COLORADO

Department of Health Care Policy & Financing

Fiscal Year 2020–2021 Regional Accountable Entity 411 Encounter Data Validation Over-Read Report for RAE 7: Colorado Community Health Alliance Region 7

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

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 an encounter data validation (EDV) study for behavioral health (BH) encounters submitted to the Department from each of the Regional Accountable Entity (RAE) regions contracted with the Department during FY 2020–2021 (Table 1-1).

Table 1-1—RAE Regions by Health Plan Name and Abbreviation

RAE Region Number	RAE Health Plan Name	RAE Abbreviation
RAE 1	Rocky Mountain Health Plans	RMHP
RAE 2	Northeast Health Partners, LLC	NHP
RAE 3	Colorado Access	COA Region 3
RAE 4	Health Colorado, Inc.	HCI
RAE 5	Colorado Access	COA Region 5
RAE 6	Colorado Community Health Alliance	CCHA Region 6
RAE 7	Colorado Community Health Alliance	CCHA Region 7

EDV is an optional external quality review (EQR) activity under the Centers for Medicare & Medicaid Services (CMS) regulations released in October 2019.[1-1] While HSAG has collaborated with the Department to conduct annual BH EDV studies since calendar year 2011, the FY 2020–2021 study (i.e., RAE 411) was the second BH EDV in which each RAE was required to validate a sample of BH encounter data against corresponding medical record documentation.[1-2]

The Department developed the *Annual RAE BH Encounter Data Quality Review Guidelines* (guidelines) to support the RAEs' BH EDVs, including a specific timeline and file format requirements to guide each RAE in preparing its annual Encounter Data Quality Report. To support the BH EDV, the Department selected a random sample of 411 final, paid encounter lines (i.e., "cases") from each RAE region's BH encounter flat files, and the RAEs were required to conduct medical record review for the sampled cases, evaluating the quality of the BH encounter data submitted to the Department.

The guidelines also stipulate that the Department's external quality review organization (EQRO), HSAG, will conduct an independent evaluation of the RAEs' medical record review results to verify the

[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 7, 2021.

[1-2] Prior to the Department's transition from Behavioral Health Organizations (BHOs) to the RAEs in 2018, the Department required the BHOs to conduct annual BH EDVs in which the BHOs validated samples of encounter data against corresponding medical record documentation and HSAG conducted an over-read of the BHOs' medical record review results.

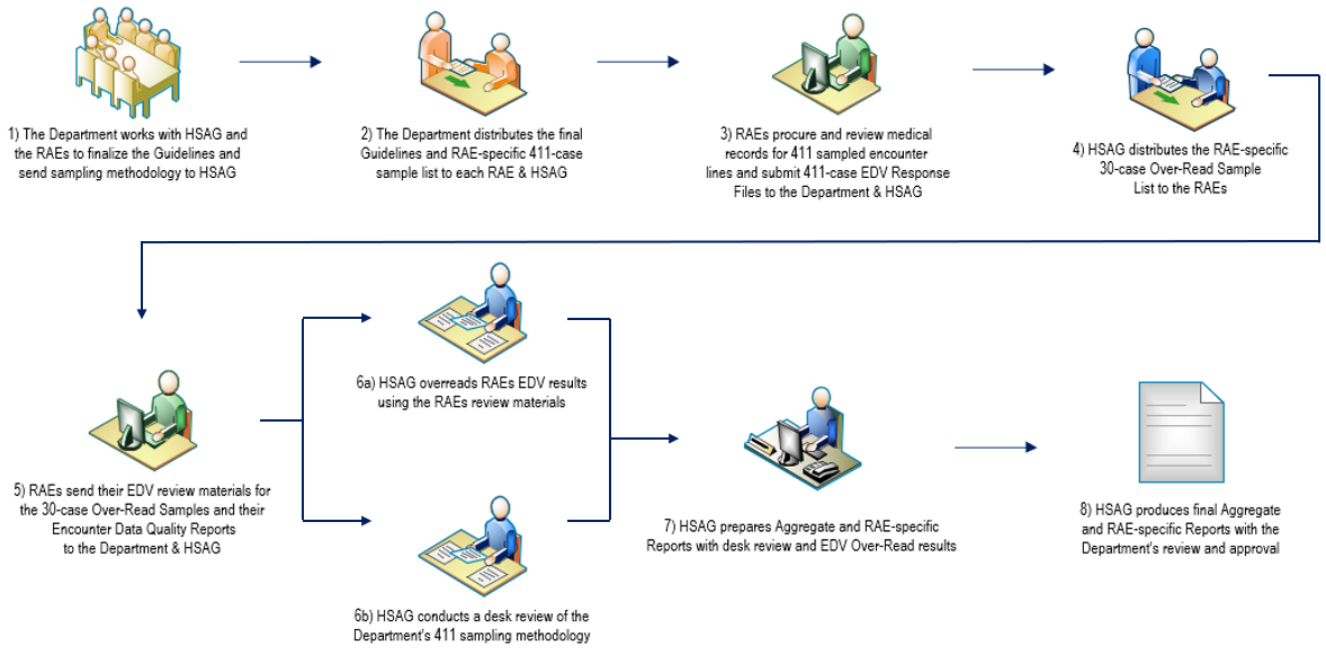
quality of each RAE's EDV results. Following completion of their medical record reviews, each RAE submits its EDV results to the Department and HSAG as part of an annual Encounter Data Quality Report. HSAG overreads a random sample of each RAE's validated cases and reports on validation agreement with the RAEs' EDV results.

The Department requested that HSAG conduct the following FY 2020–2021 RAE 411 tasks:

1. Conduct a desk review of the Department's sampling protocol and code, as well as a review of each RAE's EDV process, including any submitted EDV documentation.
2. Conduct a medical record review for a sample of 30 cases randomly selected from each RAE's 411 EDV sample list.
3. Produce an aggregate report with RAE-specific findings, including a statement regarding HSAG's level of confidence in each RAE's EDV results.

Figure 1-1 diagrams the high-level steps involved in HSAG's RAE 411 EDV over-read process, beginning in the upper left corner of the image. HSAG's FY 2020–2021 RAE 411 methodology is presented in Appendix A.

Figure 1-1—RAE 411 EDV Over-Read Process



EDV Results and Over-Read of Sample Case Results

Based on the sampling approach outlined in the guidelines, the Department randomly selected, for each RAE, 137 institutional encounters for Inpatient Services, 137 professional encounters for Psychotherapy Services, and 137 professional encounters for Residential Services. Each RAE procured the medical records corresponding to its sampled cases and compared the medical records to the encounter data values for each case. Each RAE then used the specifications listed in the *FY 2020–2021 Annual RAE BH Encounter Data Quality Review Guidelines* to create service coding accuracy[1-3] data tables summarizing their 411 EDV results.

After distributing the lists of sampled cases to the RAEs, a RAE notified the Department that selected Inpatient Services cases reflected services rendered in ambulatory settings, which would not align with the inpatient data fields designated for inclusion in the RAEs' EDV results. The Department instructed HSAG and the affected RAEs to consider sampled Inpatient Services cases with Place of Service codes other than "21" and "51" as professional services rendered in ambulatory settings, and to evaluate these cases using the non-inpatient data fields considered for the Psychotherapy Services and Residential Services cases. These cases are identified and reported in the EDV and HSAG's over-read using the term, "Ambulatory Inpatient Services cases." While this finding did not alter the overall number of each RAE's sampled cases, RAE 2, RAE 6, and RAE 7 altered their service coding accuracy tables to accommodate Ambulatory Inpatient Services cases.

Following HSAG's over-read of 30 sampled cases from each RAE's 411 EDV sample, HSAG tabulated agreement results that could range from 0.0 percent to 100.0 percent, where 100.0 percent represents perfect agreement between the RAE's EDV results and HSAG's over-read results, and 0.0 percent represents complete disagreement. Based on each RAE's results, HSAG calculated an aggregate validation rate for each EDV element and repeated these calculations for each of the service categories.

Tables 1-2 through 1-5 present HSAG's aggregate over-read results and the RAEs' self-reported service coding accuracy results by service category. Each table presents the EDV data element, the aggregate percentage among all RAEs, the lowest (minimum) percentage among the RAEs, and the highest (maximum) percentage among the RAEs for HSAG's over-read results and the RAEs' self-reported service coding accuracy results.

As shown in Table 1-2, HSAG identified a high agreement rate for service coding accuracy and over-read across most data elements for Inpatient Services cases (i.e., encounter data were supported by medical record documentation in a high percentage of cases within both the RAEs' service coding accuracy results and HSAG's over-read results). The agreement rate for validation elements among the RAEs ranged from 0.0 percent to 100.0 percent for over-read results and 70.8 percent to 100.0 percent for service coding accuracy results. At 70.5 percent, the *Discharge Status* data element had the lowest over-read aggregate percentage, affected by low agreement rates for RAE 2 (four cases without agreement) and RAE 4 (10 cases without agreement).

[1-3] The term "service coding accuracy" refers to the 411 EDV results tables generated by each RAE and reported in the RAE's Encounter Data Quality Report in alignment with the guidelines.

Table 1-2—Aggregate Over-Read and Service Coding Accuracy Results for Inpatient Services Cases

Data Element	Over-Read Results			Service Coding Accuracy Results		
	Aggregate Percentage	Lower Limit	Upper Limit	Aggregate Percentage	Lower Limit	Upper Limit
Principal Surgical Procedure Code	100.0%	100.0%	100.0%	97.1%	94.2%	100.0%
Diagnosis Code	97.7%	90.0%	100.0%	89.4%	70.8%	98.5%
Revenue Code	95.5%	90.0%	100.0%	94.0%	74.5%	100.0%
Discharge Status	70.5%	0.0%	100.0%	97.4%	94.9%	100.0%
Service Start Date	95.5%	75.0%	100.0%	96.1%	90.5%	100.0%
Service End Date	95.5%	75.0%	100.0%	96.6%	89.1%	100.0%

HSAG's over-read included 26 Ambulatory Inpatient Services cases among three RAEs and the aggregate percent of agreement was 96.2 percent across data elements except *Place of Service* and *Service Category Modifier* (Table 1-3). In comparison, the service coding accuracy results were high across all data elements.

Table 1-3—Aggregate Over-Read and Service Coding Accuracy Results for Ambulatory Inpatient Services Cases

Data Element	Over-Read Results			Service Coding Accuracy Results		
	Aggregate Percentage	Lower Limit	Upper Limit	Aggregate Percentage	Lower Limit	Upper Limit
Procedure Code	96.2%	90.0%	100.0%	95.1%	94.2%	98.6%
Diagnosis Code	96.2%	90.0%	100.0%	88.4%	79.6%	94.4%
Place of Service	23.1%	0.0%	100.0%	94.2%	92.7%	95.8%
Service Category Modifier	38.5%	16.7%	50.0%	94.8%	93.4%	98.6%
Unit	96.2%	90.0%	100.0%	95.9%	94.9%	100.0%
Service Start Date	96.2%	90.0%	100.0%	95.9%	94.9%	100.0%
Service End Date	96.2%	90.0%	100.0%	95.9%	94.9%	100.0%
Population	96.2%	90.0%	100.0%	95.9%	94.9%	100.0%
Duration	96.2%	90.0%	100.0%	95.9%	94.9%	100.0%
Staff Requirement	96.2%	90.0%	100.0%	95.7%	94.2%	100.0%

HSAG's over-read aggregate percentage was more than 91.4 percent across data elements for Psychotherapy Services claims and higher than the aggregate rates for service coding accuracy results (Table 1-4). There was significant variation in the service coding accuracy results across all data elements compared to the over-read results.

Table 1-4—Aggregate Over-Read and Service Coding Accuracy Results for Psychotherapy Services Cases

Data Element	Over-Read Results			Service Coding Accuracy Results		
	Aggregate Percentage	Lower Limit	Upper Limit	Aggregate Percentage	Lower Limit	Upper Limit
Procedure Code	91.4%	70.0%	100.0%	69.7%	35.8%	94.9%
Diagnosis Code	97.1%	90.0%	100.0%	79.5%	30.7%	94.2%
Place of Service	100.0%	100.0%	100.0%	78.4%	42.3%	94.9%
Service Category Modifier	94.3%	60.0%	100.0%	69.6%	35.8%	94.9%
Unit	100.0%	100.0%	100.0%	87.0%	47.4%	99.3%
Service Start Date	100.0%	100.0%	100.0%	88.0%	51.8%	99.3%
Service End Date	100.0%	100.0%	100.0%	88.0%	51.8%	99.3%
Population	100.0%	100.0%	100.0%	87.8%	50.4%	99.3%
Duration	98.6%	90.0%	100.0%	83.8%	46.7%	99.3%
Staff Requirement	95.7%	90.0%	100.0%	86.3%	48.2%	98.5%

The aggregate percentage for both over-read results and service coding accuracy results was high across all data elements for Residential Services claims (Table 1-5). The over-read agreement rate for validation elements by RAE ranged from 80.0 percent to 100.0 percent for over-read results and 75.9 percent to 100.0 percent for service coding accuracy results.

Table 1-5—Aggregate Over-Read and Service Coding Accuracy Results for Residential Services Cases

Data Element	Over-Read Results			Service Coding Accuracy Results		
	Aggregate Percentage	Lower Limit	Upper Limit	Aggregate Percentage	Lower Limit	Upper Limit
Procedure Code	94.3%	80.0%	100.0%	91.1%	75.9%	100.0%
Diagnosis Code	95.7%	90.0%	100.0%	94.3%	81.8%	98.5%
Place of Service	97.1%	90.0%	100.0%	93.5%	82.5%	99.3%
Service Category Modifier	97.1%	90.0%	100.0%	91.2%	75.9%	100.0%
Unit	98.6%	90.0%	100.0%	97.0%	91.2%	100.0%
Service Start Date	98.6%	90.0%	100.0%	97.2%	91.2%	100.0%

Data Element	Over-Read Results			Service Coding Accuracy Results		
	Aggregate Percentage	Lower Limit	Upper Limit	Aggregate Percentage	Lower Limit	Upper Limit
Service End Date	97.1%	90.0%	100.0%	97.1%	91.2%	100.0%
Population	98.6%	90.0%	100.0%	97.3%	91.2%	100.0%
Duration	98.6%	90.0%	100.0%	97.1%	91.2%	100.0%
Staff Requirement	95.7%	90.0%	100.0%	94.0%	79.6%	100.0%

Discussion

Of the 210 over-read cases, HSAG's reviewers agreed with the RAE reviewers' determinations for all data elements for 148 cases (i.e., an all-element agreement rate of 70.5 percent) and disagreed with RAE reviewers' determinations for only one data element for an additional 41 cases (19.5 percent). The percentage of cases with all-element agreement ranged among the RAEs from 46.7 percent for RAE 6 to 83.3 percent for RAE 1. The all-element agreement rates also varied by service category as follows:

- 61.4 percent of Inpatient Services cases
- 3.8 percent of Ambulatory Inpatient Services cases
- 82.9 percent of Psychotherapy Services cases
- 88.6 percent of Residential Services cases

Of the cases without all data elements in agreement, only one case each in Ambulatory Inpatient Services, Inpatient Services, and Residential Services had agreement between HSAG's reviewers and the RAEs' reviewers for three or fewer data elements. Additionally, HSAG's reviewers and the RAEs' reviewers agreed for more than three data elements for all Psychotherapy Services cases.

In general, HSAG's reviewers and the RAEs' reviewers' disagreement rates for Inpatient Services cases related to the *Discharge Status* data element, while disagreement rates for Ambulatory Inpatient Services cases related to the *Place of Service* or *Service Category Modifier* data elements. Most Ambulatory Inpatient Services cases for RAE 6 and RAE 7 had a place of service data value of "77" and a procedure code data value of "H0031." However, Colorado's Uniform Service Coding Standards (USCS) manual does not define "77" as a valid Place of Service code and this value is not listed as a valid Place of Service code for encounters with the "H0031" procedure code.

The most common reason for HSAG's reviewers and the RAEs' reviewers' disagreement on the *Procedure Code* data element for Psychotherapy Services and Residential Services cases was that the RAE scored the procedure code negatively due to a perceived lack of technical documentation (e.g., a provider signature in the medical record), while HSAG's reviewers determined that the medical record documentation supported the procedure code shown in the encounter data for the case.

In general, when key data elements were present in both the encounter data and the medical records, and were evaluated independently, results from HSAG's FY 2020–2021 RAE 411 over-read suggest a high level of confidence that the RAEs' independent validation findings accurately reflect their encounter data quality with the exception of the *Discharge Status* data element for Inpatient Services cases and the *Place of Service* and *Service Category Modifier* data elements for Ambulatory Inpatient Services cases. In comparison, the RAEs' self-reported service coding accuracy results reflected more than 90.0 percent agreement for all data elements except *Diagnosis Code* for Inpatient Services and Ambulatory Inpatient Services cases and a low percentage of cases with agreement across all data elements for Psychotherapy Services cases. Based on these findings, the RAEs should evaluate and enhance internal processes for ongoing encounter data monitoring and use the Department's annual RAE 411 EDV study as a focused mechanism for evaluating quality improvement.

Analytic Considerations

Due to the nature of the methodology and data sources, the following analytic considerations apply to the FY 2020–2021 RAE 411 EDV and over-read results:

- The RAEs conducted medical record procurement for EDV cases between January 11, 2021, and March 12, 2021, and the FY 2020–2021 RAE 411 EDV assessed final paid encounters with dates of service from July 1, 2019, through June 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 RAEs, as well as the RAEs' 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 RAEs' BH encounter data.
- The FY 2020–2021 RAE 411 EDV used a sample size of 411 cases per RAE to ensure an adequate sample size to reliably detect invalid encounter data results while limiting the use of resource-intensive medical record procurement and abstraction. Due to the variable BH encounter data volume among the RAEs, the 411 sample size may result in varying levels of generalizability among the RAEs and service categories. Due to the sampling approach, RAE 411 EDV results may not reflect the service coding accuracy of the RAEs' overall BH encounters.
- 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 the RAEs' reviewers may lead to reduced agreement rates among the over-read results. To minimize the effects of this variation, the Department and HSAG solicited the RAEs' input on the guidelines, and the RAEs were directed to include abstraction notes to communicate their decisions and findings to HSAG for specific review scenarios.

Recommendations

Based on the EDV and over-read results described in this report, HSAG recommends that the Department collaborate with the RAEs to identify best practices regarding provider education to support service coding accuracy. Identifying such practices may involve requesting and reviewing copies of the RAEs' provider training and/or corrective action documentation, reviewing the RAEs' policies and procedures for monitoring providers' BH encounter data submissions, and verifying that the RAEs are routinely monitoring encounter data quality beyond the annual RAE 411 EDV. Additionally, HSAG recommends that the Department revise its sampling approach for Inpatient Services cases in future EDV studies to avoid including encounters for ambulatory services that were submitted as institutional claims.

Timely, accurate encounter data require ongoing efforts from multiple stakeholders among the providers, the RAEs, and the Department. Focused quality improvement efforts are underway, including an annual EQR activity in which the Department requires each RAE to develop and implement quality improvement activities based on its prior year's RAE 411 service coding accuracy results. The Department provided no additional information on quality improvement actions resulting from recommendations in the FY 2019–2020 RAE 411 EDV report.

2. Encounter Data Validation Over-Read Results

HSAG compiled FY 2020–2021 RAE 411 EDV over-read findings from three separate tasks: a desk review of the Department's sampling documentation, a desk review of the RAEs' internal EDV methodology, and an over-read validation of the sampled EDV cases from the RAEs. This section describes the results for each of these tasks.

Desk Review of the Department's Sampling Documentation

The Department's Rates Section provided HSAG with a brief description of its process for generating a random sample of BH encounters for each RAE. The Department described the sample selection process and included the complete source code used to sample BH encounters for each service category. The Department also described the service category criteria used to stratify each RAE's sample and how the Rates Section randomly selected BH encounters from the RAE's BH encounter data flat files previously processed by the Rates Section. While the Department's sampling methodology noted that data validation would be performed on the RAEs' submitted BH encounter data to ensure completeness, no details were provided for the final sample frame inclusion criteria in case of inconsistencies in the submitted data. Additionally, the Department's documentation did not show the steps taken to verify that it generated the correct sample frame, or to validate that the final sample was representative of the sampling frame.

Per the sampling approach in the guidelines, the Department's Rates Section intended to randomly select 137 institutional encounters reflecting Inpatient Services, 137 professional encounters reflecting Psychotherapy Services, and 137 professional encounters with selected procedure codes reflecting Residential Services from the RAEs' paid BH encounters with dates of service from July 1, 2019, to June 30, 2020. However, the final sample for Inpatient Services included ambulatory services rendered at facilities that bill the RAEs using institutional claim forms; these non-inpatient services were later identified using the *Place of Service* codes. After distributing the sample lists to the RAEs, the Department determined that all Inpatient Services cases sampled for RAE 6 and RAE 7 reflected ambulatory (i.e., non-inpatient) services, and 71 of the 137 RAE 2 Inpatient Services cases reflected non-inpatient services.

The Department's sampling methodology did not document the amount of time allowed between the end of the study period and the time at which BH encounters were selected for review (i.e., the run-out period). The data run-out period allows time for corrections to be applied to the original encounter record, minimizing the likelihood of validating encounters that may be voided or adjusted after the sample is selected.

Desk Review of the RAEs' Internal EDV Methodology

The Department required each RAE to submit an Encounter Data Quality Report to the Department and HSAG containing information on the RAE's data submission quality throughout the measurement period and service coding accuracy among the 411 encounters validated during the RAE's internal EDV. Using the specifications listed in the *FY 2020–2021 Annual RAE BH Encounter Data Quality Review Guidelines*, each RAE created service coding accuracy data tables summarizing their 411 EDV results. To provide context for each RAE's service coding accuracy results, the Department directed each RAE to include its internal EDV methodology documentation in its Encounter Data Quality Report.

In reviewing the RAEs' Encounter Data Quality Reports, HSAG identified the following brief findings regarding the RAEs' EDV processes:

- All RAEs reported using multiple modes of communication to contact providers and procure medical records. Several RAEs also noted challenges in procuring records due to the COVID-19 public health emergency.
- HSAG noticed similarities among the RAEs' descriptions of their internal tool development and EDV processes. Most RAEs used Microsoft (MS) Excel to log abstracted data values with color coding and conditional logic to help each RAE's reviewers abstract data into the intended EDV elements. RAE 2 and RAE 4 used MS SQL Server and a web-based interface for their EDV tools and described a formal audit process used to review errors within the tool. RAE 1 submitted its MS Excel tool as its EDV response file, and HSAG noted that the tool did not include checks for allowable values and also included multiple missing values.
- Each RAE described its reviewer training processes, as well as its reviewers' professional experience, and the RAE's approach to reliability testing. Additionally, all RAEs except RAE 1 supplied a detailed description of the process for selecting and assigning cases for interrater reliability (IRR) analysis, the RAE's process for reconciling disagreements between reviewers, and the RAE's process for calculating IRR scores.
- Additionally, all RAEs except RAE 1 reported on opportunities for improvement in IRR testing, provider education, applying corrective action plans (CAPs) to low scoring providers, and initially reviewing medical records to increase the accuracy and completeness within the procurement process. RAE 6 and RAE 7 also reported that their review of the EDV response file against the original encounter files improved accuracy and identified errors not previously captured.

Data shown in Tables 2-1 through 2-4 are summarized from each RAE's service coding accuracy tables, as contained in the Encounter Data Quality Reports submitted to the Department and HSAG by each RAE. Differences between rates shown in the tables and those presented in the RAEs' Encounter Data Quality Reports result from HSAG recalculating all rates to display one decimal place for consistency across the RAEs.

Table 2-1—RAEs' Self-Reported Service Coding Accuracy Results by Data Element for Sampled Inpatient Services Cases

Data Element	RAE 411 Service Coding Accuracy Results for Sampled Inpatient Services*					Aggregate
	RAE 1 (N=137)	RAE 2* (N=66)	RAE 3 (N=137)	RAE 4 (N=137)	RAE 5 (N=137)	
Principal Surgical Procedure Code	97.8%	100.0%	94.9%	100.0%	94.2%	97.1%
Diagnosis Code	70.8%	98.5%	89.1%	98.5%	94.9%	89.4%
Revenue Code	74.5%	100.0%	100.0%	100.0%	98.5%	94.0%
Discharge Status	94.9%	100.0%	97.8%	99.3%	96.4%	97.4%
Service Start Date	90.5%	100.0%	95.6%	100.0%	96.4%	96.1%
Service End Date	89.1%	100.0%	99.3%	100.0%	96.4%	96.6%

* 71 of the 137 sampled Inpatient Services cases for RAE 2 and all sampled Inpatient Services cases for RAE 6 and RAE 7 were identified as Ambulatory Inpatient Services cases based on the data values for the encounters' place of service.

Table 2-2—RAEs' Self-Reported Service Coding Accuracy Results by Data Element for Sampled Ambulatory Inpatient Services Cases

Data Element	RAE 411 Service Coding Accuracy Results for Sampled Ambulatory Inpatient Services*			Aggregate
	RAE 2 (N= 71)	RAE 6 (N=137)	RAE 7 (N=137)	
Procedure Code	98.6%	94.2%	94.2%	95.1%
Diagnosis Code	94.4%	79.6%	94.2%	88.4%
Place of Service	95.8%	94.9%	92.7%	94.2%
Service Category Modifier	98.6%	93.4%	94.2%	94.8%
Unit	100.0%	94.9%	94.9%	95.9%
Service Start Date	100.0%	94.9%	94.9%	95.9%
Service End Date	100.0%	94.9%	94.9%	95.9%
Population	100.0%	94.9%	94.9%	95.9%
Duration	100.0%	94.9%	94.9%	95.9%
Staff Requirement	100.0%	94.2%	94.9%	95.7%

* The Department identified Ambulatory Inpatient Services cases sampled as Inpatient Services cases for RAE 2, RAE 6, and RAE 7 based on the data values for the encounters' place of service.

Table 2-3—RAEs' Self-Reported Service Coding Accuracy Results by Data Element for Sampled Psychotherapy Services Cases

Data Element	RAE 411 Service Coding Accuracy Results for Sampled Psychotherapy Services							
	RAE 1 (N=137)	RAE 2 (N=137)	RAE 3 (N=137)	RAE 4 (N=137)	RAE 5 (N=137)	RAE 6 (N=137)	RAE 7 (N=137)	Aggregate
Procedure Code	47.4%	79.6%	53.2%	94.9%	35.8%	89.8%	86.9%	69.7%
Diagnosis Code	30.7%	82.5%	85.4%	94.2%	81.8%	92.0%	89.8%	79.5%
Place of Service	42.3%	75.2%	75.9%	94.2%	72.3%	94.2%	94.9%	78.4%
Service Category Modifier	46.7%	79.6%	53.2%	94.9%	35.8%	89.8%	86.9%	69.6%
Unit	47.4%	81.8%	94.9%	99.3%	94.9%	96.4%	94.2%	87.0%
Service Start Date	51.8%	82.5%	95.6%	99.3%	94.9%	97.1%	94.9%	88.0%
Service End Date	51.8%	82.5%	95.6%	99.3%	94.9%	97.1%	94.9%	88.0%
Population	50.4%	82.5%	95.6%	99.3%	94.9%	97.1%	94.9%	87.8%
Duration	46.7%	82.5%	85.4%	99.3%	85.5%	97.1%	93.4%	83.8%
Staff Requirement	48.2%	82.5%	92.7%	98.5%	94.9%	93.4%	94.2%	86.3%

Table 2-4—RAEs' Self-Reported Service Coding Accuracy Results by Data Element for Sampled Residential Services Cases

Data Element	RAE 411 Service Coding Accuracy Results for Sampled Residential Services							
	RAE 1 (N=137)	RAE 2 (N=137)	RAE 3 (N=137)	RAE 4 (N=137)	RAE 5 (N=137)	RAE 6 (N=137)	RAE 7 (N=137)	Aggregate
Procedure Code	91.2%	100.0%	75.9%	99.3%	92.7%	90.5%	88.3%	91.1%
Diagnosis Code	81.8%	94.9%	93.4%	98.5%	97.8%	97.1%	96.4%	94.3%
Place of Service	91.2%	93.4%	82.5%	99.3%	94.2%	95.6%	98.5%	93.5%
Service Category Modifier	91.2%	100.0%	75.9%	99.3%	92.7%	90.5%	89.1%	91.2%
Unit	91.2%	100.0%	94.9%	99.3%	97.8%	96.4%	99.3%	97.0%
Service Start Date	91.2%	100.0%	95.6%	99.3%	97.8%	97.1%	99.3%	97.2%
Service End Date	91.2%	100.0%	95.6%	99.3%	97.8%	97.1%	98.5%	97.1%

Data Element	RAE 411 Service Coding Accuracy Results for Sampled Residential Services							Aggregate
	RAE 1 (N=137)	RAE 2 (N=137)	RAE 3 (N=137)	RAE 4 (N=137)	RAE 5 (N=137)	RAE 6 (N=137)	RAE 7 (N=137)	
Population	91.2%	100.0%	95.6%	99.3%	97.8%	97.8%	99.3%	97.3%
Duration	91.2%	100.0%	94.9%	99.3%	97.8%	97.1%	99.3%	97.1%
Staff Requirement	91.2%	100.0%	92.7%	99.3%	97.1%	97.8%	79.6%	94.0%

Over-Read of Sample Cases by Service Category

Each RAE submitted an EDV response file to HSAG and the Department containing all required data fields and aligning with the EDV response data layout outlined in the guidelines and presented in Appendix A.

Based on the sampling methodology, the Department randomly sampled 137 institutional encounter lines with Inpatient Services, 137 professional encounter lines with Psychotherapy Services, and 137 professional encounter lines with Residential Services for each RAE. After distributing the lists of sampled cases to the RAEs, a RAE notified the Department that selected Inpatient Services cases reflected services rendered in ambulatory settings, which would not align with the inpatient data fields designated for inclusion in the RAEs' EDV results. The Department instructed HSAG and the affected RAEs to consider sampled Inpatient Services cases with Place of Service codes other than "21" and "51" as professional services rendered in ambulatory settings, and to evaluate these cases using the non-inpatient data fields considered for the Psychotherapy Services and Residential Services cases. These cases are identified and reported in the EDV and HSAG's over-read using the term, "Ambulatory Inpatient Services cases." While this finding did not alter the overall number of each RAE's sampled cases, RAE 2, RAE 6, and RAE 7 altered their service coding accuracy tables to accommodate Ambulatory Inpatient Services cases.

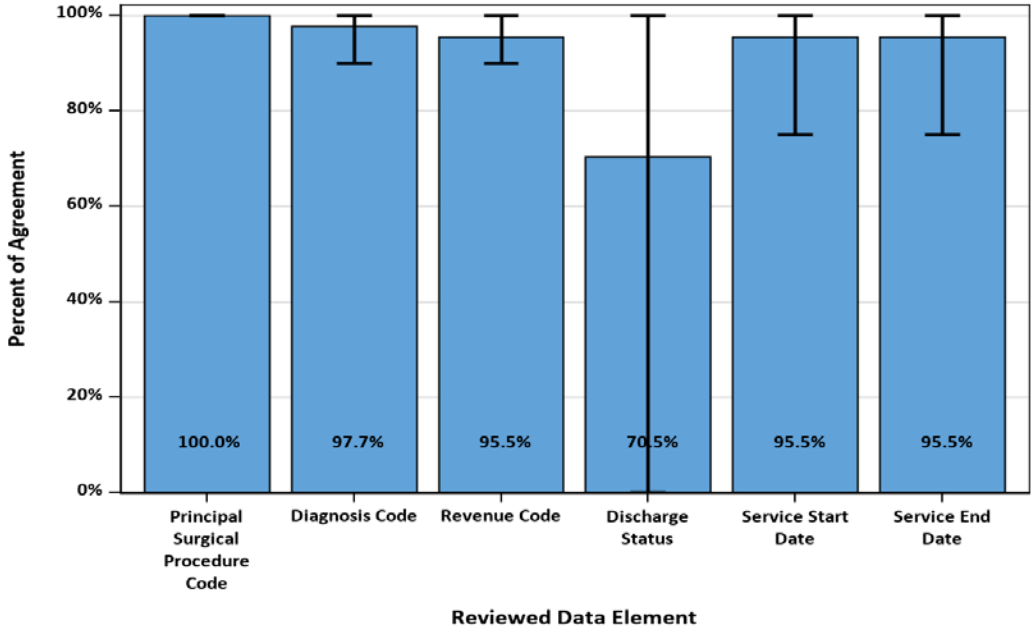
Following HSAG's over-read, HSAG tabulated agreement results that could range from 0.0 percent to 100.0 percent, where 100.0 percent represents perfect agreement between the RAE's EDV results and HSAG's over-read results, and 0.0 percent represents complete disagreement. The remainder of this section details HSAG's over-read findings by service category.

Over-Read of Sample Cases: Inpatient Services

Overall Agreement Rate

Figure 2-1 presents the aggregate results from HSAG's over-read of the 44 cases sampled for assessment (i.e., 10 cases from RAE 1, RAE 3, RAE 4, and RAE 5, and four cases from RAE 2).

Figure 2-1—Aggregated Percent of Agreement Between HSAG's Over-Read and the RAEs' EDV Findings by Data Element for Inpatient Services



Note:The upper and lower lines represent the highest and lowest agreement rates among the RAEs.

At 100.0 percent, *Principal Surgical Procedure Code* had the highest rate of agreement between RAEs' EDV results and HSAG's over-read results. The remaining validated data elements had an agreement rate ranging from 70.5 percent to 97.7 percent. Overall, HSAG's reviewers agreed with the RAEs' EDV results for all six data elements within a sampled case for 27 of the 44 cases (61.4 percent).

Field-Specific Agreement Rate

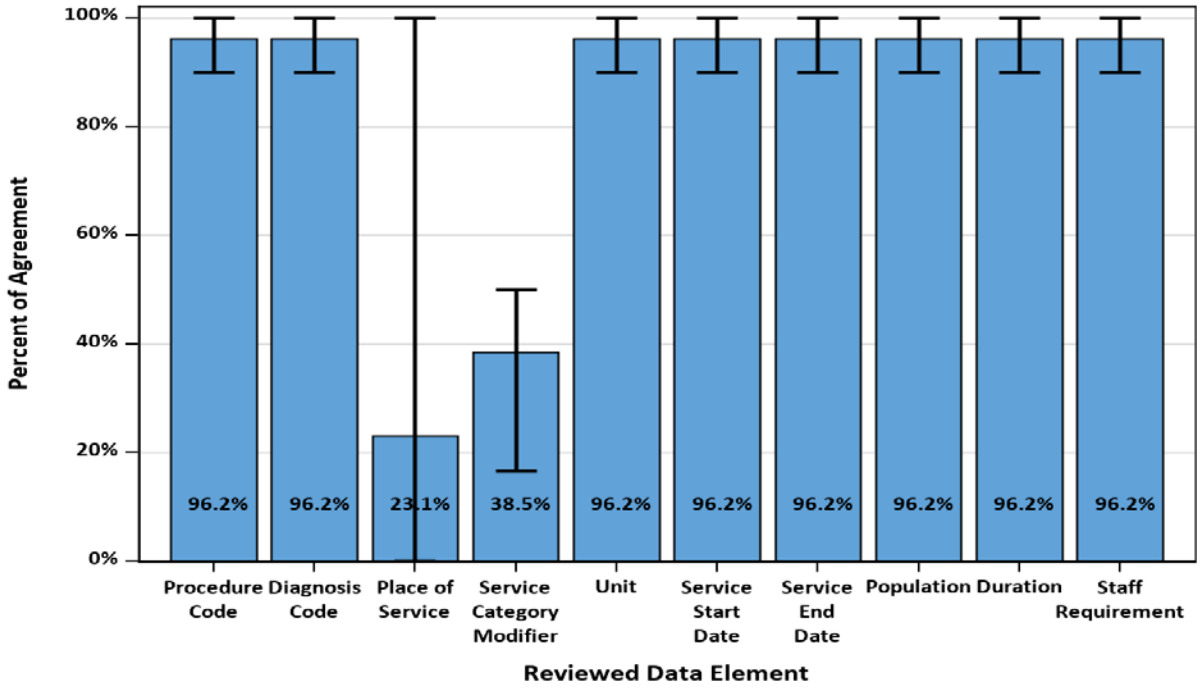
HSAG calculated aggregate agreement rates of at least 95.5 percent among five of the six validated data elements. At 70.5 percent, the *Discharge Status* data element had the lowest aggregate agreement rate for any data element, and RAE-specific agreement rates ranged from 0.0 percent to 100.0 percent. HSAG's reviewers found 100.0 percent agreement rates for three of five RAEs for the *Discharge Status*, *Service Start Date*, *Service End Date*, and *Revenue Code* data elements; for four of five RAEs for the *Diagnosis Code* data element; and for all five RAEs for the *Principal Surgical Procedure Code* data element.

Over-Read of Sample Cases: Ambulatory Inpatient Services

Overall Agreement Rate

Figure 2-2 presents the aggregate results from HSAG's over-read of the 26 cases sampled for assessment (i.e., six cases from RAE 2, and 10 cases each from RAE 6 and RAE 7).

Figure 2-2—Aggregated Percent of Agreement Between HSAG's Over-Read and the RAEs' EDV Findings by Data Element for Ambulatory Inpatient Services



Note:The upper and lower lines represent the highest and lowest agreement rates among the RAEs.

At 23.1 percent and 38.5 percent, the *Place of Service* and *Service Category Modifier* data elements had the lowest rates of agreement between RAEs' EDV results and HSAG's over-read results, respectively. The remaining validated data elements had an agreement rate of 96.2 percent. Overall, HSAG's reviewers agreed with the RAEs' EDV results for all 10 data elements within a sampled case for one of the 26 cases (3.8 percent).

Field-Specific Agreement Rate

HSAG calculated aggregate agreement rates of at least 96.2 percent among eight of the 10 validated data elements. HSAG's reviewers found RAE 2 had 100.0 percent agreement for the *Place of Service* data element, while RAE 6 and RAE 7 had 0.0 percent agreement for this data element between the RAEs' EDV results and HSAG's over-read results. None of the three RAEs achieved an over-read result above 50.0 percent agreement for the *Service Category Modifier* data element. HSAG's reviewers found the majority of the Ambulatory Inpatient Services cases for RAE 6 and RAE 7 had a Place of Service data

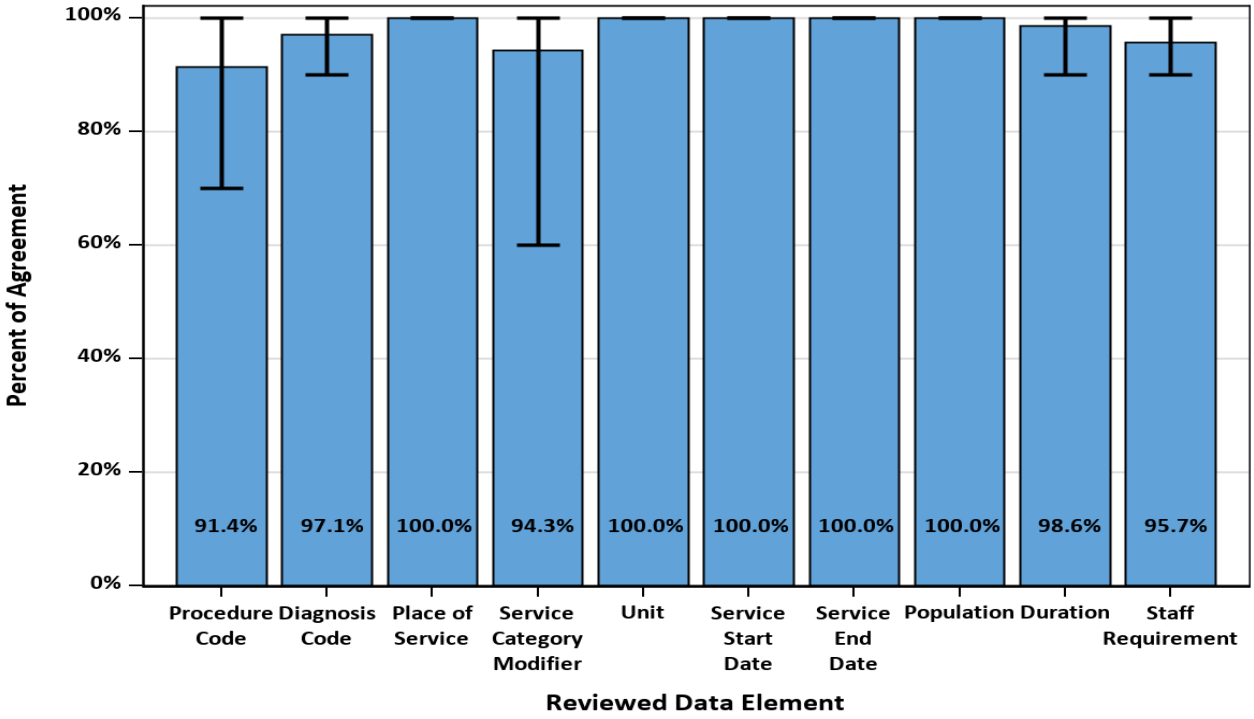
value of "77" with a Procedure Code value of "H0031," although the USCS manual does not define "77" as a valid Place of Service code and it is not listed as a valid option for encounters that report the "H0031" Procedure Code value.

Over-Read of Sample Cases: Psychotherapy Services

Overall Agreement Rate

Figure 2-3 presents the aggregate results from HSAG's over-read of the 70 cases sampled from Psychotherapy Services encounters (i.e., 10 cases per RAE).

Figure 2-3—Aggregated Percent of Agreement Between HSAG's Over-Read and the RAEs' EDV Findings by Data Element for Psychotherapy Services



Note:The upper and lower lines represent the highest and lowest agreement rates among the RAEs.

At 100.0 percent, the *Place of Service*, *Unit*, *Service Start Date*, *Service End Date*, and *Population* data elements had the highest rates of agreement between the RAEs' EDV results and HSAG's over-read results. The remaining validated data elements had agreement rates ranging from 91.4 percent to 98.6 percent. Overall, HSAG's reviewers agreed with the RAEs' EDV results for all 10 data elements within a sampled case for 58 of the 70 cases (82.9 percent).

Field-Specific Agreement Rate

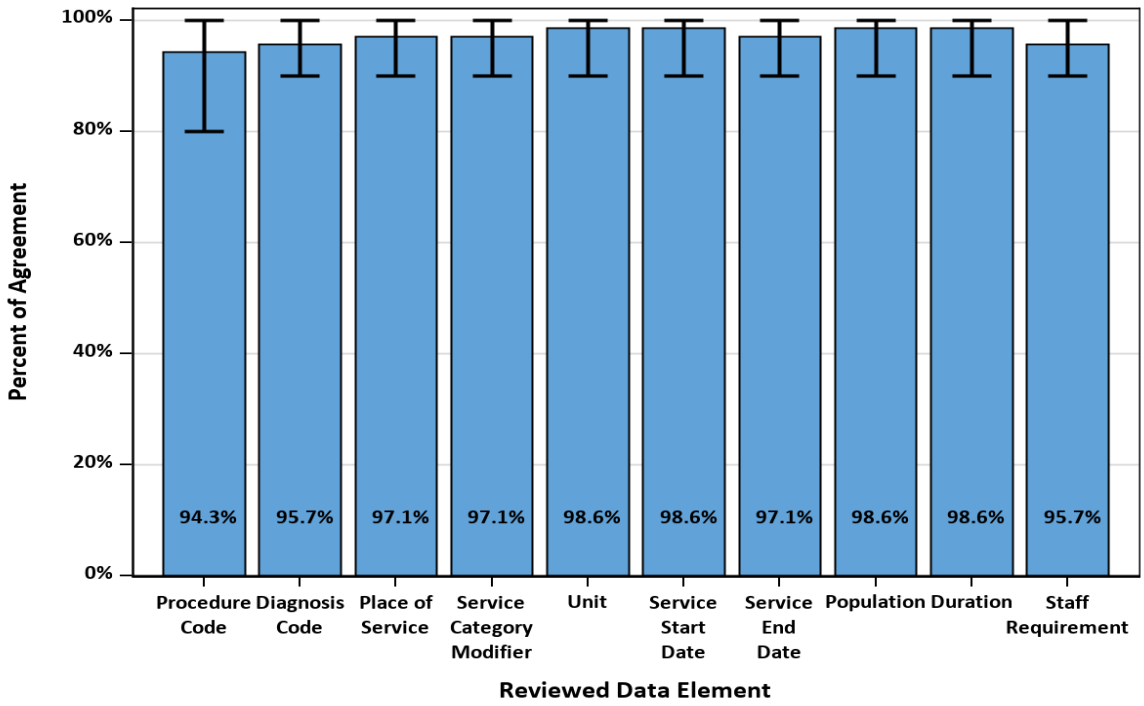
HSAG calculated aggregate agreement rates of at least 91.4 percent among the 10 validated data elements. HSAG's reviewers found five of the 10 validated data elements achieved aggregate agreement rates of 100.0 percent. Overall, RAE 2 and RAE 7 had the highest rates of agreement between the RAEs' EDV results and HSAG's over-read results at 100.0 percent. RAE 5 had the lowest agreement for the *Service Category Modifier* data element at 60.0 percent agreement.

Over-Read of Sample Cases: Residential Services

Overall Agreement Rate

Figure 2-4 presents the aggregate results from HSAG's over-read of the 70 cases sampled from Residential Services encounters (i.e., 10 cases per RAE).

Figure 2-4—Aggregated Percent of Agreement Between HSAG's Over-Read and the RAEs' EDV Findings by Data Element for Residential Services



Note:The upper and lower lines represent the highest and lowest agreement rates among the RAEs.

At 98.6 percent, the *Unit*, *Service Start Date*, *Population*, and *Duration* data elements had the highest rates of agreement between the RAEs' EDV results and HSAG's over-read results. The remaining validated data elements had an agreement rate ranging from 94.3 percent to 97.1 percent. Overall, HSAG's reviewers agreed with the RAEs' EDV results for all 10 data elements within a sampled case for 62 of the 70 cases (88.6 percent).

Field-Specific Agreement Rate

HSAG calculated aggregate agreement rates of at least 94.3 percent among the 10 validated data elements. HSAG's reviewers found that overall RAE 2, RAE 4, and RAE 7 had the highest rates of agreement between the RAEs' EDV results and HSAG's over-read results at 100.0 percent. At 80.0 percent agreement, RAE 3 had the lowest agreement rate among the RAEs for the *Procedure Code* data element.

3. Discussion

Conclusions

HSAG's desk review of the Department's sampling methodology assessed the inclusion criteria for encounters, classification logic for service categories, and the sampling logic. While Department's documentation detailed the sample frame inclusion and classification criteria, no details were provided on the Department's criteria for assessing and excluding encounters in case of inconsistencies in the submitted data. Additionally, the Department's documentation did not codify the steps taken to validate the sample frame or to evaluate the extent to which the final sample was representative of the sampling frame. The Department's sample frame ultimately included institutional encounters for non-inpatient services (e.g., services rendered by Federally Qualified Health Centers), suggesting variability among the RAEs in submitting BH encounters for ambulatory services.

Of the 210 over-read cases, HSAG's reviewers agreed with the RAE reviewers' determinations for all data elements for 148 cases (i.e., an all-element agreement rate of 70.5 percent) and disagreed with RAE reviewers' determinations for only one data element for an additional 41 cases (19.5 percent). The percentage of cases with all-element agreement ranged among the RAEs from 46.7 percent for RAE 6 to 83.3 percent for RAE 1. The all-element agreement rates also varied by service category as follows:

- 61.4 percent of Inpatient Services cases
- 3.8 percent of Ambulatory Inpatient Services cases
- 82.9 percent of Psychotherapy Services cases
- 88.6 percent of Residential Services cases

Of the cases without all data elements in agreement, only one case each in Ambulatory Inpatient Services, Inpatient Services, and Residential Services had agreement between HSAG's reviewers and the RAEs' reviewers for three or fewer data elements. Additionally, HSAG's reviewers and the RAEs' reviewers agreed for more than three data elements for all Psychotherapy Services cases.

In general, HSAG's reviewers and the RAEs' reviewers' disagreement rates for Inpatient Services cases related to the *Discharge Status* data element, while disagreement rates for Ambulatory Inpatient Services cases related to the *Place of Service* or *Service Category Modifier* data elements. Most Ambulatory Inpatient Services cases for RAE 6 and RAE 7 had a Place of Service data value of "77" and a Procedure Code data value of "H0031." However, the USCS manual does not define "77" as a valid Place of Service code and this value is not listed as a valid Place of Service code for encounters with the "H0031" procedure code.

The most common reason for HSAG's reviewers and the RAEs' reviewers' disagreement on the *Procedure Code* data element for Psychotherapy Services and Residential Services cases was that the RAE scored the procedure code negatively due to a perceived lack of technical documentation (e.g., a

provider signature in the medical record), while HSAG's reviewers determined that the medical record documentation supported the procedure code shown in the encounter data for the case.

In general, when key data elements were present in both the encounter data and the medical records, and were evaluated independently, results from HSAG's FY 2020–2021 RAE 411 over-read suggest a high level of confidence that the RAEs' independent validation findings accurately reflect their encounter data quality with the exception of the *Discharge Status* data element for Inpatient Services cases and the *Place of Service* and *Service Category Modifier* data elements for Ambulatory Inpatient Services cases. In comparison, the RAEs' self-reported service coding accuracy results reflected more than 90.0 percent agreement for all data elements except *Diagnosis Code* for Inpatient Services and Ambulatory Inpatient Services cases and a low percentage of cases with agreement across all data elements for Psychotherapy Services cases. Based on these findings, the RAEs should evaluate and enhance internal processes for ongoing encounter data monitoring and use the Department's annual RAE 411 EDV study as a focused mechanism for evaluating quality improvement.

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.

- The RAEs conducted medical record procurement for EDV cases between January 11, 2021, and March 12, 2021, and the FY 2020–2021 RAE 411 EDV assessed final paid encounters with dates of service from July 1, 2019, through June 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 RAEs, as well as the RAEs' 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 RAEs' BH encounter data.
- The FY 2020–2021 RAE 411 EDV uses a sample size of 411 cases per RAE to ensure an adequate sample size to reliably detect invalid encounter data results while limiting the use of resource-intensive medical record procurement and abstraction. Due to the variable BH encounter data volume among the RAEs, the 411 sample size may result in varying levels of generalizability among the RAEs and service categories. Due to the sampling approach, RAE 411 EDV results may not reflect the service coding accuracy of the RAEs' overall BH encounters.
- 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 the RAEs' reviewers may lead to reduced agreement rates among the over-read results. To minimize the effects of this variation, the Department and HSAG solicited the RAEs' input on the guidelines, and the RAEs were directed to include abstraction notes to communicate their decisions and findings to HSAG for specific review scenarios.

Recommendations

Based on the EDV and over-read results described in this report, HSAG offers the following recommendations to improve the overall quality of the RAEs' BH encounter data and the RAEs' abilities to conduct future EDVs:

- The RAEs' reviewers identified medical records that they determined were insufficient to meet validation standards, including medical records that failed key documentation standards (e.g., missing providers' signatures) and should have failed to meet the USCS requirements to support the procedure code shown in the encounter data. The Department's Rates Section should work collaboratively with the Department's RAE Health Program Office (HPO) staff members and the RAEs to identify best practices regarding provider education and training on the USCS manual and service coding accuracy to ensure that encounter data are appropriately supported by medical record documentation.
- Despite direction in the guidelines and a follow-up attempt by HSAG, the RAEs did not submit codes for Evaluation & Management Services (E&M codes) corresponding to each Psychotherapy Services case. To ensure that the RAEs assess the required E&M codes in conjunction with the psychotherapy services procedure codes, HSAG recommends that future EDV studies evaluating encounters for psychotherapy services score cases negatively when the EDV reviewer's assessment of E&M codes is not clearly documented.
- HSAG recommends that the Department's Rates Section revise its approach for identifying and sampling Inpatient Services cases to avoid sampling encounters for ambulatory services in future EDV studies assessing encounters for inpatient services.
- The Department's Rates Section should evaluate the RAEs' use of the "77" value in the *Place of Service* data element and provide instructions to the RAEs on the circumstances in which this code may apply to encounters for ambulatory services billed as institutional encounters. If this data value is appropriate for specific procedure codes, the Department should include the instructions for use of the "77" place of service code in a future version of the USCS manual.
- HSAG's review of each RAE's EDV response files revealed discrepancies between EDV results and original encounter data (i.e., the service coding accuracy results indicate that less than 100.0 percent of data elements in EDV cases were supported by medical record documentation). The Department may consider directing the RAEs to incorporate a review of their final EDV data against their original encounter data as a component of the annual EQR RAE 411 Quality Improvement Plan to identify potential biases in the RAEs' internal EDV processes.
- To ensure that the RAEs have implemented quality improvement actions identified in the Encounter Data Quality Reports, HSAG continues to recommend that the Department's HPO staff members for each RAE:
  - Request copies of the RAEs' provider training and/or corrective action documentation.
  - Request copies of the RAEs' policies and procedures for monitoring providers' BH encounter data submissions.

– Collaborate with the Department's Rates Section to review the RAEs' encounter data quality documents and verify that RAEs are monitoring encounter data quality and ensuring that providers are trained to submit BH encounters that accurately reflect the services rendered and the corresponding medical record documentation. Training materials should distinguish between ongoing education and USCS manual training offered to providers newly contracted with a RAE.

Timely, accurate encounter data require ongoing efforts from multiple stakeholders among the providers, the RAEs, and the Department. Focused quality improvement efforts are underway, including an annual EQR activity in which the Department requires each RAE to develop and implement quality improvement activities based on its prior year's RAE 411 service coding accuracy results. The Department provided no additional information on quality improvement actions resulting from recommendations in the FY 2019–2020 RAE 411 EDV report.

Appendix A. RAE 411 Methodology

HSAG's FY 2020–2021 EDV tasks consisted primarily of an assessment of the RAEs' internal EDV 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 EDV cases were generated randomly from a representative base of BH 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 FY 2020–2021 EDV involved evaluating the extent to which the RAEs' internal EDV capacity could be verified through their assessment of encounter data, supporting medical record documentation, and state-specific documentation standards listed in the USCS manuals. Each RAE supplied HSAG with an EDV response file containing the RAE's internal EDV results for the 411 cases sampled by the Department. Prior to receiving the RAEs' internal EDV results, HSAG generated an over-read sample of 10 cases for each of the three service category strata within the Department's 411 sampled cases (i.e., HSAG overread 30 total cases for each RAE). The evaluation process included the following steps:

1. Generation of Over-Read Samples

The Department developed a 411-case sample of final, adjudicated BH encounter lines with dates of service between July 1, 2019, to June 30, 2020, stratified among three service categories.[A-1,A-2] The Department selected 137 encounter lines for each RAE from each of the following service categories:

- Institutional Encounters from Inpatient Services:
  - Transaction Header data value is "I"
  - Place of service code data value is "21" or "51," or a non-null revenue code
  - Procedure code does not include "H0017," "H0018," or "H0019"
- Professional Encounters from Psychotherapy Services:
  - Services with procedure codes "90832," "90833," "90834," "90836," "90837," "90838," "90846," "90847," "90849," or "90853"
- Professional Encounters from Residential Services:
  - All services with procedure codes "H0017," "H0018," or "H0019"

The Department submitted the 411-case sample lists to the RAEs and HSAG in January 2021; each RAE then conducted its internal validation on the sampled encounters. HSAG used the sample lists from the

[A-1] In the event that a RAE's encounter data did not contain 137 unique members with final, adjudicated, professional BH encounter lines within the specified dates of service and service category, the Department selected 137 unique encounter lines that may reflect services among the same members.

[A-2] While the guidelines indicated that the Department's sampling would be limited to professional BH encounters, HSAG's review of the sampled cases determined that the Department included institutional encounters in the sample frame.

Department to generate an over-read sample using a two-stage sampling approach. Under this sampling approach, HSAG randomly selected 10 identification numbers for unique individuals from each service category and then selected a single encounter line for each of the 10 individuals, resulting in a list of 10 randomly selected encounter lines per service category and 30 cases overall for each RAE.

2. EDV Tool Development

Each RAE submitted its response file containing internal EDV results for the 411 sampled cases to HSAG in March 2021. HSAG designed a web-based data collection tool and tool instructions in alignment with the guidelines and with the pertinent versions of the USCS manual.[A-3] HSAG pre-populated encounter data values and the RAEs' EDV results using a control file containing select fields from the Department's encounter data flat file and the RAEs' corresponding internal EDV results for the over-read sample cases. Pre-populated information could not be altered, and HSAG's reviewers were required to actively select an over-read response for each data element. Corresponding medical records procured by the RAEs were linked to cases within the tool. The web-based tool allowed the HSAG analysts to extract MS Excel files containing encounter data, the RAEs' EDV responses, and HSAG's reviewers' responses for all over-read cases. HSAG's reviewer oversight process was also integrated into the web-based tool, and IRR testing was conducted using the tool.

3. HSAG's Over-Read Process

HSAG evaluated the accuracy of the RAEs' EDV findings in April 2021 and entered all over-read results into the web-based EDV tool. Specifically, HSAG's reviewers evaluated the RAEs' accuracy in validating the providers' submitted BH encounter data in accordance with the USCS manuals specific to the study period. HSAG's EDV over-read considered the RAEs' encounter data, supporting medical record documentation, and the version(s) of the USCS manual used by the RAEs during their EDV. HSAG's reviewers evaluated whether the RAEs' EDV determinations for each encounter were supported by the medical record and whether the medical record contained the minimum documentation required to support the service documented in the encounter data.

HSAG's over-read did not evaluate the quality of BH record documentation or the providers' accuracy in submitting encounter data, only whether the RAEs' EDV responses were accurate based on HSAG's review of the supporting BH documentation submitted by the RAEs.

HSAG trained two nurse reviewers to conduct the over-read, with two nurse managers conducting IRR and providing oversight for the case review and data abstraction. During the over-read, the reviewer located the selected date of service in the submitted BH record and verified the presence and/or supporting documentation in the medical record for the study elements (e.g., procedure codes, diagnosis codes) as well as whether the study elements aligned with coding standards defined in the USCS

[A-3] Based on the dates of service for encounters in the FY 2020–2021 RAE 411 EDV, the guidelines permit the use of the following USCS manuals: the January 2019 version with the 2019 Addendum 1; the July 2019 version covering dates of service from July 1 through October 31, 2019; the October 2019 version covering dates of service from October 1 through November 30, 2019; or the October 2019 version with November 2019 Addendum. All versions are available from the Department at https://hcpf.colorado.gov/accountable-care-collaborative-phase-ii-provider-and-stakeholder-resource-center.

manual. National coding guidelines were only used when Current Procedural Terminology (CPT) codes and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes were not included in the USCS manual. Next, the HSAG reviewer assessed the RAE's EDV response with respect to the accuracy of the data submitted by the provider. If the HSAG reviewer agreed with the RAE's EDV response, a response of "agree" was selected in the tool. If the HSAG reviewer disagreed with the RAE's EDV response, a response of "disagree" was selected in the tool. In the event of a disagreement with the RAE's EDV findings, the HSAG reviewer would select from the tool a reason from a list of predetermined disagreement reasons specific to each data element. The EDV over-read findings presented in this report were based on HSAG's percent of agreement or disagreement with the RAE's responses.

Prior to beginning abstraction, HSAG's reviewers participated in an IRR assessment using training cases. Reviewers were required to score 95 percent or higher on the post-training IRR before abstracting study cases. If a reviewer did not score at least 95 percent on the post-training IRR, the nurse managers provided retraining, including having the reviewer abstract 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 reviewer and comparing the over-read results to those from a second reviewer. For cases in which over-read discrepancies were identified between the first and second reviewers, a third review was conducted by a nurse manager to provide a final determination regarding the appropriate over-read result. Any IRR result that fell below 95 percent required further evaluation by the nurse manager and possible retraining of the reviewer(s).

4. Analysis Process

Following completion of the over-read, the HSAG analyst exported the data abstraction results from the over-read tool and consulted with the nurse managers as needed for clarification of selected over-read results. The HSAG analyst assessed the over-read results to determine the percentage of records for which the HSAG reviewer agreed with the internal EDV response from each RAE. Statewide and RAE-specific results were tabulated by service category for data elements validated by the RAEs and overread by HSAG. Analysis results were independently validated by a second HSAG analyst.

5. Response Data Layout for Encounter Quality Audit for RAEs

Text below is shown as presented in the *FY 2020–2021 Annual RAE BH Encounter Data Quality Review Guidelines Appendix II*, including a table defining the *Response Data Layout for RAEs' 411 EDV Results*. HSAG made cosmetic edits to align this text to the current report.

These tables show the requested data layout for the EDV response files that the RAEs submitted to the Department. The information was submitted as two separate MS Excel documents:

- The "Inpatient" file with 138 rows (i.e., a header row and one row per sampled inpatient encounter line) and populated into the MS Excel file as noted in the Data Description column of Table A-1.

- The "Professional" file with 275 rows (i.e., a header row and one row per sampled psychotherapy or residential services professional encounter line) and populated into the MS Excel file as noted in the Data Description column of Table A-2.

Table A-1—411 EDV Response Data Layout for Inpatient Services Encounter Lines

Data Element (Field)		Response Field Variable	Data Description	Format	Length
0	Record No	RECORD_NO	Sequential number for each of 137 records, should align with the *Record No* in the flat file (Appendix I)	X	Integer
1	Encounter Principal Surgical Procedure Code	ENC_SPROC	0=No or insufficient documentation, incorrect code utilized for surgical procedure performed 1=Correct principal surgical procedure code, Note: If the encounter data show no surgical procedure code and this aligns with the medical record documentation, mark "1".	X	1
2	Encounter Primary Diagnosis Code	ENC_DIAG	0=No or insufficient documentation, assignment of incorrect primary diagnosis code 1=Correct primary diagnosis code	X	1
3	Encounter Revenue Code	ENC_REV	0=No or insufficient documentation, incorrect revenue code 1=Correct revenue code	X	1
4	Encounter Discharge Status	ENC_DCSTAT	0=No or insufficient documentation, incorrect discharge status 1=Correct discharge status	X	1
5	Encounter Service Start Date	ENC_FDOS	0=No or insufficient documentation, incorrect service start date 1=Correct service start date	X	1
6	Encounter Service End Date	ENC_LDOS	0=No or insufficient documentation, incorrect service end date 1=Correct service start date	X	1
7	Documented Surgical Procedure Code	DOC_SPROC	Enter correct surgical procedure code if present in supporting documentation Enter 'No Doc' if no or insufficient documentation of correct surgical procedure code Enter 'NR' if data element is not populated in the encounter data line	X	7
8	Documented Diagnosis Code	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	X	7
9	Documented Revenue Code	DOC_REV	Enter correct revenue code if present in supporting documentation Enter 'No Doc' if no or insufficient documentation of correct revenue code	X	4
10	Documented Discharge Status	DOC_DCSTAT	Enter correct discharge status if present in supporting documentation Enter 'No Doc' if no or insufficient documentation of correct discharge status	X	8

Data Element (Field)		Response Field Variable	Data Description	Format	Length
11	Documented Service Start Date	DOC_FDOS	Start Date of Service in the documentation 'No Doc' if there is no documentation	MM/DD/ YYYY	10
12	Documented Service End Date	DOC_LDOS	End Date of Service in the documentation 'No Doc' if there is no documentation	MM/DD/ YYYY	10
13	E&M Guidelines Version	EM_VERS	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
14	Comments (conditionally required)	COMMENTS	Reviewer should enter comments supporting the decision made. Comments are required in the following scenarios: • 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, "DOS not found in MR" • If a decision support tool or supplemental documentation was used, enter, "refer to document: <file name>" • If the case includes supplemental medical record pages without a Medicaid ID, enter, "Supplemental medical record pages without a Medicaid ID 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

Table A-2—411 EDV Response Data Layout for Psychotherapy and Residential Professional Services Encounter Lines

Data Element (Field)		Response Field Variable	Data Description	Format	Length
0	Record No	RECORD_NO	Sequential number for each of 274 records, should align with the *Record No* in the flat file (Appendix I)	X	Integer
1	Encounter Procedure Code	ENC_PROC	0=No supporting documentation, or not consistent with the documentation, or not in the USCS, or does not comply with the service description in USCS (Note 4 below) 1=Yes, consistent with the minimum supporting documentation requirements and complies with USCS	X	1
2	Encounter Diagnosis Code	ENC_DIAG	0=No documentation, or not consistent with the supporting documentation, or does not comply with the diagnosis code requirement in USCS 1=Yes, complies with USCS and consistent with the supporting documentation	X	1
3	Encounter POS	ENC_POS	0=No documentation, or not consistent with the supporting documentation, or not comply with USCS 1=Yes, complies with USCS and consistent with the supporting documentation	X	1
4	Encounter Service Cat/Program Category (Procedure Modifier 1)	ENC_MOD	0=Does not comply with the program category requirement in the USCS for the encounter procedure code 1=Yes, complies with USCS and consistent with the supporting documentation	X	1
5	Encounter Units	ENC_UNITS	0=No supporting documentation, or not consistent with the documentation or not within the duration allowed by USCS 1=Yes, complies with USCS and consistent with the supporting documentation	X	1
6	Encounter Service Start Date	ENC_FDOS	0=Start date does not comply with the supporting documentation 1=Yes, consistent with the supporting documentation	X	1
7	Encounter Service End Date	ENC_LDOS	0=End date does not comply with the supporting documentation 1=Yes, consistent with the supporting documentation	X	1
8	Documented Population	DOC_POP	0=No documentation or not comply with USCS 1=Yes, complies with USCS	X	1
9	Documented Duration	DOC_DUR	0=No documentation or not comply with USCS 1=Yes, complies with USCS	X	1
10	Documented Staff Requirements	DOC_STAFF	0=No documentation or not comply with USCS, if procedure code is included in USCS 1=Yes, complies with USCS (Note 10 below)	X	1

Data Element (Field)		Response Field Variable	Data Description	Format	Length
11	Documented Procedure Code	DOC_PROC	Procedure code in the supporting documentation 'No Doc' if there is no document or unable to determine service based on documentation	X	5
12	Documented Diagnosis Code	DOC_DIAG	Diagnosis code in the supporting documentation 'No Doc' if there is no documentation	X	7
13	Documented Place of Service (POS)	DOC_POS	Place of Service in the supporting documentation 'No Doc' if there is no documentation	X	2
14	Documented Units	DOC_UNITS	Maximum of the units complying with USCS, if procedure code is included in USCS 'No Doc' if there is no document	X	Integer
15	Documented Service Start Date	DOC_FDOS	Start Date of Service in the documentation 'No Doc' if there is no documentation	MM/DD/ YYYY	10
16	Documented Service End Date	DOC_LDOS	End Date of Service in the documentation 'No Doc' if there is no documentation	MM/DD/ YYYY	10
17	USCS Version Used	USCS_VERS	1=January 2019 version with February 2019 addendum version, covering dates of service prior to August 1, 2019 2=July 2019 version, covering dates of service from July 1 through October 31, 2019 3=October 2019 version, covering dates of service from October 1 through November 30, 2019 4=October 2019 version with November 2019 addendum, covering dates of service on or after December 1, 2019	X	1
18	Comments (conditionally required)	COMMENTS	Reviewer should enter comments supporting the decision made. Comments are required in the following scenarios: • 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, "DOS not found in MR" • If a decision support tool or supplemental documentation was used, enter, "refer to document: <file name>" • If the case includes supplemental medical record pages without a Medicaid ID, enter, "Supplemental medical record pages without a Medicaid ID were submitted but not used for validation" • For psychotherapy cases, state the primary E&M code associated with the service. For example, "Corresponding E&M code = '99215'"	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 Start Date (ENC_FDOS) and Encounter Service End Date (ENC_LDOS) will be scored as "0" and the other data elements will be scored as "0." The Comments field should be used to indicate that data elements were in disagreement due to the invalid date of service.
2. The RAE 411 data quality review considers individual encounter lines that are sampled from encounter data submitted to the Department by the RAE. 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.
    a. The EDV intends to validate that the encounter data value is supported by the services documented in the medical record. Direct comparison to a coded value on a billing summary may not be appropriate because the billing summary may have been incorrectly coded prior to the claim submission. A billing document may be used to support the documented encounter data values as long as the medical record shows evidence that the coded values are accurate (i.e., a billing document alone does not support that services were rendered consistent with the pertinent USCS Guidelines or national coding standards).
3. In the event medical record documentation is unavailable to support the encounter, all elements will be scored as "0" or "No Doc," as applicable to each response field. The Comments field should be used to indicate that data elements were in disagreement due to the lack of supporting medical records.
    a. 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 identifier should be scored as "0" or "No Doc," as applicable to each response field.
    b. If a medical record cannot be found and all fields are scored as "0" or "NA," assign the USCS Version that would have applied to the dates of service in the encounter data. Include the following note in the COMMENTS field: "no documentation received from provider."
4. 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. If the service occurs on a single day, the documentation is adequate if it shows the service start date and a duration.
5. In the event that the Inpatient Services 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.

6. For psychotherapy or residential services, the Encounter Service Cat/Program Category (ENC_MOD) should be scored "0" if the Encounter Procedure Code (ENC_PROC) is scored "0." Please note that a procedure code modifier is not evaluated for cases sampled for inpatient services.
7. The 90833, 90836, and 90838 procedure codes reflect psychotherapy services billed in conjunction with an E&M code. List the associated E&M code in the COMMENTS (e.g., "Corresponding E&M code = "99215"). Score a "0" for the Encounter Procedure Code (ENC_PROC) if the psychotherapy service was not correctly added to an E&M code.
8. For the Encounter Procedure Code (ENC_PROC) field, all of the information under the headings of "procedure code description," "service description," "notes," and "technical documentation requirements" should be taken into account when they are applicable. Review of the procedure code should consider all items noted in the USCS manual as service content.
9. When the Encounter Procedure Code (ENC_PROC) field is scored as "0," the Documented Procedure Code (DOC_PROC) should list the procedure code best supported by the documentation, even if that code may be different than the procedure code that the provider billed. This allows the RAE to identify instances in which providers may not be assigning an accurate procedure code for services rendered.
    a. If the procedure code in the encounter data is not supported by medical record documentation (i.e., ENC_PROC=0) and the service rendered was not billable, score DOC_PROC as "No Doc" and include a note in COMMENTS to indicate that the procedure reflected in the medical record was not a billable service.
10. The Documented Staff Requirements (DOC_STAFF) field assesses whether or not the service administrator has the appropriate credentials for the procedure.
    a. Signatures are not a component of complete information for the staff requirement, but are required to meet technical documentation requirements, which are measured in the Encounter Procedure Code (ENC_PROC) field. The ENC_PROC field should be scored as "0" if the medical record does not include the provider's electronic or handwritten signature. An electronic signature from an electronic health record is adequate to meeting the USCS technical documentation requirement for a provider signature.
    b. For procedure codes that allow providers who may have less than a Bachelor's degree, the provider's title should be listed to confirm that the provider meets the staff requirement for the procedure code. As educational requirements for staff members may vary by facility, the RAEs may opt to have facilities confirm the level of education for non-credentialed staff members (e.g., verifying that an individual identified in the medical record as a "milieu counselor" had an appropriate level of education or credential to align with the staff requirements for a specified procedure code).
11. Please refer to the following details for encounter lines with the "H0017," "H0018," and "H0019" procedure codes for residential services:
    a. The procedure code does not need to be included on the shift note(s), as long as the procedure code is present in the medical record for the stay. A billing document may be used to support the documented procedure code as long as the medical record shows evidence that the procedure

code is accurate (i.e., a billing document alone does not support that services were rendered consistent with the USCS Guidelines).

b. The diagnosis does not need to be present on the shift note(s) if the diagnosis is present in the medical record for the stay.

c. Since the USCS Service Contents do not require specific times, documentation of "day" or "evening" is acceptable when considering state time, end time, and duration for a service in a residential facility. A summary of notes is acceptable in instances in which multiple shift notes cover all hours within a 24-hour period for which the client was present if admitted day-of.

   i. If no programmatic services were rendered to the member on the sampled date of service during a residential stay, the reviewer should verify that the medical record contains documentation indicating that no services were necessary (e.g., a progress note indicating that programmatic services were not rendered because the member or the therapist was unavailable). If needed, the reviewer may use the COMMENTS to explain the decision.

d. The place of service (POS) does not need to be present on the shift note(s) if the place of service is present in the medical record for the stay.

e. If the shift note does not meet technical documentation requirements, score the Encounter Procedure Code (ENC_PROC) as "0" and evaluate other EDV Response fields with respect to the correct procedure code. For example, if ENC_PROC=0 because technical documentation was missing, use DOC_PROC="H0017" and use the COMMENTS to indicate that ENC_PROC was scored negatively because technical documentation requirements were not met.

f. The residential service procedure code is billed with a maximum of 24 hours and no minimum. Therefore, an admission summary or shift note with the pertinent Service Contents are acceptable documentation for the procedure code for dates of services that are the day of admission.

g. If the medical record documentation does not align with the USCS Guidelines for the residential service procedure code, all fields should "0" or "No Doc," as applicable. Individual and group services may not reflect the overall residential service procedure code; a shift note or daily note would corroborate the residential service procedure code.

Appendix B. Over-Read Findings for RAE 7—Colorado Community Health Alliance Region 7

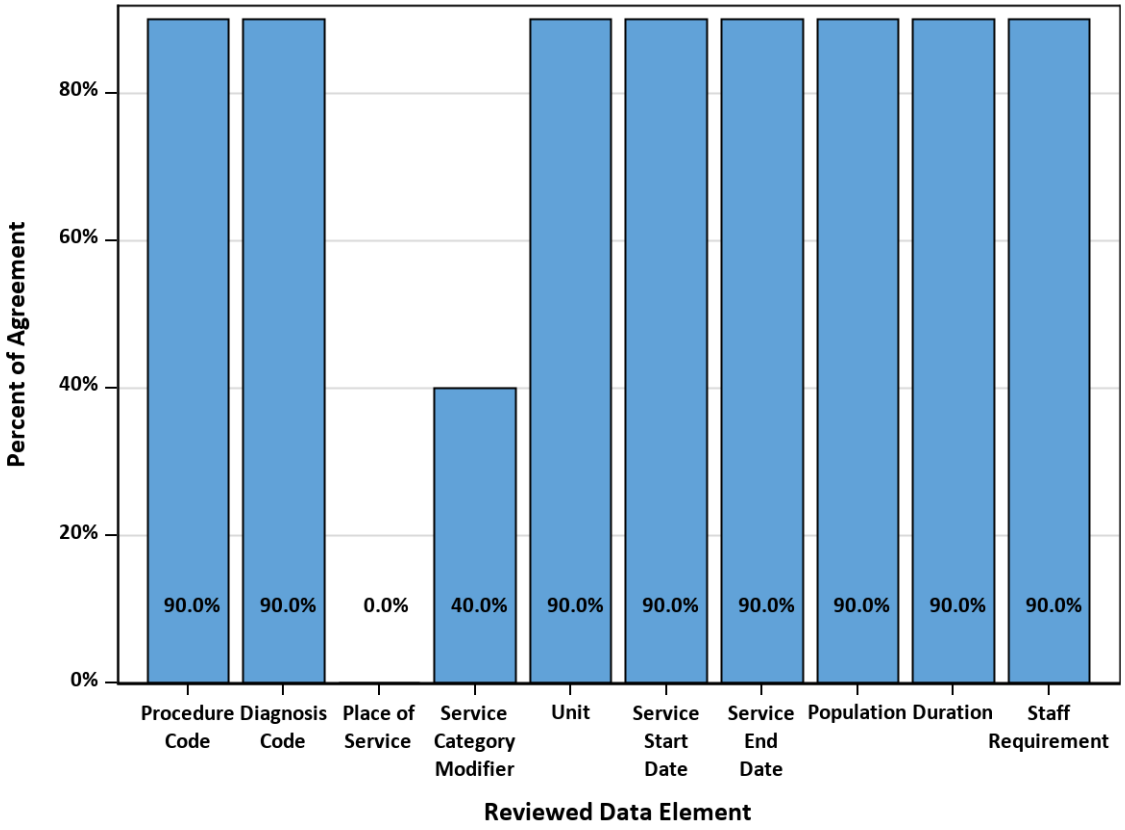
Figures B-1, B-2, and B-3 present aggregate results from HSAG's 30-case over-read of RAE 7's 411 sample. Agreement values range from 0.0 percent to 100.0 percent, where 100.0 percent represents complete agreement between RAE 7's EDV results and HSAG's over-read results for a data element, and 0.0 percent represents complete disagreement.

After distributing the lists of sampled cases to the RAEs, a RAE notified the Department that its Inpatient Services cases reflected services rendered in ambulatory settings, which would not align with the inpatient data fields designated for inclusion in the RAEs' EDV results. The Department instructed HSAG and RAE 7 to consider sampled Inpatient Services cases with Place of Service codes other than "21" and "51" as professional services rendered in ambulatory settings, and to evaluate these cases using the non-inpatient data fields considered for the Psychotherapy Services and Residential Services cases. These cases are identified and reported in the EDV and HSAG's over-read as Ambulatory Inpatient Services cases and did not alter the overall number of RAE 7's sampled cases; RAE 7's over-read included no Inpatient Services cases.

Ambulatory Inpatient Services

Figure B-1 shows that HSAG's reviewers agreed with RAE 7's Ambulatory Inpatient Services results for 90.0 percent of the 10 over-read cases for eight of the 10 validated data elements. At 0.0 percent, *Place of Service* had the lowest rate of agreement between RAE 7's EDV results and HSAG's over-read results. Nine of the Ambulatory Inpatient Services cases sampled for RAE 7 over-read had a Place of Service data value of "77" and a Procedure Code data value of "H0031." However, the USCS manual does not define "77" as a valid Place of Service code and this value is not listed as a valid Place of Service code for encounters with the "H0031" procedure code.

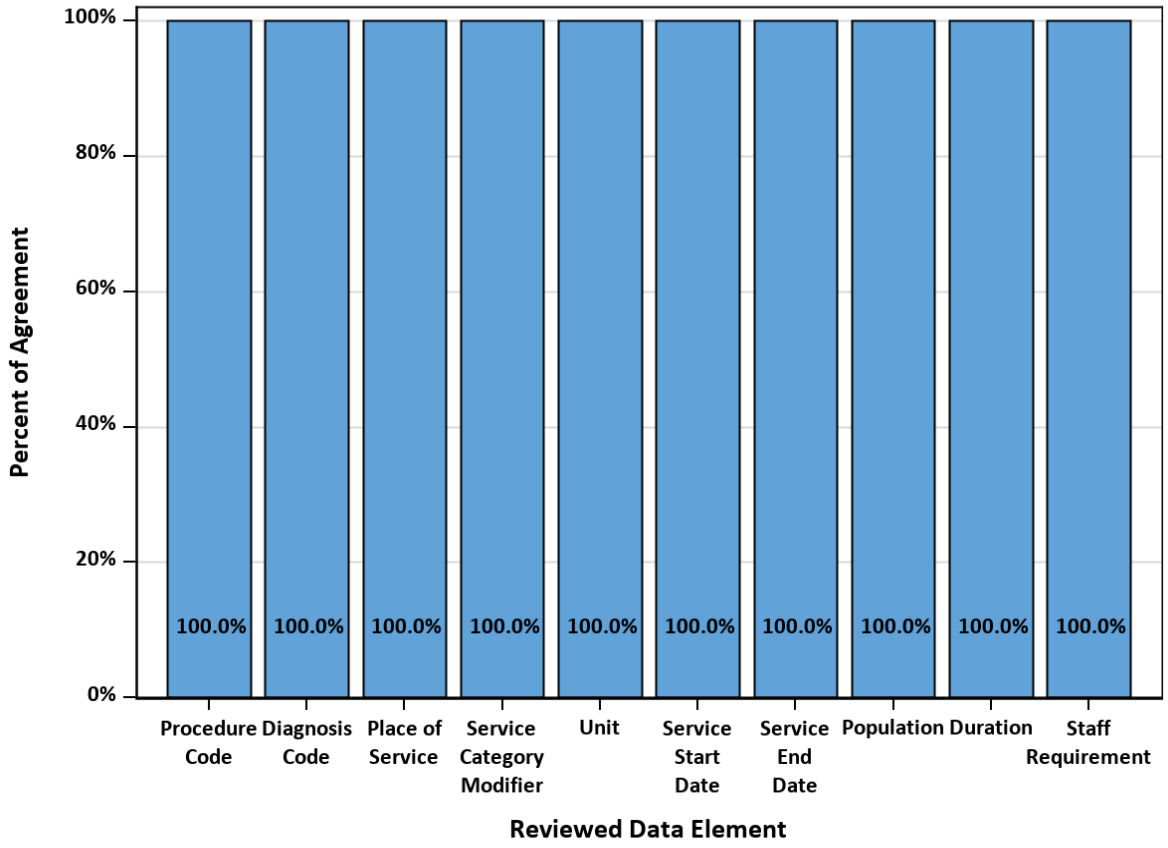
Figure B-1—Aggregated Percent of Agreement Between HSAG's Over-Read and RAE 7's EDV Findings by Data Element for Ambulatory Inpatient Services



Psychotherapy Services

Figure B-2 shows that HSAG's reviewers agreed with RAE 7's Psychotherapy Services EDV results for 100.0 percent of the 10 over-read cases for all 10 validated data elements.

Figure B-2—Aggregated Percent of Agreement Between HSAG's Over-Read and RAE 7's EDV Findings by Data Element for Psychotherapy Services



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Residential Services

Figure B-3 shows that HSAG's reviewers agreed with RAE 7's Residential Services EDV results for 100.0 percent of the 10 over-read cases for all 10 validated data elements.

Figure B-3—Aggregated Percent of Agreement Between HSAG's Over-Read and RAE 7's EDV Findings by Data Element for Residential Services