FY 2017–2018
Behavioral Health Organization
411 Independent Audit Report for
Behavioral Healthcare, Inc.

June 2018

Contents

FY 2017–2018 BHO 411 Independent Audit Report

Background

In fiscal year (FY) 2008–2009, the Colorado Department of Health Care Policy and Financing (the Department) contracted Health Services Advisory Group, Inc. (HSAG), to conduct an encounter data validation study for the Department's five contracted behavioral health organizations (BHOs).[1] Based on the study findings, HSAG recommended that the Department develop guidelines for BHOs to perform ongoing reviews of encounter data quality. The Department has continued working with the BHOs to assist them with their internal encounter data quality audits. Annually, the Department selects a random sample of 411 final, paid encounters from the BHOs' encounter flat files and the BHOs are required to conduct an internal audit on this sample, using behavioral health record review to evaluate the quality of the encounter data. For FY 2017–2018, the Department randomly selected a sample of 411 cases for each BHO. The BHOs then submitted their audit results and a corresponding encounter data quality report for the Department's review.

To further improve the quality of behavioral health encounter data submitted by the BHOs, the Department developed and implemented the *Annual BHO Encounter Data Quality Review Guidelines* (guidelines) beginning in calendar year (CY) 2011. The guidelines include specific timeline and file format requirements to guide each BHO in preparing its annual Encounter Data Submission Quality Report and the Service Coding Accuracy Report. These reports are based on the BHOs' internal encounter data audits.

The guidelines also stipulate that an independent evaluation of the service coding accuracy results will be conducted by HSAG to verify the quality of internal audits performed by the BHOs. In contracting with HSAG in FY 2017–2018, the Department requested the following tasks:

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

This report presents HSAG's validation findings of the BHOs' internal audit efforts as they pertain to the desk review (task #1 above) and behavioral health records review (task #2 above).

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[1] All five BHOs contracted by the Department in FY 2017–2018 participated in this independent audit: Access Behavioral Care–Denver (ABC-D), Access Behavioral Care–Northeast (ABC-NE), Behavioral Healthcare, Inc. (BHI), Colorado Health Partnerships, LLC (CHP), and Foothills Behavioral Health Partners, LLC (FBHP).

Methodology

HSAG's independent audit consisted of two components: (1) a desk review of the Department's sampling protocol and each BHO's audit documentation, and (2) an over-read of the BHOs' internal audit results. The first component, the desk review, aimed to ensure that the samples generated by the Department for the BHOs' internal audits followed standard sampling principles. More specifically, the desk review evaluated the extent to which the resulting 411 audit samples were generated randomly from a collection of encounters eligible for this study and were representative of those encounters.

The Department initially defined service and program categories for the FY 2017–2018 study in the guidelines. During the sampling process, however, the Department determined that the BHOs had begun applying recent billing requirement modifications that resulted in differential classifications for Club House/Drop-In Center Services encounters among the BHOs. Consequently, use of the historic identification criteria defined in the guidelines would exclude all encounters from the Club House/Drop-In Center Services sampling frame for selected BHOs. The Department consulted the BHOs and subsequently modified the sample selection criteria for all service and program categories to better capture all encounters intended for the study. The Department then submitted to HSAG in January 2018 its sampling methodology and the Structured Query Language (SQL) code used to randomly select encounters. The BHOs submitted audit documentation to HSAG during March 2018 and April 2018, and HSAG conducted a desk review of these internal audit methodology documents in May 2018.

The second component of HSAG's independent audit was to evaluate whether the BHOs' internal audit of behavioral health encounters against the members' records was accurate and consistent with the Uniform Service Coding Standards (USCS) manual. HSAG received the BHOs' response files containing their internal audit results and conducted an over-read for a sample of 30 cases from each BHO to accomplish this evaluation. Several steps were involved in this process:

1. Generation of Over-Read Samples

The Department submitted BHO-specific lists of sampled encounters[2] and corresponding encounter data flat file information to HSAG in January 2018. Each list contained the sample of final, adjudicated behavioral health encounters paid between October 1, 2016, and September 30, 2017, from which each BHO would conduct its internal audit. The data layout for the encounter flat file can be found in Appendix A. From the 411 sample lists, HSAG employed a two-stage sampling methodology to randomly select 10 individual members from each of the three program service categories outlined in the Department's 411 encounter classification and sampling methodology. A single encounter was then randomly selected for each member. These 30 cases constituted the over-read samples for HSAG. Note that the two-stage sampling approach helps to ensure a broader selection of encounters as, over time, behavioral health services frequently involve the same members, procedures, and providers.

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[2] The Department sampled 411 paid encounters from each BHO, stratified across three service categories (i.e., Prevention/Early Intervention Services, Club House or Drop-In Center Services, and Residential Services).

2. Audit Tool Development

Each BHO submitted the response file for its internal 411 audit to HSAG in mid-March 2018. The response file contained all required audited fields and the BHOs' validation results. The data layout for the response file is presented in Appendix B. HSAG designed a web-based data collection tool and corresponding tool instructions in alignment with the guidelines and with the 2015, July 2016, October 2016, January 2017, and July 2017 versions of the USCS manual.[3] A control file containing selected fields from the Department's encounter data flat file and the BHOs' corresponding internal audit values for sampled cases was uploaded into the tool, permitting pre-population of encounter and audit information for each case. Pre-populated information could not be altered, and HSAG's reviewers were required to actively select an over-read response for each data element. Corresponding behavioral health records procured by the BHOs were linked to cases within the tool. The web-based tool allowed the HSAG analyst to extract MS Excel files containing encounter data, BHO audit responses, and HSAG reviewer responses.

3. HSAG's Over-Read Process

HSAG evaluated the accuracy of the BHOs' audit findings in April 2018. Specifically, HSAG's reviewers validated the BHOs' accuracy in auditing the providers' submitted encounter data in accordance with the USCS manuals specific to the study period. HSAG's over-read did not evaluate the quality of behavioral health record documentation or the providers' accuracy in submitting encounter data, only whether the BHOs' audit responses were accurate based on the review of the supporting behavioral health record documentation submitted by the BHOs. HSAG used the same standards for acceptable record evidence originally established by the Department for the FY 2011–2012 independent audit. HSAG's reviewers entered all over-read results into the web-based HSAG audit tool.

Two HSAG clinical reviewers were trained to conduct the over-read. During the over-read, the reviewer located the selected date of service in the submitted behavioral health 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 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 audit response of the BHO with respect to the accuracy of the data submitted by the provider. If the HSAG reviewer agreed with the BHO's audit response, a response of "agree" was selected in the tool. If the HSAG reviewer disagreed with the BHO's audit response, a response of "disagree" was selected in the tool. In the event of a disagreement with the BHO's audit findings, the HSAG reviewer would select from the tool a reason from a list of predetermined disagreement reasons specific to each data element. The findings of this audit were based on HSAG's percent of agreement or disagreement with the BHO's responses.

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[3] Given the expected dates of service for encounters in this study, the guidelines permit the use of the 2015, July 2016, October 2016, January 2017, or July 2017 versions of the USCS manual. All versions are available from the Department at https://www.colorado.gov/pacific/hcpf/mental-health-rate-reform-0.

During the over-read, HSAG conducted ongoing an interrater reliability (IRR) assessment by randomly selecting a minimum of 10 percent of completed cases and comparing the over-read results to those from a second HSAG reviewer. For cases in which over-read discrepancies were identified between the first and second reviewers, a third, "Gold Standard" reviewer provided a final determination regarding the appropriate over-read result. Any IRR result that fell below 95 percent required further evaluation by the manager and possible re-training of the reviewer(s).

4. Analysis Process

Upon completion of the over-read, an HSAG analyst exported the results from the audit tool and reviewed the data for consistency and clarity. The analyst also consulted with the lead clinical reviewer for clarification on noted observations entered in the audit tool during the over-read. The HSAG analyst assessed the over-read results to determine the percentage of records for which the HSAG reviewer agreed with the internal audit response from the BHO. Statewide and BHO-specific results were tabulated by service category for data elements audited by the BHOs and overread by HSAG. Analysis results were independently validated by a second HSAG analyst.

Results

Desk Review

Sampling Methodology

Due to recent billing requirement modifications adopted by the BHOs, the Department revised historic encounter identification logic for the service program categories included in the study. Consequently, the Department provided descriptions of the sample selection process and the complete, BHO-specific source code used to identify and select encounters for each of the three service program categories. The information provided was sufficiently detailed to show an understanding of the data selection protocol. The Department described both the program service category criteria by which the sample was stratified and how encounters were randomly selected from the processed flat files but did not provide details on how the flat files were processed or assembled prior to generating the sample frame. The Department included a sample of SAS code showing the use of the "SURVEYSELECT" procedure to randomly select 137 encounters with payment dates between October 1, 2016, and September 30, 2017, from 15 previously created BHO- and service category-specific data subsets (i.e., for each BHO, three service category-specific data subsets were created). The Department randomly selected encounters from the BHO- and service category-specific datasets at the encounter-line level. Note that this randomization strategy could produce a sample that includes multiple encounters for the same member.

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 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 auditing encounters that may be voided or adjusted after the sample is selected.

BHOs' Internal Audit Methodology

As a result of the FY 2011–2012 BHO 411 Independent Audit, subsequent BHO 411 Audit Guidelines have requested internal audit methodology documentation from each BHO. This information is requested as a component of each BHO's Service Coding Accuracy Report to help provide context for the service coding accuracy findings. As a component of the CY 2017 Service Coding Accuracy Report, each BHO provided internal audit methodology information. Since the internal audit documentation is unique to each BHO, documents were not provided in a standardized format and comparisons between BHOs were conducted for informational purposes only. HSAG identified the findings listed below from the BHOs' internal audit methodology documents, and it is important to note that select findings are similar to those reported in previous years.
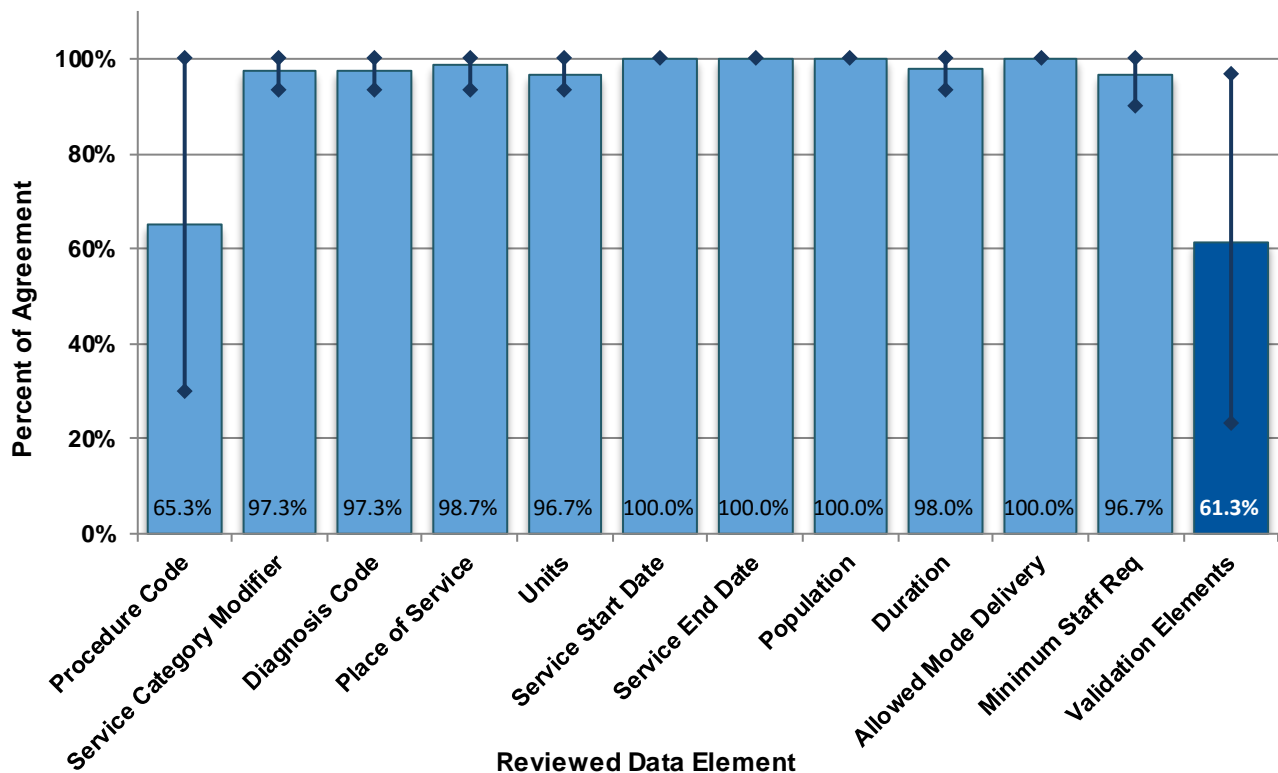
- Similarities existed in the descriptions of the tool development and audit processes among the BHOs. Three BHOs constructed an audit tool using Microsoft (MS) Excel, and two BHOs used an MS Access database or web-based tool. Additionally, BHOs described the troubleshooting and corrections processes for their tools as well as any calculations built into the tools to facilitate accurate data collection. Each BHO listed the name and credentials of internal staff responsible for audit training and oversight, and one BHO provided information on an external contractor tasked with conducting its 411 audit. HSAG concluded that, with the exceptions of ABC-D and ABC-NE, each BHO conducted its own independent audit.

- Each BHO described the development of its audit tools, subsequent auditor training/auditor professional experience, and any reliability testing. All BHO audits were conducted with at least two auditors, and all organizations provided post-training IRR values above a 90.0 percent agreement threshold. BHOs also provided information on post-audit IRR rates, establishing consistency beyond training and describing corrective actions required when an auditor's IRR rate was lower than the 90.0 percent threshold.

- Each BHO described steps taken to review and validate audit results and provided an explanation of its specific audit instructions. One BHO submitted a copy of instructions provided to the auditors responsible for reviewing the behavioral health records.

- Each BHO described implementing corrective actions plans (CAPs), training, or education for low-scoring providers so as to address deficiencies identified during the audit.

Over-Read of Sample Cases: All Service Types

Overall Agreement Rate

Figure 1 presents the aggregate results from HSAG's over-read of the 150 cases sampled for assessment (30 cases from each BHO). Agreement values could range from 0 percent to 100 percent, where 100 percent represents perfect agreement between the BHOs' audit results and HSAG's over-read results, and 0 percent represents complete disagreement. Appendix C presents HSAG's over-read results for BHI. Based on each BHO's results, HSAG also calculated an aggregate validation rate for each audit element and repeated these calculations for each of the three program service categories examined during HSAG's FY 2017–2018 411 over-read. To determine the percentage of cases in agreement for key validation elements, HSAG identified cases in which the over-read results agreed with the BHO's audit findings for the *Procedure Code*, *Diagnosis Code*, and *Units* elements; this result is identified in Figure 1 as *Validation Elements*.

**Figure 1—Aggregated Percent of Agreement Between
HSAG's Over-Read and the BHOs' Internal Audit Findings, by Data Element**

Note: The upper and lower diamonds represent the highest and lowest agreement rates among the BHOs.

Figure 1 illustrates HSAG's agreement with the BHOs' audit results for a composite of selected validation fields (*Procedure Code*, *Diagnosis Code*, and *Units*) as 61.3 percent of the 150 over-read cases (*Validation Elements*, 92 of 150 cases). Only one case (0.7 percent) did not have adequate medical record documentation provided by the BHO, though HSAG's reviewers determined that the BHO's audit determinations for this case were appropriate. Consequently, medical record non-submission contributed minimally to overall indicator disagreement rates. At the BHO level, the agreement rate for *Validation Elements* ranged from 23.3 percent to 96.7 percent.

It is important to note that HSAG's reviewers did not disagree with all three component elements for the *Validation Elements* indicator. The low agreement rate with the BHOs' *Procedure Code* audit determinations (10.3 percent of disagreement cases, n=6 of 58 cases) was the primary component of negative responses for *Validation Elements*. Overall, HSAG reviewers disagreed with the BHO's audit determinations in four instances regarding *Diagnosis Code* (93.1 percent of disagreement cases) and five instances for *Units* (91.4 percent of disagreement cases), underscoring the limited contribution of these elements to the low *Validation Elements* agreement rate.

Field-Specific Agreement Rate

The 11 audited elements achieved aggregate agreement rates ranged from 65.3 percent to 100.0 percent. *Procedure Code* had the lowest aggregate agreement rate for any element (65.3 percent), and BHO-specific agreement rates ranged from 30.0 percent to 100.0 percent. Aggregate agreement rates for the other 10 audited elements were all above 95.0 percent. With 100.0 percent for each element, results for *Service Start Date*, *Service End Date*, *Population,* and *Allowed Mode of Delivery* had the highest aggregate agreement rates. The remaining six data elements had aggregate agreement rates ranging from 96.7 percent to 98.7 percent.
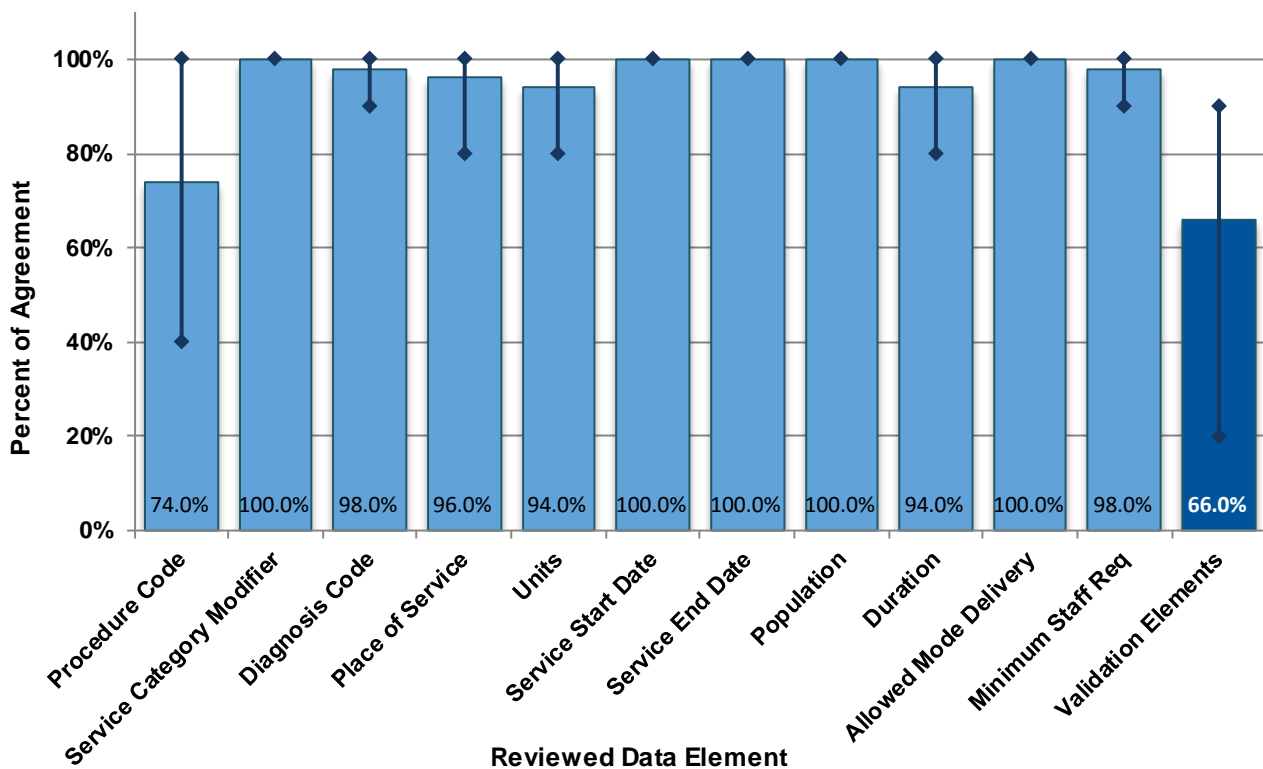
HSAG's reviewers disagreed with BHO auditors' determinations for *Procedure Code* for 52 of 150 cases (34.7 percent). Most disagreement with *Procedure Code* was based on insufficient information in the submitted medical record to support minimum or technical documentation standards listed in the USCS manual for the encounter data procedure code (n=47 of 52 overall cases). In the remaining five *Procedure Code* disagreement cases, HSAG reviewers did not agree with the BHO's audit disagreement finding. Of the 47 *Procedure Code* cases in disagreement due to insufficient documentation, 37 cases did not meet the minimum documentation requirements for the service rendered, 19 cases did not meet technical documentation requirements, and nine cases met neither minimum nor technical documentation requirements. While minimum documentation requirements are specific to the service administered, cases that did not meet technical documentation requirements typically lacked documentation showing provider credentials or dated signatures.

Over-Read of Sample Cases: Prevention/Early Intervention Services

Overall Agreement Rate

Figure 2 presents the aggregate results from HSAG's over-read of the 50 cases with Prevention/Early Intervention Services (10 cases per BHO).

**Figure 2—Aggregated Percent of Agreement Between
HSAG's Over-Read and the BHOs' Internal Audit Findings, by Data Element
Prevention/Early Intervention Services**

Note: The upper and lower diamonds represent the highest and lowest agreement rates among the BHOs.

As seen in Figure 2, HSAG agreed with the BHOs' audit determinations for 66.0 percent (n=33) of the 50 Prevention/Early Intervention Services cases, based on the composite of selected indicators represented by *Validation Elements*. The agreement rate for *Validation Elements* by BHO ranged from 20.0 percent to 90.0 percent. Low aggregate *Procedure Code* agreement was the most significant contributor to the low *Validation Elements* agreement rate.

Field-Specific Agreement Rate

All but one of the audited elements achieved aggregate agreement rates of at least 94.0 percent; the lowest aggregate rate was observed for the *Procedure Code* indicator (74.0 percent). Two of five BHOs
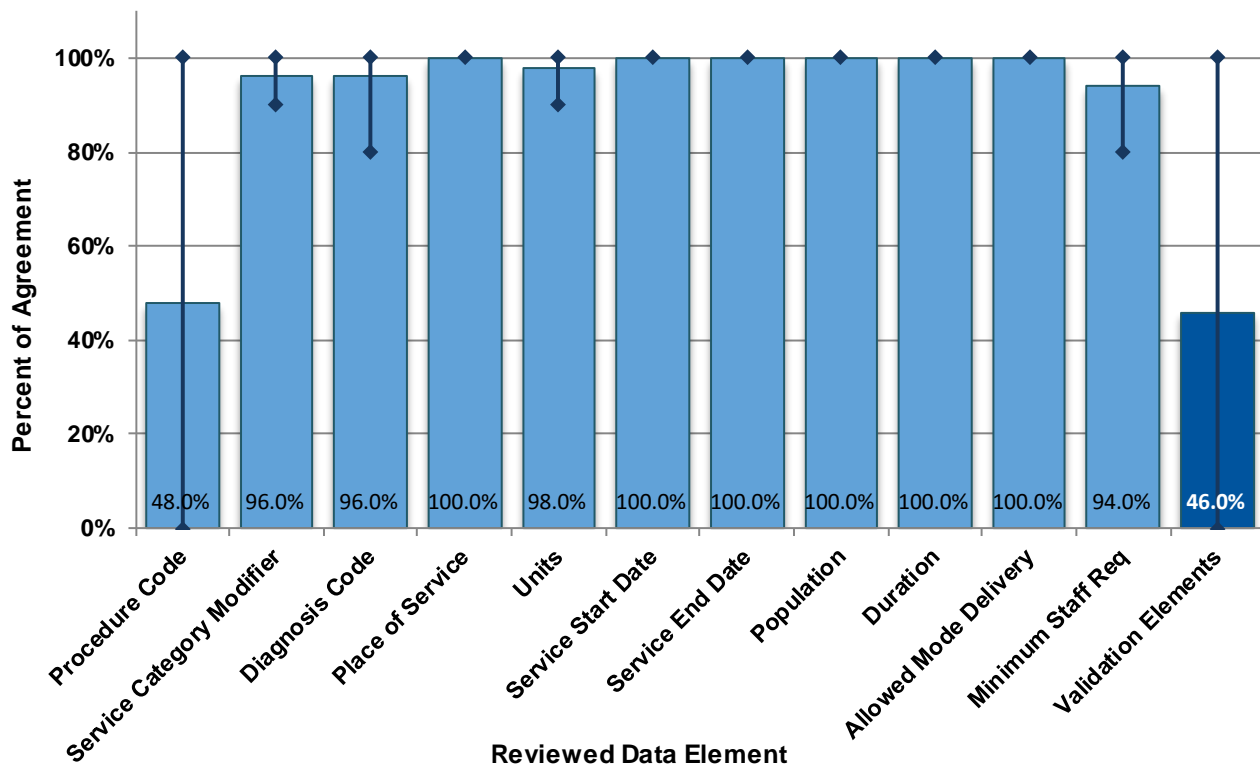
had *Procedure Code* agreement rates at or below 60.0 percent, while the remaining BHOs had rates of at least 80.0 percent. Noncompliance with minimum or technical documentation standards was the primary disagreement reason for eight of the 13 cases.

Over-Read of Sample Cases: Club House or Drop-In Center Services

Overall Agreement Rate

Figure 3 presents the aggregate results from HSAG's over-read of the 50 cases with Club House or Drop-in Center Services (10 cases per BHO).

Figure 3**—Aggregated Percent of Agreement Between HSAG's Over-Read and the BHOs' Internal Audit Findings, by Data Element Club House or Drop-In Center Services**

Note: The upper and lower diamonds represent the highest and lowest agreement rates among the BHOs.

As seen in Figure 3, HSAG agreed with the BHOs' audit determinations for 46.0 percent of the 50 Club House/Drop-In Center Services cases (n=23) based on the composite of selected indicators represented by *Validation Elements*. BHO-specific agreement rates ranged from 0.0 to 100 percent, with three BHOs having rates at or below 30.0 percent. Low aggregate *Procedure Code* agreement was the most significant contributor to the low agreement rate for *Validation Elements*.
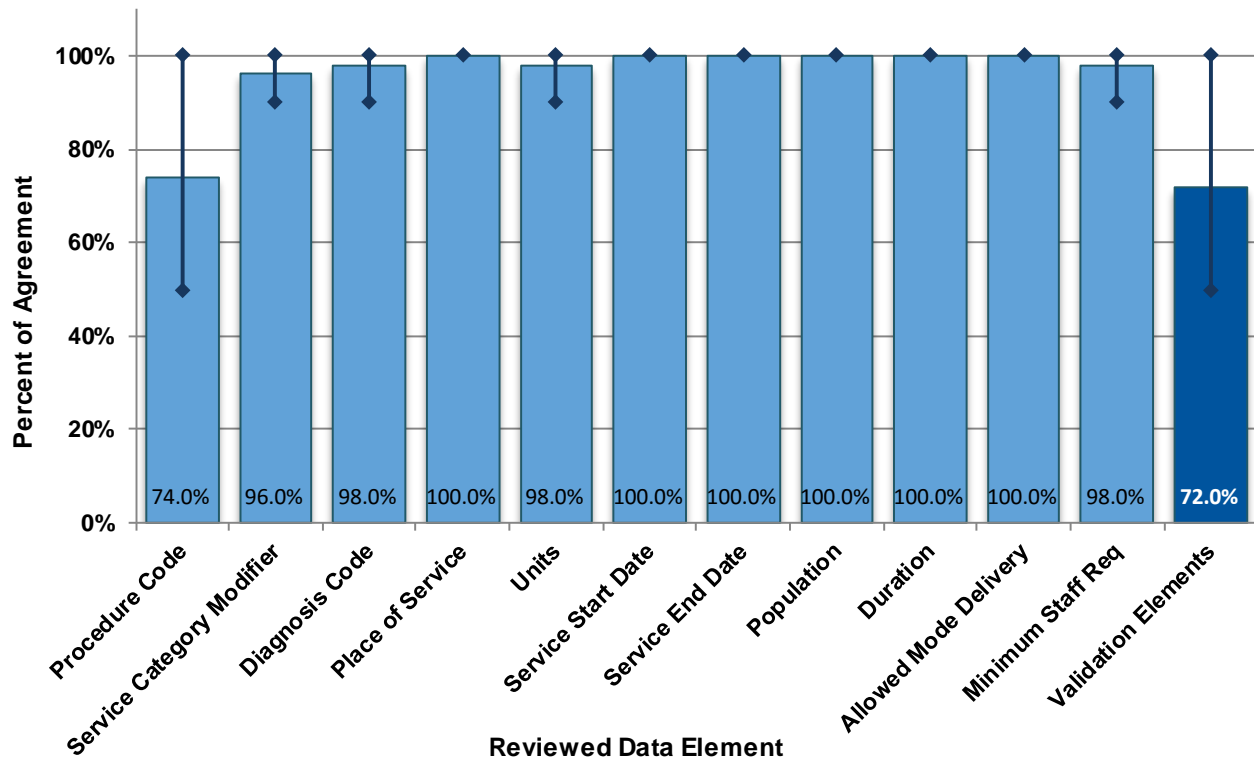
Field-Specific Agreement Rate

All but one of the audited elements achieved aggregate agreement rates of at least 94.0 percent; the lowest aggregate rate was observed for the *Procedure Code* indicator at 48.0 percent. Three individual BHOs had agreement rates at or below 40.0 percent, while the remaining BHOs had agreement rates of at least 90.0 percent. Among the 26 cases with Procedure Code disagreement, 21 did not meet minimum documentation requirements, 14 did not meet technical documentation requirements, and nine met neither minimum nor technical documentation requirements.

Over-Read of Sample Cases: Residential Services

Overall Agreement Rate

Figure 4 presents the aggregate results from HSAG's over-read of the 50 cases sampled from Residential Services encounters (10 cases per BHO).

**Figure 4—Aggregated Percent of Agreement Between
HSAG's Over-Read and the BHOs' Internal Audit Findings, by Data Element
Residential Services**

Note: The upper and lower diamonds represent the highest and lowest agreement rates among the BHOs.

As seen in Figure 4, HSAG's reviewers agreed with the BHOs' audit determinations for 72.0 percent of the 50 Residential Services cases (n=36) based on the composite of selected indicators represented by *Validation Elements*. The BHO-specific agreement rates for *Validation Elements* ranged from 50.0 percent to 100.0 percent, with one BHO having an agreement rate higher than 90.0 percent. Low aggregate *Procedure Code* agreement was the most significant contributor to the low agreement rate for *Validation Elements*.

Field-Specific Agreement Rate

All but one of the audited elements achieved aggregate agreement rates of at least 96.0 percent; the lowest aggregate rate was observed for the *Procedure Code* indicator at 74.0 percent. All but one BHO had at least two cases with *Procedure Code* disagreement due to noncompliance with minimum documentation requirements or technical documentation requirements. Among the 13 disagreement cases, one case did not meet technical documentation requirements and 12 did not meet minimum documentation requirements.

Conclusions

HSAG's desk review of the Department's sampling methodology and sample selection logic considered two important factors: the inclusion of final, paid encounters specific to the study time frame and encounter data compliance with the classification logic for the assessed service program categories. The submitted sampling methodology document did not include all sampling frame construction details (e.g., the process for removing voided or adjudicated encounters from the sample frame). However, the sampling methodology detailed how the sample frame was constructed for each service program category and BHO. This level of information was necessary because encounter identification strategies varied by BHOs for Club House and Drop-In Center Services encounters. Note that the sample selection logic did not include steps for deduplicating the encounters in the sample frame, nor did it include steps to ensure that each sampled encounter was associated with a distinct member (i.e., a single member could have multiple encounters included in the audit sample across service program categories). Though a multi-stage sampling approach would allow the Department to assess encounter data accuracy across a wider range of members and providers, the current methodology granted equal weight to each encounter in the sampling frame and was sufficient for the overall intent of the study.

Encounter classification was more complex for the FY 2017–2018 study than in prior years due to billing requirement modifications that the BHOs applied to portions of their encounter data submissions. This permitted BHOs to submit encounters for the assessed service program categories with procedure codes and/or service category modifiers that differed from those that historically identified encounters for Prevention/Early Intervention, Club House/Drop-In Center, or Residential services. The initial sample frame created revealed procedure code and modifier inconsistencies, which resulted in no Club House /Drop-In Center Services encounters identified for two BHOs. The Department worked with the BHOs to ensure that encounters for all service program categories were submitted in a manner that permitted systematic classification and required some BHOs to update and re-submit encounters to facilitate sample frame generation. While the resulting sampling methodology was BHO-specific, this process ensured consistency throughout the encounter data process.

Of the 150 over-read cases, HSAG's reviewers agreed with the BHO auditors' determinations for all 11 elements for 90 cases (i.e., all-element agreement rate of 60.0 percent) and disagreed with BHO auditors' determinations for only one the of 11 elements for an additional 47 cases (31.3 percent). This represents minimal change from FY 2016–2017 over-read results, wherein the all-element agreement rate was 62.0 percent. All-element agreement rates by service program category did not exceed 70.0 percent (Residential Services), and the lowest all-element agreement rate (44.0 percent) was observed for Club House/Drop-In Center Services cases.

Except for *Procedure Code*, HSAG's reviewers had minimal disagreement with the BHOs' audit determinations (i.e., disagreement with five or fewer cases) for six of the 11 elements assessed. Overall, HSAG's reviewers agreed with the BHOs' audit determinations for all cases for four elements (*Service Start Date*, *Service End Date*, *Population*, and *Allowed Mode of Delivery*). When agreement rates were examined at the service program category level, HSAG's reviewers had complete agreement with the BHO's audit determinations for at least five elements. This finding represents an improvement from the FY 2016–2017 results, in which only three elements had all-case agreement (with the removal of a single case with no documentation submitted).

Assessment of the *Validation Elements* indicator (i.e., the composite indicator assessing agreement across the *Procedure Code*, *Diagnosis Code*, and *Units* elements) demonstrated the overall impact of *Procedure Code* disagreement within the FY 2017–2018 over-read results. The aggregate agreement rate of 61.3 percent represents a substantial decline from FY 2016–2017 results (84.7 percent). Similar to the FY 2016–2017 findings, most *Validation Elements* disagreement cases resulted from *Procedure Code* disagreement (n=52 of 58 cases), while disagreement related to *Diagnosis Code* and *Units* contributed minimally (i.e., HSAG's reviewers disagreed with the BHOs' audit determinations in five or fewer cases for each element). However, overall *Procedure Code* and *Validation Elements* agreement rates varied substantially by BHO, with BHO-specific rate ranges of 70.0 percentage points and 73.3 percentage points, respectively.

Disagreement between HSAG's reviewers and the BHOs' audit determinations for *Procedure Code* were primarily related to documentation issues, with most of the 52 disagreement cases either failing to meet minimum documentation requirements or failing to meet technical documentation requirements. While technical documentation issues centered around missing provider information (e.g., credentials, signatures, dated signatures), noncompliance with USCS minimum documentation requirements could not be generalized to specific USCS requirements because minimum documentation requirements are not standard across procedure code values. Despite this limitation, HSAG's reviewers determined that some BHO audit determinations did not systematically consider all criteria listed under minimum documentation, implying that the auditors for these BHOs may rank USCS criteria to determine encounter data compliance with medical record documentation. Review of the BHOs' service coding accuracy reports further underscored this finding, as two BHOs listed noncompliance with all minimum documentation criteria as a primary reason for *Procedure Code* disagreement.

Recommendations

Due to BHO-specific encounter data coding inconsistencies identified by the Department during sampling, the findings associated with this independent audit are limited to the accuracy of the BHOs' audit determinations and should be used for the Department's information only.

Acting on the prior year's recommendations, the Department has worked with HSAG to monitor quality improvement among services provided related to behavioral health encounters. Specifically, BHOs created quality improvement plans for service coding accuracy and over-read results from the FY 2016–2017 study; and these findings were implemented throughout CY 2017.

Note that the Department is transitioning between BHOs and the Regional Accountable Entities (RAEs); the RAEs will be responsible for behavioral health services and subsequent encounter data beginning July 1, 2018. As such, HSAG offers the recommendations listed below to facilitate data quality monitoring and review standards that will continue with the transition to RAEs.[4]

Based on the findings described in this report, HSAG offers the following recommendations to improve the quality of future RAE internal audits.

- The Department may benefit from comparing both billing and encounter data quality standards for conflicts and inconsistencies, as billing standards may take precedence regarding claims payment, but may not be as rigorous as encounter data quality standards. In addition to underscoring the identification issues encountered when the Department initially created the 411 sample lists, these discrepancies affected the way encounters were submitted during the measurement period for the FY 2017–2018 study. It will be beneficial to the Department and the RAEs to better streamline billing and data quality requirements, so as to identify and provide guidance regarding potentially contradictory requirements.

- Though encounters included in this assessment were restricted to a specific range of paid dates, sampled cases included dates of service covered by five versions of the USCS manual. As a result, a limited number of cases had two applicable versions of the USCS manual that could be consulted to determine compliance with audit standards. Although the Department provides a summary workbook noting major changes occurring between USCS versions, updated coding standards may not be immediately implemented by behavioral health providers and changes may not be promptly reflected in the encounter data. The Department should establish a fixed timetable for publishing USCS manual revisions, to permit adequate time for providers to implement coding changes and for RAEs to update encounter data oversight procedures.

- The rigor with which the BHOs' auditors applied minimum documentation and technical documentation requirements has fluctuated over the six years in which this study has been conducted. Although FY 2017–2018 findings revealed that interpretation issues arise when criteria are strictly applied, implementation of quality improvement plans has facilitated better data quality

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[4] While not all BHOs will transition to RAEs, recommendations pertaining to auditing standards remain applicable.

from providers and better audit quality from the BHOs. Therefore, HSAG recommends that the Department support the RAEs in continuing the quality improvement plans and associated best practices following the July 1, 2018, transition.

This table was copied from the *FY 2017–2018 Annual BHO Encounter Data Quality Review Guidelines* Appendix I, Encounter Data Flat File layout.

	Data Element (Field)	Status*	Format	Length	Valid Value
0	Record No	R	X	Integer	Sequential number
1	Transaction Header	R	X	1	Encounter data
2	Transaction Date	R	X	8	Encounter data
3	Submitter Organization Name	R	X	Flexible	Encounter data
4	Submitter Contact Number	C	9	10	Encounter data
5	Billing Provider Name	R	X	Flexible	Encounter data
6	Billing Provider Identification	R	X	8	Encounter data
7	Client Last Name	C	X	Flexible	Encounter data
8	Client First Name	C	X	Flexible	Encounter data
9	Client Medicaid Identification	R	X	7	Encounter data
10	Client ZIP Code	R	X	Flexible	Encounter data
11	Client Date of Birth	C	X	8	Encounter data
12	Client Gender	C	X	1	Encounter data
13	Claim Number	R	X	Flexible	Encounter data
14	Claim Version	R	X	1	Encounter data
15	Primary ICD-9 or ICD-10 Diagnosis Code	R**	X	5	Encounter data
16	Second ICD-9 or ICD-10 Diagnosis Code	C	X	5	Encounter data
17	Third ICD-9 or ICD-10 Diagnosis Code	C	X	5	Encounter data
18	Fourth ICD-9 or ICD-10 Diagnosis Code	C	X	5	Encounter data
19	POS/Bill Type	R	X	2	Encounter data
20	Approved Amount	C	Number	Double	Encounter data
21	Paid Amount	C	Number	Double	Encounter data
22	Service Line Number	R	Number	Integer	Encounter data
23	Line Paid Amount	C	Number	Double	Encounter data
24	Procedure Code	R	X	5	Encounter data
25	Service/Program Category (Procedure Modifier 1)	R	X	2	Encounter data
26	Procedure Modifier 2	C	X	2	Encounter data
27	Procedure Modifier 3	C	X	2	Encounter data
28	Procedure Modifier 4	C	X	2	Encounter data
29	Procedure Description	C	X	Flexible	Encounter data
30	Revenue code	R	X	Flexible	Encounter data
31	Units	R	Number	Integer	Encounter data

	Data Element (Field)	Status*	Format	Length	Valid Value
32	Service Start Date	R	X	8	Encounter data
33	Service End Date	C	X	8	Encounter data
34	Admission Date	C	X	8	Encounter data
35	Principal ICD-9 or ICD-10 Surgical Procedure Code	C	X	7	Encounter data
36	Secondary ICD-9 or ICD-10 Surgical Procedure Code	C	X	7	Encounter data
37	Discharge Status Code	C	X	2	Encounter data
38	BHO Name	R	X	Flexible	Encounter data
39	BHO Medicaid ID	R	X	8	Encounter data
40	FCLN	R	Number	Integer	Encounter data
41	Payment Date	R	X	8	Encounter data
42	Rendering Provider ID	R	X	Flexible	Encounter data

*R = Required, C = Conditional

**A primary ICD-10 diagnosis code is required if the service occurred on October 1, 2015, or later.

Appendix B. Response Data Layout for Encounter Quality Audit for BHOs

This table was copied from the *FY 2017–2018 Annual BHO Encounter Data Quality Review Guidelines* Appendix II, Audit Response File layout.

	Data Element (Field)	Data Description	Format	Length
0	Record No	Sequential number for each of 411 records; Should align with the *Record No* in the flat file (Appendix I)	X	Integer
1	Encounter Procedure Code	0=No supporting doc, or not consistent w the doc, or not in the USCS, or does not comply with the service description in USCS*; 1=yes, consistent with the minimum supporting doc requirements and complies with USCS *all of the information under the headings of "procedure code description," "service description," "notes," "minimum documentation requirements," and "example activities" should be taken into account when they are applicable.	X	1
2	Encounter Diagnosis Code	0=No doc, or not consistent w the supporting doc, or not comply w the diagnosis code requirement in USCS; 1=yes, comply and consistent	X	1
3	Encounter POS	0=No doc, or not consistent w the supporting doc, or not comply w USCS; 1=yes, comply	X	1
4	Encounter Service Cat/Program Category (Procedure Modifier 1)	0=Not comply with the program category requirement in the USCS for the encounter procedure code; 1=yes, comply	X	1
5	Encounter Units	0=No supporting doc, or not consistent w the doc or not within the duration allowed by USCS; 1=yes, comply	X	1
6	Encounter Service Start Date	0=Start date does not comply w the supporting doc; 1= comply	X	1
7	Encounter Service End Date	0=End date does not comply w the supporting doc; 1= comply	X	1
8	Doc_Population	0=No doc or not comply w USCS; 1=yes, comply	X	1
9	Doc_Duration	0=No doc or not comply w USCS; 1=yes, comply	X	1
10	Doc_Allowed_Mode_Delivery	0=No doc or not comply w USCS; 1=yes, comply	X	1
11	Doc_Staff_Req	0=No doc or not comply w USCS if procedure code is included in USCS; 1=yes, comply See further details in Appendix II following this table**	X	1

	Data Element (Field)	Data Description	Format	Length
12	Doc_Procedure Code	Procedure Code in the supporting doc; 'NA' if there is no document or unable to determine service based on documentation	X	5
13	Doc_Diag	Diagnosis code in the supporting doc; 'NA' if there is no document	X	5
14	Doc_POS	Place of Service in the supporting doc; 'NA' if there is no document	X	2
15	Doc_Units	Max of the units comply w USCS if procedure code is included in USCS; 'NA' if there is no document	X	Integer
16	Doc_Service Start Date	Start Date in the doc; 'NA' if there is no doc;	X	8
17	Doc_Service End Date	End Date in the doc; 'NA' if there is no doc;	X	8
18	USCS Version Used	1=October 2016 version, 2=January 2017 version, 3=July 2017 version, 4=July 2016 version, 5=2015 version[†]	X	1
19	Comments (optional)	Any comments, for example 'no documentation received from provider'	X	Flexible

**The Doc_Staff_Req field assesses whether or not the service administrator has the appropriate credentials for the procedure. 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 field.

For procedures in which the provider may have less than a Bachelor's degree, the provider's title should be listed to confirm that the provider meets the staff requirement. As educational requirements for staff may vary by facility, BHOs may opt to have facilities confirm the level of education for non-credentialed staff (e.g., milieu counselors).

[†] The guidelines document initially accounted for use of the October 2016, January 2017, and July 2017 USCS Manual versions. Over the course of their internal audits, BHO reviewers noted that their samples included some encounters with services dates falling within the coverage range of the 2015 and July 2016 USCS Manuals. The Department instructed BHOs to use the designations specified in the table to document use of the 2015 and July 2016 manual versions.

Figure C-1 presents aggregate results from HSAG's 30-case over-read of BHI's 411 sample. Agreement values range from 0 percent to 100 percent, where 100 percent represents complete agreement between BHI's audit results and HSAG's over-read results and 0 percent represents complete disagreement.

**Figure C-1—Aggregated Percent of Agreement Between
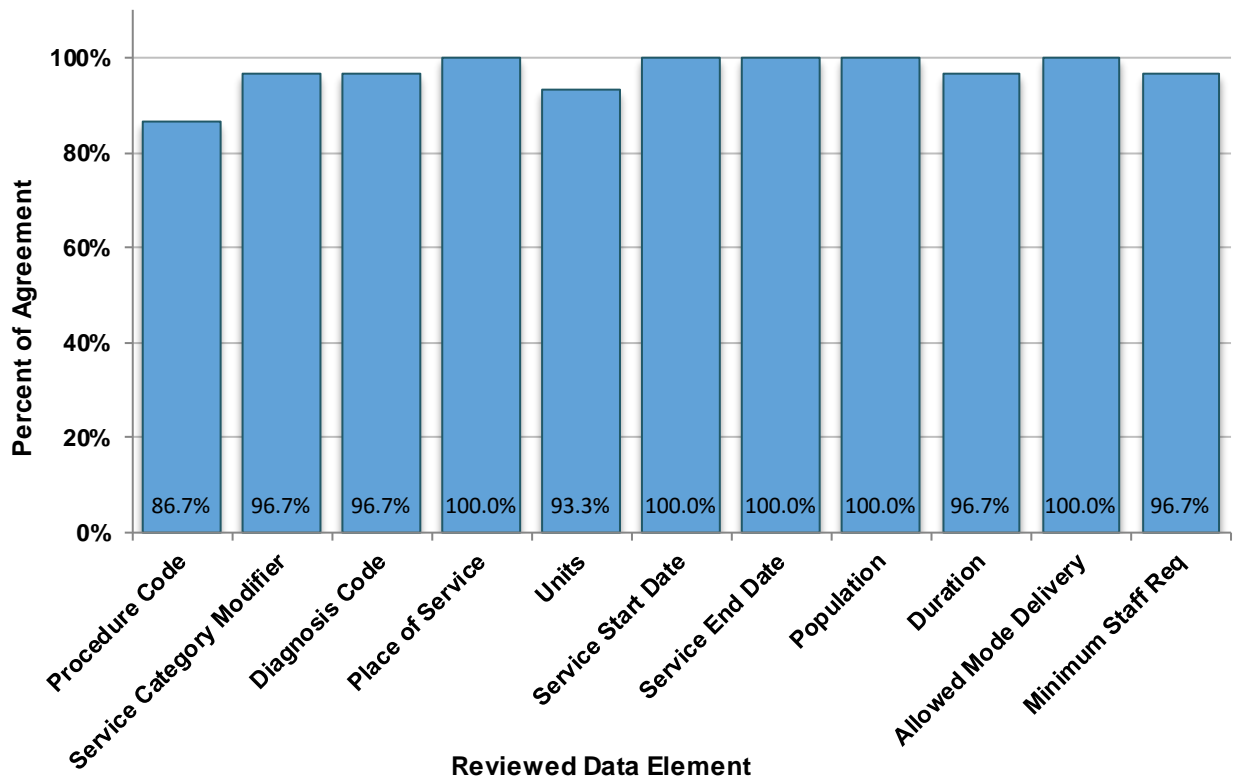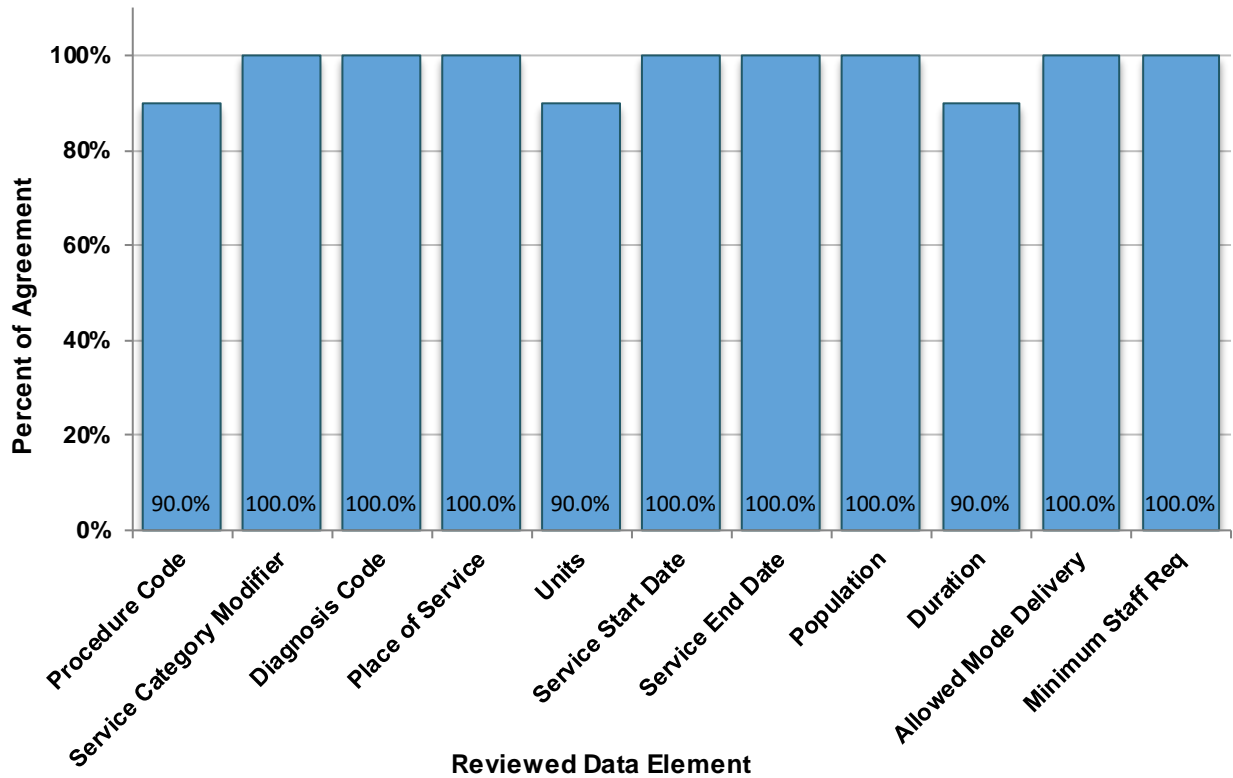HSAG's Over-Read and BHI's Internal Audit Findings, by Data Element**

Figure C-1 shows that HSAG's reviewers agreed with BHI's audit results for 100 percent of the over-read cases for five of the 11 audited elements. At 86.7 percent, the *Procedure Code* element had the lowest agreement rate between BHI's audit results and HSAG's over-read results.

The following figures present aggregate results from HSAG's over-read of the 10 sampled cases associated with Prevention/Early Intervention Services, Club House or Drop-In Center Services, and Residential Services, respectively.

**Figure C-2—Aggregated Percent of Agreement Between
HSAG's Over-Read and BHI's Internal Audit Findings, by Data Element
Prevention/Early Intervention Services**

**Figure C-3—Aggregated Percent of Agreement Between
HSAG's Over-Read and BHI's Internal Audit Findings, by Data Element
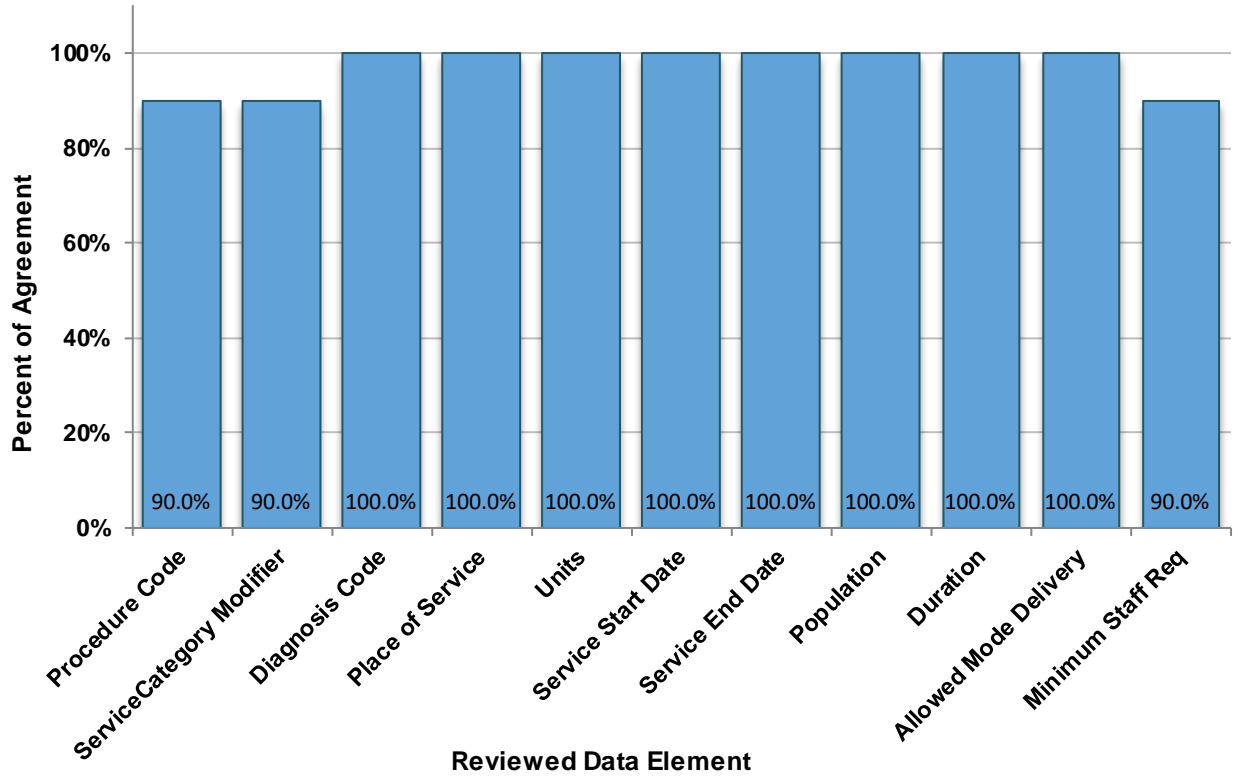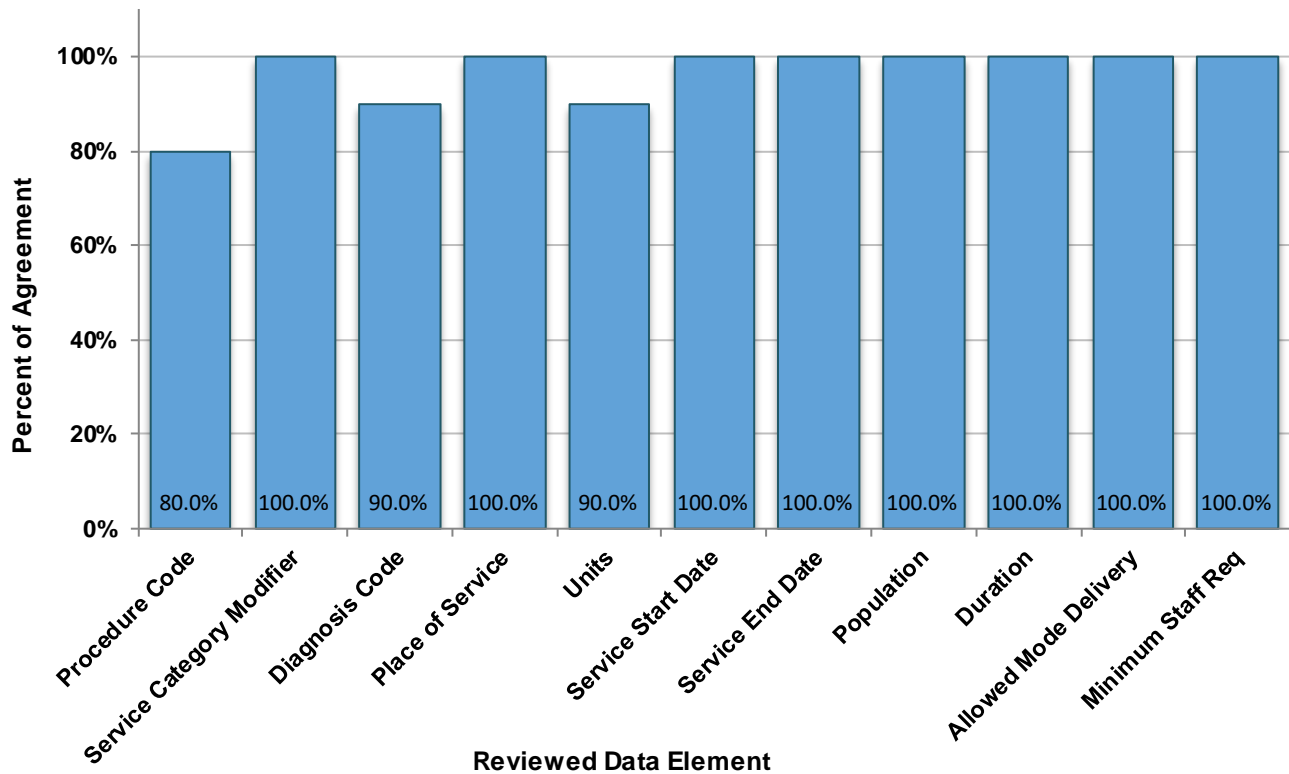Club House or Drop-In Center Services**

**Figure C-4—Aggregated Percent of Agreement Between
HSAG's Over-Read and BHI's Internal Audit Findings, by Data Element
Residential Services**

BHI's aggregate agreement rates varied across elements for all three service categories, though complete agreement was consistently observed between HSAG's over-read and BHI's audit results for *Place of Service*, *Service Start Date*, *Service End Date*, *Population*, and *Allowed Mode of Delivery*. The rate of *Procedure Code* disagreement was minimal, affecting only four of 30 cases. However, this disagreement was consistent across service categories, resulting from either noncompliance with minimum documentation requirements or noncompliance with technical documentation requirements (two cases per requirement type).