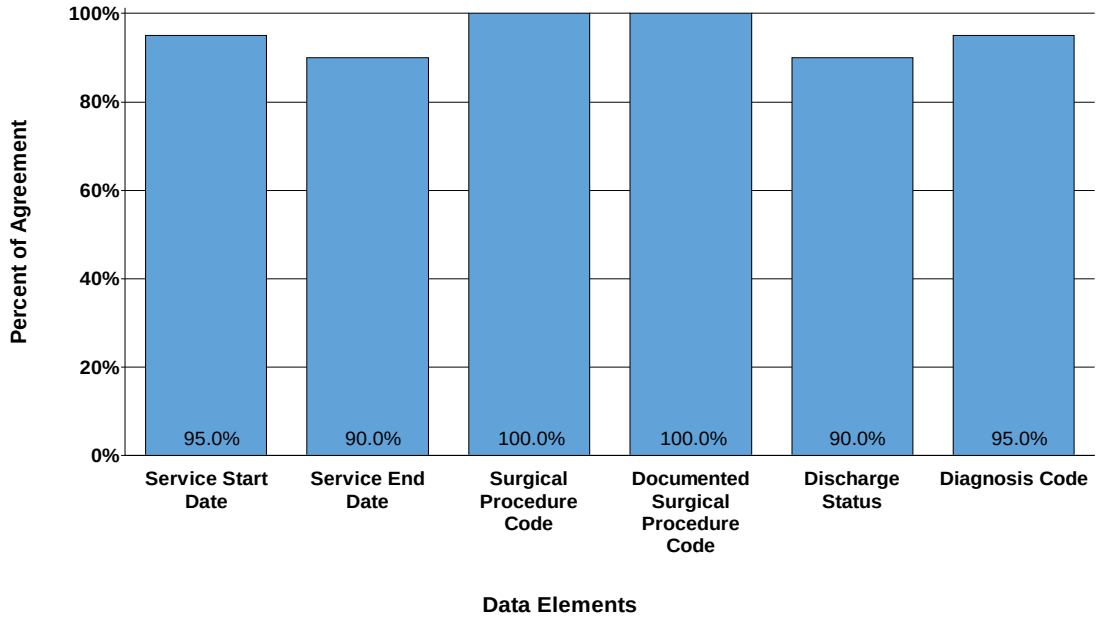
The EDV response file submitted to HSAG and the Department by **RMHP Prime** contained all required fields and aligned with the EDV response file layout required by the Department and outlined in the guidelines. The EDV response data layout was defined in the guidelines and is presented in Appendix A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

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

Inpatient Cases

Figure 2-1 presents the aggregate results from HSAG's over-read of the 20 inpatient cases. Agreement values range from 90.0 percent to 100.0 percent, where 100.0 percent represents complete agreement between **RMHP Prime**'s internal abstraction results and HSAG's over-read results, and 0.0 percent represents complete disagreement.

Figure 2-1—Aggregated Percent of Agreement Between HSAG's Over-Read and RMHP Prime's Internal EDV Findings, by Data Element for Inpatient Cases

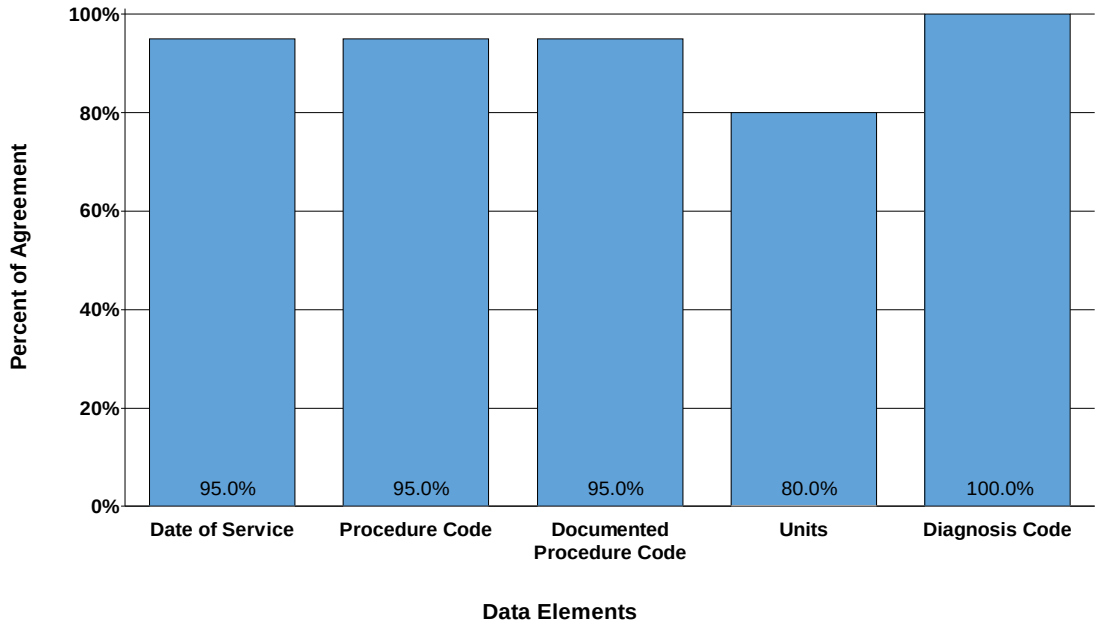


Complete agreement for a sampled inpatient case occurred when HSAG's over-read results indicated agreement with **RMHP Prime**'s validation response for each of the six assessed data elements. Among the 20 sampled inpatient cases, HSAG's over-read results demonstrated complete agreement with all data elements in 17 cases, an 85.0 percent aggregate agreement rate. The highest agreement rates (each 100.0 percent) were observed for the *Surgical Procedure Code* and *Documented Surgical Procedure Code* data elements. The lowest agreement rates (each 90.0 percent) were observed for the *Service End Date* and *Discharge Status* data elements.

Outpatient Cases

Figure 2-2 presents the aggregate results from HSAG's over-read of the 20 outpatient cases. Agreement values range from 80.0 percent to 100.0 percent for individual data elements, where 100.0 percent represents complete agreement between **RMHP Prime**'s internal validation results and HSAG's over-read results, and 0.0 percent represents complete disagreement.

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

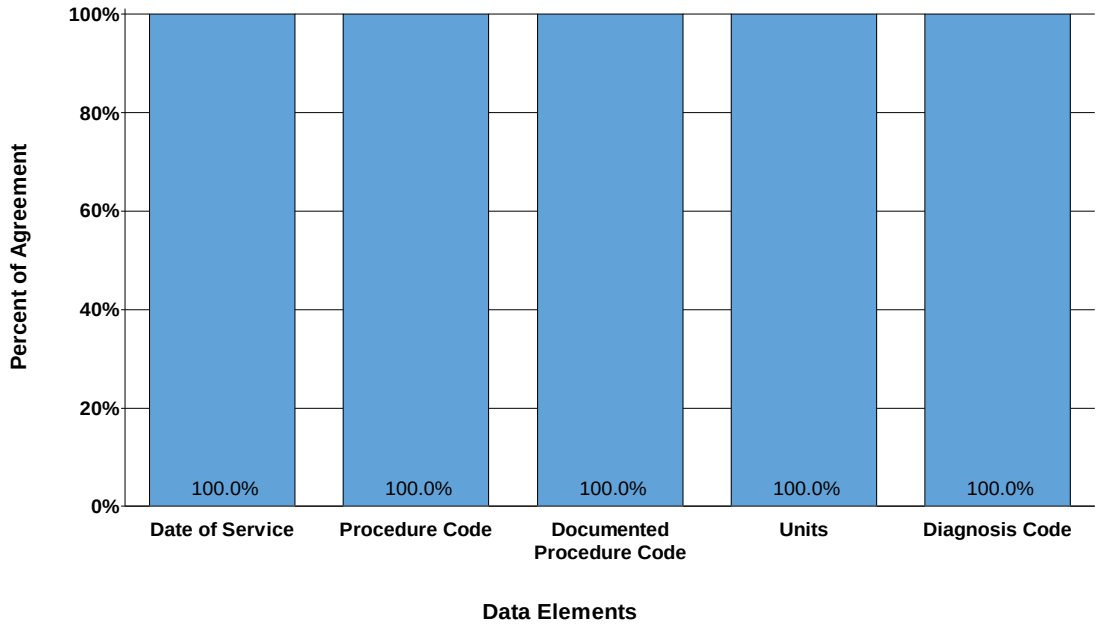


Complete agreement occurred when HSAG's over-read results indicated agreement with **RMHP Prime**'s validation response for each of the five individual data elements assessed for a sampled outpatient case. Among the 20 sampled outpatient cases, HSAG's over-read results demonstrated complete agreement with all data elements in 16 cases, an 80.0 percent aggregate agreement rate. The highest agreement rate (100.0 percent) was observed for the *Diagnosis Code* data element. The lowest agreement rate (80.0 percent) was observed for the *Units* data element.

Professional Cases

Figure 2-3 presents the aggregate results from HSAG's over-read of the 20 professional cases. Agreement values are 100.0 percent for individual data elements, where 100.0 percent represents complete agreement between **RMHP Prime**'s internal validation results and HSAG's over-read results, and 0.0 percent represents complete disagreement.

Figure 2-3—Aggregated Percent of Agreement Between HSAG's Over-Read and RMHP Prime's Internal EDV Findings, by Data Element for Professional Cases

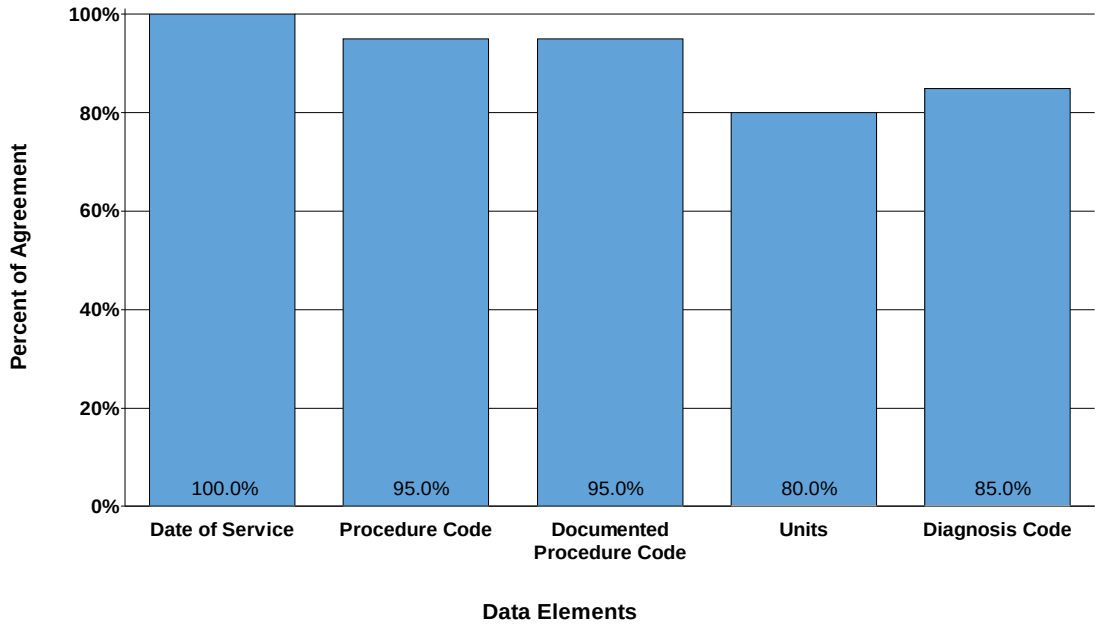


Complete agreement for a sampled professional case occurred when HSAG's over-read results indicated agreement with **RMHP Prime**'s validation response for each of the five assessed data elements. Among the 20 sampled professional cases, HSAG's over-read results demonstrated complete agreement with all data elements in 20 cases, a 100.0 percent aggregate agreement rate for all data elements.

FQHC Cases

Figure 2-4 presents the aggregate results from HSAG's over-read of the 20 FQHC cases. Agreement values range from 80.0 percent to 100.0 percent for individual data elements, where 100.0 percent represents complete agreement between **RMHP Prime**'s internal validation results and HSAG's over-read results, and 0.0 percent represents complete disagreement.

Figure 2-4—Aggregated Percent of Agreement Between HSAG's Over-Read and RMHP Prime's Internal EDV Findings, by Data Element for FQHC Cases



Complete agreement occurred when HSAG's over-read results indicated agreement with **RMHP Prime**'s validation response for each of the five individual data elements assessed for a sampled outpatient case. Among the 20 sampled FQHC cases, HSAG's over-read results demonstrated complete agreement with all data elements in 14 cases, a 70.0 percent aggregate agreement rate. The highest agreement rate (100.0 percent) was observed for the *Date of Service* data element. The lowest agreement rate (80.0 percent) was observed for the *Units* data element.

3. Discussion

Conclusions

The annual encounter data quality review study was designed to assess the consistency and accuracy with which each Colorado Medicaid MCO validates its physical health encounter data using medical record reviews. The service coding accuracy results of **RMHP Prime**'s EDV show a wide range of coding accuracy rates (i.e., medical record support of the data element) within the different encounter types as well as between the different encounter types. The five data elements reviewed for outpatient cases all had accuracy rates greater than 85.0 percent, but none exceeded 90.0 percent. Among the inpatient and professional cases, none of the data element accuracy rates exceeded 88.0 percent. Within the FQHC cases, accuracy rates ranged from 55.3 percent for *Diagnosis Code* and 96.1 percent for *Date of Service* and *Units*.

Results from HSAG's FY 2020–2021 412 EDV over-read (summarized in Table 1-2) suggest a moderate level of confidence that **RMHP Prime**'s independent validation findings accurately reflect its encounter data quality. Overall, the FY 2020–2021 results indicate complete case-level agreement with **RMHP Prime**'s internal validation results for 83.8 percent of cases and an element-level agreement rate of 94.8 percent.

HSAG also reported the aggregated percent of agreement between HSAG's over-read results and **RMHP Prime**'s internal EDV findings, by encounter type and data element. For professional encounters, HSAG reviewers agreed with **RMHP Prime**'s reviewers on 100.0 percent of the data elements, where 100.0 percent represents complete agreement between **RMHP Prime**'s internal abstraction results and HSAG's over-read results. Among inpatient encounters, the percent of agreement ranged from 100.0 percent (*Surgical Procedure Code* and *Documented Surgical Procedure Code*) to 90.0 percent (*Service End Date* and *Discharge Status*). Among outpatient encounters, the percent of agreement ranged from 100.0 percent (*Diagnosis Code*) to 80.0 percent (*Units*). Among FHQC encounters, the percent of agreement ranged from 100.0 percent (*Date of Service*) to 80.0 percent (*Units*).

RMHP Prime's service coding accuracy results show an accuracy rate of 57.3 percent for the *Surgical Procedure Code* element among inpatient cases and an accuracy rate of 55.3 percent for the *Diagnosis Code* element among FQHC cases. When examining **RMHP Prime**'s self-reported service coding accuracy rates among each data element (i.e., a total of 20 data elements across the encounter types), **RMHP Prime** reported rates less than 80.0 percent for eight data elements. HSAG's over-read of 80 sampled cases found that HSAG generally agreed with **RMHP Prime**'s results. HSAG's review of the study documentation provided by the Department and **RMHP Prime** suggests that all parties followed the guidelines while conducting the EDV. The high level of over-read agreement and the well-documented EDV combined with **RMHP Prime**'s low service coding accuracy rates support the conclusion that **RMHP Prime** has opportunities to improve its encounter data quality. This points to the completeness, accuracy, and timeliness of encounter data as potential targets for root cause analysis.

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- Each MCO conducted medical record procurement for EDV cases between January 6, 2021, and March 12, 2021, and the FY 2020–2021 412 EDV assessed final paid encounters with paid dates from October 1, 2020, through September 30, 2020. During each of these time frames, the COVID-19 public health emergency may have affected the timeliness of providers' data submissions to the MCOs, as well as the MCOs' ability to procure medical records from providers' offices in a timely manner. It is beyond the scope of the current EDV to evaluate the impact of the public health emergency on the timeliness and/or accuracy of the MCOs' physical health encounter data.
- A sample size of 412 encounters is utilized in this study to reduce the need for resources. It is important that the sampling methodology utilized by the Department ensures that the sample is representative of all encounters eligible for study inclusion. HSAG has provided recommendations to the Department meant to ensure that the methodology is well documented and thoroughly described.
- Medical record abstraction requires the expertise of nurse reviewers and medical coders who may apply varying, though legitimate, interpretations for coding rules and processes. Such variation between HSAG's reviewers and **RMHP Prime**'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 **RMHP Prime**'s input on the guidelines, and **RMHP Prime** was directed to include abstraction notes to communicate its decisions and findings to HSAG for specific review scenarios.

Recommendations

The Department designed this study to assess the accuracy with which **RMHP Prime** 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 that the Department collaborate with **RMHP Prime** to identify best practices regarding provider education to support service coding accuracy. Identifying such practices may involve requesting and reviewing copies of **RMHP Prime**'s provider training and/or corrective action documentation, reviewing **RMHP Prime**'s policies and procedures for monitoring providers' physical health encounter data submissions, and verifying that **RMHP Prime** is routinely monitoring encounter data quality beyond the annual 412 EDV.

HSAG's FY 2019–2020 over-read results show a small decrease in agreement between HSAG's and **RMHP Prime**'s reviewers compared to the previous year, and systemic errors do not appear to play a role in the decrease. As such, selected recommendations from the FY 2019–2020 study are still relevant.

Based on HSAG's document review, **RMHP Prime**'s service coding accuracy results, and HSAG's over-read results, HSAG offers the following recommendations to improve the quality of **RMHP Prime**'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's rate section 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 sample list used to identify each of the cases.
- **RMHP Prime**'s initial response file contained responses that did not align with the guidelines, and there was an error with the record number continuity. To maintain data integrity, HSAG recommends that **RMHP Prime** consider the following enhancements for independent EDVs:
  - Thoroughly document EDV tool(s), including a written description of the tool development and testing processes.
  - While **RMHP Prime** added data field validation logic to its data collection tool, **RMHP Prime** should assess its internal data handling processes to ensure that abstracted data are reviewed prior to submission to HSAG and the Department.
  - Thoroughly document reviewer training materials and procedures, including examples of written training and oversight materials and/or decision documents.
- The guidelines provide scenarios in which the Comments field of the response file should be populated. The comments help HSAG reviewers better understand the coding logic utilized by **RMHP Prime** reviewers and can assist in situations where varying coding interpretations may be legitimate. Of the 412 sampled cases reviewed by **RMHP Prime**, only 66 contained comments in the Comments field. Increased use of the Comments field as described in the guidelines may improve the agreement rates between HSAG and **RMHP Prime** reviewers.
- **RMHP Prime**'s service coding accuracy results show that for a significant number of inpatient cases and FQHC cases, the *Surgical Procedure Code* and *Diagnosis Code* elements, respectively, were not supported by medical record documentation. In addition, the service coding accuracy results show variation in rates of support between the service categories. To ensure that **RMHP Prime** has implemented quality improvement actions to address these encounter data deficiencies, the Department's contract administrator for **RMHP Prime** should:
  - Request copies of **RMHP Prime**'s provider training and/or corrective action documentation.

- Request copies of **RMHP Prime**'s policies and procedures for monitoring providers' data submissions.
- Collaborate with the Department's Rates Section to review **RMHP Prime**'s encounter data quality documents and verify that **RMHP Prime** is monitoring encounter data quality and ensuring that providers are trained to submit encounters that accurately reflect the medical record documentation.

Timely, accurate encounter data require ongoing efforts from multiple stakeholders among the Department, **RMHP Prime**, and **RMHP Prime**'s contracted providers. As FY 2020–2021 is the third year of the independent 412 EDV for **RMHP Prime**, focused quality improvement efforts are underway, including an annual EQR activity in which the Department requires **RMHP Prime** to develop and implement a Quality Improvement Plan based on its prior year's 412 EDV service coding accuracy results. The Department opted not to comment on additional quality of life improvement actions resulting from recommendation in the FY 2019–2020 412 EDV report.

Appendix A. Methodology

HSAG's independent EDV consisted primarily of an assessment of **RMHP Prime**'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 **RMHP Prime**'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 **RMHP Prime**'s internal validation results for the 412 cases sampled by the Department. Prior to receiving **RMHP Prime**'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 **RMHP Prime** encounters paid between October 1, 2019, and September 30, 2020, for four physical health service categories.[A-1] The Department submitted the sample lists to **RMHP Prime** and HSAG in January 2021; **RMHP Prime** 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 encounter type and then selected a single encounter line for each of the 20 individuals, resulting in a list of 20 randomly selected encounter lines per encounter type and 80 cases overall. A single health event could result in a member having encounters for both the inpatient and professional services categories; therefore, HSAG assessed the encounter type lists to ensure that no members were included in multiple encounter types.

2. Encounter Data Validation Tool Development

RMHP Prime submitted its response file containing internal validation results for the 412 sampled cases to HSAG in March 2021. HSAG designed a web-based data collection tool and tool instructions based on the guidelines and 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.,

[A-1] Encounter types were identified using the review_typ field assigned to each encounter by the Department. Review_typ values of "PHY" identified professional cases, "IP" identified inpatient cases, "FQ" identified FQHC cases, and "OP" identified outpatient cases. The Department assigns claims to service categories according to a hierarchy, and each claim may be assigned to only a single category.

FQHC, outpatient, and professional). A control file containing select fields from the Department's encounter data flat file as well as **RMHP Prime**'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 **RMHP Prime** were linked to cases within the tool. The web-based tool allowed the HSAG analyst to extract MS Excel files containing encounter data, **RMHP Prime** validation responses, and HSAG's coders' responses specific to each encounter type.

3. HSAG's Over-Read Process

HSAG evaluated the accuracy of **RMHP Prime**'s internal validation findings in April 2020. More specifically, the HSAG reviewers validated **RMHP Prime**'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 **RMHP Prime**'s validation responses were accurate based on the review of the supporting medical record documentation submitted by **RMHP Prime**. 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, and 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 **RMHP Prime** agreed or disagreed with the accuracy of the codes submitted by the provider. If the HSAG coder agreed with **RMHP Prime**'s response, an agreement response was recorded in the tool. If the HSAG coder disagreed with **RMHP Prime**'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 **RMHP Prime**'s responses.

Prior to beginning abstraction, coders participated in an 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 encounter type. Since data elements varied by encounter 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 encounter type for which the HSAG coder agreed with **RMHP Prime**'s internal validation response. Results were displayed by encounter type for data elements that were abstracted by **RMHP Prime** 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 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 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 1 = Correct Code Modifier 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

Data Element (Field)		Data Description	Format	Length
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 *Required for Inpatient Encounters*	X	1
4	Encounter_Primary_Diagnosis_Code	0 = No or insufficient documentation, assignment of incorrect primary diagnosis code 1 = Correct 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 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 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
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

Data Element (Field)		Data Description	Format	Length
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
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

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

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 Procedure 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"