



**Division of Health Care Financing and Policy
Nevada Medicaid Managed Care**

**State Fiscal Year 2017–2018 Encounter
Data Validation Study Report:
Information Systems Review,
Comparative Analysis, and Medical
Record Review**

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1. Executive Summary

Introduction

Accurate and complete encounter data are critical to the success of a managed care program. Therefore, the Division of Health Care Financing and Policy (DHCFP), a Division of the State of Nevada, Department of Health and Human Services (DHHS), requires its contracted managed care organizations (MCOs) to submit high-quality encounter data. The DHCFP relies on the quality of these encounter data submissions to accurately and effectively monitor and improve the program's quality of care, generate accurate and reliable reports, develop appropriate capitated rates, and obtain complete and accurate utilization information.

During fiscal year (SFY) 2017–2018, the DHCFP contracted Health Services Advisory Group, Inc. (HSAG) to conduct an encounter data validation (EDV) study. The goal of the study was to determine the extent to which professional, institutional, and pharmacy encounters submitted to the DHCFP by contracted MCOs are complete and accurate.

Methods

In alignment with the Centers for Medicare & Medicaid Services (CMS) *EQR Protocol 4: Validation of Encounter Data Reported by the MCO: A Voluntary Protocol for External Quality Review (EQR)*, Version 2.0, September 2012,¹⁻¹ HSAG conducted the following three core evaluation activities for the EDV activity:

- Information systems (IS) review—assessment of the DHCFP's and/or MCOs' information systems and processes
- Comparative analysis—analysis of the DHCFP's electronic encounter data completeness and accuracy through a comparative analysis between the DHCFP's electronic encounter data and the data extracted from the MCOs' data systems
- Medical record review (MRR)—analysis of the DHCFP's electronic encounter data completeness and accuracy through a review of a sample of medical records for physician services rendered during the study period

HSAG used data with dates of service between July 1, 2016, and June 30, 2017, from both the DHCFP and the MCOs for this study. Only two of the three MCOs operated in the Nevada managed care

¹⁻¹ Department of Health and Human Services, Centers for Medicare & Medicaid Services. *EQR Protocol 4: Validation of Encounter Data Reported by the MCO: A Voluntary Protocol for External Quality Review (EQR)*, Version 2.0, September 2012. Available at: <https://www.medicare.gov/medicaid/quality-of-care/medicaid-managed-care/external-quality-review/index.html>. Accessed on: June 7, 2018.

program prior to the contract start date of July 1, 2017; therefore, HSAG conducted the EDV study for those two MCOs: Anthem Blue Cross Blue Shield (Anthem); and Health Plan of Nevada (HPN).

Information Systems Review

In collaboration with the DHCFP, HSAG developed questionnaires to gather information from the DHCFP and the MCOs on general approaches to, and specific procedures for, data processing, personnel responsible for data, and data acquisition capabilities. This component of the study examined the data-handling processes associated with each participant in the encounter data process, with the goal of enabling HSAG to understand how various systems interact and potentially impact the MCOs' abilities to submit complete, reasonable, and accurate data to the DHCFP.

Comparative Analysis

HSAG conducted a comparative analysis of the encounter data to evaluate the extent to which encounters submitted by each MCO and maintained in the DHCFP data warehouse (and the data subsequently extracted and submitted by the DHCFP to HSAG for the study) were accurate and complete when compared to the data submitted by each MCO to HSAG. This component of the study examined record completeness, data element completeness, data element accuracy, and all-element accuracy between the two encounter data sources for professional, pharmacy, and institutional encounters.

Medical Record Review

Medical and clinical records are considered the “gold standard” for documenting Medicaid recipients' access to and quality of healthcare services. HSAG evaluated the DHCFP's encounter data completeness and accuracy via a review of medical records for physician services rendered between July 1, 2016, and June 30, 2017. This component of the study answered the following question: *Are the data elements Date of Service, Diagnosis Code, Procedure Code, and Procedure Code Modifier found on the professional encounters complete and accurate when compared to information contained within the medical records?*

HSAG conducted the following activities to answer the study question:

- Identified the eligible population and generated samples from data extracted from the DHCFP's data warehouse.
- Assisted MCOs to procure medical records from providers, as appropriate.
- Reviewed medical records against the DHCFP's encounter data.
- Calculated study indicators.

Findings

A summary of the major findings from the EDV study are presented below.

Information Systems Review

While the DHCFP receives 837 Professional (837P), 837 Institutional (837I), and National Council for Prescription Drug Programs (NCPDP) files directly from the MCOs, these files may have been generated initially by MCO subcontractors in different formats. The DHCFP reported that each MCO submits professional, institutional, and pharmacy data through the State's encounter system to a data warehouse maintained by DXC Technology (DXC); however, separate information on each MCO's encounter data submissions for behavioral health, vision, and transportation services were not defined.

Both MCOs reported that they submit paid, denied, and adjusted claims and encounters to the DHCFP; although, HPN noted not including rejected point-of-service (POS) claims in the NCPDP files. Additionally, both MCOs reported needing to modify encounters to accommodate the DHCFP's encounter data submission standards. Both MCOs followed the NCPDP and the DHCFP guidelines for submitting adjusted encounters to the DHCFP after original encounters were submitted.

While both MCOs reported that they prepare encounter data submissions based on the DHCFP's requirements, neither MCO provided policies and procedures documents or a detailed description of the organizational requirements supporting their encounter data submissions. In considering the data exchange process between the DHCFP and the MCOs, the DHCFP reported not having undergone a formal Information Systems Capabilities Assessment (ISCA) and provided no additional data flow documentation beyond the encounter data companion guides and the encounter claims technical system design document; however, the State provided documentation that highlighted its understanding of data processing and minimizing data loss or corruption resulting from potential system failures.

Each MCO's questionnaire elements regarding encounter data collection, storage, and processing focused on payment-related data, including third party liability (TPL) data. Both MCOs indicated that they submit zero-pay claims to the DHCFP, but only one MCO indicated that it requires its capitated providers to submit TPL data. Additionally, both MCOs reported using a variety of methods for obtaining members' information on other (non-Medicaid) insurance to ensure the appropriate payor for claims. However, neither MCO described its TPL processes for vendor data or how TPL processes differed from processes for Medicare crossover claims.

The DHCFP did not identify processes that may modify the data as they move between databases and did note that current system documentation and file layouts do not clearly delineate derived and non-derived data fields. However, the DHCFP reported that DXC reformats data fields to facilitate data warehouse loads and that DXC is not aware of MCO-submitted data elements modified during data processing.

To submit accurate, timely encounter data to the DHCFP, each MCO must ensure oversight of data submitted by vendors and providers. Both MCOs provided high-level descriptions of the reports and/or

data edits used to monitor the accuracy and completeness of data submitted by vendors (e.g., pharmacy claims) and providers. Additionally, the MCOs reported using the 999 transaction response file and the DHCFP Error File (a proprietary flat file) to support their encounter data submission activities. To underscore the importance of collecting and maintaining accurate, timely encounter data, each MCO indicated that encounter data served a variety of reporting needs. Both MCOs also provided feedback regarding challenges associated with submitting encounter data to the DHCFP.

When considering encounter data monitoring from the State's perspective, the DHCFP reported that it has no evaluation metrics in place to assess the quality of MCOs' monthly encounter submissions; nor is a formal process established by which to determine the accuracy and completeness of the MCOs' encounter data. However, the State has established performance standards for the MCOs' submission, accuracy, and timeliness of encounter data.

Comparative Analysis

Record Completeness

HSAG evaluated the record-level data completeness of the DHCFP's encounter data by investigating the record omission and record surplus in the DHCFP's data compared to each MCO's. The overall record omission rates were low for all three encounter types (i.e., professional, institutional, and pharmacy). Overall, the pharmacy encounter type exhibited the most complete data with the lowest overall record omission and record surplus rates—i.e., 0.0 percent and 2.7 percent respectively, while the institutional encounter type had the most incomplete data with the highest record omission (2.1 percent) and record surplus rates (6.3 percent).

Data Element Completeness

HSAG evaluated element-level completeness of the DHCFP's encounter data by the element omission and element surplus rates for key data elements relevant to each encounter type. Overall, among encounters that could be matched between the DHCFP's and the MCOs' submitted encounter data, the level of completeness for key data elements was high (i.e., low overall omission and surplus rates). The pharmacy encounter data were the most complete with each MCO receiving a 0.0 percent omission rate and 0.0 percent surplus rate for all key data elements evaluated.

Overall, the levels of completeness for key data elements associated with the professional encounters were generally very high, except for the *Rendering Provider Number/NPI (National Provider Identifier)* field. During the data submission process, the DHCFP confirmed that the *Billing Provider Number/NPI* is used as a substitute *NPI* value in instances of missing *Rendering Provider Number/NPI*. However, both MCOs had missing values for these records, resulting in a high surplus rate for this field. The levels of completeness for key data elements for the institutional encounters were also generally very high for nearly all key data elements evaluated. Fields with relatively incomplete data included the *Procedure Code Modifier*, *Primary Surgical Procedure Code*, and *Secondary Diagnosis Code*.

Data Element Accuracy

HSAG determined element-level accuracy by comparing the values of key data elements for records with data present in both the DHCFP's and the MCOs' records. All pharmacy data elements had high accuracy rates for the pharmacy encounters, and nine of 12 of the key data elements evaluated for the professional encounters each had an overall accuracy rate of at least 99.0 percent, except for *Recipient ID*, *Header Paid Amount*, and *Detail Paid Amount* (i.e., 45.3 percent, 84.4 percent, and 83.9 percent, respectively).

The statewide accuracy rates for all data elements evaluated within the institutional encounters were high except for *Recipient ID* and *Secondary Diagnosis Code* (i.e., 43.4 percent and 78.6 percent, respectively). HPN's accuracy rate for the *Recipient ID* field (i.e., 0.0 percent for institutional and professional encounters) contributed to the low overall accuracy rate. The discrepancy was due to the DHCFP and HPN having entirely different values for this field.

All-Element Accuracy

HSAG determined all-element accuracy by evaluating the records present in both data sources with exactly the same values (missing or non-missing) for all data elements relevant to each encounter type. Higher all-element accuracy rates indicate that the values populated in the DHCFP's data warehouse are more complete and accurate for all key data elements.

The all-element accuracy rates for pharmacy encounters for both HPN and Anthem were high at 99.5 percent and 97.2 percent respectively. For professional encounters, however, the overall all-element accuracy rate was low at 26.9 percent. HPN's accuracy rate for the *Recipient ID* field (i.e., 0.0 percent) contributed to the low overall all-element accuracy. Excluding the *Recipient ID* field from the all-element accuracy rate calculation resulted in a higher rate of 60.1 percent accuracy.

The overall all-element accuracy rate for institutional encounter records was low at 26.5 percent. HPN's accuracy rate for the *Recipient ID* field (i.e., 0.0 percent) contributed to the low overall all-element accuracy. Excluding the *Recipient ID* field from the all-element accuracy rate calculation resulted in a higher rate of 75.4 percent accuracy.

Medical Record Review

Encounter Data Completeness

Omissions identified in the medical records (services reported in the encounter data but not supported in the medical records) and omissions in the encounter data (services documented in the medical records but not reported in the encounter data) illustrate discrepancies in completeness of the DHCFP's encounter data. Overall, the DHCFP's encounter data are relatively complete for key data elements (i.e., *Date of Service*, *Diagnosis Code*, *Procedure Code*, *Procedure Code Modifier*) that were evaluated when compared to the medical records.

The *Date of Service* data element within the encounter data was well supported by the recipients' medical records as evidenced by the low medical record omission rate of 3.4 percent. However, the *Diagnosis Code* (23.5 percent), *Procedure Code* (21.1 percent), and *Procedure Code Modifier* (35.4 percent) data elements within the encounter data were moderately supported by the medical records. Both Anthem and HPN had similar rates for medical record omission for all data elements, where the difference between the MCOs' rates was less than 5 percentage points for each of the evaluated data elements.

In contrast, the relatively low encounter data omission rates indicate that the key data elements (i.e., *Date of Service*, *Diagnosis Code*, *Procedure Code*, and *Procedure Code Modifier*) found in the recipients' medical records were well-supported by the data found in the electronic data extracted from the DHCFP's data warehouse, with rates ranging from 2.8 percent (*Date of Service*) to 5.6 percent (*Procedure Code*). Both Anthem and HPN had similar rates for encounter data omission for all data elements, where the difference between the MCOs' rates was less than 5 percentage points for each of the evaluated data elements.

Encounter Data Accuracy

Overall, when key data elements were present in both the DHCFP's encounter data and the medical records and were evaluated independently the data elements were found to be accurate. Among the data elements evaluated, 98.7 percent of *Diagnosis Codes*, 94.5 percent of *Procedure Codes*, and 98.9 percent of *Procedure Code Modifiers* present in both sources were accurate.

Nearly 50 percent of the dates of service present in both sources accurately represented all three data elements (*Diagnosis Code*, *Procedure Code*, and *Procedure Code Modifier*) when compared to the recipients' medical records.

Recommendations

Based on HSAG's review of the encounter data submitted by the DHCFP and the MCOs, HSAG identified several opportunities for continued improvement in the quality of Nevada's encounter data. Although overall results of the comparative analysis component of the EDV study indicate relatively complete and accurate data, instances of high rates of omission, surplus, and errors suggest some systemic issues with the transmission of data between the MCOs and the DHCFP. To improve the quality of encounter data submissions from contracted MCOs, HSAG offers the following recommendations to assist the DHCFP and the MCOs address opportunities for improvement.

- The DHCFP noted that procedure memos or contract amendments are used to ensure that updates to the State's data submission requirements are implemented and communicated to each MCO. However, one MCO noted in its information systems review questionnaire response that the lack of an updated Electronic Data Interchange (EDI) companion guide presents a challenge when submitting encounter data to the DHCFP. The Health Insurance Portability and Accountability Act of 1996 (HIPAA) Transaction Standard Companion Guides supplied for this study by the DHCFP

were dated May 2014. The DHCFP should determine the appropriate frequency for updating the companion guides and communicate with the MCOs to ensure that the MCOs apply the most recent companion guides to encounter data submissions.

- The MCOs' responses to the information systems review questionnaires indicated that a DHCFP-designed flat file is provided to the MCOs in lieu of 277 transaction response files. The DHCFP should assess comparability between the content of the current proprietary flat files and the 277 transaction response files to ensure that the MCOs receive all data elements needed to address encounter data submission concerns.
- Findings from the information systems review indicate that Anthem is currently developing a more robust process for monitoring the timeliness of claims and encounter data submitted by providers. The DHCFP should follow up with Anthem to determine the timeline for establishing the enhanced monitoring process as well as to request sample monitoring reports. Based on the DHCFP's review of the monitoring reports, the DHCFP may determine whether similar reports would be useful as an MCO best practice.
- The results from the comparative analysis indicated that encounters submitted by the MCOs and maintained in the DHCFP's data warehouse (and subsequently extracted by the DHCFP for this study) were relatively complete and accurate when compared to data submitted to HSAG by the MCOs. However, HSAG recommends that the DHCFP continue efforts to monitor encounter data submissions and address any identified data issues with the MCOs' encounter file submissions. As the DHCFP reported having no standard processes for monitoring encounter data accuracy and completeness, HSAG suggests that the DHCFP consider the following:
 - Develop a monitoring strategy to routinely examine encounter volume. As part of a larger encounter data quality strategy or program, these metrics would help to ensure timely identification of potential problems and establish expectations of contracted MCOs.
 - Implement a performance monitoring system that supports the development of standards to monitor the MCOs' encounter data quality and contract compliance.
 - Work with the MCOs to develop a monitoring program that requires the MCOs to audit providers' claims/encounter data submissions for completeness and accuracy.
 - Routinely review and modify existing MCO contracts and encounter submission guidelines as needed to include language outlining specific requirements for submitting complete data to the DHCFP.
- HSAG identified, from both the DHCFP and the MCOs, errors in the data files extracted for the study. HSAG recommends that the DHCFP and the MCOs consider implementing standard quality controls to ensure accurate data extracts from their respective systems. Through the development of standard data extraction procedures and quality control, the number of errors associated with extracted data could be reduced. HSAG suggests that minimum data quality checks include the following:
 - Extract data according to the data submission requirements document.
 - Verify that control totals are reasonable for each requested data file.
 - Determine if duplicate records are expected and/or reasonable.
 - Determine if the distribution and population of data field values are expected and/or reasonable.

- Conduct for all records a check to identify any data fields with missing values.
- Based on study findings from the medical review component of the study, HSAG recommends that the DHCFP consider the following:
 - The DHCFP encounter data only contain up to four diagnosis codes per encounter record although MCOs may submit more than four diagnosis codes on the 837 professional files. To improve the completeness for the diagnosis fields, the DHCFP should consider updating its processes so that more than four diagnosis code fields are available in the data warehouse.
 - The DHCFP should consider requiring that MCOs audit provider encounter submissions for completeness and accuracy. The DHCFP may want to require the MCOs to develop periodic provider education and training regarding encounter data submissions, medical record documentation, and coding practices. These activities should include a review of both State and national coding requirements and standards, especially for new providers contracted with the MCOs. In addition, HSAG recommends that the DHCFP consider requiring the MCOs to perform periodic reviews of submitted claims to verify appropriate coding and completeness to ensure encounter data quality. Results from these reviews may be submitted to the DHCFP and used in its ongoing encounter data monitoring.

2. Overview and Methodology

Overview

Accurate and complete encounter data are critical to the success of any managed care program. State Medicaid agencies rely on the quality of encounter data submissions from contracted MCOs so as to monitor and improve quality of care, establish performance measure rates, generate accurate and reliable reports, and obtain utilization and cost information. The completeness and accuracy of these data are essential in the state's overall management and oversight of its Medicaid managed care program.

Methodology

During FY 2017–2018, the DHCFP contracted HSAG, to conduct an EDV study. In alignment with the *CMS EQR Protocol 4: Validation of Encounter Data Reported by the MCO: A Voluntary Protocol for External Quality Review (EQR)*, Version 2.0, September 2012,²⁻¹ HSAG conducted the following three core evaluation activities for the EDV activity:

- IS review—assessment of the DHCFP's and/or MCOs' information systems and processes
- Comparative analysis—detailed examination of the DHCFP's electronic encounter data completeness and accuracy through a comparative analysis between the DHCFP's electronic encounter data and the data extracted from the MCOs' data systems
- MRR—analysis of the DHCFP's electronic encounter data completeness and accuracy through a review of a sample of medical records for physician services rendered during the study period

HSAG used data with dates of service between July 1, 2016, and June 30, 2017, from both the DHCFP and the MCOs for this study. Only two of the three MCOs operated in the Nevada managed care program prior to the contract start date of July 1, 2017; therefore, HSAG conducted the EDV study for those two MCOs: Anthem and HPN.

Information Systems Review

The IS review seeks to define how each participant in the encounter data process collects and processes encounter data such that the data flow from the MCOs to the DHCFP is understood. The IS review is key to understanding whether the IS infrastructures are likely to produce complete and accurate encounter data. To ensure the collection of critical information, HSAG employs a three-stage review

²⁻¹ Department of Health and Human Services, Centers for Medicare & Medicaid Services. *EQR Protocol 4: Validation of Encounter Data Reported by the MCO: A Voluntary Protocol for External Quality Review (EQR)*, Version 2.0, September 2012. Available at: <https://www.medicare.gov/medicaid/quality-of-care/medicaid-managed-care/external-quality-review/index.html>. Accessed on: June 7, 2018.

process that includes a document review, development and fielding of a customized encounter data assessment, and follow-up with key staff members.

Stage 1—Document Review

HSAG initiated the EDV activity with a thorough desk review of documents related to encounter data initiatives and validation activities currently put forth by the DHCFP. Documents requested included data dictionaries, process flow charts, data system diagrams, encounter system edits, sample rejection reports, workgroup meeting minutes, and the DHCFP’s current encounter data submission requirements. The information obtained from this review assisted in the development of a targeted questionnaire to address important topics of interest to the DHCFP.

Stage 2—Development and Fielding of a Customized Encounter Data Assessment

To conduct a customized encounter data assessment, HSAG first evaluated the MCOs’ most recent ISCAS to determine whether or not the information was complete and up to date. HSAG then developed a questionnaire, customized in collaboration with the DHCFP, to gather information and specific procedures for data processing, personnel, and data acquisition capabilities. Where applicable, this assessment also included a review of supplemental documentation regarding other data systems, including enrollment and providers. Lastly, this review included specific topics of interest to the DHCFP. For example, the reviews included questions regarding the processing and submission of zero-paid claims to assess the completeness and accuracy of claims submitted to the MCO vendor(s) by sub-capitated providers.

The questionnaire for the DHCFP had similar domains; however, it focused on the DHCFP’s data exchange with the MCOs.

Stage 3—Key Informant Interviews

After reviewing the completed assessments, HSAG followed up with key DHCFP and MCO information technology personnel to clarify any questions which stemmed from questionnaire responses.

Overall, the IS reviews allowed HSAG to document current processes and develop a thematic process map identifying critical points that impact the submission of quality encounter data. From this analysis, HSAG was able to provide actionable recommendations related to the existing encounter data systems and pertaining to areas for improvement or enhancement.

Comparative Analysis

The goal of the comparative analysis is to evaluate the extent to which encounters submitted to the DHCFP by the MCOs are complete and accurate, based on corresponding information stored in each MCO’s data systems. This step corresponds to another important validation activity described in the CMS protocol—i.e., analyses of MCO electronic encounter data for accuracy and completeness on reporting. In this activity, HSAG developed a data requirements document requesting claims and

encounter data from both the DHCFP and the MCOs. Follow-up technical assistance sessions occurred approximately two weeks after distributing the data requirements documents, thereby allowing the MCOs time to review and prepare questions for the sessions.

HSAG used data from both the DHCFP and each MCO with dates of service between July 1, 2016, and June 30, 2017, to evaluate the accuracy and completeness of the encounter data. To ensure that the extracted data from both sources represented the same universe of encounters, the data targeted professional, institutional, and pharmacy encounters submitted to the DHCFP before November 30, 2017. This anchor date allowed sufficient time for state fiscal year (SFY) 2016–2017 encounters to be submitted, processed, and available for evaluation in the DHCFP data warehouse.

Once HSAG received data files from all data sources, the analytic team conducted a preliminary file review to ensure that data were sufficient to conduct the evaluation. The preliminary file review included the following basic checks:

- Data extraction—Data were extracted based on the data requirements document.
- Percentage present—Required data fields are present on the file and have values assigned in those fields.
- Percentage of valid values—Values included are the expected values (e.g., valid ICD-10 codes in the diagnosis field).
- Evaluation of matching claim numbers—The percentage of claim numbers that match between the data extracted from the DHCFP’s data warehouse and the MCOs’ data submitted to HSAG.

Based on the results of the preliminary file review, HSAG generated a report that highlighted major findings requiring both MCOs and the DHCFP to resubmit data.

Once HSAG received and processed the final set of data from the DHCFP and each MCO, HSAG conducted a series of comparative analyses, which were divided into two analytic sections.

First, HSAG assessed record-level data completeness using the following metrics for each encounter data type:

- The number and percentage of records present in the MCOs’ submitted files but not in the DHCFP’s data warehouse (record omission)
- The number and percentage of records present in the DHCFP’s data warehouse but not in the MCOs’ submitted files (record surplus)

Second, based on the number of records present in both data sources, HSAG further examined completeness and accuracy for key data elements listed in Table 2-1. The analyses focused on an element-level comparison for each data element.

Table 2-1—Key Data Elements for Comparative Analysis

Key Data Elements	Professional	Institutional	Pharmacy
Recipient ID	√	√	√
Header Service From Date*	√	√	√
Header Service To Date	√	√	
Billing Provider Number/NPI	√	√	√
Rendering Provider Number/NPI	√		
Referring/Prescribing/Admitting Provider Number/NPI	√	√	√
Primary Diagnosis Code	√	√	
Secondary Diagnosis Code	√	√	
Procedure Code	√	√	
Procedure Code Modifier	√	√	
Primary Surgical Procedure Code		√	
Secondary Surgical Procedure Code		√	
National Drug Code (NDC)			√
Drug Quantity			√
Revenue Code		√	
Diagnosis-Related Group (DRG)		√	
Header Paid Amount	√	√	√
Detail Paid Amount	√	√	

* *Dispensed Date* used instead of *Header Service From Date* because the DHCFP does not collect this field for the pharmacy data in its data warehouse.

HSAG evaluated element-level completeness based on the following metrics:

- The number and percentage of records with values present in the MCOs’ submitted files but not in the DHCFP’s data warehouse (element omission)
- The number and percentage of records with values present in the DHCFP’s data warehouse but not in the MCOs’ submitted files (element surplus)

Element-level accuracy was limited to those records with values present in both the MCOs’ submitted files and the DHCFP’s data warehouse. For any given data element, HSAG determined:

- The number and percentage of records with the same values in both the MCOs’ submitted files and the DHCFP’s data warehouse (element accuracy).
- The number and percentage of records present in both data sources and with the same values for select data elements relevant to each encounter data type (all-element accuracy).

Medical Record Review

As outlined in the CMS protocol, MRR is a complex and resource-intensive process. Medical and clinical records are considered the “gold standard” for documenting Medicaid recipients’ access to and quality of healthcare services.

During FY 2017–18, HSAG evaluated encounter data completeness and accuracy through a review of medical records for physician services rendered between July 1, 2016 and June 30, 2017. This study answered the following question:

- *Are the data elements in Table 2-2 found on the professional encounters complete and accurate when compared to information contained within the medical records?*

Table 2-2—Key Data Elements for MRR

Key Data Element	
Date of Service	Diagnosis Code
Procedure Code	Procedure Code Modifier

To answer the study question, HSAG conducted the following activities:

- Identified the eligible population and generated samples from data extracted from the DHCFP data warehouse.
- Assisted the MCOs to procure medical records from providers, as appropriate.
- Reviewed medical records against the DHCFP’s encounter data.
- Calculated study indicators and presented study results to the DHCFP.

Study Population

To be eligible for the MRR, a recipient had to be continuously enrolled in the same MCO during the study period (i.e., between July 1, 2016 and June 30, 2017), and had to have at least one professional visit during the study period. In addition, recipients with Medicare or other insurance coverages were excluded from the eligible population since the DHCFP does not have complete encounter data for all services these recipients received. After reviewing the encounter data extracted from the DHCFP data warehouse, HSAG discussed with the DHCFP how to identify “professional visits” from the encounter data by restricting on, provider type, place of service and procedure code. Table 2-3 displays the DHCFP’s agreed-upon criteria to determine which “professional visits” should be included in the study.

Table 2-3—Criteria for Professional Visits Included in the Study

Data Element	Criteria
Provider Type	Physician, MD, Osteopath, DO
	Physician assistants
	Certified nurse practitioner
	Nurse midwife
	Podiatrist
	Indian Health Service and Tribal Clinics
	Behavioral Health Outpatient
Place of Service	Federally Qualified Health Center
	Independent Clinic
	Office
	Public Health Clinic
	Urgent Care Facility
Procedure Code	<p>If all detail lines for a visit have the following procedure codes, the visit was excluded from the study since these procedure codes are for services outside the scope of work for this study (e.g., durable medical equipment [DME], dental, and vision):</p> <ul style="list-style-type: none"> • A procedure code starting with “E,” “D,” ”K,” or “V” • Procedure codes between A0021 and A0999 (i.e., codes for transportation services) • Procedure codes between A4206 and A9999 (i.e., codes for medical and surgical supplies, miscellaneous, and investigational procedures) • Procedure codes between T4521 and T4544 (i.e., codes for incontinence supplies) • Procedure codes between L0112 and L4631 (i.e., codes for orthotic devices and procedures) • Procedure codes between L5000 and L9900 (i.e., codes for prosthetic devices and procedures)

Sampling Strategy

HSAG used a two-stage sampling technique to select samples based on the recipient enrollment and encounter data extracted from the DHCFP data warehouse. HSAG first identified all recipients who met the study population eligibility criteria, and random sampling was used to select 411 recipients²⁻² from the eligible population for each of the two MCOs. For each selected sampled recipient, HSAG used the SURVEYSELECT procedure in SAS^{®2-3} to randomly select one professional visit²⁻⁴ that occurred in the study period (i.e., between July 1, 2016 and June 30, 2017). Additionally, to evaluate whether any dates of service were omitted from the DHCFP data warehouse, HSAG reviewed a second date of service rendered by the same provider during the review period. The providers selected the second date of service, which was closest to the selected date of service, from the medical records for each sampled recipient. If a sampled recipient did not have a second visit with the same provider during the review period, HSAG evaluated only one date of service for that recipient. As such, the final number of cases reviewed were between 411 and 822 cases in total for each MCO.

Since an equal number of cases were selected from each MCO to ensure an adequate sample size when reporting rates at the MCO level, adjustments were required to calculate the statewide rates to account for population differences among the MCOs. When reporting statewide rates, HSAG weighted each MCO's raw rates based on the volume of professional visits among the eligible population for that MCO. This approach ensured that no MCO was over- or under-represented in the statewide rates.

Medical Record Procurement

Upon receiving the final sample list from HSAG, MCOs were responsible for procuring the sampled recipients' medical records from their contracted providers for services that occurred during the study period. In addition, MCOs were responsible for submitting the documentation to HSAG. To improve the procurement rate, HSAG conducted a one-hour technical assistance call with participating MCOs to review the EDV project and the procurement protocols after distributing the sample list. MCOs were instructed to submit medical records electronically via a secure file transfer protocol site to ensure the protection of personal health information. During the procurement process, HSAG worked with the MCOs to answer questions and monitor the number of medical records submitted. For example, HSAG provided an initial submission update when 40 percent of the records were expected to be submitted and a final submission status update following completion of the procurement period.

All electronic medical records HSAG received were maintained on a secure site, which allowed HSAG's trained reviewers to validate the cases from a centralized location under supervision and oversight. As with all MRR and research activities, HSAG maintains a thorough Health Insurance

²⁻² The sample size of 411 is based on a 95 percent confidence level and a margin of error of 5 percent for potential MCO-to-MCO comparisons.

²⁻³ SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries. ® indicates USA registration.

²⁻⁴ To ensure that the MRR includes all services provided on the same date of service, encounters with the same date of service and same rendering provider were consolidated into one visit for sampling purposes.

Portability and Accountability Act of 1996 (HIPAA) compliance and protection program in accordance with federal regulations that includes recurring training as well as policies and procedures that address physical security, electronic security, and day-to-day operations.

Review of Medical Records

HSAG's experienced medical record reviewers were responsible for abstracting the medical records. To successfully complete the study, the project lead worked with the medical record review team (MRT) beginning with the methodology phase. The MRT was involved with the tool design phase, as well as the tool testing to ensure that the abstracted data were complete and accurate. Based on the study methodology, clinical guidelines, and the tool design/testing results, the MRT drafted an abstraction instruction document specific to the study for training purposes. Concurrent with record procurement activities, the MRT trained the medical record reviewers on the specific study protocols and conducted interrater reliability and rater-to-standard testing. All medical record reviewers had to achieve a 95 percent accuracy rate for the training/testing cases before they were allowed to review medical records.

During the MRR activity, HSAG's trained reviewers collected and documented findings in an HSAG-designed electronic data collection tool. The tool was designed with edits to assist in the accuracy of data collection. The validation included a review of specific data elements identified in sample cases and compared to corresponding documentation in the medical record. Interrater reliability among reviewers, as well as reviewer accuracy, were evaluated regularly throughout the study. Issues and decisions raised during this evaluation process were documented in the abstraction instruction document and communicated to all reviewers in a timely manner. In addition, HSAG analysts reviewed the export files from the abstraction tool on an ongoing basis to ensure the abstraction results were complete, accurate, and consistent.

The validation of encounter data incorporated a unique two-way approach through which encounters were chosen from both the electronic encounter data and from medical records and were subsequently compared with one another. Claims/encounters chosen from the DHCFP data system were compared against the medical record and visit records from the medical record were compared against the DHCFP encounter data. This process allowed the study to identify services documented in the recipients' medical records and that were missing from the DHCFP system, as well as identify surplus encounters that were present in the DHCFP data system but not documented in the recipients' medical records. For services in both data sources, an analysis of coding accuracy was completed. Information that exists in both data sources but whose values do not match were considered discrepant.

Study Indicators

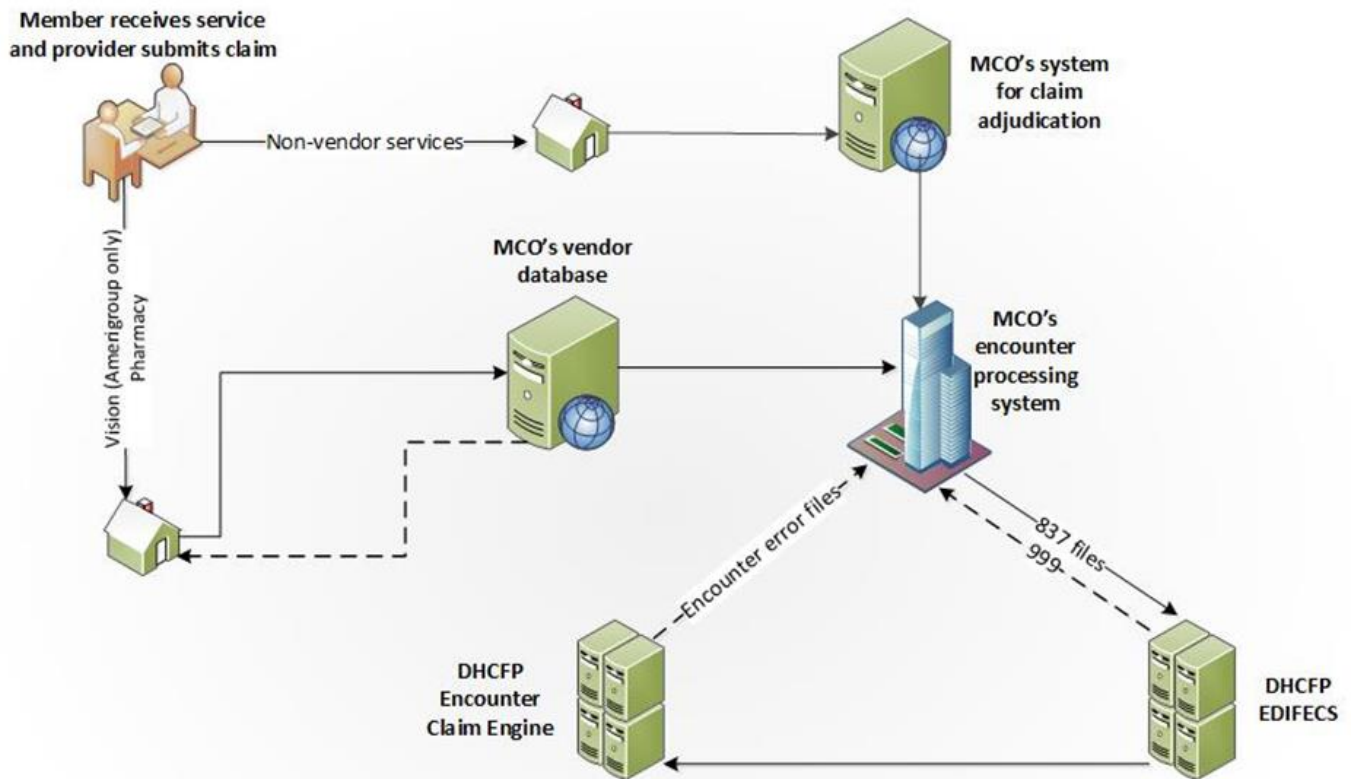
Once HSAG's trained reviewers completed the MRR, HSAG analysts exported information collected from the electronic tool, reviewed the data, and conducted the analysis. HSAG used four study indicators to report the MRR results:

- *Medical record omission rate*: the percentage of dates of service identified in the electronic encounter data that are not found in the recipients' medical records. HSAG also calculated this rate for the other key data elements in Table 2-2.
- *Encounter data omission rate*: the percentage of dates of service from recipients' medical records that are not found in the electronic encounter data. HSAG also calculated this rate for the other key data elements in Table 2-2.
- *Accuracy rate of coding*: the percentage of diagnosis codes, procedure codes, and procedure code modifiers associated with validated dates of service from the electronic encounter data that were correctly coded based on the recipients' medical records.
- *Overall accuracy rate*: the percentage of dates of service with all data elements coded correctly among all the validated dates of service from the electronic encounter data.

3. Information Systems Review Findings

Representatives from the DHCFP and both MCOs completed DHCFP-approved questionnaires supplied by HSAG. This section summarizes the findings from all questionnaires for the high-level process depicted in Figure 3-1. The solid lines represent the primary transaction paths between each process agent; the dotted lines represent data transfer feedback loops.

Figure 3-1—Claims/Encounter Data Path From Origin Through Submission to the DHCFP



Encounter Data Sources and Systems

Information Systems Infrastructure

While the DHCFP receives 837 Professional (837P), 837 Institutional (837I), and NCPDP files directly from the MCOs, these files may have been generated initially by MCO subcontractors in different formats. HPN reported receiving POS pharmacy claims from its vendor, OptumRx, in the NCPDP format. While Anthem reported that its pharmacy vendor, ESI, supplies claims in a proprietary format, the MCO did not describe how these files are converted to NCPDP files. Anthem also reported receiving

claims submissions in a proprietary file format for vision-related services managed by its vision vendor, EyeQuest.

The MCOs load the data files from trading partners and vendors into designated databases, which are separate from the MCOs’ claims adjudication systems. The MCOs extract the medical claims, pharmacy claims from vendors, and other relevant data (e.g., provider data) into separate systems to create and manage encounter data submissions to the DHCFP. Anthem uses the Encounters Data Management (EDM) System, and HPN uses the National Encounter Management Information System (NEMIS).

For long-term care (LTC) services, Anthem responded with “NA” for the data submission frequency value, while HPN appeared to process these types of claims through its systems. The DHCFP reported that the MCOs submit professional, institutional, and pharmacy data³⁻¹ through the State’s encounter system to a data warehouse maintained by DXC; however, separate information about the MCOs’ encounter data submissions were not defined for behavioral health services, vision services, or transportation services.

Claims/Encounter Data Flow

Both MCOs reported that they submit paid, denied, and adjusted claims and encounters to the DHCFP; though HPN noted that it does not include rejected POS claims in the NCPDP files. Additionally, the MCOs reported needing to modify encounters to accommodate the DHCFP’s encounter data submission standards. Table 3-1 presents the MCOs’ responses regarding data modifications needed for encounter submissions.

Table 3-1—MCO-Reported Modifications to Original Encounters

Topic	Anthem	HPN
Modifications made to accommodate the DHCFP encounter data submission standards	<ul style="list-style-type: none"> The claim number is assigned a two-digit prefix to identify paper versus electronic claims and paid or denied claim status. Inbound address data showing Post Office box numbers are each updated to show physical address and nine-digit zip code. Specific details for mapping proprietary vendor files to the 837 and NCPDP formats were not provided. 	<ul style="list-style-type: none"> Inbound 837-formatted medical data are combined with data from the adjudication system to produce the outbound 837 files. Detailed inbound and outbound data diagrams were provided. Pharmacy data are not modified.

³⁻¹ The DHCFP noted that MCOs no longer submit encounter data for medical services, and neither MCO reported receiving claims for medical services from providers or trading partners.

Responses from both MCOs indicated that they follow the NCPDP and DHCFP guidelines for submitting adjusted encounters to the DHCFP after the original encounters have been submitted. The DHCFP also detailed its process for handling updated, modified, or corrected encounters; and neither MCO noted timing considerations for submitting the adjusted encounters (e.g., needing to “hold” an encounter until the internal control number [ICN] from the originally submitted encounter becomes available from the DHCFP).

Collection, Use, and Submission of Provider Data

Both MCOs and their subcontractors collect and maintain respective MCO provider data; and initial provider data are captured through the provider application, credentialing, and contracting processes. Anthem and HPN each shared documentation for the processes by which provider data are linked to claims and encounter data, including the specific business rules for identifying appropriate provider(s) for an encounter. Each MCO indicated that provider data are not modified to comply with the DHCFP’s provider data submission requirements.

Both MCOs reported capitated payment arrangements with specific provider groups, and no apparent overlap was observed between the MCOs’ lists of capitated groups.

The DHCFP’s provider data are updated on the NV Core Medicaid Management Information System (MMIS) mainframe application. While the DHCFP provided detailed logic used to link provider data to encounters, the DHCFP supplied only a high-level response regarding procedures for overseeing and ensuring the completeness and accuracy of provider data.

Collection, Use, and Submission of Enrollment Data

Anthem and HPN reported that member enrollment data are maintained by the MCO rather than by a subcontracted vendor, and each MCO supplied information regarding the process by which these data are received and maintained using the Facets system.

Data Exchange Policies and Procedures

In general, both MCOs reported that they prepare encounter data submissions based on the DHCFP’s requirements. However, Anthem provided no substantive details regarding the operational and organizational policies and procedures related to encounter data submissions. While HPN described its operational procedures, neither MCO provided policies and procedures documents or a detailed description of the organizational requirements supporting encounter data submissions.

In discussing the data exchange process between the DHCFP and the MCOs, the DHCFP reported not having undergone a formal ISCA. When asked about a policy regarding Medicaid encounter audits, the DHCFP referenced, in the *Medicaid Services Manual*, a requirement for MCOs to have internal procedures for ensuring data validity and for testing data validity and consistency routinely. The DHCFP noted that it checks the MCOs’ encounter data for accuracy ad hoc by comparing small, random samples

of MCO data from its data warehouse with reports and/or data retrieved directly from the MCOs. Such validation checks are not conducted on a fixed schedule, and the DHCFP provided no details regarding the most recent audit or how audit results are communicated with the MCO(s) or applied to overall data processes.

As a component of the data exchange process, the DHCFP described its approach to minimizing data loss resulting from potential system failures. Specifically, the DHCFP noted that it uses daily and weekly database backups as well as real-time replication of data between the host site and a data recovery agent. Additionally, an annual data recovery drill ensures that encounter databases and systems are recoverable.

When asked about measures to prevent data corruption, the DHCFP noted that Medicaid data are not tracked from the EDI to the encounter claims engine. However, the DHCFP reconciles data loaded to the data warehouse against source tables used by the encounter claims engine. The DHCFP reported that data files are accepted or rejected at the EDI, and this approach was corroborated by one MCO’s response to another questionnaire element. If an MCO’s data submission file is rejected at the EDI, the file is not processed through to the DHCFP’s encounter data system and the MCO is responsible for acquiring and acting on the associated 999 transaction response file. The DHCFP noted that the daily file processing cutoff (i.e., 11:30 p.m. Pacific Standard Time) may interrupt processing within the Encounters system; however, a feature within the system alerts system personnel and resumes processing the partial file into the daily or weekly reporting for the next business day.

Management of Encounter Data: Collection, Storage, and Processing

The DHCFP-approved MCO questionnaire elements in this section focused primarily on the MCOs’ collection of payment-related data, including TPL data. However, the questionnaire completed by the DHCFP focused on higher-level encounter data processing. Consequently, findings for this section of the questionnaire are presented separately for each entity.

MCOs’ Collection and Processing of Payment-Related Data

Table 3-2 summarizes the MCOs’ responses regarding collection of payment data for a variety of general topics.

Table 3-2—MCO-Reported Payment Arrangements

Topic	Anthem	HPN*
Payment of outpatient claims.	<ul style="list-style-type: none"> • Paid at the line-by-line level, based on contracted Medicaid rates. • Encounter dollars are submitted at the service line and claim line levels. 	Paid per the Medicaid fee schedule.

Topic	Anthem	HPN*
Payment of inpatient claims.	Paid per diem, with the Room and Board revenue code and number of days reported in the 837I format.	Paid per the Medicaid fee schedule.
Bundled payment structures (i.e., “global billing”).	A global payment structure is used for maternity care (i.e., prenatal care, delivery, and postpartum care).	Paid per the DHCFP guidelines.
TPL data required from capitated providers?	Yes.	No.
Zero-pay claims submitted to the DHCFP?	Yes, submitted using the AMT02 field in the encounter data.	Yes, submitted using the AMT02 field in the encounter data.

* HPN provided no further details regarding how outpatient or inpatient payments are reflected in encounter data submissions or how specific services are paid under global billing arrangements.

To ensure the appropriate payor for claims, both MCOs reported using a variety of methods for obtaining members’ information on other (non-Medicaid) insurance. Anthem noted that it receives data from the State’s 834 files as well as from providers and members; this information is captured in Facets, the system it uses for member data, provider data, authorization, and claims processing. Anthem also provided a detailed description of its process for retrospectively identifying TPL recovery opportunities and a copy of its Coordination of Benefits (COB) Policy with a subsection specific to contract requirements from the DHCFP. Additionally, Anthem uses a national recovery vendor to compare claims information against a database containing health information for over 150 insurance organizations, with the goal of identifying potential COB or TPL opportunities. HPN indicated that it collects members’ additional insurance information by contacting members via mail or telephone or by using an electronic eligibility verification system from the other potential insurance carrier. HPN also noted that claims with retrospectively identified TPL are reprocessed, but provided no details regarding COB or TPL recovery. However, neither MCO described its TPL processes for vendor data or how TPL processes differed from processes for Medicare crossover claims.

DHCFP’s Encounter Data Processing

The DHCFP provided no additional data flow documentation beyond the encounter data companion guides and the encounter claims technical system design document. The State noted that current system documentation and file layouts do not clearly delineate derived and non-derived data fields. Additionally, the DHCFP noted that data move from the Encounters system database to the data warehouse database but did not identify processes that may modify the data as they move between the databases. However, the DHCFP reported that DXC reformats data fields with date values to facilitate loading to the data warehouse and that DXC is not aware of MCO-submitted data elements modified during data processing.

The State provided the following feedback to HSAG regarding the policies and procedures used to identify records duplicated in or missing from the MCOs’ regular encounter data submissions:

- The DHCFP indicated that duplicated claims are rejected from the Encounters system, and it detailed the general response files and duplicate-specific lists provided to notify the MCOs of the duplicate claims.
- The DHCFP noted that each MCO determines the number of claims submitted on any specific file, up to 5,000 claims, and stated that all claims within a submission file will be processed by Encounters and assigned an “Accepted” or “Rejected” claim status. Claims within a submission file are not reconciled back to the EDI process; as such, the DHCFP has no specific approach for identifying claims that may be “missing” from an MCO’s data submission (i.e., an encounter data omission, in the context of administrative analysis).

The DHCFP reported that it merges data from the MMIS core system and the Encounters system when consolidating Medicaid claims and encounters as well as member and provider data for reporting. To ensure that data merges are accurate and complete, the DHCFP references control tables from the data warehouse and uses claims edits within the EDI process and the encounter claims engine. Algorithms are not used to check the reasonableness of data integrated for reporting or creating data marts.

Encounter Data Quality Monitoring and Reporting

Per the DHCFP-approved MCO questionnaire elements, MCO responses in this section addressed the following concepts:

1. Monitoring the accuracy and completeness of claims and encounter data received from providers and vendors
2. Monitoring the status of encounter data submitted to the DHCFP

Consistent with the expected data pathways, the questionnaire completed by the DHCFP focused only on the State’s approach to monitoring encounter data submissions from the MCOs. As such, findings for this section of the questionnaire are presented by entity.

MCOs’ Encounter Data Monitoring and Reporting

To submit accurate, timely encounter data to the DHCFP, MCOs must ensure oversight of data submitted by vendors and providers. Both MCOs noted using reports to monitor accuracy and completeness of data submitted by vendors (e.g., pharmacy claims), and both MCOs provided examples of the reports. Similarly, both MCOs have existing data edits (e.g., HIPAA-compliant clinical edits) and reporting outputs (e.g., 999 and DHCFP error files) to monitor accuracy and completeness of claims and encounter data submitted by providers. The MCOs provided high-level questionnaire responses for these topics and limited examples of provider data monitoring reports (e.g., financial completeness reports, encounter rejection reports). Additionally, responses related to timely receipt of claims and encounters focused on meeting the contractual timely filing guidelines (i.e., 180 days).

Both MCOs noted using the 999 transaction response file and the DHCFP Error File (a proprietary flat file) to support encounter data submission activities. However, only Anthem described its process for reconciling encounter data files rejected by the DHCFP. Neither MCO provided examples detailing how rejected encounter data files are tracked to ensure that all files are ultimately reconciled and submitted to the DHCFP. Anthem indicated being in process of developing a more robust reporting process for routinely tracking encounter timeliness.

Underscoring the importance of collecting and maintaining accurate, timely encounter data, both MCOs indicated that their encounter data serve a variety of reporting needs, including the following:

- Anthem: Support State customers, risk-adjustment, rate-setting, and business processes; and to enhance provider and member support.
- HPN: Identification of trends and utilization, provider reporting, and Healthcare Effectiveness Data and Information Set (HEDIS[®])³⁻² reporting.

Each MCO was asked to provide input on challenges identified when submitting encounter data to the DHCFP, and the MCOs provided the following input:

- “The lack of an updated Companion Guide, and a more efficient process to ask encounter related questions.”
- The State uses non-HIPAA fields and files for the exchange of information:
 - Non-standard fields (e.g., prefixes on the CLM01 data element) are required by the DHCFP because the standard 837 format does not include the requested information.
 - A proprietary acknowledgement flat file is used to track encounter data submissions, while the MCO noted that most trading partners use a HIPAA Standard 277CA file to identify rejections.
- “The State rejects encounters at the file level. If any claim is rejected from the inbound file, the entire file of encounters must be re-sent, leading to higher rejection rates and delays in accurate reporting.”
 - While the MCO noted that this approach to handling rejected encounters is a challenge, HSAG noted that this process is defined in the DHCFP’s encounter submission guidelines.
- “The State has not defined which data elements will be used to determine compliance standards.”

DHCFP’s Encounter Data Monitoring and Reporting

The DHCFP reported having no evaluation metrics in place to assess the quality of the MCOs’ monthly encounter submissions, nor is a formal process established by which to determine the accuracy and completeness of the MCOs’ encounter data. Though the DHCFP noted having no process by which to

³⁻² HEDIS[®] is a registered trademark of the National Committee for Quality Assurance (NCQA).

monitor the timeliness of encounter data submitted by the MCOs, DXC monitors the timeliness of the MCOs’ data submissions and alerts the State to any lags in submission.

The DHCFP reported that it has established performance standards regarding the submission, accuracy, and timeliness of encounter data. While the State referenced performance standards requirements in the vendor (MCO) contract (i.e., RFP 3260), the DHCFP reported that the MCOs are not required to provide reports on encounter data submission activities to the DHCFP.

To maintain communications with the MCOs regarding encounter data submissions, the DHCFP supplies the MCOs with 999 transaction response files from the EDI and proprietary flat files from the encounter claims engine. Both the State and the MCOs were asked to report on the average percentage of encounters submitted to the DHCFP that were rejected, and the combined results are presented in Table 3-3.

Table 3-3—Self-Reported Encounter Data Rejection Rates by the MCO and the DHCFP

Reporting Entity	Anthem	HPN
MCO-Reported Encounter Rejection Rate	For 2017: 0.289%	For 02/01/2017–01/31/2018: <ul style="list-style-type: none"> • 2.35% of medical encounters • 0.1% of pharmacy encounters
DHCFP-Reported Encounter Rejection Rate	For the history of submissions: 2.496%	For the history of submissions: <ul style="list-style-type: none"> • 2.248% of medical encounters • 0.112% of pharmacy encounters

4. Comparative Analysis

Background

This section presents findings from the results of the comparative analysis of the professional, institutional, and pharmacy encounter data maintained by the DHCFP and the MCOs. The analysis examined the extent to which encounters submitted by the MCOs and maintained in the DHCFP’s data warehouse (and the data subsequently extracted and submitted by the DHCFP to HSAG for the study) were accurate and complete when compared to data submitted by the MCOs to HSAG.

To compare the DHCFP’s and the MCOs’ submitted data, HSAG developed a comparable match key between the two data sources. Data fields used in developing the match key varied by MCO and encounter type but generally included the ICN and claim line number. These data elements were concatenated to create a unique match key, which became the unique identifier for each encounter detail line in the DHCFP’s and each MCO’s data.

Record Completeness

As described in the “Methodology” section, two aspects of record completeness are used—record omission and record surplus.

Encounter record omission and surplus rates are summary metrics designed to evaluate discrepancies between two data sources—i.e., primary and secondary. The primary data source refers to data maintained by an organization (e.g., MCO) responsible for sending data to another organization (e.g., the DHCFP). The data acquired by the receiving organization is referred to as the secondary data source. By comparing these two data sources (i.e., primary and secondary), the analysis yields the percentage of records contained in one source and not the other, and vice versa. As such, encounter record omission refers to the percentage of encounters reported in the primary data source but missing from the secondary data source. For this analysis, the omission rate identifies the percentage of encounters reported by an MCO that are missing from the DHCFP’s data. Similarly, the encounter record surplus rate refers to the percentage of encounters reported in the secondary data source (the DHCFP) that are missing from the primary data source (MCO).

Encounter Data Record Omission and Record Surplus

Table 4-1 illustrates the percentage of records present in the files submitted by the MCOs that were not found in the DHCFP’s files (record omission) and the percentage of records present in the DHCFP’s files but not present in the files submitted by the MCOs (record surplus). **Lower rates indicate better performance for both record omission and record surplus.**

Table 4-1—Record Omission and Surplus Rates: By MCO and Encounter Type

MCO	Professional Encounters		Institutional Encounters		Pharmacy Encounters	
	Omission	Surplus	Omission	Surplus	Omission	Surplus
Anthem	2.1%	2.3%	4.0%	2.0%	0.0%	< 0.1%
HPN	1.4%	4.0%	0.5%	9.4%	0.0%	4.3%
Overall	1.7%	3.2%	2.1%	6.3%	0.0%	2.7%

Key Findings: Table 4-1

- The overall record omission rates were low for all three encounter types (i.e., professional, institutional, and pharmacy). Pharmacy encounters exhibited the most complete data with the lowest overall record omission and record surplus rates—i.e., 0.0 percent and 2.7, respectively. The institutional encounters exhibited the least complete data with the highest overall record omission and record surplus rates—i.e., 2.1 percent and 6.3 percent, respectively.
- The overall record surplus rates (2.7 percent [pharmacy], 3.2 percent [professional], and 6.3 percent [institutional]) were much higher across the three encounter types when compared to the overall record omission rates (0.0 percent [pharmacy], 1.7 percent [professional], and 2.1 percent [institutional]).
 - For professional encounters, HPN had a record surplus rate of 4.0 percent while Anthem’s surplus rate was at 2.3 percent. Approximately 18.6 percent of HPN’s surplus records were associated with records submitted on July 14, 2017. Of note, Anthem’s files contained more than 16,000 complete duplicate records, which were removed prior to conducting the comparative analysis.
 - The overall record surplus rate for institutional encounters was higher—at 6.3 percent—than overall record omission. HPN’s record surplus rate of 9.4 percent contributed to the higher overall surplus rate compared to the omission rate. Over 50 percent of HPN’s 210,219 surplus institutional records were associated with an *Encounter Claim Status Process* value of “D,” indicating claims denied due to the MCO’s internal processing of the encounters.
 - For the submitted pharmacy encounters, HPN had a record surplus rate of 4.3 percent while Anthem had a record surplus rate of less than 0.1 percent. Of the 127,047 surplus records, nearly all (more than 99.9 percent) had a two-digit ICN of “75.” The DHCFP indicated that these were associated with voided claims submitted by HPN.

Data Element Completeness

This section presents the data element omission results by key data element and evaluates completeness based on percentage of records with values present in the MCOs’ data systems but not in the DHCFP’s data warehouse. Similarly, data element surplus results are presented by key data element and evaluate completeness based on the percentage of records with values present in the DHCFP’s data warehouse but not in the MCOs’ data. Data element omission and surplus found in the DHCFP’s data warehouse

illustrate discrepancies in the completeness of the DHCFP’s encounter data. The data elements are considered relatively complete when they exhibit low element omission and surplus rates.

This section also presents data accuracy results by key data element and evaluates accuracy based on the percentage of records with values present in both data sources and which contain the same values.

Finally, this section also presents the all-element accuracy results for records present in both data sources and with the same values (missing or non-missing) for **all** key data elements relevant to each claim type.

Table 4-2 through Table 4-4 present the results of encounter data element omission and surplus for each encounter type and describe the extent to which key data elements are present in the DHCFP’s and MCOs’ data systems. Table 4-5 through Table 4-7 present the results of encounter data element accuracy for each encounter type and describe the extent to which matched records contained matching information at the data element level. Table 4-8 and Table 4-9 present the rates for all-element accuracy for each encounter type included in the study.

Element Omission and Surplus

Table 4-2 displays the element omission and surplus results for each key data element from the professional encounters. **For this indicator, lower rates indicate better performance.**

Table 4-2—Data Element Omission and Surplus: Professional Encounters

Key Data Element	Element Omission			Element Surplus		
	Overall Rate	Anthem	HPN	Overall Rate	Anthem	HPN
Recipient ID	< 0.1%	< 0.1%	< 0.1%	0.0%	0.0%	0.0%
Header Service From Date	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Header Service To Date	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Billing Provider Number/NPI	< 0.1%	0.0%	< 0.1%	< 0.1%	0.0%	< 0.1%
Rendering Provider Number/NPI	0.0%	0.0%	0.0%	32.4%	37.5%	28.2%
Referring Provider Number/NPI	< 0.1%	0.0%	< 0.1%	< 0.1%	0.0%	< 0.1%
Primary Diagnosis Code	0.0%	0.0%	0.0%	< 0.1%	0.0%	< 0.1%
Secondary Diagnosis Code	< 0.1%	< 0.1%	< 0.1%	< 0.1%	0.0%	< 0.1%
Procedure Code	< 0.1%	< 0.1%	< 0.1%	0.0%	0.0%	0.0%
Procedure Code Modifier	< 0.1%	0.1%	0.0%	< 0.1%	0.1%	0.0%
Header Paid Amount	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Detail Paid Amount	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Key Findings: Table 4-2

- Overall, the statewide data element omission and surplus rates were very low for Nevada’s professional encounters for all data elements except *Rendering Provider Number/NPI*.
- The overall element surplus rate for *Rendering Provider Number/NPI* was relatively high at 32.4 percent. Anthem had a surplus rate of 37.5 percent, while HPN’s surplus rate for this field was 28.2 percent. It appears that the DHCFP had populated encounter lines with null values for *Rendering Provider Number/NPI* with the *Billing Provider Number/NPI*. However, both Anthem and HPN did not modify this field when values are missing, which resulted in the high surplus rates. During the data submission process, the DHCFP confirmed that the *Billing Provider Number/NPI* is used as a substitute *NPI* value in the instance of missing *Rendering Provider Number/NPI*.

Table 4-3 displays the element omission and surplus results for each key data element from institutional encounters. **For this indicator, lower rates indicate better performance.**

Table 4-3—Data Element Omission and Surplus: Institutional Encounters

Key Data Element	Element Omission			Element Surplus		
	Overall Rate	Anthem	HPN	Overall Rate	Anthem	HPN
Recipient ID	< 0.1%	< 0.1%	< 0.1%	0.0%	0.0%	0.0%
Header Service From Date	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Header Service To Date	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Billing Provider Number/NPI	< 0.1%	0.0%	< 0.1%	0.0%	0.0%	0.0%
Attending Provider Number/NPI	0.0%	0.0%	0.0%	< 0.1%	0.0%	< 0.1%
Primary Diagnosis Code	0.0%	0.0%	0.0%	< 0.1%	0.0%	< 0.1%
Secondary Diagnosis Code	0.3%	< 0.1%	0.6%	39.4%	0.0%	69.6%
Procedure Code	0.9%	0.5%	1.2%	0.1%	0.1%	0.0%
Procedure Code Modifier	10.9%	11.6%	10.4%	< 0.1%	0.1%	0.0%
Primary Surgical Procedure Code	5.1%	11.8%	0.0%	5.7%	13.1%	0.0%
Secondary Surgical Procedure Code	2.4%	5.5%	0.0%	5.2%	8.1%	3.1%
Revenue Code	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Diagnosis-Related Group (DRG)	0.1%	0.1%	0.0%	< 0.1%	0.1%	0.0%
Header Paid Amount	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Detail Paid Amount	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Key Findings: Table 4-3

- Overall, the institutional encounters were mostly complete at the data-element level. The overall omission rates for most data elements evaluated were low, excepting *Procedure Code Modifier* and *Primary Surgical Procedure Code* which had overall omission rates of 10.9 percent and 5.1 percent respectively. The relatively high overall omission rate for the *Primary Surgical Procedure Code* was due to Anthem submitting the Current Procedural Terminology/Healthcare Common Procedure Coding System (CPT/HCPCS) codes within this field, while values were missing in the DHCFP’s submission. As a result, Anthem had a high omission rate of 11.8 percent for this field.
- The overall surplus rates were also low for all data elements excepting *Secondary Diagnosis Code* and *Primary Surgical Procedure Code*, which had overall surplus rates of 39.4 percent and 5.7 percent respectively. HPN’s surplus rate of 69.6 percent contributed to the high surplus rate for the *Secondary Diagnosis Code* field. However, the results for the *Secondary Diagnosis Code* should be interpreted with caution as the field values may have been populated in other secondary diagnosis code positions such as *Third Diagnosis Code* or *Fourth Diagnosis Code*. The relatively high overall surplus rate for the *Primary Surgical Procedure Code* was due to Anthem not submitting the ICD-10 Surgical Procedure Codes within this field while the DHCFP did populate this field, resulting in Anthem’s surplus rate of 13.1 percent.

Table 4-4 displays the element omission and surplus results for each key data element from the pharmacy encounter type. **For this indicator, lower rates indicate better performance.**

Table 4-4—Data Element Omission and Surplus: Pharmacy Encounters

Key Data Element	Element Omission			Element Surplus		
	Overall Rate	Anthem	HPN	Overall Rate	Anthem	HPN
Recipient ID	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Header Service From Date	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Billing Provider Number/NPI	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Prescribing Provider Number/NPI	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
National Drug Code (NDC)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Drug Quantity	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Header Paid Amount	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Key Findings: Table 4-4

- Overall, the statewide data element omission and element surplus rates were 0.0 percent for all pharmacy key data elements evaluated. HSAG used the *Dispensed Date* to measure data element completeness for *Header Service From Date* as the DHCFP does not collect this field for pharmacy data in its data warehouse.

Element Accuracy

Element-level accuracy is limited to those records present in both data sources and with values present in both data sources. Records with values missing from both data sources were not included in the denominator. The numerator is the number of records with the same non-missing values for a given data element. Higher data element accuracy rates indicate that the values populated for a data element in the DHCFP’s submitted encounter data are more accurate. As such, **for this indicator, higher rates indicate better performance.**

Table 4-5 displays, for each key data element associated with professional encounters, the percentage of records with the same values in both the MCOs’ submitted files and the DHCFP’s data warehouse.

Table 4-5—Data Element Accuracy: Professional Encounters

Key Data Element	Element Accuracy		
	Overall Rate	Anthem	HPN
Recipient ID	45.3%	100.0%	0.0%
Header Service From Date	> 99.9%	> 99.9%	100.0%
Header Service To Date	> 99.9%	> 99.9%	100.0%
Billing Provider Number/NPI	99.3%	100.0%	98.7%
Rendering Provider Number/NPI	> 99.9%	100.0%	> 99.9%
Referring Provider Number/NPI	100.0%	—	100.0%
Primary Diagnosis Code	> 99.9%	> 99.9%	> 99.9%
Secondary Diagnosis Code	> 99.9%	99.9%	> 99.9%
Procedure Code	99.8%	99.5%	> 99.9%
Procedure Code Modifier	> 99.9%	> 99.9%	100.0%
Header Paid Amount	84.4%	99.7%	71.8%
Detail Paid Amount	83.9%	95.2%	74.6%

“—” denotes that no records are present in both data sources with values present in both sources.

Key Findings: Table 4-5

- Nine of twelve key data elements evaluated for professional encounters each had an overall accuracy rate of at least 99.0 percent. *Recipient ID*, *Header Paid Amount*, and *Detail Paid Amount* demonstrated lower accuracy (i.e., 45.3 percent, 84.4 percent, and 83.9 percent, respectively).
- HPN’s accuracy rate for the *Recipient ID* field (i.e., 0.0 percent) contributed to the low overall accuracy rate. The discrepancy was due to the DHCFP and HPN submitting entirely different values although the fields were of the same length.
- The overall accuracy rates for *Header Paid Amount* and *Detail Paid Amount* were 84.4 percent and 83.9 percent, respectively. Anthem had higher accuracy rates for both fields compared to HPN. Anthem’s accuracy rates for *Header Paid Amount* and *Detail Paid Amount* were 99.7 percent and

95.2 percent, respectively. HPN’s accuracy rates for the *Header Paid Amount* field and the *Detail Paid Amount* field were 71.8 percent and 74.6 percent respectively. For the DHCFP’s encounters, more than 90.0 percent of the payment amount discrepancies were associated with zero-dollar amounts; HPN submitted non-zero-dollar amounts.

Table 4-6 displays, for each key data element associated with institutional encounters, the percentage of records with the same values in the MCOs’ submitted files and in the DHCFP’s data warehouse.

Table 4-6—Data Element Accuracy: Institutional Encounters

Key Data Element	Element Accuracy		
	Overall Rate	Anthem	HPN
Recipient ID	43.4%	100.0%	0.0%
Header Service From Date	99.5%	99.7%	99.3%
Header Service To Date	99.0%	99.1%	99.0%
Billing Provider Number/NPI	99.9%	100.0%	99.8%
Attending Provider Number/NPI	100.0%	100.0%	100.0%
Primary Diagnosis Code	100.0%	100.0%	100.0%
Secondary Diagnosis Code	78.6%	99.9%	2.9%
Procedure Code	97.8%	94.9%	100.0%
Procedure Code Modifier	89.2%	85.9%	92.4%
Primary Surgical Procedure Code	> 99.9%	0.0%	100.0%
Secondary Surgical Procedure Code	99.0%	—	99.0%
Revenue Code	98.7%	97.0%	> 99.9%
Diagnosis-Related Group (DRG)	98.6%	98.1%	99.0%
Header Paid Amount	> 99.9%	100.0%	> 99.9%
Detail Paid Amount	99.1%	97.9%	> 99.9%

“—” denotes that no records are present in both data sources with values present in both sources.

Key Findings: Table 4-6

- The statewide accuracy rates for all data elements evaluated within institutional encounters were high excepting *Recipient ID* and *Secondary Diagnosis Code* (i.e., 43.4 percent and 78.6 percent, respectively).
- HPN’s accuracy rate for the *Recipient ID* field (i.e., 0.0 percent) contributed to the low overall accuracy rate. The discrepancy was due to the DHCFP and HPN having entirely different values, although the fields were the same length.
- HPN’s accuracy rate of 2.9 percent contributed to the low overall accuracy rate for the *Secondary Diagnosis Code* field. However, the results for the *Secondary Diagnosis Code*, should be interpreted

with caution as the field values may have been populated in other secondary diagnosis code positions such as *Third Diagnosis Code* or *Fourth Diagnosis Code*.

- While the overall accuracy rate for the *Primary Surgical Procedure Code* field was high, Anthem’s accuracy rate was 0.0 percent. Fewer than 20 matched records had the *Primary Surgical Procedure Code* field populated in both the DHCFP and Anthem’s submissions. The discrepancy was due to Anthem not submitting the ICD-10 Surgical Procedure Codes, as described earlier.

Table 4-7 displays, for each key data element associated with pharmacy encounters, the percentage of records with the same values in both the MCOs’ submitted files and the DHCFP’s data warehouse.

Table 4-7—Data Element Accuracy: Pharmacy Encounters

Key Data Element	Element Accuracy		
	Overall Rate	Anthem	HPN
Recipient ID	100.0%	100.0%	100.0%
Header Service From Date	100.0%	100.0%	100.0%
Billing Provider Number/NPI	100.0%	100.0%	100.0%
Prescribing Provider Number/NPI	100.0%	100.0%	100.0%
National Drug Code (NDC)	> 99.9%	99.9%	100.0%
Drug Quantity	99.0%	97.3%	100.0%
Header Paid Amount	99.7%	100.0%	99.5%

Key Findings: Table 4-7

- All pharmacy data elements exhibited high accuracy rates for pharmacy encounters. The *Drug Quantity* field demonstrated the lowest data element accuracy at 99.0 percent. HPN presented 100.0 percent accuracy on all data elements except *Header Paid Amount* (i.e., 99.5 percent). Anthem presented 100.0 percent accuracy on all data elements excepting *National Drug Code* and *Drug Quantity* (i.e., 99.9 percent and 97.3 percent, respectively).

All-Element Accuracy

Table 4-8 and Table 4-9 display the all-element accuracy results for the percentage of records present in both data sources and with the same values (missing or non-missing) for all key data elements relevant to each encounter data type. HPN’s data contained entirely different *Recipient ID* values than the DHCFP’s data for both institutional and professional encounters; therefore, HSAG calculated all-element accuracy rates including and excluding the *Recipient ID* field.

Table 4-8—All-Element Accuracy by MCO and Encounter Type

MCO	Professional	Institutional	Pharmacy
Anthem	59.2%	61.0%	97.2%
HPN	0.0%	0.0%	99.5%
Overall	26.9%	26.5%	98.6%

Table 4-9—All-Element Accuracy by MCO and Encounter Type (Without *Recipient ID*)

MCO	Professional	Institutional	Pharmacy
Anthem	59.2%	61.0%	97.2%
HPN	60.8%	86.5%	99.5%
Overall	60.1%	75.4%	98.6%

Key Findings: Table 4-8 and Table 4-9

- For professional encounters, the overall all-element accuracy rate was low at 26.9 percent. HPN’s accuracy rate for the *Recipient ID* field (i.e., 0.0 percent) contributed to the overall all-element accuracy in Table 4-8. Excluding *Recipient ID* field from the all-element accuracy rate calculation resulted in a higher rate of 60.1 percent accuracy. This is shown in Table 4-9.
- For institutional encounters, the overall all-element accuracy rate was low at 26.5 percent. HPN’s accuracy rate for the *Recipient ID* field (i.e., 0.0 percent) contributed to the overall all-element accuracy in Table 4-8. Excluding the *Recipient ID* field from the all-element accuracy rate calculation resulted in a higher rate of 75.4 percent accuracy. This is shown in Table 4-9.
- For pharmacy encounters, the all-element accuracy rates for both HPN and Anthem were high at 99.5 percent and 97.2 percent, respectively. This finding suggests that the values populated in the DHCFP data warehouse are complete and accurate for all key data elements evaluated.

Background

Medical records are considered the “gold standard” for documenting Medicaid recipients’ access to and quality of services. The IS review examined the MCOs’ data-handling processes, with the goal of enabling HSAG to understand how various systems interact and potentially impact the MCOs’ abilities to submit complete, reasonable, and accurate data to the DHCFP. The comparative analysis component of the study seeks to determine the completeness and validity of the DHCFP’s encounter data as well as how comparable these data are to the MCOs’ data from which these data are based. MRR further assesses data quality through investigating the completeness and accuracy of the DHCFP’s encounters compared to the information documented in the corresponding medical records for Medicaid recipients.

Recipients’ medical information was matched across data sources (the DHCFP’s encounters and physician submitted medical records) using a unique identifier assigned by HSAG. This section presents findings from the results of the MRR to examine the extent to which services documented in medical records were not present in the encounter data (encounter data omission) as well as the extent to which services documented in the encounter data were not present in the recipients’ corresponding medical records (medical record omission).

This section also presents findings from the evaluation of accuracy of diagnosis codes, procedure codes, and procedure code modifiers submitted by the MCOs’ contracted providers to the MCOs and consequently submitted to the DHCFP based on documentation contained in recipients’ medical records.

Medical Record Procurement Status

Table 5-1 shows the medical record procurement status of each participating MCO, detailing submission and non-submission rates for cases meeting eligibility criteria.

As noted in the “Methodology” section of this report, the final sample included in the evaluation consisted of 411 cases randomly selected for each MCO. Additionally, to evaluate whether any dates of service were omitted from the DHCFP data warehouse, HSAG reviewed a second date of service rendered by the same provider during the review period. The providers were requested to submit all medical record documentation pertaining to an additional date of service occurring closest to the sampled recipients’ selected date of service, if available. If a sampled recipient did not have a second visit with the same provider during the review period, HSAG evaluated only one date of service for that recipient. As such, the final number of cases reviewed were between 411 and 822 cases total for each MCO.

The DHCFP-based encounters for which a corresponding medical record was not submitted were included in the analysis to underscore the impact that these omissions had on key data elements associated with encounter data completeness. For example, when no medical record was submitted for

an encounter based on the date of service, the subsequent procedure code(s) associated with that date of service were treated as medical record omissions.

Table 5-1 shows the medical record procurement status for each MCO, while Table 5-2 highlights the major reasons medical record documentation was not submitted by each MCO. Table 5-3 displays the number and percentage of cases with one additional date of service selected and submitted for the study.

Table 5-1—Medical Record Procurement Status

MCO	Number of Records Requested	Number of Records Submitted	Percentage of Records Submitted
Anthem	411	403	98.1%
HPN	411	389	94.6%
Statewide	822	792	96.4%

Table 5-2—Reasons Medical Records Not Submitted for Date of Service by MCO

		Provider Refused		Practice Closed		Record Not Available for Patient		Other	
MCO	Medical Records Not Submitted	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Anthem	8	0	0.0%	5	62.5%	2	25.0%	1	12.5%
HPN	22	22	100.0%	0	0.0%	0	0.0%	0	0.0%
Statewide	30	22	73.3%	5	16.7%	2	6.7%	1	3.3%

Table 5-3—Medical Record Submission Status for Second Date of Service

MCO	Number of Records Submitted	Number of Records with One Additional Date of Service	Percent
Anthem	403	187	46.4%
HPN	389	149	38.3%
Statewide	792	336	42.4%

Note: Records with an additional date of service were included only if the date of service was within the study period and the visit occurred with the same rendering provider as the sampled visit.

Key Findings: Table 5-1, Table 5-2, and Table 5-3

- HSAG requested records to be procured by both participating MCOs, for a total of 822 cases. While both MCOs completed and submitted tracking sheets associated with the requested cases, nearly 4.0

percent included no medical record documentation associated with the requested cases. An overall rate of 96.4 percent (792 cases) had medical record documentation submitted by the MCOs. Anthem had a 98.1 percent (403 cases) submission rate, while HPN had a 94.6 percent (389 cases) submission rate.

- Of the requested 822 sample cases, 30 medical records (3.6 percent) were not submitted for various reasons. Some commonly cited reasons for non-submission were provider refusal (73.3 percent), the practice being closed (16.7 percent), the record not being available for the patient (6.7 percent), and “other” (3.3 percent). All cases in which the provider refused to submit a record were for HPN.
- Among the 792 records received with dates of service from the original sample cases, 336 records (42.4 percent) had a second date of service that were within the study period and with the same rendering provider. Anthem had a higher percentage of cases with a second date of service in comparison to HPN (i.e., 46.4 percent and 38.3 percent, respectively). Please note that a 100 percent submission rate is not expected for the second date of service because a recipient may not have had a second date of service with the same rendering provider within the study review period.

Encounter Data Completeness

HSAG evaluated encounter data completeness by identifying differences between key data elements from the DHCFP-based professional encounters and the corresponding medical records submitted for the analysis. These data elements included *Date of Service*, *Diagnosis Code*, *Procedure Code*, and *Procedure Code Modifier*. Medical record omission and encounter data omission represent two aspects of encounter data completeness through their identification of vulnerabilities in the process of claims documentation and communication among providers, MCOs, and the DHCFP.

Medical record omission occurred when an encounter data element (i.e., *Date of Service*, *Diagnosis Code*, *Procedure Code*, or *Procedure Code Modifier*) was not documented in the medical record associated with a specific DHCFP encounter. Medical record omissions suggest opportunities for improvement within the provider’s internal processes, such as billing processes and record documentation.

Encounter data omission occurred when an encounter data element (i.e., *Date of Service*, *Diagnosis Code*, *Procedure Code*, or *Procedure Code Modifier*) was documented in the medical record but not found in the associated DHCFP encounter. Encounter omissions also suggest opportunities for improvement in the areas of claims submissions and/or processing routes among the providers, MCOs, and the DHCFP.

HSAG evaluated the medical record and the encounter data omission rates for each MCO using the dates of service selected by HSAG and an additional date of service selected by the provider, if one was available. If more than one additional date of service was available from the medical record, the provider was instructed to select the one closest to HSAG’s selected date of service. **For both rates, lower values indicate better performance.**

Date of Service Completeness

Table 5-4 presents the percentage of dates of service identified in the encounter data that were not supported by the recipients’ medical records provided by each of the participating MCOs (i.e., medical record omission) and the percentage of dates of service from the recipients’ medical records that were not found in the encounter data provided by each of the participating MCOs (i.e., encounter data omission). HSAG conducted the analysis at the date-of-service level.

Table 5-4—Medical Record Omission and Encounter Data Omission for Date of Service

MCO	Medical Record Omission		Encounter Data Omission	
	Date of Service Identified in the Encounter Data	Percent Not Supported by Recipients’ Medical Records*	Date of Service Identified in Recipients’ Medical Records	Percent Not Found in the Encounter Data*
Anthem	575	2.1%	586	3.9%
HPN	549	4.4%	536	2.1%
Statewide	1,124	3.4%	1,122	2.8%

* Lower rates indicate better performance.

Key Findings: Table 5-4

- Statewide, 3.4 percent of the dates of service in the encounter data were not supported by the recipients’ medical records (i.e., medical record omission).
- HPN had a higher medical record omission rate than Anthem (i.e., 4.4 percent and 2.1 percent, respectively). This trend is consistent relative to the medical record submission rate, where an MCO with a relatively lower medical record submission rate would generally show a higher medical record omission rate (i.e., poor performance) for each key data element.
- Statewide, 2.8 percent of the dates of service in the medical records were not found in the DHCFP encounter data (i.e., encounter data omission). Compared to the medical record omission rate, the encounter data omission rate was lower. This is partially due to the low percentage of medical records with a second date of service (refer to Table 5-3). The denominator for encounter data omission is the number of dates of service identified in the medical records, and the numerator is the number of dates of service with no evidence of submission in the encounter data. If no second date of service was available in the medical records, then no date of service would be contributed to the numerator.
- Anthem had a higher rate of encounter data omission than HPN (i.e., 3.9 percent and 2.1 percent, respectively). As noted above, the lower encounter data omission rate for HPN could partially be attributed to the lower number of second dates of service submitted by HPN.

Diagnosis Code Completeness

Table 5-5 presents the percentage of diagnosis codes identified in the encounter data that had no supporting documents in the recipients’ medical records (i.e., medical record omission) and the percentage of diagnosis codes from recipients’ medical records that were not found in the encounter data (i.e., encounter data omission).

Table 5-5—Medical Record Omission and Encounter Data Omission for Diagnosis Code

MCO	Medical Record Omission		Encounter Data Omission	
	Number of Diagnosis Codes Identified in Encounter Data	Percent Not Documented in the Recipients’ Medical Records*	Number of Diagnosis Codes Identified in Recipients’ Medical Records	Percent Not Found in the Encounter Data*
Anthem	1,380	22.8%	1,113	4.2%
HPN	1,224	24.0%	983	5.4%
Statewide	2,604	23.5%	2,096	4.9%

* Lower rates indicate better performance.

Key Findings: Table 5-5

- Statewide, 23.5 percent of the diagnosis codes in the encounter data had no supporting documents in the recipients’ medical records (i.e., medical record omission).
 - Anthem and HPN do not have a substantial difference in the rate of medical record omission for diagnosis codes. Anthem had a slightly lower percentage of diagnosis codes in the encounter data, with no supporting documents in the recipients’ medical records compared to HPN (i.e., 22.8 percent and 24.0 percent, respectively).
 - The medical record omission for diagnosis codes was partially influenced by medical record submission and medical record omission for the *Date of Service* data element. In the analysis, when no medical records were submitted for a sampled date of service, all diagnosis codes associated with that date of service were treated as medical record omissions. A total of 56 diagnosis codes were considered medical record omissions due to HSAG not receiving medical records. In general, lower medical record omission rates for diagnosis codes were observed for MCOs with higher rates of medical record submission. Additionally, MCOs with higher medical record omission for dates of service also tended to have higher medical record omission for diagnosis codes.
 - For cases with medical records that were reviewed, diagnosis codes frequently included in the encounter data but not supported in the recipients’ medical record include:
 - Z71.3: Dietary counseling and surveillance
 - Z68.52: Body mass index pediatric, fifth percentile less than 85th percentile for age
 - Z02.5: Encounter for examination for participation in sport

- Statewide, 4.9 percent of the diagnosis codes identified in the medical records were not found in the encounter data (i.e., encounter data omission).
 - HPN had a slightly higher percentage of diagnosis codes identified in the medical records that were found in the encounter data compared to Anthem (i.e., 5.4 percent and 4.2 percent, respectively).
 - The statewide encounter data omission rate for the *Diagnosis Code* data element (4.9 percent) exceeded the statewide encounter data omission rate for the *Date of Service* data element (2.8 percent) by 2.1 percentage points, indicating that the omission of dates of service from the encounter data was only one factor contributing to the diagnosis code encounter data omissions. Other potentially contributing factors included the following:
 - Encounter data from the DHCFP only included up to four diagnosis codes per encounter record while MCOs may submit more than four diagnosis codes on the 837 professional files.
 - Coding errors from provider billing offices occurred.
 - Deficiencies existed in the MCOs’ data submission processes.

Procedure Code Completeness

Table 5-6 presents the percentage of procedure codes identified in the encounter data that had no supporting documents in the recipients’ medical records (i.e., medical record omission) and the percentage of procedure codes from recipients’ medical records that were not found in the encounter data (i.e., encounter data omission).

Table 5-6—Medical Record Omission and Encounter Data Omission for Procedure Code

MCO	Medical Record Omission		Encounter Data Omission	
	Number of Procedure Codes Identified in Encounter Data	Percent Not Documented in the Recipients’ Medical Records*	Number of Procedure Codes Identified in Recipients’ Medical Records	Percent Not Found in the Encounter Data*
Anthem	1,275	18.6%	1,110	6.5%
HPN	1,129	22.9%	915	4.9%
Statewide	2,404	21.1%	2,025	5.6%

* Lower rates indicate better performance.

Key Findings: Table 5-6

- Statewide, 21.1 percent of the procedure codes identified in the encounter data were not supported by the recipients’ medical records (i.e., medical record omission).
 - In the analysis, when no medical records were submitted for the sampled date of service, all procedure codes associated with that date of service were treated as medical record omissions.

Similarly, for cases identified as a medical record omission for dates of service, all procedure codes associated with those cases were also treated as medical record omissions. A total of 59 procedure codes were counted as medical record omissions due to non-submission of medical records.

- Both MCOs had a high percentage of procedure codes identified in the DHCFP encounter data that were not supported in the recipients’ medical records (i.e., 18.6 percent for Anthem and 22.9 percent for HPN). As described above, the higher rate for HPN when compared to Anthem was partially attributed to HPN having a higher medical record non-submission rate (refer to Table 5-1) as well as a higher medical record omission rate for the dates of service (refer to Table 5-4).
- For cases with medical records that were reviewed, procedure codes that were frequently omitted from the recipients’ medical records included:
 - 99173: Visual acuity screen
 - 99212: Established patient self-limited or minor problem
 - 90460: Immunization, first or only component administered
 - 99401: Preventive, individual counseling
 - 96110: Developmental screen with score
 - G0447: Face-to-face behavioral counseling for obesity, 15 minutes
- Other potential contributors for the procedure code medical record omissions included:
 - Provider did not document the services performed in the medical record, despite submitting the procedure code to the MCOs.
 - Provider did not perform the service that was submitted to the MCOs.
- Statewide, 5.6 percent of the procedure codes identified in the medical records were not found in the encounter data (i.e., encounter data omission).
 - Anthem had a higher percentage of procedure codes identified in the medical records that were not found in the encounter data, compared to HPN (i.e., 6.5 percent and 4.9 percent, respectively).
 - The statewide encounter data omission rate for the *Procedure Code* data element (5.6 percent) exceeded the statewide encounter data omission rate for the date of service (2.8 percent) by 2.8 percentage points, indicating that the omission of dates of service from the encounter data was one factor contributing to procedure code encounter data omissions. Other potential contributors for procedure code encounter data omissions included:
 - Provider made a coding error or did not submit the procedure code, despite performing the services.
 - Lag occurred between the provider providing the service and the submission of the encounter to the MCOs and/or the DHCFP.
 - For cases with medical records that were reviewed, procedure codes frequently included in the recipients’ medical records but not found in the DHCFP encounters included:
 - 90461: Immunization administration of each additional component
 - 99213: Established patient low-to-moderate severity

Procedure Code Modifier Completeness

Table 5-7 presents the percentage of procedure code modifiers identified in the encounter data that had no supporting documents in the recipients’ medical records (i.e., medical record omission) and the percentage of procedure code modifiers from the recipients’ medical records that were not found in the encounter data (i.e., encounter data omission).

Table 5-7—Medical Record Omission and Encounter Data Omission for Procedure Code Modifiers

MCO	Medical Record Omission		Encounter Data Omission	
	Number of Procedure Code Modifiers Identified in Encounter Data	Percent Not Documented in Recipients’ Medical Records*	Number of Procedure Code Modifiers Identified in Recipients’ Medical Records	Percent Not Found in Encounter Data*
Anthem	830	36.6%	536	1.9%
HPN	648	34.6%	448	5.4%
Statewide	1,478	35.4%	984	3.9%

* Lower rates indicate better performance.

Key Findings: Table 5-7

- Statewide, 35.4 percent of the procedure code modifiers identified in the encounter data were not supported by the recipients’ medical records.
 - The statewide medical record omission rate for the procedure code modifiers could have been attributed to several factors, including medical record non-submission for which subsequent procedure codes and procedure code modifiers were treated as medical record omissions; omitted procedure codes for which associated procedure code modifiers were also omitted; and providers not documenting the evidence related to the modifiers in the medical records despite submitting the modifiers to the MCOs.
 - Both MCOs had a high percentage of procedure code modifiers identified in the DHCFP encounter data that were not supported in the recipients’ medical records (i.e., 36.6 percent for Anthem and 34.6 percent for HPN).
 - The procedure code modifier most frequently found in the encounter data but not documented in the medical records was “25” (significant, separately identifiable evaluation and management [E&M] service by the same provider on the same day of the procedure or other service).
- Statewide, 3.9 percent of the procedure code modifiers identified in the medical records were not present in the DHCFP encounter data.
 - HPN had a higher percentage of the procedure code modifiers identified in the recipients’ medical records that were not found in the encounter data compared to Anthem (i.e., 5.4 percent and 1.9 percent, respectively).
 - Potential contributors for the procedure code modifier encounter data omissions included the following:

- Dates of service were omitted from the encounter data; therefore, all procedure code modifiers associated with those dates of service were treated as encounter data omissions.
- Procedure codes were omitted from the encounter data; therefore, all procedure code modifiers corresponding to those procedure codes were treated as encounter data omissions.
- Provider made a coding error or did not submit the procedure code modifiers despite providing the specific services.

Encounter Data Accuracy

Encounter data accuracy was evaluated for dates of service that existed in both DHCFP’s encounter data and the submitted medical records, with values present in both data sources for the evaluated data element. HSAG considered the encounter data elements (i.e., *Diagnosis Code*, *Procedure Code*, and *Procedure Code Modifier*) accurate if documentation in the medical record supported the values contained in the electronic encounter data. Higher accuracy rates for each data element indicate better performance.

Diagnosis Code Accuracy

Table 5-8 presents the percentage of diagnosis codes associated with validated dates of service from the encounter data that were correctly coded based on the recipients’ medical records. In addition, errors found in the diagnosis coding were separated into two categories: inaccurate coding and specificity error. Inaccurate coding occurred when the diagnosis code submitted by the provider should have been selected from a different family of codes based on the documentation in the medical record (e.g., R51 [headache] versus the documentation supporting G43 [migraine]). A specificity error occurred when the documentation supported a more specific code than was listed in the DHCFP encounter data (e.g., unspecified abdominal pain [R10.9] when the provider noted during the exam that the abdominal pain was in the right lower quadrant [R10.31]). Specificity errors also include diagnosis codes that do not have the required fourth or fifth digit.

Inaccurate coding and specificity error in medical records were collectively considered as the denominator for the error type rates in Table 5-8.

Table 5-8—Accuracy Results and Error Types for Diagnosis Code

MCO	Accuracy Results		Error Type Rate	
	Number of Diagnoses Present in Both Sources	Accuracy Rate	Percent From Inaccurate Coding	Percent From Specificity Error
Anthem	1,066	98.3%	38.9%	61.1%
HPN	930	99.0%	44.4%	55.6%
Statewide	1,996	98.7%	42.1%	57.9%

Key Findings: Table 5-8

- Statewide, 98.7 percent of the diagnosis codes were accurate when the diagnosis codes were present in both the encounter data and the medical records.
- Both MCOs had similarly high rates of accuracy for diagnosis codes (i.e., 98.3 percent accuracy for Anthem and 99.0 percent accuracy for HPN).
- For diagnosis coding accuracy, the more common statewide error was associated with specificity errors rather than with discrepancies between submitted codes and the national correct coding standards (57.9 percent of errors related to specificity versus 42.1 percent for inaccurate coding).

Procedure Code Accuracy

Table 5-9 presents the percentage of procedure codes associated with validated dates of service from the encounter data that were correctly coded based on the recipients' medical records. In addition, errors found in the procedure coding were separated into three categories:

- Higher level of service in the medical record: Evaluation and management (E&M) codes documented in the medical record reflected a higher level of service performed by the provider than the E&M codes submitted in the encounter. For example, a patient was seen by a physician for a follow-up appointment for a worsening earache. The physician noted all key elements in the patient's medical record. The physician also changed the patient's medication during this visit. The encounter submitted showed a procedure code of 99212 (established patient self-limited or minor problem). With all key elements documented and a worsening condition, this visit should have been coded with a higher level of service, for example 99213 (established patient low-to-moderate severity).
- Lower level of service in the medical record: E&M codes documented in the medical record reflected a lower level of service than the E&M codes submitted in the encounter data. For example, a provider's notes omitted critical documentation elements of the E&M service, or the problem treated did not warrant a high-level visit. This would apply to a patient follow-up visit for an earache that was improving, required no further treatment, and for which no further problems were noted. The encounter submitted showed a procedure code of 99213 (established patient low-to-moderate severity). However, with an improving condition, the medical record describes lower level of service, or 99212 (established patient self-limited or minor problem).
- Inaccurate coding: The documentation in the medical records did not support the procedure codes billed, or an incorrect procedure code was used in the encounter for scenarios other than the two mentioned above.

Inaccurate coding, codes with higher level of services, and codes with lower level of services in medical records were collectively considered as the denominator for the error type rates in Table 5-9.

Table 5-9—Accuracy Results and Error Types for Procedure Code

MCO	Accuracy Results		Error Type Rate		
	Number of Procedures Present in Both Sources	Accuracy Rate	Percent From Inaccurate Coding	Percent From Higher Level of Services in Medical Records	Percent From Lower Level of Services in Medical Records
Anthem	1,038	95.6%	60.9%	6.5%	32.6%
HPN	870	93.7%	54.5%	1.8%	43.6%
Statewide	1,908	94.5%	57.2%	3.8%	39.0%

Key Findings: Table 5-9

- Statewide, 94.5 percent of the procedure codes were accurate when present in both the encounter data and the medical record.
- For procedure coding accuracy, 57.2 percent of the identified errors were associated with the use of inaccurate codes. Secondly, 39.0 percent of the identified errors resulted from providers submitting codes for a higher level of service than was supported and documented in the medical records (i.e., the procedure code was considered an error due to a lower level of service having been documented in the medical record). Lastly, 3.8 percent of errors were associated with providers submitting codes for a lower level of service than was documented in the recipients’ medical records (i.e., the procedure code was considered an error due to a higher-level procedure code having been documented in the medical record).

Procedure Code Modifier Accuracy

Table 5-10 presents the percentage of procedure code modifiers associated with validated dates of service from the encounter data that were correctly coded based on recipients’ medical records. The errors for this data element could not be separated into subcategories and therefore are not presented in Table 5-10.

Table 5-10—Accuracy Results for Procedure Code Modifier

MCO	Number of Procedure Code Modifiers Present in Both Sources	Accuracy Rate
Anthem	526	99.2%
HPN	424	98.6%
Statewide	950	98.9%

Key Findings: Table 5-10

- Statewide, 98.9 percent of the procedure code modifiers were accurate when the procedure code modifiers were present in both the encounter data and the recipients’ medical records.
- Both Anthem and HPN had high levels of accuracy for the procedure code modifier (i.e., 99.2 percent and 98.6 percent, respectively).

All-Element Accuracy

Table 5-11 presents the percentage of dates of service present in both the DHCFP’s encounter data and in the medical records with the same values for all key data elements listed in Table 2-2. The denominator is the total number of dates of service that matched in both data sources. The numerator is the total number of dates of service with the same values for all key data elements. Higher all-element accuracy rates indicated that the values populated in the DHCFP’s encounter data were more complete and accurate for all key data elements when compared to medical records.

Table 5-11—All Element Accuracy

MCO	Number of Dates of Service Present in Both Sources	Accuracy Rate
Anthem	563	46.5%
HPN	525	45.1%
Statewide	1,088	45.7%

Key Findings: Table 5-11

- Statewide, 45.7 percent of the dates of service present in both data sources contained accurate values for all three key data elements (i.e., *Diagnosis Code*, *Procedure Code*, and *Procedure Code Modifier*).
- Both MCOs had similar rates for the all-element accuracy rate. For Anthem, 46.5 percent of all records included accurate values for all key data elements; and for HPN, 45.1 percent of all records included accurate values for all key data elements.

Conclusions

Information Systems Review

The information systems review component of the SFY 2017–18 EDV study provided self-reported qualitative information from the DHCFP and the MCOs regarding encounter data processes. Based on contractual requirements and the DHCFP data submission requirements (e.g., companion guides), both MCOs have established encounter data submission and oversight processes, though formal documentation (e.g., policies and procedures) may not have been submitted with each MCO’s questionnaire response. While each MCO has a defined encounter data system and processes for receiving inbound claims and encounter data and for submitting encounter data to the DHCFP, questionnaire responses revealed variations in data processes, especially those related to submission of payment data. For example, HPN reported that it does not require its capitated providers to submit TPL information, while Anthem’s capitated providers are required to submit TPL information to the MCO. These variations may require clarification from the DHCFP to determine the extent to which the MCOs’ approaches are consistent with encounter data submission guidelines.

Both MCOs provided high-level descriptions of the reports and/or data edits used to monitor the accuracy and completeness of data submitted by vendors (e.g., pharmacy claims) and providers. However, it is unclear from the MCO responses whether the lack of supporting documentation provided with the questionnaires reflects an MCO’s incomplete processing of the questionnaire or the general unavailability of such documents. Both outcomes suggest a lack of systematic documentation (e.g., policies and procedures, monitoring mechanisms) that may contribute to inconsistency in the processing and quality of encounter data over time, especially pertaining to specific data-processing scenarios (e.g., receiving, processing, and submitting payment data or adjusted claims).

When considering encounter data monitoring from the State’s perspective, the DHCFP has established performance standards for the MCOs’ submission, accuracy, and timeliness of encounter data. However, the DHCFP reported having no evaluation metrics in place to assess the quality of MCOs’ monthly encounter submissions; nor is a formal process established by which to determine the accuracy and completeness of the MCOs’ encounter data.

Comparative Analysis

Record Completeness

The overall record omission rates were low but varied across the three encounter types, with the pharmacy encounter type exhibiting the lowest record omission rate of 0.0 percent and the institutional encounter type exhibiting the highest record omission rate of 2.1 percent. Similarly, the overall record surplus rates were also low but varied across the three encounter types, with the pharmacy encounter

type exhibiting the lowest surplus rate of 2.7 percent and the institutional encounter type exhibiting the highest record surplus rate of 6.3 percent.

Record omission and surplus rates varied between the two MCOs and among the three encounter types. However, almost all MCO-specific omission and surplus rates were below 5.0 percent, excepting HPN's 9.4 percent record surplus rate for institutional encounters.

Data Element Completeness

Overall, among encounters that could be matched between the DHCFP's and the MCOs' submitted encounter data, a high level of completeness (i.e., low overall omission and surplus rates) was exhibited, with a few exceptions. Pharmacy encounters were most complete at the data-element level, with all key data elements exhibiting 0.0 percent omission and surplus rates for both MCOs. Professional encounter data were mostly complete for all data elements except *Rendering Provider Number/NPI*, which had a relatively high overall surplus rate. Institutional encounters were also mostly complete with a few exceptions: *Procedure Code Modifier* and *Primary Surgical Procedure Code* fields had relatively high overall omission rates, and the *Secondary Diagnosis Code* and *Primary Surgical Procedure Code* fields exhibited higher surplus rates in comparison to other key data elements.

Data Element Accuracy

Overall, among encounters that could be matched between the DHCFP's and the MCOs' submitted encounter data, a high level of accuracy (i.e., high overall element accuracy) was exhibited, with a few exceptions. A high level of accuracy was observed in all key data elements of pharmacy encounters. Professional encounters demonstrated a high level of accuracy in all data elements excepting *Recipient ID*, *Header Paid Amount*, and *Detail Paid Amount*. Similarly, institutional encounters presented a high level of data element accuracy among all key data elements excepting *Recipient ID*, *Secondary Diagnosis Code*, and *Procedure Code Modifier*.

All-Element Accuracy

Overall, among encounters that could be matched between the DHCFP's and the MCOs' submitted encounter data, all-element accuracy rates varied by encounter type. Pharmacy encounters had a high overall all-element accuracy rate. In contrast, professional and institutional encounters had relatively low all-element accuracy rates. However, these rates increased substantially after HSAG excluded the *Recipient ID* field from the rate calculation.

Medical Record Review

Encounter Data Completeness

Table 6-1 displays the medical record and encounter data omission rates for each key data element.

Table 6-1—Encounter Data Completeness Summary

Key Data Elements	Medical Record Omission			Encounter Data Omission		
	Statewide Rate	Anthem Rate	HPN Rate	Statewide Rate	Anthem Rate	HPN Rate
Date of Service	3.4%	2.1%	4.4%	2.8%	3.9%	2.1%
Diagnosis Code	23.5%	22.8%	24.0%	4.9%	4.2%	5.4%
Procedure Code	21.1%	18.6%	22.9%	5.6%	6.5%	4.9%
Procedure Code Modifier	35.4%	36.6%	34.6%	3.9%	1.9%	5.4%

The final sample cases included in the evaluation consisted of 411 cases randomly selected per MCO, along with any submitted second dates of service for each sampled recipient. Two indicators were evaluated:

- Medical record omission occurred when an encounter data element was not documented in the medical record associated with a specific encounter.
- Encounter data omission occurred when an encounter data element was documented in the medical record but not found in the associated encounters.

Overall, the medical record omission rates were higher than the encounter data omission rates for all key data elements (i.e., *Date of Service*, *Diagnosis Code*, *Procedure Code*, and *Procedure Code Modifier*) included in the analysis. The dates of service within the encounter data were well supported by the recipients’ medical records, as evidenced by the low medical record omission rate of 3.4 percent. However, the *Diagnosis Code* (23.5 percent), *Procedure Code* (21.1 percent), and *Procedure Code Modifier* (35.4 percent) data elements within the encounter data were moderately supported by the medical records. As determined during the review, some common reasons for medical record omissions included:

- The medical record was not submitted for the study.
- The provider did not document the services performed in the medical record despite submitting a claim or encounter.
- The provider did not provide the service(s) found in the encounter data.

Both Anthem and HPN had similar rates for medical record omission for all data elements, where the difference between the MCOs’ rates was less than 5 percentage points for each of the evaluated data elements.

In contrast, the relatively low encounter data omission rates indicate that the key data elements (i.e., *Date of Service*, *Diagnosis Code*, *Procedure Code*, and *Procedure Code Modifier*) found in the recipients’ medical records were well supported by the data found in the electronic data extracted from the DHCFP’s data warehouse, with rates ranging from 2.8 percent (*Date of Service*) to 5.6 percent (*Procedure Code*). Some potential reasons for encounter data omissions included:

- The encounter data from the DHCFP only included up to four diagnosis codes per encounter record, while MCOs may submit more than four diagnosis codes on the 837 professional files.

- The provider’s billing office made a coding error or did not submit the procedure code despite performing the service(s).
- A lag occurred between the provider providing the service(s) and the submission of the encounter to the MCOs and/or the DHCFP.
- Deficiencies existed in the MCOs’ encounter data submission processes.

Both Anthem and HPN had similar rates for encounter data omission for all data elements, where the difference between the MCOs’ rates was less than 5 percentage points for each of the evaluated data elements.

Encounter Data Accuracy

Table 6-2 displays the element accuracy rates for each key data element and the all-element accuracy rates.

Table 6-2—Encounter Data Accuracy Summary

Key Data Elements	Statewide Rate	Anthem Rate	HPN Rate	Statewide Main Error Type
Diagnosis Code	98.7%	98.3%	99.0%	Specificity Error (57.9%) Inaccurate Coding (42.1%)
Procedure Code	94.5%	95.6%	93.7%	Inaccurate Coding (57.2%) Lower Level of Services in Medical Records (39.0%) Higher Level of Services in Medical Records (3.8%)
Procedure Code Modifier	98.9%	99.2%	98.6%	—
All-Element Accuracy	45.7%	46.5%	45.1%	—

“—” denotes that the error type analysis was not applicable to a given data element.

Overall, when key data elements were present in both the DHCFP’s encounter data and the medical records and were evaluated independently the data elements were found to be accurate. Among the data elements evaluated, 98.7 percent of diagnosis codes, 94.5 percent of procedure codes, and 98.9 percent of procedure code modifiers present in both sources were accurate. The most common error type for the diagnosis code data element was a specificity error. For the procedure code data element, 57.2 percent of the identified errors were associated with the use of inaccurate codes and 39.0 percent of the procedure code errors involved providers submitting a higher level of service code than that supported in the recipients’ medical records.

Nearly 50 percent of the dates of service present in both sources accurately represented all three data elements (*Diagnosis Code*, *Procedure Code*, and *Procedure Code Modifier*) when compared to the recipients’ medical records.

Both participating MCOs had similar rates for *Diagnosis Code*, *Procedure Code*, *Procedure Code Modifier*, and *All-Element Accuracy*.

Recommendations

Based on HSAG’s review of the encounter data submitted by the DHCFP and the MCOs, HSAG identified several opportunities for continued improvement in the overall quality of Nevada’s encounter data. Although overall results of the comparative analysis component of the EDV study indicate relatively complete and accurate data, instances of high rates of omission, surplus, and errors—coupled with variation between MCOs—suggest some systemic issues with the transmission of data between the MCOs and the DHCFP. Similarly, the MRR component of the study indicated complete and accurate data in the DHCFP’s data warehouse. However, high rates of medical record omission suggest opportunities to improve the quality of the DHCFP’s encounter data. To improve the quality of encounter data submissions from contracted MCOs, HSAG offers the following recommendations to assist DHCFP and the MCOs address opportunities for improvement:

- The DHCFP noted that procedure memos or contract amendments are used to ensure that updates to the State’s data submission requirements are implemented and communicated to each MCO. However, one MCO noted in its information systems review questionnaire response that the lack of an updated EDI companion guide presents a challenge when submitting encounter data to the DHCFP. The HIPAA Transaction Standard Companion Guides supplied for this study by the DHCFP were dated May 2014. The DHCFP should determine the appropriate frequency for updating the companion guides and communicate with the MCOs to ensure that the MCOs apply the most recent companion guides to encounter data submissions.
- The MCOs’ responses to the information systems review questionnaires indicated that a DHCFP-designed flat file is provided to the MCOs in lieu of 277 transaction response files. The DHCFP should assess comparability between the contents of the current proprietary flat files and the 277 transaction response files to ensure that the MCOs receive all data elements needed to address encounter data submission concerns.
- Findings from the information systems review indicate that Anthem is currently developing a more robust process for monitoring the timeliness of claims and encounter data submitted by providers. The DHCFP should follow up with Anthem to determine the timeline for establishing the enhanced monitoring process as well as to request sample monitoring reports. Based on the DHCFP’s review of the monitoring reports, the DHCFP may determine whether to recommend similar reports as an MCO best practice.
- The results from the comparative analysis indicated that encounters submitted by the MCOs and maintained in the DHCFP’s data warehouse (and subsequently extracted by the DHCFP for this study) were relatively complete and accurate when compared to data submitted to HSAG by the MCOs. However, HSAG recommends that the DHCFP continue efforts to monitor encounter data submissions and address any identified data issues with the MCOs’ encounter file submissions. As the DHCFP reported having no standard processes for monitoring encounter data accuracy and completeness, HSAG suggests that the DHCFP consider the following:
 - Develop a monitoring strategy to routinely examine encounter volume. As part of a larger encounter data quality strategy or program, these metrics would help to ensure timely identification of potential problems and establish expectations of contracted MCOs.

- Implement a performance monitoring system that supports the development of standards to monitor the MCOs’ encounter data quality and contract compliance.
- Work with the MCOs to develop a monitoring program that requires the MCOs to audit providers’ claims and encounter data submissions for completeness and accuracy.
- Routinely review and modify existing MCO contracts and encounter submission guidelines as needed to include language outlining specific requirements for submitting complete data to the DHCFP.
- HSAG identified, from both the DHCFP and the MCOs, errors in the data files extracted for the study. HSAG recommends that the DHCFP and the MCOs consider implementing standard quality controls to ensure accurate data extracts from their respective systems. Through the development of standard data extraction procedures and quality control, the number of errors associated with extracted data could be reduced. HSAG suggests that minimum data quality checks include the following:
 - Extract data according to the data submission requirements document.
 - Verify that control totals are reasonable for each requested data file.
 - Determine if duplicate records are expected and/or reasonable.
 - Determine if the distribution and population of data field values are expected and/or reasonable.
 - Conduct for all records a check to identify any data fields with missing values.
- Based on the study findings from the medical review component of the study, HSAG recommends that the DHCFP consider the following:
 - The DHCFP encounter data only contain up to four diagnosis codes per encounter record although the MCOs may submit more than four diagnosis codes on the 837 professional files. To improve the completeness for the diagnosis code fields, the DHCFP should consider updating its processes so that more than four diagnosis code fields are available in the data warehouse.
 - The DHCFP should consider requiring that MCOs audit provider encounter submissions for completeness and accuracy. The DHCFP may want to require MCOs to develop periodic provider education and training regarding encounter data submissions, medical record documentation, and coding practices. These activities should include a review of both State and national coding requirements and standards, especially for new providers contracted with the MCOs. In addition, HSAG recommends that the DHCFP consider requiring MCOs to perform periodic reviews of submitted claims to verify appropriate coding and completeness to ensure encounter data quality. Results from these reviews may be submitted to the DHCFP and used in its ongoing encounter data monitoring.

Study Limitations

- Findings associated with the information systems review were based on self-reported questionnaire responses submitted to HSAG by the DHCFP and the MCOs. HSAG did not confirm the statements made in the questionnaires.

- The administrative review results presented in this study are dependent on the quality of encounter data submitted by the DHCFP and the MCOs. Any substantial and systematic errors in the extraction and transmission of encounter data may bias the results and compromise the validity and reliability of study findings.
- The primary focus of the administrative review component of the EDV study was to assess the extent and magnitude of record and data element discrepancies between the DHCFP's and the MCOs' submitted encounter data. When possible, HSAG conducted supplemental analyses into the characteristics of omitted and surplus records when discrepancies were identified. However, these secondary investigations were limited and should be used for informational purposes only.
- The findings from the comparative analysis were associated with encounters with dates of service between July 1, 2016, and June 30, 2017. As such, results may not reflect the current quality of the DHCFP's encounter data or changes implemented since July 2017.
- This EDV study included two of the three MCOs that had already operated in the Nevada managed care program prior to the contract start date of July 1, 2017. Therefore, the results presented in this study do not represent the full quality of Nevada's current encounter data.
- When evaluating the results from the MRR component of the study, it is important to understand the following limitations:
 - Successful evaluation of recipients' medical records depends on the ability to locate and collect complete and accurate medical records. Therefore, validation results could have been affected by medical records that were not located (e.g., provider refusal) and medical records that were incomplete (e.g., submission of a visit summary instead of the complete medical record).
 - Study findings of the MRR relied solely on the documentation contained in recipients' medical records; therefore, results are dependent on the overall quality of physicians' medical records. For example, a physician may have performed a service but not documented it in the recipient's medical record. As such, HSAG would have counted this occurrence as a negative finding. This study was unable to differentiate cases in which a service was not performed versus a service that was performed but not documented in the medical record.
 - In some cases, limitations associated with the DHCFP's encounter data processes may unintentionally impact study results. For example, the DHCFP's encounter data may only process and store a certain number of data fields for the diagnosis codes while MCOs' claims systems often support more diagnosis fields. Additionally, no limitations exist on the number of diagnoses that may be documented in the recipients' medical records. As a result, omission in the diagnosis codes may be related to the inability of a system to store additional data regardless of whether it is present in the medical records of the MCOs' encounter data systems.
 - The findings from the MRR were associated with encounters with dates of service between July 1, 2016, and June 30, 2017. As such, results may not reflect the current quality of the DHCFP's encounter data or changes implemented since July 2017.
 - The findings from the MRR component of this study are associated with physician visits and may not be applicable to other claim types.

Appendix A. Blank Questionnaire for the DHCFP



Questionnaire for DHCFP

Introduction

Accurate and complete encounter data are critical to the success of a managed care program. Therefore, the Division of Health Care Financing and Policy (DHCFP), a Division of the State of Nevada, Department of Health and Human Services, requires its contracted managed care organizations (MCOs) to submit high-quality encounter data. DHCFP relies on the quality of these encounter data submissions to accurately and effectively monitor and improve the program's quality of care, generate accurate and reliable reports, develop appropriate capitated rates, and obtain complete and accurate utilization information.

During fiscal year (FY) 2017-2018, DHCFP contracted Health Services Advisory Group, Inc. (HSAG) to conduct an encounter data validation (EDV) study. According to the CMS EQR Protocol 4 Validation of Encounter Data¹, a desk review of the state's requirements for collecting and submitting encounter data and the MCOs'² claims processing systems and processes, and their capability to submit encounter data is necessary for evaluating the quality of the encounter data submitted by the MCOs to DHCFP. Therefore, HSAG worked with DHCFP and determined that the goal of this study is to examine the extent to which DHCFP and the MCOs have appropriate system documentation and the infrastructure to produce, process, and monitor encounter data.

In general, the desk review will seek to define how each participant in the encounter data process collects and processes encounter data such that the flow of data from the MCOs to DHCFP is understood. To facilitate an overall understanding of DHCFP's approach to the collection and processing of encounter data, HSAG has developed a questionnaire to gather information designed to evaluate DHCFP's policies and procedures for data exchange and to evaluate its capacity and ability to acquire and process data. This review will enable HSAG to understand how various systems interact to determine whether such interactions have an impact on the MCO's ability to submit complete, reasonable, and accurate data. While a separate questionnaire has been developed to survey the MCOs, this document describes the questionnaire to DHCFP.

GENERAL INSTRUCTIONS

HSAG developed the following questionnaire to gather both general information and specific procedures for data processing, personnel, and data acquisition capabilities. The questionnaire has been developed

¹ Department of Health and Human Services, Centers for Medicare & Medicaid Services. *EQR Protocol 4 Validation of Encounter Data Reported by the MCO*. Protocol 4. Version 2.0. September 2012.

² Two of the three MCOs had already operated in the Nevada managed care program prior to the contract start date of July 1, 2017; therefore, HSAG will conduct the EDV study for the two existing MCOs: Amerigroup Nevada, Inc. (Amerigroup) and Health Plan of Nevada (HPN).



based on HSAG's understanding of the encounter data submission process and is divided into the following four domains:

Section A: *Encounter Data Sources and Systems*

Section B: *Data Exchange Policies and Procedures*

Section C: *Management of Encounter Data: Collection, Storage, and Processing*

Section D: *Encounter Data Quality Monitoring and Reporting*

All sections of the questionnaire must be completed. If different staff members within DHCFP are responsible for different aspects of the processes, please distribute multiple copies of the questionnaire and ask that each group provides answers to the applicable questions in each section. **You do not need to merge your responses into a single final version; uploading multiple sections and documents to the FTP site is acceptable.**

Please provide comprehensive answers to the questions in each section of the questionnaire. If additional documents (e.g., policies and procedures, data layouts, data flow diagrams, sample reports, sample data) will assist HSAG in better understanding DHCFP's processes, please submit or attach the documents.

Upon receiving answers to the questionnaire, HSAG's EDV team may conduct additional follow-up with DHCFP via email or conference calls.

SUBMISSION OF QUESTIONNAIRE AND SUPPLEMENTAL DOCUMENTATION

1. DHCFP should upload the completed questionnaire and supporting documentation electronically to HSAG's secure file transfer site, <https://fm.hshapps.com> in the following folder path: *Nevada\DHCFP\Encounter Data Validation*.
2. HSAG requests that DHCFP upload the completed questionnaire, and any attachments, to HSAG's FTP site no later than **February 15, 2018**. Upon completion of upload, please notify HSAG via e-mail at jdietzman@hsag.com.
3. Please contact Jade Dietzman at 602-801-6583 or via e-mail at jdietzman@hsag.com at HSAG if you have any questions or require any assistance with the upload.



SECTION A: ENCOUNTER DATA SOURCES AND SYSTEMS

Contact person for this section (Name and Title)	
Contact Information (Phone Number and E-mail)	

Please note that if your staff uses an electronic version of this questionnaire, the response boxes are expandable. Do not worry about pagination. If supplemental files or supporting documents are provided, please note the filename(s) in your response.

- Are there any updates to your data system/data warehouse (process flows and system architecture) used to import, process, and store encounter data submitted by the MCOs beyond what has been described in the Encounter Claims Technical Design document and the Encounter Data Companion Guides. If your data system differs within an encounter type (e.g., medical, vision, pharmacy), provide separate updates for each encounter type and scenario.

(Please note that the Encounter Claims Technical System Design document and Encounter Data Companion Guides have already been received and do not need to be resubmitted.)

Below, please note the filename(s) associated with the applicable list(s) or flowchart(s).

2. For each of the key sources of encounter data, provide a description of the encounters received from each MCO (including its subcontractors, if any), the frequency of receipt, and the approximate data volume associated with that source. *Note: The first row of the table is provided as an example. The table can be expanded if additional rows are required.*

Data Source ¹	MCO	Description of Data Received	Frequency ²	Approximate Data Volume
Pharmacy	MCO A	Files are submitted using the NCPDP D.0 format.	Weekly	100,000 unique claims per week
Institutional	Amerigroup Nevada, Inc.			
	Health Plan of Nevada			
Professional	Amerigroup Nevada, Inc.			
	Health Plan of Nevada			
Pharmacy	Amerigroup Nevada, Inc.			
	Health Plan of Nevada			
Behavioral Health	Amerigroup Nevada, Inc.			
	Health Plan of Nevada			
Dental	Amerigroup Nevada, Inc.			
	Health Plan of Nevada			
Vision	Amerigroup Nevada, Inc.			
	Health Plan of Nevada			
Transportation	Amerigroup Nevada, Inc.			
	Health Plan of Nevada			
Other (list and describe)	Amerigroup Nevada, Inc.			
	Health Plan of Nevada			

¹ These sources represent encounter submissions from the MCOs including their subcontractors, if any. If the subcontractors submit data files directly to DHCFP, separate rows could be added for the subcontractors.

² Frequency = daily, weekly, twice a month, monthly, every other month, etc.

3. Using the table below, list and describe the function and role of any organizational units responsible for importing, processing, and storing encounters. *Note: The table can be expanded if additional rows are required.*

Department	Function/Role	# of Staff
1		
2		
3		
4		
5		

4. In addition to the edits described in the “Nevada Encounter Edits” spreadsheet, does DHCFP run incoming encounters through system/processing edits or data validity checks prior to accepting/loading the data to your system?

- Yes
 No

If YES, describe all system/processing edits that impact the acceptance of encounters. Attach any relevant documentation that illustrates these procedures.

5. How does DHCFP process data exceptions? For example, when an encounter is not in a valid format, contains invalid values, or includes erroneous field logic, describe the processes (manual or automatic) used to process the submission.

6. Does DHCFP provide any type of response file or feedback to the MCOs submitting the encounters?

- Yes
 No

If YES, please describe the process used to provide feedback to the MCOs including any process flows and report layouts.

7. Are multiple systems used to process encounters submitted by the MCOs?

- Yes
- No

If YES, describe how encounters are ultimately merged into a single encounter data platform. Include a data flow diagram, if needed.

8. Please describe the process used by the MCOs to resubmit updated, modified, or corrected encounters. How are updated records flagged in DHCFP's system? Are the original encounters stored in the encounter data system or deleted? Provide any documentation or policies and procedures related to the resubmission of encounter files or records.

The following questions address the collection, use, and maintenance of provider data.

9. Using a list or data flow diagram, outline the path DHCFP's provider data follow from collection to maintenance.

10. Please describe DHCFP's procedures for overseeing and ensuring the completeness and accuracy of provider data.

11. Describe the process for linking provider data to encounters including any procedures for reconciling differences between data submitted on the encounter and DHCFP's provider data.

12. Describe how DHCFP uses provider data submitted by the MCOs to conduct evaluations on the encounter data, if applicable.



The following questions address the collection, use, and maintenance of Medicaid enrollment data.

13. Using a list or data flow diagram, outline the path DHCFP's Medicaid enrollment data follow from collection to maintenance.

14. Describe DHCFP's procedures for overseeing and ensuring the completeness and accuracy of Medicaid enrollment data.

15. How often is Medicaid enrollment information updated for DHCFP and the MCOs?



SECTION B: DATA EXCHANGE POLICIES AND PROCEDURES

Contact person for this section (Name and Title)	
Contact Information (Phone Number and E-mail)	

Please note that if your staff uses an electronic version of this questionnaire, the response boxes are expandable. Do not worry about pagination. If supplemental files or supporting documents are provided, please note the filename in your response.

1. Please describe the data exchange process between the MCOs and DHCFP. Include details outlining the organizational and operational policies and procedures related to the MCOs' encounter data submissions. Provide copies of all policies and procedures, manuals, file specifications, contracts, etc., that outline the procedures that govern the transmission of data between the MCOs and DHCFP.

(Please note that the Encounter Data Companion Guides and the Encounter Claims Technical System Design document have already been received and do not need to be resubmitted.)

2. Has DHCFP undergone a formal Information Systems Capabilities Assessment (ISCA)?

- Yes
- No (If NO, skip to Question 3)

If YES, who performed the assessment and when was it completed? Please provide a copy or summary of findings, if available.

3. What is DHCFP's policy regarding Medicaid encounter audits? Are Medicaid encounters audited regularly? Randomly? If yes, please provide the relevant documentation.

4. Describe how the loss of Medicaid encounters and other related data is prevented when systems fail. How frequently are system back-ups performed? Where is back-up data stored? How and how often are the back-ups tested to make sure the back-ups are functional?



5. How is Medicaid data corruption prevented due to a system failure or program error? Describe the controls used to ensure all data entered into the system are fully accounted for (e.g., batch control sheets)?

6. Does DHCFP have a process in place to ensure that updates to the State's requirements for data submission are implemented and communicated to each MCO?

- Yes
 No

If YES, please describe the process and provide any documentation, if available.



SECTION C: MANAGEMENT OF ENCOUNTER DATA: COLLECTION, STORAGE, AND PROCESSING

Contact person for this section (Name and Title)	
Contact Information (Phone Number and E-mail)	

Please note that if your staff uses an electronic version of this questionnaire, the response boxes are expandable. Do not worry about pagination. If supplemental files or supporting documents are provided, please note the filename in your response.

1. Please attach a flowchart outlining the structure of your complete management information systems highlighting all internal and external data inputs and processes (i.e., claims files, encounter files, ASC X12, NCPDP, etc.). Provide any documentation regarding data integration policies and procedures.

(Please note that the Encounter Data Companion Guides and the Encounter Claims Technical System Design document have already been received and do not need to be resubmitted.)

2. For each of the different databases described in Question 1, please identify any processes in place that modify the data as it moves from one database to another.

3. Describe the procedure for consolidating Medicaid claims/encounter, member, and provider data for reporting (whether it is a relational database or file extracts).

- a. How many different sources of data are merged together to create reports?
- b. What control processes are in place to ensure data merges are accurate and complete?
- c. What control processes are in place to ensure that no extraneous data are captured (e.g., lack of specificity in patient identifiers may lead to inclusion of non-eligible members or to double counting)?

4. Are any algorithms used to check the reasonableness of data integrated for purposes of reporting or creating data marts?

5. Do current system documentation and file layouts clearly delineate derived and non-derived data fields?

- Yes
- No

If YES, please describe the fields that are derived and the point in the encounter data process at which they are created.

6. Describe the policies and procedures used to identify duplicate or missing records in the MCOs' regular (i.e., monthly, weekly, or daily) encounter submissions. If identified, how are the affected records processed and what information is returned to the MCOs?

7. During the processing of the MCOs' encounter data submissions, does DHCFP modify or reformat any data elements?

- Yes
- No

If YES, describe the modifications using specific data field names and specific examples (e.g., zeros are added to the beginning of values in the Provider ID field to pad the results to a length of nine characters).



SECTION D: ENCOUNTER DATA QUALITY MONITORING AND REPORTING

Contact person for this section (Name and Title)	
Contact Information (Phone Number and E-mail)	

Please note that if your staff uses an electronic version of this questionnaire, the response boxes are expandable. Do not worry about pagination. If supplemental files or supporting documents are provided, please note the filename in your response.

1. Does DHCFP have monitoring metrics in place to evaluate the quality of MCO monthly encounter submissions?

- Yes
- No

If YES, please describe the evaluation metrics including defined error thresholds and standards, if available.

2. How does DHCFP monitor and ensure the accuracy and completeness of encounter data submitted by the MCOs?

3. How does DHCFP monitor the timeliness of encounter data submitted by the MCOs?

4. Does DHCFP have performance standards in place regarding the submission, accuracy, and timeliness of encounter data?

- Yes
- No

If YES, provide documentation of the performance standards and describe how the performance standards are communicated to the MCOs.



5. Are the MCOs required to submit reports on encounter data submission activities (e.g., submission statistics) to DHCFP?

- Yes
- No

If YES, please describe the reporting process and submit a recent example of these reports for each MCO and other applicable documents.

6. Does DHCFP use standardized, HIPAA compliant response files to provide feedback to the MCOs on their submissions?

- Yes
- No

IF NO, please specify the type of mechanisms used to provide feedback to the MCOs.

7. What is the average percentage of encounters (by MCO) that are submitted to DHCFP that get rejected? *Note: The table can be expanded if additional rows are required.*

Encounter Type	Amerigroup Nevada, Inc.	Health Plan of Nevada
Professional		
Institutional		
Pharmacy		

8. Describe how data in DHCFP’s encounter data system/data warehouse are used (e.g., rate-setting, HEDIS reporting, etc.)

9. Does DHCFP collect capitated encounters (e.g., encounters submitted by MCOs’ capitated providers/provider groups) from its MCOs?

- Yes (If YES, skip to Question 10)
- No (If NO, end of questionnaire)

10. What are DHCFP's requirements for submitting pricing information on capitated encounters?

11. Does DHCFP monitor capitated encounters for unallowable services?

- Yes
 No

If YES, describe the type of reporting that is available.

If NO, does DHCFP maintain a list of allowable/unallowable services? If yes, please provide supporting document(s).

Appendix B. Blank Questionnaire for the MCOs



Questionnaire for MCOs

Introduction

Accurate and complete encounter data are critical to the success of a managed care program. Therefore, the Division of Health Care Financing and Policy (DHCFP), a Division of the State of Nevada, Department of Health and Human Services, requires its contracted managed care organizations (MCOs) to submit high-quality encounter data. DHCFP relies on the quality of these encounter data submissions to accurately and effectively monitor and improve the program's quality of care, generate accurate and reliable reports, develop appropriate capitated rates, and obtain complete and accurate utilization information.

During fiscal year (FY) 2017-2018, DHCFP contracted Health Services Advisory Group, Inc. (HSAG) to conduct an encounter data validation (EDV) study. According to the CMS EQR Protocol 4 Validation of Encounter Data¹, a desk review of the MCOs'² claims processing systems and processes, and their capability to submit encounter data is necessary for evaluating the quality of the encounter data submitted by the MCOs to DHCFP. The goal of the study is to examine the extent to which DHCFP and the MCOs have appropriate system documentation and the infrastructure to produce, process, and monitor encounter data.

The desk review will seek to define how each participant in the encounter data process collects and processes encounter data such that the flow of the data from the MCOs to DHCFP is understood. To facilitate an overall understanding of the MCOs approach to the collection, submission and processing of encounter data, HSAG has developed a questionnaire to gather information regarding each MCO's information systems and data processing procedures.

GENERAL INSTRUCTIONS

HSAG developed the following questionnaire customized in collaboration with DHCFP to gather both general information and specific procedures for data processing, personnel, and data acquisition capabilities. The questionnaire has been developed based on HSAG's understanding of the encounter data submission process and is divided into the following domains:

Section A: *Encounter Data Sources and Systems*

Section B: *Data Exchange Policies and Procedures*

¹ Department of Health and Human Services, Centers for Medicare & Medicaid Services. *EQR Protocol 4 Validation of Encounter Data Reported by the MCO*. Protocol 4. Version 2.0. September 2012.

² Two of the three MCOs had already operated in the Nevada managed care program prior to the contract start date of July 1, 2017; therefore, HSAG will conduct the EDV study for the two existing MCOs: Amerigroup Nevada, Inc. (Amerigroup) and Health Plan of Nevada (HPN).

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Section C: Management of Encounter Data: Collection, Storage, and Processing

Section D: Encounter Data Quality Monitoring and Reporting

Each participating MCO must complete all sections of the questionnaire. If your MCO uses the same data system for multiple clients or lines of business, please limit your responses to specific procedures related to the processing of DHCFP claims and encounters.

If different staff members within your organization are responsible for different aspects of the processes, please distribute multiple copies of the questionnaire and ask that each group provides answers to the applicable questions in each section. **You do not need to merge your responses into a single final version; uploading multiple sections and documents to the FTP site is acceptable.**

Please provide comprehensive answers to each of the following questions. If additional documents (e.g., policies and procedures, data layouts, data flow diagrams, sample reports, sample data) will assist HSAG in better understanding your MCO's processes, please submit or attach the documents.

Upon receiving answers to the questionnaire, HSAG's EDV team may conduct additional follow-up with the MCOs via email or conference calls.

SUBMISSION OF QUESTIONNAIRE AND SUPPLEMENTAL DOCUMENTATION

1. Each MCO should upload the completed questionnaire and supporting documentation electronically to HSAG's secure file transfer site, <https://fm.hshapps.com> in your specific MCO folder and project subfolder labeled "Encounter Data Validation".
2. HSAG requests that MCOs upload the completed questionnaire, and any attachments, to HSAG's FTP site no later than **February 15, 2018**. Upon completion of upload, please notify HSAG via e-mail at jdietzman@hsag.com.
3. Please contact Jade Dietzman at 602-801-6583 or via e-mail at jdietzman@hsag.com at HSAG if you have any questions or require assistance with the upload.

—Final Copy—



SECTION A: ENCOUNTER DATA SOURCES AND SYSTEMS

MCO Name	
Contact person for this section (Name and Title)	
Contact Information (Phone Number and E-mail)	

Please note that if your staff uses an electronic version of this questionnaire, the response boxes are expandable. Do not worry about pagination. If your MCO uses the same data system for multiple clients or lines of business, please limit your responses to specific procedures related to the processing of DHCFP's claims and encounters. If supplemental files or supporting documents are provided, please note the filename(s) in your response.

- Using a list or data flow diagram, outline the path your MCO's encounter data follow from the time of processing until the encounter is accepted by DHCFP. If the data path differs by or within a claim type (e.g., medical, vision, pharmacy), provide a separate list or data flow diagram for each claim type and scenario. Be sure to identify any subcontractors responsible for processing the data.

(Please note that the Healthcare Effectiveness Data and Information Set (HEDIS®)³ Record of Administration, Data Management, and Processes (Roadmap)⁴ has been received and does not need to be resubmitted.)

Below, please note the filename(s) associated with the applicable list(s) or flowchart(s).

³ HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA).

⁴ The Roadmap is a tool used by MCOs to communicate information to the HEDIS auditor about the MCOs' systems for collecting and processing data for HEDIS.

2. For each of the key sources of claims data, provide a description of the files received, the frequency of receipt, and the approximate data volume associated with that source. If data are provided to your MCO by a vendor or third-party, please note the name of the vendor in the “Description of Data Received” column. *Note: The first row of the table is provided as an example. The table can be expanded if additional rows are required.*

Data Source ¹	Description of Data Received	Frequency ²	Approximate Data Volume
Pharmacy	<i>We receive point of service claims submitted by retail pharmacies from our vendor, <<Vender Name>>. Files are submitted using the NCPDP D.0 format.</i>	<i>Weekly</i>	<i>100,000 unique claims per week</i>
Dental			
Inpatient			
Outpatient			
Behavioral Health			
Home and Community Based Services (HCBS)			
Laboratory			
Long Term Care			
Pharmacy			
Physician			
Transportation			
Vision			
Other (list and describe)			

¹ These sources represent direct claims/encounters submissions from the rendering provider to your MCO or vendor.

² Frequency – daily, weekly, twice a month, monthly, every other month, etc.

3. Does your MCO modify or reformat its encounter data to accommodate DHCFP encounter data submission standards?

- Yes
- No

If YES, describe the modifications using specific data field names and specific examples (e.g., zeros are added to the beginning of values in the Provider ID field to pad the results to a length of nine characters).

4. Are data submitted to DHCFP extracted from another entity's claims/encounter data system/data warehouse?

- Yes
- No

If YES, describe the data system from which encounters are extracted from and submitted to DHCFP, including how this system aligns with your MCO's data warehouse. Include a data flow diagram, if needed.

5. Does your MCO submit all types of claims/encounters to DHCFP—e.g., paid, denied, and adjusted claims?

- Yes
- No

If NO, describe which claims/encounters are not submitted to DHCFP.

6. Describe your MCO's process for transmitting adjusted encounters to DHCFP that have been submitted previously. If your MCO does not submit adjustments to DHCFP, describe why these encounters are not submitted.



The following questions address the collection, use, and submission of provider data.

7. Is provider data collected and maintained by your MCO or a subcontracted vendor?

- By the MCO (Skip to Question 9)
- By a subcontracted vendor (Proceed to Question 8)

8. Describe the vendor's responsibilities in collecting and maintaining the provider data and your MCO's procedures for overseeing and monitoring the quality of provider data processed by the vendor.

9. Using a list or data flow diagram, outline the path your MCO's provider data follow from collection to maintenance.

10. Describe the process for linking provider data to claims and encounters, including any procedures for reconciling differences between data submitted on the claim/encounter and your MCO's provider data. If this function is managed by a subcontracted vendor, describe the vendor's responsibilities and your MCO's oversight of the process.

11. Does your MCO's provider data require modification to comply with DHCFP's provider data submission requirements?

- Yes
- No

If YES, describe the modifications, including examples as needed.

12. Does your MCO have a capitated arrangement with any specific provider groups?

- Yes
- No

If YES, please provide a list of provider groups under a capitated arrangement.

The following questions address the collection, use, and submission of enrollment data.

13. Is enrollment data maintained by your MCO or a subcontracted vendor?

- By the MCO (Skip to Question 15)
- By a subcontracted vendor (Proceed to Question 14)

14. Describe the vendor's responsibilities in maintaining the enrollment data and your MCO's procedures for overseeing and ensuring the quality of enrollment data processed by the vendor.

15. Using a list or data flow diagram, outline the path your MCO's enrollment data follow from receipt to maintenance.

SECTION B: DATA EXCHANGE POLICIES AND PROCEDURES

MCO Name	
Contact person for this section (Name and Title)	
Contact Information (Phone Number and E-mail)	

Please note that if your staff uses an electronic version of this questionnaire, the response boxes are expandable. Do not worry about pagination. If supplemental files or supporting documents are provided, please note the filename in your response.

1. Describe the encounter data submission process used by your MCO. Include details outlining the organizational and operational policies and procedures related to your encounter data submissions.

2. List the point(s) of contact at your MCO and their role in encounter data submission processes to DHCFP. *Note: The table can be expanded if additional rows are required.*

Point of Contact	Description of Data Submission Responsibility



SECTION C: MANAGEMENT OF ENCOUNTER DATA: COLLECTION, STORAGE, AND PROCESSING

MCO Name	
Contact person for this section (Name and Title)	
Contact Information (Phone Number and E-mail)	

Please note that if your staff uses an electronic version of this questionnaire, the response boxes are expandable. Do not worry about pagination. If supplemental files or supporting documents are provided, please note the filename in your response.

1. How are outpatient claims paid (e.g., percent of billed, line-by-line, case rate, etc.)? If different methods exist, list by percentage of claim dollars for each payment type. Describe how each of these payment arrangements is reflected in the encounter data submissions.

2. How are inpatient claims paid (e.g., DRG, APR-DRG, per diem, percent of billed, etc.)? If different methods exist, list by percentage of claim dollars for each payment type. Describe how each of these payment arrangements is reflected in the encounter data submissions.

3. Are any services submitted under bundle-payment structures? If so, what services are submitted for bundled-payments? For example, if delivery services are under bundle-payments, please specify whether both delivery and all prenatal/postpartum services are collected by your MCO.

4. How is other insurance data collected? Are sub-capitated vendors required to collect third party liability (TPL) data?

5. How are claims processed with TPL, including if other insurance is submitted after initial claims processing? Also, describe the TPL processes for vendor data.

6. What source data is used to verify the accuracy of the Medicare crossover and other third-party claims information? Where does your MCO store the payment information and the source data? Please describe any differences, if any, in processes between Medicare crossover claims and other third-party claims and how this information is populated onto encounters submitted to DHCFP.

7. If your MCO is not responsible to pay for a service due to payment from a primary carrier, how is the zero-pay claim reflected in the encounter data?

8. Are zero-pay claims for sub-capitated providers processed and submitted to DHCFP? If so, describe how the completeness and accuracy of the claims are assessed. Please also describe how sub-capitated providers are identified and tracked in the encounter data system.



SECTION D: ENCOUNTER DATA QUALITY MONITORING AND REPORTING

MCO Name	
Contact person for this section (Name and Title)	
Contact Information (Phone Number and E-mail)	

Please note that if your staff uses an electronic version of this questionnaire, the response boxes are expandable. Do not worry about pagination. If supplemental files or supporting documents are provided, please note the filename in your response.

1. If data are provided to your MCO by a vendor or third-party, how do you monitor the accuracy and completeness of encounter data submitted by your vendor(s)? If regular reports are used, submit a recent example of the report.

2. If data are provided to your MCO by a vendor or third-party, how do you monitor the timeliness of encounter data submitted by your vendor(s)? If regular reports are used, submit a recent example of the report.

3. How does your MCO monitor the accuracy and completeness of claims and encounter data submitted by your providers? If regular reports are used, submit a recent example of the report.

4. How does your MCO monitor the timeliness of claims and encounter data submitted by your providers? If regular reports are used, submit a recent example of the report.

5. Does your MCO have a process to monitor the status of encounter data submitted to DHCFP?

- Yes
- No

If YES, describe the monitoring and reporting mechanisms, including pertinent supporting policies, procedures, and sample reports (e.g., claims volume reports).

6. Using the table below, please identify which transaction response files are used to support your encounter data submission activities and how the responses are tracked in your data system. If the transaction response files are used to support encounter data submission activities ("YES"), describe how the data are used in the "Explanation of Transaction Response Use" column and whether the transaction responses are stored in the MCO's data system. If the transaction responses are not used to support encounter data submission activities ("NO"), explain the reason why in the "Explanation of Transaction Response Use" column and whether the transaction responses are stored in the MCO's data system. Note: The table can be expanded if additional rows are required.

Transaction Response	Used to Support Encounter Data Submission?	Explanation of Transaction Response Use and Storage in the MCO's Data System
999	<input type="checkbox"/> Yes <input type="checkbox"/> No	
277	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Yes <input type="checkbox"/> No	

7. What is the average percentage of encounters submitted to DHCFP that get rejected?

8. Describe your MCO's process for reconciling rejected files (transactions), including key policies and procedures for the identification, correction, and subsequent resubmission of encounters to DHCFP.

9. Describe how data in your MCO's encounter data system/data warehouse are used (e.g., rate-setting, HEDIS reporting, etc.)

10. What challenges do you face in submitting encounter data to DHCFP?

Appendix C. Statewide Comparative Analysis and Medical Record Review Results

This appendix contains detailed comparative analysis and medical record review results for the combined MCOs.

Table C-1—Record Omission and Surplus by Encounter Type

Encounter Data Source	Record Omission			Record Surplus		
	Denominator	Numerator	Rate*	Denominator	Numerator	Rate*
Professional	9,481,311	160,755	1.7%	9,632,698	312,142	3.2%
Institutional	3,669,615	75,518	2.1%	3,835,875	241,778	6.3%
Pharmacy	4,522,110	0	0.0%	4,649,244	127,134	2.7%

* Lower rates indicate better performance.

Table C-2—Element Omission and Surplus—Professional Encounters

Key Data Element	Number of Matched Records	Element Omission		Element Surplus	
		Number of Records With Values Not in the DHCFP's File	Rate*	Number of Records With Values Not in MCOs' Files	Rate*
Recipient ID	9,320,556	757	< 0.1%	0	0.0%
Header Service From Date	9,320,556	0	0.0%	0	0.0%
Header Service To Date	9,320,556	0	0.0%	0	0.0%
Billing Provider Number/NPI	9,320,556	22	< 0.1%	234	< 0.1%
Rendering Provider Number/NPI	9,320,556	0	0.0%	3,021,441	32.4%
Referring Provider Number/NPI	9,320,556	13	< 0.1%	4	< 0.1%
Primary Diagnosis Code	9,320,556	0	0.0%	68	< 0.1%
Secondary Diagnosis Code	9,320,556	702	< 0.1%	24	< 0.1%
Procedure Code	9,320,556	466	< 0.1%	0	0.0%
Procedure Code Modifier	9,320,556	2,766	< 0.1%	2,157	< 0.1%
Header Paid Amount	9,320,556	0	0.0%	0	0.0%
Detail Paid Amount	9,320,556	0	0.0%	0	0.0%

* Lower rates indicate better performance.

Table C-3—Element Omission and Surplus—Institutional Encounters

Key Data Element	Number of Matched Records	Element Omission		Element Surplus	
		Number of Records With Values Not in the DHCFP's File	Rate*	Number of Records With Values Not in MCOs' Files	Rate*
Recipient ID	3,594,097	291	< 0.1%	0	0.0%
Header Service From Date	3,594,097	0	0.0%	0	0.0%
Header Service To Date	3,594,097	0	0.0%	0	0.0%
Billing Provider Number/NPI	3,594,097	10	< 0.1%	0	0.0%
Attending Provider Number/NPI	3,594,097	0	0.0%	560	< 0.1%
Primary Diagnosis Code	3,594,097	0	0.0%	8	< 0.1%
Secondary Diagnosis Code	3,594,097	11,974	0.3%	1,414,864	39.4%
Procedure Code	3,594,097	31,245	0.9%	2,102	0.1%
Procedure Code Modifier	3,594,097	392,704	10.9%	1,495	< 0.1%
Primary Surgical Procedure Code	3,594,097	183,884	5.1%	204,562	5.7%
Secondary Surgical Procedure Code	3,594,097	85,561	2.4%	188,387	5.2%
Revenue Code	3,594,097	0	0.0%	0	0.0%
Diagnosis-Related Group (DRG)	3,594,097	2,166	0.1%	885	< 0.1%
Header Paid Amount	3,594,097	0	0.0%	0	0.0%
Detail Paid Amount	3,594,097	0	0.0%	0	0.0%

* Lower rates indicate better performance.

Table C-4—Element Omission and Surplus—Pharmacy Encounters

Key Data Element	Number of Matched Records	Element Omission		Element Surplus	
		Number of Records With Values Not in the DHCFP's File	Rate*	Number of Records With Values Not in MCOs' Files	Rate*
Recipient ID	4,522,110	0	0.0%	0	0.0%
Header Service From Date	4,522,110	0	0.0%	0	0.0%
Billing Provider Number/NPI	4,522,110	0	0.0%	0	0.0%
Prescribing Provider Number/NPI	4,522,110	0	0.0%	0	0.0%
National Drug Code (NDC)	4,522,110	0	0.0%	0	0.0%
Drug Quantity	4,522,110	0	0.0%	0	0.0%
Header Paid Amount	4,522,110	0	0.0%	0	0.0%

* Lower rates indicate better performance.

Table C-5—Element Agreement—Professional Encounters

Key Data Element	Number of Records With Values Present in Both Files	Number of Records With Same Values in Both Files	Rate
Recipient ID	9,319,799	4,225,195	45.3%
Header Service From Date	9,320,556	9,319,817	> 99.9%
Header Service To Date	9,320,556	9,320,270	> 99.9%
Billing Provider Number/NPI	9,279,746	9,212,262	99.3%
Rendering Provider Number/NPI	6,007,298	6,007,270	> 99.9%
Referring Provider Number/NPI	2,735,302	2,735,302	100.0%
Primary Diagnosis Code	9,320,488	9,320,459	> 99.9%
Secondary Diagnosis Code	5,316,388	5,314,975	> 99.9%
Procedure Code	9,320,090	9,301,022	99.8%
Procedure Code Modifier	2,231,318	2,230,878	> 99.9%
Header Paid Amount	9,320,556	7,869,103	84.4%
Detail Paid Amount	9,320,556	7,822,908	83.9%

Table C-6—Element Agreement—Institutional Encounters

Key Data Element	Number of Records With Values Present in Both Files	Number of Records With Same Values in Both Files	Rate
Recipient ID	3,593,806	1,560,296	43.4%
Header Service From Date	3,594,097	3,574,856	99.5%
Header Service To Date	3,594,097	3,559,474	99.0%
Billing Provider Number/NPI	3,569,593	3,564,847	99.9%
Attending Provider Number/NPI	2,108,256	2,108,256	100.0%
Primary Diagnosis Code	3,594,089	3,594,089	100.0%
Secondary Diagnosis Code	1,712,831	1,345,498	78.6%
Procedure Code	2,544,676	2,488,606	97.8%
Procedure Code Modifier	143,857	128,316	89.2%
Primary Surgical Procedure Code	268,071	268,056	> 99.9%
Secondary Surgical Procedure Code	106,878	105,822	99.0%
Revenue Code	3,594,097	3,546,774	98.7%
Diagnosis-Related Group (DRG)	680,944	671,342	98.6%
Header Paid Amount	3,594,097	3,593,658	> 99.9%
Detail Paid Amount	3,594,097	3,561,015	99.1%

Table C-7—Element Agreement—Pharmacy Encounters

Key Data Element	Number of Records With Values Present in Both Files	Number of Records With Same Values in Both Files	Rate
Recipient ID	4,522,110	4,522,110	100.0%
Header Service From Date	4,522,110	4,522,110	100.0%
Billing Provider Number/NPI	4,522,110	4,522,110	100.0%
Prescribing Provider Number/NPI	4,522,110	4,522,110	100.0%
National Drug Code (NDC)	4,522,110	4,520,906	> 99.9%
Drug Quantity	4,522,110	4,475,268	99.0%
Header Paid Amount	4,522,110	4,506,916	99.7%

Table C-8—All-Element Accuracy by Encounter Type

Encounter Type	Number of Records in Both Files	Number of Records With Same Values in Both Files	Rate
Professional	9,320,556	2,502,882	26.9%
Institutional	3,594,097	951,172	26.5%
Pharmacy	4,522,110	4,458,870	98.6%

Table C-9—All-Element Accuracy by Encounter Type (Without Recipient ID)

Encounter Type	Number of Records in Both Files	Number of Records With Same Values in Both Files	Rate
Professional	9,320,556	5,601,564	60.1%
Institutional	3,594,097	2,710,501	75.4%
Pharmacy	4,522,110	4,458,870	98.6%

Table C-10—MRR: Encounter Data Completeness

Data Element	Medical Record Omission*		Encounter Data Omission*	
	Denominator	Percent	Denominator	Percent
Date of Service	1,124	3.4%	1,122	2.8%
Diagnosis Code	2,604	23.5%	2,096	4.9%
Procedure Code	2,404	21.1%	2,025	5.6%
Procedure Code Modifier	1,478	35.4%	984	3.9%

* Lower rates indicate better performance.

Table C-11—MRR: Encounter Data Accuracy

Data Element	Denominator	Percent	Main Error Type
Diagnosis Code	1,996	98.7%	Specificity Error (57.9%) Inaccurate Coding (42.1%)
Procedure Code	1,908	94.5%	Incorrect Code (57.2%) Lower Level of Services in Medical Records (39.0%) Higher Level of Services in Medical Records (3.8%)
Procedure Code Modifier	950	98.9%	—
All-Element Accuracy	1,088	45.7%	—

“—” denotes that the error type analysis was not applicable to a given data element.

Appendix D. Comparative Analysis and Medical Record Review Results for Anthem Blue Cross Blue Shield

This appendix contains detailed comparative analysis and medical record review results for Anthem Blue Cross Blue Shield.

Table D-1—Record Omission and Surplus

Encounter Data Source	Record Omission			Record Surplus		
	Denominator	Numerator	Rate*	Denominator	Numerator	Rate*
Professional	4,314,710	89,334	2.1%	4,325,682	100,306	2.3%
Institutional	1,626,070	65,738	4.0%	1,591,891	31,559	2.0%
Pharmacy	1,717,196	0	0.0%	1,717,283	87	< 0.1%

* Lower rates indicate better performance.

Table D-2—Element Omission and Surplus—Professional Encounters

Key Data Element	Number of Matched Records	Element Omission		Element Surplus	
		Number of Records With Values Not in the DHCFP's File	Rate*	Number of Records With Values Not in MCO's File	Rate*
Recipient ID	4,225,376	181	< 0.1%	0	0.0%
Header Service From Date	4,225,376	0	0.0%	0	0.0%
Header Service To Date	4,225,376	0	0.0%	0	0.0%
Billing Provider Number/NPI	4,225,376	0	0.0%	0	0.0%
Rendering Provider Number/NPI	4,225,376	0	0.0%	1,584,645	37.5%
Referring Provider Number/NPI	4,225,376	0	0.0%	0	0.0%
Primary Diagnosis Code	4,225,376	0	0.0%	0	0.0%
Secondary Diagnosis Code	4,225,376	694	< 0.1%	0	0.0%
Procedure Code	4,225,376	287	< 0.1%	0	0.0%
Procedure Code Modifier	4,225,376	2,766	0.1%	2,157	0.1%
Header Paid Amount	4,225,376	0	0.0%	0	0.0%
Detail Paid Amount	4,225,376	0	0.0%	0	0.0%

* Lower rates indicate better performance.

Table D-3—Element Omission and Surplus—Institutional Encounters

Key Data Element	Number of Matched Records	Element Omission		Element Surplus	
		Number of Records With Values Not in the DHCFP's File	Rate*	Number of Records With Values Not in MCO's File	Rate*
Recipient ID	1,560,332	36	< 0.1%	0	0.0%
Header Service From Date	1,560,332	0	0.0%	0	0.0%
Header Service To Date	1,560,332	0	0.0%	0	0.0%
Billing Provider Number/NPI	1,560,332	0	0.0%	0	0.0%
Attending Provider Number/NPI	1,560,332	0	0.0%	0	0.0%
Primary Diagnosis Code	1,560,332	0	0.0%	0	0.0%
Secondary Diagnosis Code	1,560,332	201	< 0.1%	0	0.0%
Procedure Code	1,560,332	7,237	0.5%	2,102	0.1%
Procedure Code Modifier	1,560,332	181,243	11.6%	1,495	0.1%
Primary Surgical Procedure Code	1,560,332	183,884	11.8%	204,562	13.1%
Secondary Surgical Procedure Code	1,560,332	85,561	5.5%	126,114	8.1%
Revenue Code	1,560,332	0	0.0%	0	0.0%
Diagnosis-Related Group (DRG)	1,560,332	2,166	0.1%	885	0.1%
Header Paid Amount	1,560,332	0	0.0%	0	0.0%
Detail Paid Amount	1,560,332	0	0.0%	0	0.0%

* Lower rates indicate better performance.

Table D-4—Element Omission and Surplus—Pharmacy Encounters

Key Data Element	Number of Matched Records	Element Omission		Element Surplus	
		Number of Records With Values Not in the DHCFP's File	Rate*	Number of Records With Values Not in MCO's File	Rate*
Recipient ID	1,717,196	0	0.0%	0	0.0%
Header Service From Date	1,717,196	0	0.0%	0	0.0%
Billing Provider Number/NPI	1,717,196	0	0.0%	0	0.0%
Prescribing Provider Number/NPI	1,717,196	0	0.0%	0	0.0%
National Drug Code (NDC)	1,717,196	0	0.0%	0	0.0%
Drug Quantity	1,717,196	0	0.0%	0	0.0%
Header Paid Amount	1,717,196	0	0.0%	0	0.0%

* Lower rates indicate better performance.

Table D-5—Element Agreement—Professional Encounters

Key Data Element	Number of Records With Values Present in Both Files	Number of Records With Same Values in Both Files	Rate
Recipient ID	4,225,195	4,225,195	100.0%
Header Service From Date	4,225,376	4,224,637	> 99.9%
Header Service To Date	4,225,376	4,225,090	> 99.9%
Billing Provider Number/NPI	4,184,832	4,184,832	100.0%
Rendering Provider Number/NPI	2,449,580	2,449,580	100.0%
Referring Provider Number/NPI	0	0	—
Primary Diagnosis Code	4,225,376	4,225,375	> 99.9%
Secondary Diagnosis Code	2,385,228	2,383,828	99.9%
Procedure Code	4,225,089	4,206,041	99.5%
Procedure Code Modifier	1,005,399	1,004,959	> 99.9%
Header Paid Amount	4,225,376	4,211,121	99.7%
Detail Paid Amount	4,225,376	4,022,715	95.2%

Table D-6—Element Agreement—Institutional Encounters

Key Data Element	Number of Records With Values Present in Both Files	Number of Records With Same Values in Both Files	Rate
Recipient ID	1,560,296	1,560,296	100.0%
Header Service From Date	1,560,332	1,554,924	99.7%
Header Service To Date	1,560,332	1,546,644	99.1%
Billing Provider Number/NPI	1,535,838	1,535,838	100.0%
Attending Provider Number/NPI	81,477	81,477	100.0%
Primary Diagnosis Code	1,560,332	1,560,332	100.0%
Secondary Diagnosis Code	1,335,390	1,334,460	99.9%
Procedure Code	1,106,283	1,050,213	94.9%
Procedure Code Modifier	70,910	60,945	85.9%
Primary Surgical Procedure Code	15	0	0.0%
Secondary Surgical Procedure Code	0	0	—
Revenue Code	1,560,332	1,513,169	97.0%
Diagnosis-Related Group (DRG)	308,520	302,614	98.1%
Header Paid Amount	1,560,332	1,560,332	100.0%
Detail Paid Amount	1,560,332	1,527,261	97.9%

Table D-7—Element Agreement—Pharmacy Encounters

Key Data Element	Number of Records With Values Present in Both Files	Number of Records With Same Values in Both Files	Rate
Recipient ID	1,717,196	1,717,196	100.0%
Header Service From Date	1,717,196	1,717,196	100.0%
Billing Provider Number/NPI	1,717,196	1,717,196	100.0%
Prescribing Provider Number/NPI	1,717,196	1,717,196	100.0%
National Drug Code (NDC)	1,717,196	1,715,992	99.9%
Drug Quantity	1,717,196	1,670,354	97.3%
Header Paid Amount	1,717,196	1,717,196	100.0%

Table D-8—All-Element Accuracy by Encounter Type

Encounter Type	Number of Records in Both Files	Number of Records With Same Values in Both Files	Rate
Professional	4,225,376	2,502,882	59.2%
Institutional	1,560,332	951,172	61.0%
Pharmacy	1,717,196	1,669,150	97.2%

Note: The *Recipient ID* field for Anthem did not impact the all-element accuracy rate for the professional and institutional encounters; therefore, no separate all-element accuracy table was presented which excluded the *Recipient ID* field in the all-element accuracy calculation.

Table D-9—MRR: Encounter Data Completeness

Data Element	Medical Record Omission*			Encounter Data Omission*		
	Denominator	Numerator	Percent	Denominator	Numerator	Percent
Date of Service	575	12	2.1%	586	23	3.9%
Diagnosis Code	1,380	314	22.8%	1,113	47	4.2%
Procedure Code	1,275	237	18.6%	1,110	72	6.5%
Procedure Code Modifier	830	304	36.6%	536	10	1.9%

* Lower rates indicate better performance.

Table D-10—MRR: Encounter Data Accuracy

Data Element	Denominator	Numerator	Percent	Main Error Type
Diagnosis Code	1,066	1,048	98.3%	Specificity Error (61.1%) Inaccurate Coding (38.9%)
Procedure Code	1,038	992	95.6%	Incorrect Code (60.9%) Lower Level of Services in Medical Records (32.6%) Higher Level of Services in Medical Records (6.5%)
Procedure Code Modifier	526	522	99.2%	—
All-Element Accuracy	563	262	46.5%	—

“—” denotes that the error type analysis was not applicable to a given data element.

Appendix E. Comparative Analysis and Medical Record Review Results for Health Plan of Nevada

This appendix contains detailed comparative analysis and medical record review results for Health Plan of Nevada.

Table E-1—Record Omission and Surplus

Encounter Data Source	Record Omission			Record Surplus		
	Denominator	Numerator	Rate*	Denominator	Numerator	Rate*
Professional	5,166,601	71,421	1.4%	5,307,016	211,836	4.0%
Institutional	2,043,545	9,780	0.5%	2,243,984	210,219	9.4%
Pharmacy	2,804,914	0	0.0%	2,931,961	127,047	4.3%

* Lower rates indicate better performance.

Table E-2—Element Omission and Surplus—Professional Encounters

Key Data Element	Number of Matched Records	Element Omission		Element Surplus	
		Number of Records With Values Not in the DHCFP's File	Rate*	Number of Records With Values Not in MCO's File	Rate*
Recipient ID	5,095,180	576	< 0.1%	0	0.0%
Header Service From Date	5,095,180	0	0.0%	0	0.0%
Header Service To Date	5,095,180	0	0.0%	0	0.0%
Billing Provider Number/NPI	5,095,180	22	< 0.1%	234	< 0.1%
Rendering Provider Number/NPI	5,095,180	0	0.0%	1,436,796	28.2%
Referring Provider Number/NPI	5,095,180	13	< 0.1%	4	< 0.1%
Primary Diagnosis Code	5,095,180	0	0.0%	68	< 0.1%
Secondary Diagnosis Code	5,095,180	8	< 0.1%	24	< 0.1%
Procedure Code	5,095,180	179	< 0.1%	0	0.0%
Procedure Code Modifier	5,095,180	0	0.0%	0	0.0%
Header Paid Amount	5,095,180	0	0.0%	0	0.0%
Detail Paid Amount	5,095,180	0	0.0%	0	0.0%

* Lower rates indicate better performance.

Table E-3—Element Omission and Surplus—Institutional Encounters

Key Data Element	Number of Matched Records	Element Omission		Element Surplus	
		Number of Records With Values Not in the DHCFP's File	Rate*	Number of Records With Values Not in MCO's File	Rate*
Recipient ID	2,033,765	255	< 0.1%	0	0.0%
Header Service From Date	2,033,765	0	0.0%	0	0.0%
Header Service To Date	2,033,765	0	0.0%	0	0.0%
Billing Provider Number/NPI	2,033,765	10	< 0.1%	0	0.0%
Attending Provider Number/NPI	2,033,765	0	0.0%	560	< 0.1%
Primary Diagnosis Code	2,033,765	0	0.0%	8	< 0.1%
Secondary Diagnosis Code	2,033,765	11,773	0.6%	1,414,864	69.6%
Procedure Code	2,033,765	24,008	1.2%	0	0.0%
Procedure Code Modifier	2,033,765	211,461	10.4%	0	0.0%
Primary Surgical Procedure Code	2,033,765	0	0.0%	0	0.0%
Secondary Surgical Procedure Code	2,033,765	0	0.0%	62,273	3.1%
Revenue Code	2,033,765	0	0.0%	0	0.0%
Diagnosis-Related Group (DRG)	2,033,765	0	0.0%	0	0.0%
Header Paid Amount	2,033,765	0	0.0%	0	0.0%
Detail Paid Amount	2,033,765	0	0.0%	0	0.0%

* Lower rates indicate better performance.

Table E-4—Element Omission and Surplus—Pharmacy Encounters

Key Data Element	Number of Matched Records	Element Omission		Element Surplus	
		Number of Records With Values Not in the DHCFP's File	Rate*	Number of Records With Values Not in MCO's File	Rate*
Recipient ID	2,804,914	0	0.0%	0	0.0%
Header Service From Date	2,804,914	0	0.0%	0	0.0%
Billing Provider Number/NPI	2,804,914	0	0.0%	0	0.0%
Prescribing Provider Number/NPI	2,804,914	0	0.0%	0	0.0%
National Drug Code (NDC)	2,804,914	0	0.0%	0	0.0%
Drug Quantity	2,804,914	0	0.0%	0	0.0%
Header Paid Amount	2,804,914	0	0.0%	0	0.0%

* Lower rates indicate better performance.

Table E-5—Element Agreement—Professional Encounters

Key Data Element	Number of Records With Values Present in Both Files	Number of Records With Same Values in Both Files	Rate
Recipient ID	5,094,604	0	0.0%
Header Service From Date	5,095,180	5,095,180	100.0%
Header Service To Date	5,095,180	5,095,180	100.0%
Billing Provider Number/NPI	5,094,914	5,027,430	98.7%
Rendering Provider Number/NPI	3,557,718	3,557,690	> 99.9%
Referring Provider Number/NPI	2,735,302	2,735,302	100.0%
Primary Diagnosis Code	5,095,112	5,095,084	> 99.9%
Secondary Diagnosis Code	2,931,160	2,931,147	> 99.9%
Procedure Code	5,095,001	5,094,981	> 99.9%
Procedure Code Modifier	1,225,919	1,225,919	100.0%
Header Paid Amount	5,095,180	3,657,982	71.8%
Detail Paid Amount	5,095,180	3,800,193	74.6%

Table E-6—Element Agreement—Institutional Encounters

Key Data Element	Number of Records With Values Present in Both Files	Number of Records With Same Values in Both Files	Rate
Recipient ID	2,033,510	0	0.0%
Header Service From Date	2,033,765	2,019,932	99.3%
Header Service To Date	2,033,765	2,012,830	99.0%
Billing Provider Number/NPI	2,033,755	2,029,009	99.8%
Attending Provider Number/NPI	2,026,779	2,026,779	100.0%
Primary Diagnosis Code	2,033,757	2,033,757	100.0%
Secondary Diagnosis Code	377,441	11,038	2.9%
Procedure Code	1,438,393	1,438,393	100.0%
Procedure Code Modifier	72,947	67,371	92.4%
Primary Surgical Procedure Code	268,056	268,056	100.0%
Secondary Surgical Procedure Code	106,878	105,822	99.0%
Revenue Code	2,033,765	2,033,605	> 99.9%
Diagnosis-Related Group (DRG)	372,424	368,728	99.0%
Header Paid Amount	2,033,765	2,033,326	> 99.9%
Detail Paid Amount	2,033,765	2,033,754	> 99.9%

Table E-7—Element Agreement—Pharmacy Encounters

Key Data Element	Number of Records With Values Present in Both Files	Number of Records With Same Values in Both Files	Rate
Recipient ID	2,804,914	2,804,914	100.0%
Header Service From Date	2,804,914	2,804,914	100.0%
Billing Provider Number/NPI	2,804,914	2,804,914	100.0%
Prescribing Provider Number/NPI	2,804,914	2,804,914	100.0%
National Drug Code (NDC)	2,804,914	2,804,914	100.0%
Drug Quantity	2,804,914	2,804,914	100.0%
Header Paid Amount	2,804,914	2,789,720	99.5%

Table E-8—All-Element Accuracy by Encounter Type

Encounter Type	Number of Records in Both Files	Number of Records With Same Values in Both Files	Rate
Professional	5,095,180	0	0.0%
Institutional	2,033,765	0	0.0%
Pharmacy	2,804,914	2,789,720	99.5%

Table E-9—All-Element Accuracy by Encounter Type (Without Recipient ID)

Encounter Type	Number of Records in Both Files	Number of Records With Same Values in Both Files	Rate
Professional	5,095,180	3,098,578	60.8%
Institutional	2,033,765	1,759,314	86.5%
Pharmacy	2,804,914	2,789,720	99.5%

Table E-10—MRR: Encounter Data Completeness

Data Element	Medical Record Omission*			Encounter Data Omission*		
	Denominator	Numerator	Percent	Denominator	Numerator	Percent
Date of Service	549	24	4.4%	536	11	2.1%
Diagnosis Code	1,224	294	24.0%	983	53	5.4%
Procedure Code	1,129	259	22.9%	915	45	4.9%
Procedure Code Modifier	648	224	34.6%	448	24	5.4%

* Lower rates indicate better performance.

Table E-11—MRR: Encounter Data Accuracy

Data Element	Denominator	Numerator	Percent	Main Error Type
Diagnosis Code	930	921	99.0%	Specificity Error (55.6%) Inaccurate Coding (44.4%)
Procedure Code	870	815	93.7%	Incorrect Code (54.5%) Lower Level of Services in Medical Records (43.6%) Higher Level of Services in Medical Records (1.8%)
Procedure Code Modifier	424	418	98.6%	—
All-Element Accuracy	525	237	45.1%	—

“—” denotes that the error type analysis was not applicable to a given data element.