Commonwealth of Virginia
Department of
Medical Assistance Services

2022–2023 Commonwealth Coordinated Care Plus (CCC Plus) (Managed Long-Term Services and Supports [MLTSS]) Encounter Data Validation Aggregate Report

HSAG HEALTH SERVICES ADVISORY GROUP

VIRGINIA'S MEDICAID PROGRAM
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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 Virginia Department of Medical Assistance Services (DMAS) requires its Commonwealth Coordinated Care Plus (CCC Plus) (Managed Long-Term Services and Supports [MLTSS]) managed care organizations (MCOs) to submit high-quality encounter data. During state fiscal year (SFY) 2022–2023, DMAS contracted with Health Services Advisory Group, Inc. (HSAG) to conduct an encounter data validation (EDV) study. The goal of the study is to determine the extent to which professional, institutional, and pharmacy encounters submitted to DMAS by its contracted MCOs are complete and accurate. Table 1-1 presents the MCOs included in this study.

Table 1-1—CCC Plus (MLTSS) MCOs

MCO Name	MCO Short Name
Aetna Better Health of Virginia	Aetna
HealthKeepers, Inc.	HealthKeepers
Molina Complete Care	Molina
Optima Health[1]	Optima
UnitedHealthcare of the Mid-Atlantic, Inc.	United
Virginia Premier Health Plan, Inc.[1]	VA Premier

[1] As of January 1, 2024, Optima and VA Premier have merged under the name of Sentara Health Plan.

Methods

In alignment with the Centers for Medicare & Medicaid Services (CMS) External Quality Review (EQR) *Protocol 5. Validation of Encounter Data Reported by the Medicaid and CHIP [Children's Health Insurance Program] Managed Care Plan: An Optional EQR-Related Activity*, February 2023 (CMS EQR Protocol 5),[1-1] HSAG will conduct the following two core evaluation activities for the EDV activity:

- Information systems (IS) review—Assessment of DMAS' and the MCOs' information systems and processes. The goal of this activity is to examine the extent to which DMAS' and the MCOs' IS infrastructures are likely to collect and process complete and accurate encounter data. This activity corresponds to Activity 1: Review State Requirements and Activity 2: Review the MCP's Capability in CMS EQR Protocol 5.
- Comparative analysis—Analysis of DMAS' electronic encounter data completeness and accuracy through a comparison between DMAS' electronic encounter data and the data extracted from the MCOs' claims payment data systems. The goal of this activity is to evaluate the extent to which the

[1-1] Department of Health and Human Services, Centers for Medicare & Medicaid Services. *Protocol 5. Validation of Encounter Data Reported by the Medicaid and CHIP Managed Care Plan: An Optional EQR-Related Activity,* February 2023. Available at: https://www.medicaid.gov/medicaid/quality-of-care/downloads/2023-eqr-protocols.pdf. Accessed on: June 20, 2023.

encounter data in DMAS' database (i.e., Enterprise Data Warehouse Solution [EDWS]/SAS®,[1-2] data) are complete, accurate, and submitted by the MCOs in a timely manner. This activity corresponds to Activity 3: Analyze Electronic Encounter Data in CMS EQR Protocol 5. HSAG included encounter data with dates of service from calendar year 2022 in the comparative analysis.

Findings, Conclusions, and Recommendations

A summary of the major findings and recommendations from the EDV study are presented below for the two activities.

Information Systems Review

Based on the MCOs' responses to the IS review questionnaire, three of the six MCOs reported changes to their encounter data processing and monitoring systems since July 1, 2021. The changes for Molina and VA Premier were significant, and both MCOs worked with DMAS and completed DMAS' testing plan before implementing the changes.

All the MCOs have subcontractors. Although the MCOs' subcontractors collected and processed encounters for the MCOs, the MCOs themselves always stored these data in their data systems and submitted the encounters to DMAS. The questionnaire collected information from the MCOs regarding the encounter data quality checks performed by the MCOs and their subcontractors. While the quality checks varied across different encounter types, the subcontractors and/or the MCOs performed some quality checks either before or after submitting encounters to DMAS for each encounter type. All MCOs had quality checks to ensure that the submitted records pass DMAS Electronic Data Interchange (EDI) compliance edits and business rules. However, other quality checks regarding encounter volume, reconciliation with financial reports, and timeliness varied among the MCOs. The MCOs and/or their subcontractors should consider building reports to monitor encounter data accuracy, completeness, and timeliness for encounter types with deficiencies shown in Table 3-4 (i.e., red dots) and Table 3-5 (i.e., cells without check marks).

When asking the MCOs about their internal/external challenges for the encounter data submissions, three MCOs noted the challenge of submitting a void/replacement encounter to DMAS when the prior submission was a failed encounter. Additionally, two MCOs noted untimely updates regarding DMAS' reference tables as a challenge. DMAS should review these challenges and resolve them, if appropriate.

Comparative Analysis

Throughout the comparative analysis section, lower rates indicate better performance for omission and surplus rates, while higher rates indicate better performance for accuracy rates.

[1-2] 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.

Record Completeness

HSAG evaluated the record-level data completeness of DMAS' encounter data by investigating the record omission (i.e., in MCO-submitted data but not in DMAS-submitted data) and record surplus (i.e., in DMAS-submitted data but not in MCO-submitted data) in DMAS' data compared to each MCO. Table 1-2 displays the statewide rates as well as the MCOs' performance.

Table 1-2—Summary for Record Omission and Surplus Rates

Encounter Data Type	Statewide Record Omission	Statewide Record Surplus	Aetna	Health-Keepers	Molina	Optima	United	VA Premier
Professional	2.8%	6.7%						
Institutional	19.1%	17.8%						
Pharmacy	10.0%	20.9%						

Among the three encounter types, professional encounters had relatively low statewide record omission and record surplus rates, which indicates relatively complete encounter data at the record level. The MCOs' results varied within each encounter type.

Data Element Completeness

HSAG evaluated the element-level completeness of DMAS' encounter data by the element omission and element surplus rates for key data elements relevant to each encounter type. Table 1-3 displays an aggregated score for the percentage of key data elements that were below 5.0 percent for both the element omission and element surplus rates. A score of 100 percent indicates that all applicable key data elements for an encounter type had both element omission and surplus rates below 5.0 percent, which indicates relatively complete data for all key data elements.

Table 1-3—Percentage of Key Data Elements With Both Element Omission and Surplus Rates Below 5.0 Percent

Encounter Data Type	Number of Key Data Elements*	Statewide	Aetna	Health-Keepers	Molina	Optima	United	VA Premier
Professional	17	100.0%	82.4%	100.0%	82.4%	70.6%	94.1%	100.0%
Institutional	22	95.5%	86.4%	95.5%	100.0%	86.4%	90.9%	90.9%
Pharmacy	9	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled values with zeros in the third-party liability (TPL) payment related fields before conducting the analysis. Therefore, the TPL-related fields were not included in this analysis.

Among the three encounter types, professional and pharmacy encounters had statewide element omission and surplus rates below 5.0 percent for all key data elements, which indicates relatively complete data for all relevant key data elements. The MCOs' results varied for professional and institutional encounters.

Data Element Accuracy

HSAG determined element-level accuracy by comparing the values of key data elements for records with data present in both DMAS' and the MCOs' records. Table 1-4 shows a score for the percentage of key data elements with an element accuracy rate over 95.0 percent. A score of 100 percent indicates that all key data elements had an element accuracy rate over 95.0 percent, which indicates relatively accurate data for all key data elements.

Table 1-4—Percentage of Key Data Elements With an Element Accuracy Over 95.0 Percent

Encounter Data Type	Number of Key Data Elements	Statewide	Aetna	Health-Keepers	Molina	Optima	United	VA Premier
Professional	19	73.7%	63.2%	89.5%	78.9%	57.9%	89.5%	89.5%
Institutional	24	50.0%	75.0%	91.7%	58.3%	54.2%	75.0%	79.2%
Pharmacy	10	80.0%	100.0%	100.0%	100.0%	80.0%	90.0%	100.0%

Among the three encounter types, pharmacy encounters had statewide element accuracy rates over 95.0 percent for 80.0 percent of all 10 key data elements. Institutional encounters only had half of the key data elements with statewide element accuracy rates over 95.0 percent, which indicates relatively poor element accuracy for the key data elements. The MCOs' results varied within each encounter type.

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 DMAS' data warehouse are complete and accurate for all key data elements. It is evident that because the MCOs had varying element completeness (element omission and element surplus) and inconsistent data element accuracy, the all-element accuracy was negatively affected (i.e., statewide all-element accuracy rates were 49.7 percent, 4.2 percent, and 75.5 percent for professional, institutional, and pharmacy encounters, respectively). Addressing the causes outlined above for each issue will help mitigate nominal all-element accuracy rates.

Recommendations

DMAS should work with the MCOs to investigate the findings from the comparative analysis to determine whether the differences between DMAS' data and the MCOs' data are due to issues from the data extraction for the EDV study, or if the differences indicate issues with DMAS' encounter data completeness and accuracy. Using 5.0 percent and 95.0 percent as the cutoff values for the omission/surplus rates and accuracy rates, respectively, Table 1-5 displays the numbers of rates requiring the MCOs' attention. DMAS should consider distributing these findings from the comparative analysis to the MCOs for investigation so that the root causes could be identified and actions could be taken to address any issues related to encounter data completeness and accuracy.

Table 1-5—Number of Issues Requiring the MCOs' Attention

	Number of Issues			
MCO	Professional	Institutional	Pharmacy	Table With Details
Aetna	12	10	2	Table 5-4
HealthKeepers	2	4	1	Table 5-5
Molina	7	10	1	Table 5-6
Optima	13	13	4	Table 5-7
United	3	8	2	Table 5-8
VA Premier	3	8	0	Table 5-9

DMAS should also develop contract standards for the measures included in the comparative analysis so that DMAS can use the standards to hold the MCOs accountable or provide incentives upon achieving standards for future comparative analyses.

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 to accurately and effectively monitor and improve the quality of care, generate accurate and reliable reports, develop appropriate capitated rates, and obtain complete and accurate utilization information. The completeness and accuracy of these data are essential to DMAS' overall management and oversight of its Medicaid managed care program.

Methodology

During SFY 2022–2023, DMAS contracted with HSAG to conduct an EDV study. In alignment with CMS EQR Protocol 5*,* HSAG conducted the following two core evaluation activities:

- IS review—assessment of DMAS' and the MCOs' information systems and processes.
- Comparative analysis—analysis of DMAS' electronic encounter data completeness and accuracy through a comparison between DMAS' electronic encounter data and the data extracted from the MCOs' claims payment data systems.

HSAG conducted the EDV study for the six CCC Plus (MLTSS) MCOs displayed in Table 1-1.

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 DMAS 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 employed a three-stage review process that included 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/validation activities currently put forth by DMAS. Documents requested for review included data dictionaries, process flow charts, data system diagrams, encounter system edits, sample rejection reports, work group meeting minutes, and DMAS' current encounter data submission requirements, among others. The information obtained from this review is important for developing a targeted questionnaire to address important topics of interest to DMAS.

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 Information Systems Capabilities Assessment (ISCA) collected through CMS *Protocol 2. Validation of Performance Measures*: *A Mandatory EQR-Related Activity*, February 2023.[2-1] This process allows the IS review activity to be coordinated across projects, preventing duplication and minimizing the impact on the MCOs. HSAG then developed a questionnaire customized in collaboration with DMAS to gather information and specific procedures for data processing, personnel, and data acquisition capabilities. Lastly, since HSAG conducted an IS review two years ago, this review included specific topics of interest to DMAS. For example, HSAG included DMAS staffing and encounter quality monitoring reports for MCOs' subcontractors as focus areas in the questionnaire.

Stage 3—Key Informant Interviews

After reviewing the completed assessments, HSAG followed up with key DMAS and MCO information technology personnel to clarify any questions from the questionnaire responses. Overall, the IS review allowed HSAG to document current processes and develop a thematic process map identifying critical points that impact the submission of quality encounter data.

Comparative Analysis

The goal of the comparative analysis is to evaluate the extent to which encounters submitted to DMAS by the MCOs are complete and accurate, based on corresponding information stored in the MCOs' claims payment data systems. This step corresponds to another important validation activity described in the CMS protocol—i.e., analyses of MCO electronic encounter data. In this activity, HSAG developed a data requirements document requesting encounter data from both DMAS and the MCOs. To help the MCOs prepare data for the EDV study, HSAG added a section regarding data extraction tips to the data requirements document. A follow-up technical assistance session occurred approximately one week after distributing the data requirements document to the MCOs, thereby allowing the MCOs time to review and prepare their questions for the session.

HSAG used data from both DMAS and the MCOs with dates of service between January 1, 2022, and December 31, 2022, to evaluate the accuracy and completeness of the encounter data. To ensure that the extracted data from both sources represent the same universe of encounters, the data targeted professional, institutional, and pharmacy encounters with MCO adjustment/paid dates on or before April 30, 2023, and submitted to DMAS on or before May 31, 2023. This anchor date allowed enough time for the encounters in the study period to be submitted, processed, and available for evaluation in the DMAS data warehouse.

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

- Data extraction—Data were extracted based on the data requirements document.

[2-1] Department of Health and Human Services, Centers for Medicare & Medicaid Services. *Protocol 2. Validation of Performance Measures: A Mandatory EQR-Related Activity*, February 2023. Available at: https://www.medicaid.gov/medicaid/quality-of-care/downloads/2023-eqr-protocols.pdf. Accessed on: June 20, 2023.

- Percentage present—Required data fields were present on the file and had values in those fields.
- Percentage of valid values—The values included were the expected values (e.g., valid ICD-10 codes in the diagnosis field).
- Evaluation of matching claim numbers—The percentage of claim numbers[2-2] that matched between the data extracted from DMAS' data warehouse and the MCOs' data submitted to HSAG.

Based on the preliminary file review results, HSAG generated an initial file review report that highlighted major findings requiring the MCOs to resubmit data, as needed, on September 30, 2023. The MCOs responded to feedback and resubmitted data on October 25, 2023. On December 4, 2023, HSAG created a second file review report that highlighted outstanding major findings that required the MCOs to resubmit again. The MCOs responded to feedback and resubmitted data on December 18, 2023. Some MCOs required additional resubmissions, including Optima, which provided its last data set on January 16, 2024, and VA Premier, which provided its last data set on December 21, 2023.

Once HSAG received and processed the final set of data from DMAS 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 DMAS' data warehouse (record omission).
- The number and percentage of records present in DMAS' 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
Member ID	✓	✓	✓
Detail Service From Date	✓	✓	✓
Detail Service To Date	✓		
Header Service From Date		✓	
Header Service To Date		✓	
Billing Provider National Provider Identifier (NPI)	✓	✓	✓
Rendering Provider NPI	✓		
Attending Provider NPI		✓	
Servicing Provider Taxonomy Code	✓	✓	
Prescribing Provider NPI			✓

[2-2] DMAS noted that there was a known issue with truncation of some MCO claim numbers for one MCO/subcontractor. Therefore, HSAG used both *ClaimNo* (i.e., unique identifier assigned by the MCOs) and Transaction Control Number (*TCN*) (i.e., unique identifier assigned by DMAS) to link DMAS' encounters and the MCO's encounters for this MCO/subcontractor as noted in the last paragraph on page 4-1.

Key Data Elements	Professional	Institutional	Pharmacy
Referring Provider NPI	✓	✓	
Primary Diagnosis Code	✓	✓	
Secondary Diagnosis Codes	✓	✓	
Procedure Code	✓	✓	
Procedure Code Modifiers	✓	✓	
Surgical Procedure Codes		✓	
National Drug Code (NDC)	✓	✓	✓
Drug Quantity	✓	✓	✓
Revenue Code		✓	
Diagnosis Related Group (DRG)		✓	
Type of Bill Code		✓	
Header Paid Amount	✓	✓	
Header Third-Party Liability (TPL)Paid Amount	✓	✓	
Detail Paid Amount	✓	✓	✓
Detail TPL Paid Amount	✓	✓	✓
MCO Received Date (i.e., the date when the MCOs received claims from providers)	✓	✓	✓
MCO Paid Date	✓	✓	✓

For the matching records between DMAS' data and the MCOs' data from the first step, HSAG then evaluated the 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 DMAS' data warehouse (element omission).
- The number and percentage of records with values present in DMAS' data warehouse but not in the MCOs' submitted files (element surplus).
- The number and percentage of records with values missing from both DMAS' data warehouse and the MCOs' submitted files (element missing values).

Element-level accuracy was limited to those records with values present in both the MCOs' submitted files and DMAS' data warehouse. For each key data element, HSAG determined the number and percentage of records with the same values in both the MCOs' submitted files and DMAS' data warehouse (element accuracy).

For the records present in both DMAS' data and the MCOs' data, HSAG evaluated the number and percentage of records with the same values for all key data elements relevant to each encounter data type (all-element accuracy).

Additionally, results were stratified by subcontractor as needed to provide a better understanding of the aggregate results by distinguishing data anomalies that may only pertain to a specific subcontractor. Below are the subcontractor types for the MCOs:

- Consumer-directed (CD) services
- Non-emergency medical transportation (NEMT)
- Pharmacy
- Vision

3. Information Systems Review

Representatives from all six MCOs in the CCC Plus (MLTSS) program completed the DMAS-approved questionnaire supplied by HSAG. This section summarizes the findings from the questionnaire responses. Since HSAG conducted the IS review activity with the MCOs in the previous EDV study, the current study focused on the data quality checks performed by the MCOs and their subcontractors, as well as changes made by the MCOs since July 1, 2021. Of note, the study findings from the questionnaire responses regarding DMAS' staffing are included in a separate document for DMAS' internal use.

Encounter Data Sources and Systems

This section focuses on changes made by the MCOs since July 1, 2021, and how the MCOs submit the rendering provider information to DMAS.

Changes to Encounter Data Processing and Monitoring Systems

Three of the six MCOs made some changes to their encounter data processing and monitoring systems since July 1, 2021; Table 3-1 describes the changes.

Table 3-1—Description of Changes Made by MCOs

MCO	Change Description
Aetna	No changes have been made since July 1, 2021.
HealthKeepers	No changes have been made since July 1, 2021.
Molina	Molina updated its claims/encounter processing systems from Shared Health to Molina Healthcare systems on July 1, 2022.
Optima	No changes have been made since July 1, 2021.
United	The CD services subcontractor (i.e., Public Partnership, LLC [PPL]) added the Health Care Pricing (HCP) segment to 837 files to meet the new DMAS encounter requirements.
VA Premier	Changes were made to pharmacy benefit management (PBM) and NEMT contracts.

Molina

Molina implemented the transition of its claims/encounter processing systems from Shared Health to Molina Healthcare systems on July 1, 2022 by conducting a system-cycle review. This ensured compliance with all State, regulatory, contractual, and quality standards. After the changes were made, Molina worked with DMAS to complete the DMAS Encounter Test Plan prior to encounters being submitted into the DMAS production environment. DMAS' encounter team partnered with Molina to ensure all State and regulatory requirements were met through individual test cases and volume

testing. Based on the test plan, Molina consistently submitted complete and quality encounters to DMAS after the change.

United

United's CD services subcontractor (i.e., PPL) added the HCP segment to 837 files to meet the new DMAS encounter requirements. PPL implemented the change in accordance with the specified requirements outlined in Change Request 871 in December 2022. After the changes were made, complete and accurate encounter data submissions were assured by successfully conducting testing in a test environment before releasing the changes to production. Additionally, PPL reviewed 837 files generated after the change to ensure that the new segment was present and was populated correctly.

VA Premier

VA Premier made changes to its PBM contract, as well as its NEMT contract, effective January 1, 2023. The implementation of these changes included internal configuration work to allow its existing encounter data management system to consume and manage encounter data feeds from these new sources. VA Premier also informed DMAS of these changes prior to the effective dates and successfully completed testing with DMAS ahead of receiving approval to begin production submissions. After the changes were made, VA Premier did the following to ensure that complete and accurate encounter data were submitted to DMAS in a timely manner after the changes:

- Maintained a weekly cadence of submissions for the prior week's adjudication, which allowed VA Premier to closely monitor general data quality and completeness.
- Applied conditional data integrity scrubs to minimize submission of incomplete and inaccurate data during the initial set-up for each new subcontractor.
- Reviewed errors in the response files weekly to perform timely remediation in the short term and developed long-term solutions to mitigate error reoccurrence.

Rendering Provider NPI

Optima noted that its system populates the rendering provider information on all claims (if populated) regardless of whether the information is the same as the billing provider. For the remaining five MCOs, their encounter systems have built-in logic to check whether the billing provider NPI is the same as the rendering provider NPI. When the billing and rendering provider NPIs are the same, these five MCOs will remove/suppress the rendering provider information prior to generating the outbound 837 files to DMAS.

Encounter Data Quality Monitoring

This section evaluates how the MCOs monitor their encounter data quality based on the following three questions:

- How do MCOs monitor encounter data quality for data collected by their subcontractors?
- How do MCOs monitor encounter data quality for data they collect?

- What are the challenges and upcoming changes from the MCOs?

Encounter Data Collected by MCOs' Subcontractor

Although the MCOs' subcontractors collected and processed the encounters for the MCOs, the MCOs themselves always submitted the encounters to DMAS. Table 3-2 presents information regarding whether the MCOs stored, reviewed, or modified encounters before submitting them to DMAS, and whether the MCOs reviewed them after submission to DMAS. The green dots in the table indicate a "Yes" response, and the red dots indicate a "No" response.

Table 3-2—MCO Processes for Encounters From Subcontractors

MCO	Type of Subcontractor	Stored by MCO	Reviewed by MCO Before Submission	Not Modified by MCO	Reviewed by MCO After Submission
Aetna	All	●	●	●	●
HealthKeepers	All	●	●	●	●
Molina	All	●	●	●	●
Optima	All	●	●	●	●
United	All	●	●	●	●
VA Premier	NEMT, Pharmacy, Vision	●	●	●	●
	CD Services	●	●	●	●

Key Findings: Table 3-2

- All six MCOs stored data from their subcontractors.
- All MCOs except Molina reported reviewing encounters before submission to DMAS. Molina performed no quality checks on the claims/encounters file from its subcontractors before submitting to DMAS, because Molina requires all its subcontractors to generate 5010 Health Insurance Portability and Accountability Act (HIPAA)-mandated and State-specific encounter validations prior to sending the 837 encounter files to Molina.
- All MCOs except VA Premier reported that no modifications were made to encounters prior to submitting encounter data to DMAS. VA Premier reported that no modifications were made to CD services; however, VA Premier did have modifications performed on NEMT, pharmacy, and vision encounters prior to submission to DMAS.
- All six MCOs reported reviewing encounters after submission to DMAS.

HSAG gathered responses from the MCOs regarding the quality checks conducted by both their subcontractors and the MCOs themselves. In order to organize the MCOs' responses, HSAG provided standard data quality checks for the MCOs to choose from in their questionnaire responses. Table 3-3 provides a brief description of these data quality checks.

Table 3-3—Description of Data Quality Checks

Data Quality Checks	Description
Claim Volume by Submission Month	Evaluates the number of unique claims based on the month when the claims were submitted to an entity.
Claim Volume Per Member Per Month (PMPM)	Evaluates the number of unique claims PMPM based on the month when the services occurred.
Field-Level Completeness	Evaluates whether there are any missing and/or extra values for a specific data element.
Field-Level Validity	Evaluates whether the values for a specific data element are valid.
Timeliness	Evaluates whether the source entity submits claims in a timely manner.
Reconciliation With Financial Reports	Evaluates whether the payment fields in the claims align with the financial reports from an entity.
EDI Compliance Edits	Evaluates whether 837 files pass the EDI compliance edits.
Medical Record Review (MRR)	Evaluates whether some of the data elements in the claims are complete and accurate when comparing to the medical records.

Table 3-4 presents the data quality checks conducted by either the MCOs or their subcontractors on the encounter data collected by the subcontractors. The Claim Volume column includes quality checks regarding claim volume by submission month and/or claim volume PMPM, while the Completeness and Accuracy column includes quality checks such as EDI compliance edits, field-level completeness, or field-level accuracy. The green dots in the table indicate that there were quality checks performed, and the red dots indicate that there were no quality checks performed.

Table 3-4—Data Quality Checks Performed by MCOs and/or Their Subcontractors

MCO	Type of Subcontractor	Completeness and Accuracy	Claim Volume	Reconciliation With Financial Reports	Timeliness
Aetna	Pharmacy	●	●	●	●
	Vision	●	●	●	●
	NEMT	●	●	●	●
	CD Services	●	●	●	●
HealthKeepers	Pharmacy	●	●	●	●
	Vision	●	●	●	●
	NEMT	●	●	●	●
	Chiropractic	●	●	●	●
Molina	Pharmacy	●	●	●	●
	Vision	●	●	●	●
	NEMT	●	●	●	●
	CD Services	●	●	●	●
Optima	Pharmacy	●	●	●	●
	Vision	●	●	●	●
	NEMT	●	●	●	●
	CD Services	●	●	●	●
United	Pharmacy	●	●	●	●
	Vision	●	●	●	●
	NEMT	●	●	●	●
	CD Services	●	●	●	●
VA Premier	Pharmacy	●	●	●	●
	Vision	●	●	●	●
	NEMT	●	●	●	●
	CD Services	●	●	●	●

Key Findings: Table 3-4

- For the encounters collected by the MCOs' subcontractors, all MCOs and/or their subcontractors conducted quality checks at the file and/or data element levels to ensure data accuracy and completeness (i.e., green dots for all rows in the Completeness and Accuracy column). This type of quality check is usually performed before the data submissions, or weekly, every other week, or monthly.
- Aetna, Optima, and VA Premier, as well as some of their subcontractors, conducted the quality checks on claim volume. As a result, the encounter data from all their subcontractors have been checked for this metric (i.e., as indicated with a green dot). For the remaining three MCOs, the results varied across the subcontractors since the MCOs did not have a process for this type of quality check for all subcontractors at the MCO level, and the results generally reflected how each subcontractor performed its data quality checks. MCOs and/or their subcontractors usually conducted this check monthly.

- Similarly, Aetna, Molina, and United performed reconciliation with financial reports for all their subcontractors. For the remaining MCOs, the findings varied across the subcontractors depending on what quality checks each subcontractor performed. This type of quality check is usually performed monthly or quarterly.
- For the timeliness metric, Aetna is the only MCO that performed this quality check for all its subcontractors, and VA Premier is the only MCO that did not report this quality check for any of its subcontractors. The frequency of this type of quality check is usually monthly.

Encounter Data Collected by MCOs

For encounters collected by the MCOs (i.e., not collected by MCOs' subcontractors), Table 3-5 shows the quality checks reported by the MCOs.

Table 3-5—Data Quality Checks for Encounters Collected by MCOs

Data Quality Checks	Aetna	HealthKeepers	Molina	Optima	United	VA Premier
Claim Volume by Submission Month	✓		✓	✓		✓
EDI Compliance Edits and Field-Level Completeness and Accuracy	✓	✓	✓	✓	✓	✓
Medical Record Review			✓			
Reconciliation with Financial Reports	✓		✓		✓	
Timeliness	✓	✓	✓			

Key Findings: Table 3-5

- The quality checks for field-level completeness and validity, as well as the EDI compliance edits, were generally performed by all MCOs.
- Four MCOs evaluated the claim volume by submission month.
- Although DMAS has a timeliness submission standard (i.e., submit complete, timely, reasonable, and accurate encounter data to the Department within thirty [30] calendar days of the Contractor's payment date), only three MCOs (i.e., Aetna, HealthKeepers, and Molina) reported this quality check on encounters in their responses.
- Aetna, Molina, and United reported assessing the paid amount in claims/encounters with financial reports. In addition, Molina conducted monthly claim payment audits to assure quality and accuracy of claim payment.
- Molina was the only MCO to report performing medical record reviews annually.
- Of note, although Claim Volume PMPM was a drop-down option in the questionnaire, none of the MCOs selected it as a quality check that they perform.

Challenges, Resolutions, and Changes Noted by the MCOs

The questionnaires included questions about the internal/external challenges MCOs experience when submitting encounters to DMAS and potential resolutions DMAS should offer to overcome these

challenges. Table 3-6 displays the actual MCO responses, which show the common challenges being related to the following areas:

- Three MCOs noted that the process for submitting a void/replacement when the prior submission is a failed encounter is problematic.
- Two MCOs noted untimely updates regarding DMAS' reference tables, such as NDC.
- Optima noted an upcoming change to its claim processing system in 2024.

Table 3-6—Internal and External Challenges and Upcoming Changes

MCO	Type of Feedback	Description
Aetna	External challenge	• Aetna faces typical challenges related to void/adjust logic issues due to the way the Medicaid Management Information System (MMIS) processes encounter data. Attempting to correct a rejected encounter leads to the void also getting rejected, while the adjustment gets accepted, which goes out as a new day. The original and void failures do not remove or clear out. Aetna indicated that it has around one million dollars of "stuck" encounters due to this void/adjust issue. • DMAS assists with "pairing" these encounters so the errors would be removed. However, this does not occur consistently and is only being performed when assistance is requested due to the encounters being a priority to resolve (e.g., affecting risk adjustment/maternity kick payments).
	Resolution	• Aetna hopes to get assistance from DMAS to resolve the issues listed above since Aetna has been asking for resolution since late May 2020.
Optima	Internal challenge	• Optima faces typical challenges related to issues with the turnaround time of implementing necessary changes in the short timeline often given to comply with DMAS changes or updates.
	External challenge	• Limiting files to 4,999 claims or less causes a considerable amount of unnecessary file tracking. • DMAS' Encounter Processing Solution (EPS) does not allow for Optima to submit adjustment or void claims if the original failed in EPS. This is counterproductive in those cases where the reason for the adjustment or void is because the original failed upon submission to EPS and where an adjustment or void is the correct remediation step. • The DMAS scorecard does not contain enough granular information into how some of the metrics are calculated. For example, the provider payment timeliness in the scorecard indicates that Optima is not meeting payment timeliness, but according to its internal reports, it is. Optima would like more information on how some of the metrics are calculated beyond the basic description contained in the scorecard Companion Guide. Visibility of detail-level information (i.e., examples) in those cases would be of value.

MCO	Type of Feedback	Description
		• NDC update process by DMAS: There is a significant lag between the creation/introduction of new NDCs to the industry, and EPS updates with those new NDCs. DMAS currently has an extended process involving post-failure submission of NDC lists from all MCOs, a protracted internal review and approval process of those MCO lists, and very little information on outcome beyond a periodic generic notification that some NDCs have been updated.
	Resolution	• A real-time scorecard generation out of EPS with detail-level information. • An update to EPS that allows adjustments/voids to errored-out submissions appearing on the MCO Failure Log to apply directly to the original failed transaction of record without the current extended manual resubmission of TSN data on transaction history (original and adjustment/void), followed by a manual DMAS review and approval, as well as one-for-one application of adjustment/void to original failed transaction to clear off the MCO Failure Log.
	Upcoming change	• Optima Health will be transitioning its claims processing to a new program called QNXT. This is slated to occur in 2024. Optima also began transition to a new encounter data manager tool in 2023.
VA Premier	External challenge	• DMAS delays in getting NDCs loaded into its system. • DMAS system's inability to allow replacement claims to correct a previously submitted claim that may have failed for several reasons.
	Resolution	• It would be helpful to know why specific NDCs are not being added to the background tables. • Visibility into DMAS challenges in updating in a timely manner for new NDC, ICD, modifier, and procedure codes updates into EPS.

4. Comparative Analysis

Background

This section presents findings from the results of the comparative analysis regarding the professional, institutional, and pharmacy encounter data maintained by DMAS and the MCOs. The analysis examined the extent to which encounters submitted to DMAS by the MCOs and maintained in DMAS' EDWS (and the data subsequently extracted and submitted by DMAS to HSAG for the study) were complete and accurate based on corresponding information stored in the MCOs' claims payment data systems.

Before comparing DMAS' and the MCOs' submitted data, HSAG first applied the following criteria to the two data sources unless noted otherwise:

- Had a Trading Partner Identification (TPID) for the MCO in the CCC Plus (MLTSS) program.
- January 1, 2022 ≤ HEADER LAST DATE OF SERVICE ≤ December 31, 2022, for professional and institutional encounters; January 1, 2022 ≤ Date of Service (i.e., DOS) ≤ December 31, 2022, for pharmacy encounters.
- Adjustment/paid/denied dates (i.e., PDate) are on or before April 30, 2023.
- Submitted to DMAS (i.e., SubmitDate) on or before May 31, 2023.
- Values in the *ClaimStatus* field are P (i.e., Paid), D (i.e., Denied), or Z (i.e., zero Medicaid payment due to full reimbursement by another payer or bundling of services).
- MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the TPL-related fields before conducting the analysis.
- For DMAS data only: PendInd = 0 and Frequency is not "8."
- For MCO data only: For the professional encounter data submitted to HSAG for the EDV study, some MCOs left the Rendering Provider NPI field blank when the rendering provider NPIs were the same as the billing provider NPIs. However, DMAS fills the rendering provider NPI with the billing provider NPI when the rendering provider NPI is missing during its data processing. Therefore, HSAG applied the same edits to the MCO data to establish concordance.

To compare DMAS' and the MCOs' submitted data, HSAG developed a comparable match key between the two data sources. Data fields used in developing the match key generally used the unique claim identification number and claim line number.[4-1] These data elements were concatenated to create a unique match key, which became the unique identifier for each encounter record in DMAS' and each MCO's data. There are two fields to identify each encounter in the submitted data: *ClaimNo* (i.e., unique identifier assigned by MCOs) and Transaction Control Number (*TCN*) (i.e., unique identifier assigned by DMAS). Since the matching rates based on *ClaimNo* were extremely low for Aetna and Optima's pharmacy encounters, matching DMAS' and the MCOs' submitted data underwent a two-stage process, where encounters were first matched on the *ClaimNo* and claim line number. Data that were unmatched initially were then matched on *TCN* and claim line number.

[4-1] If there were duplicates based on unique claim identification number and claim line number, HSAG added another unique identifier for each encounter record to the match key in order to differentiate these duplicates.

Record Completeness

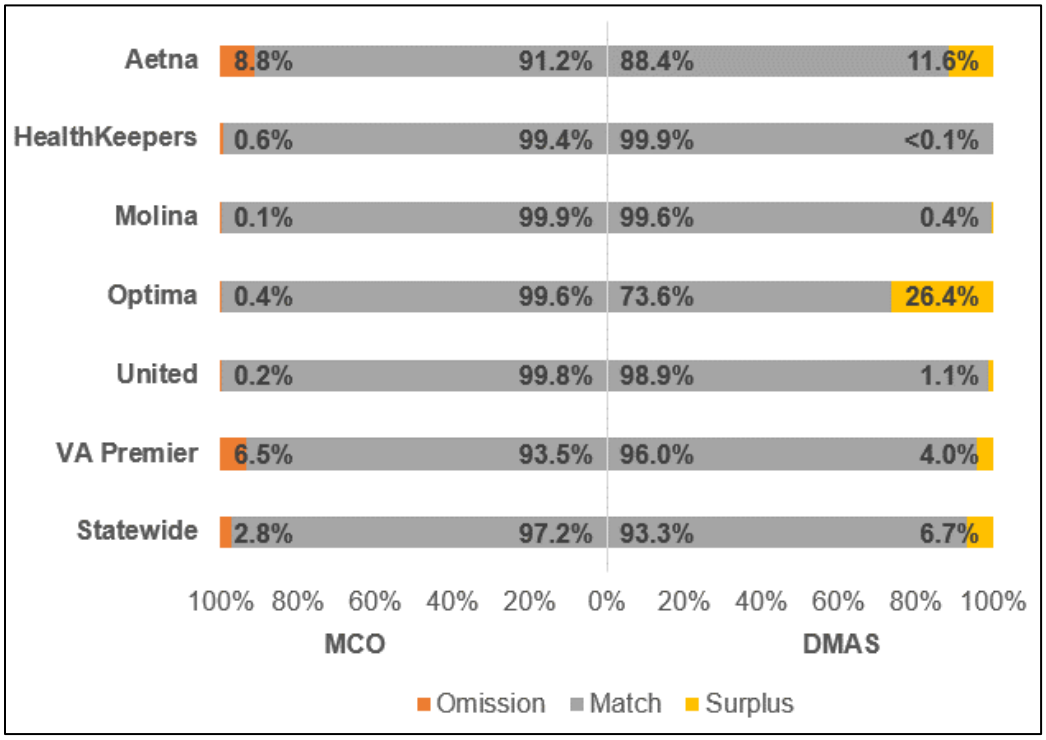
As described in the "Methodology" section, two aspects of record completeness were used—record omission and record surplus.

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., DMAS). The data acquired by the receiving organization is referred to as the secondary data source. By comparing these two data sources (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 DMAS' data. Similarly, the encounter record surplus rate refers to the percentage of encounters reported in the secondary data source (DMAS) that are missing from the primary data source (MCO).

Encounter Data Record Omission and Record Surplus

Figure 4-1 illustrates the percentage of records present in the files submitted by the MCOs that were not found in DMAS' files (record omission) and the percentage of records present in DMAS' files but not present in the files submitted by the MCOs (record surplus) for professional encounters. **Lower rates indicate better performance for both record omission and record surplus.**

Figure 4-1—Record Omission and Surplus Rates by MCO for Professional Encounters



Key Findings: Figure 4-1

- Overall, the statewide record omission rate was 2.8 percent, whereas the record surplus rate was 6.7 percent.
- The largest contributors to record omissions were Aetna (8.8 percent) and VA Premier (6.5 percent).
  - For Aetna, Table 4-1 shows that the record omissions were primarily from Aetna's internal encounters (i.e., encounters collected by Aetna, not from its subcontractors). For these internal encounters, the *ClaimNos* between the two data sources did not match; therefore, the matching was solely based on the *TCN*s. The DMAS-submitted data did not contain any duplicates based on *TCN* and line number. However, the Aetna-submitted data contained duplicates, which was the primary root cause for record omissions. These duplicates were from different values in *Detail Service From Date* or *Detail Service To Date*, or duplicate rows.

Table 4-1—Record Omission and Surplus for Aetna Professional Encounters by Subcontractor

	Record Omission			Record Surplus		
Encounter Data Source	**Denominator**	**Numerator**	**Rate**	**Denominator**	**Numerator**	**Rate**
CD Services	820,433	2,194	0.3%	980,612	162,373	16.6%
Internal	4,017,607	460,339	11.5%	3,947,653	390,385	9.9%
NEMT	391,975	54	<0.1%	444,387	52,466	11.8%
Vision	54	25	46.3%	19,570	19,541	99.9%

  - For VA Premier, Table 4-2 shows that the record omissions were primarily from VA Premier's CD services encounters. For these CD services encounters, because DMAS-submitted data did not contain any duplicates based on ClaimNo and line number, the record omissions were primarily due to the duplicates based on ClaimNo and line number in VA Premier-submitted data. These duplicates were either completed duplicated rows, or all information was the same except the *MCO Paid Date*.

Table 4-2—Record Omission for VA Premier Professional Encounters by Subcontractor

	Record Omission		
Encounter Data Source	**Denominator**	**Numerator**	**Rate**
CD Services	1,742,520	379,232	21.8%
Internal	3,911,619	9,356	0.2%
NEMT	674,512	23,689	3.5%
Vision	17,636	267	1.5%

- The largest contributors to record surpluses were Aetna (11.6 percent) and Optima (26.4 percent).
  - For Aetna, Table 4-1 shows that the record surpluses were primarily from Aetna's internal and CD services encounters. Among those records that were surplus (i.e., in DMAS-submitted data only), 46.9 percent and 59.3 percent had a *Member ID* and *Detail Service To Date* combination that was not in the Aetna-submitted data for internal and CD services encounters, respectively. This means that DMAS had extra professional services when compared to the data provided by Aetna for the study. In addition, although the vision encounters only accounted for a small

percentage of professional encounters, the volume (i.e., the denominator in Table 4-1) between the two data sources had a large difference, which led to a very poor record surplus result (99.9 percent).

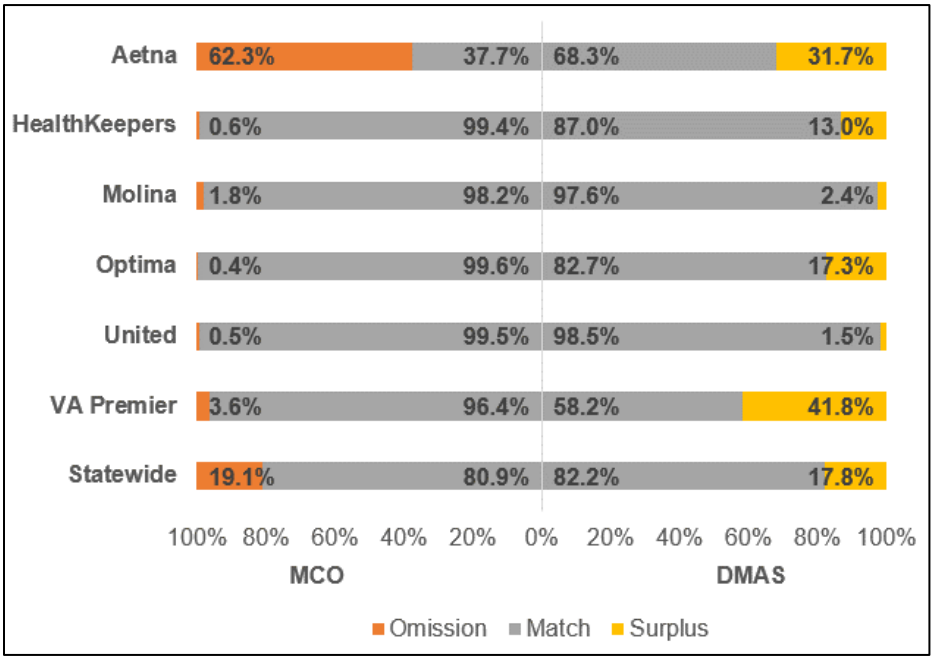
- For Optima, Table 4-3 shows that the record surpluses were primarily from Optima's internal and CD services encounters. For CD services, NEMT, and vision encounters, further analyses indicated that among those records that were surplus, 99.5 percent, 82.7 percent, and 97.1 percent, respectively, had a *Detail Service To Date* in the first seven months of calendar year 2022. Conversely, the surplus records for Optima's internal encounters were spread evenly across each month in 2022. Of note, since the *Member ID* between Optima-submitted data and DMAS-submitted data for internal encounters were completely different (i.e., element accuracy rate of 0.0 percent in Table F-11 in Appendix F), only limited investigations could be conducted.

Table 4-3—Record Surplus for Optima Professional Encounters by Subcontractor

	Record Surplus		
Encounter Data Source	**Denominator**	**Numerator**	**Rate**
CD Services	1,051,744	492,586	46.8%
Internal	3,972,788	903,712	22.7%
NEMT	522,508	71,665	13.7%
Vision	18,374	1,696	9.2%

Figure 4-2 illustrates the percentage of records present in the files submitted by the MCOs that were not found in DMAS' files (record omission) and the percentage of records present in DMAS' files but not present in the files submitted by the MCOs (record surplus) for institutional encounters. **Lower rates indicate better performance for both record omission and record surplus.**

Figure 4-2—Record Omission and Surplus Rates by MCO for Institutional Encounters



Key Findings: Figure 4-2

- Overall, the statewide record omission rate was 19.1 percent, whereas the record surplus rate was 17.8 percent.
- The largest contributor to record omissions was Aetna (62.3 percent).
  - For Aetna, the *ClaimNos* between the two data sources did not match; therefore, the matching was solely based on the *TCN*s. The DMAS-submitted data did not contain any duplicates based on *TCN* and line number. However, the Aetna-submitted data contained duplicates as illustrated in Table 4-4, which is the primary reason why there were more records in Aetna-submitted data (i.e., record omission).

Table 4-4—Example Duplicates Based on TCN and Line Number for Aetna Institutional Encounters

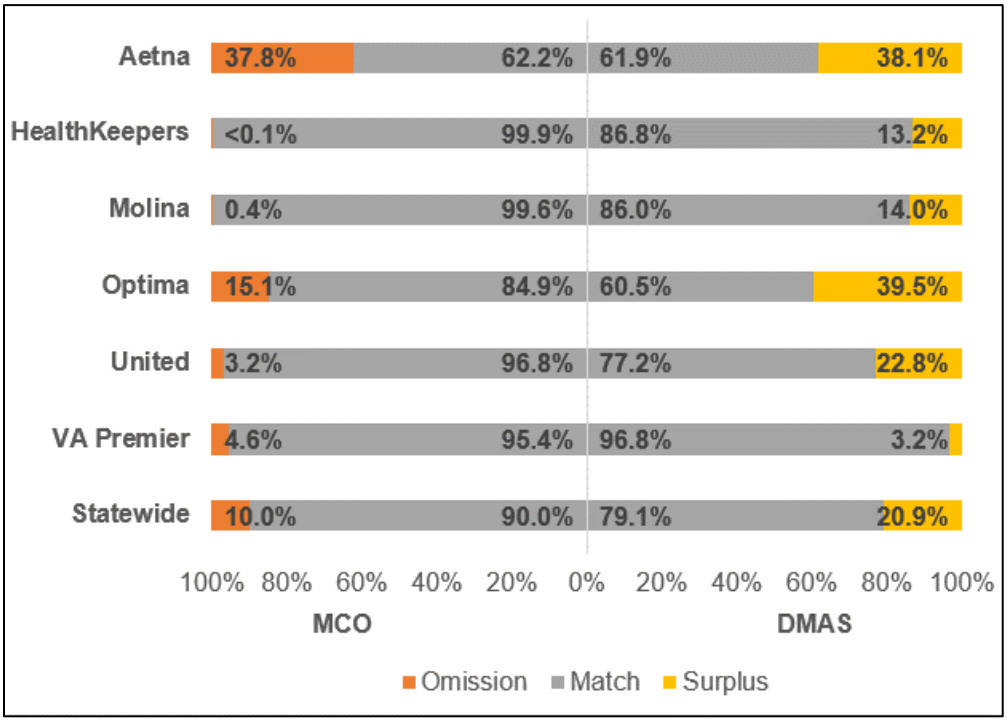
	Aetna-Submitted Data		DMAS-Submitted Data	
Line	Detail Service From Date	Detail Service To Date	Detail Service From Date	Detail To Date
1	2/2/2022	2/2/2022	2/2/2022	2/2/2022
1	2/4/2022	2/4/2022	—	—
2	2/2/2022	2/2/2022	2/4/2022	2/4/2022
2	2/4/2022	2/4/2022	—	—

- The largest contributors to record surpluses were Aetna (31.7 percent), HealthKeepers (13.0 percent), Optima (17.3 percent), and VA Premier (41.8 percent).
  - Analyses for Aetna indicated that among those records that were surplus (i.e., in DMAS-submitted data only), 77.1 percent had a member and header last date of service combination that was not in the Aetna-submitted data. This means that DMAS had extra institutional services when compared to the data provided by Aetna for the study. In addition, 62.5 percent of surplus records were denied encounters.
  - For HealthKeepers, Optima, and VA Premier, there were more records in DMAS-submitted data than MCO-submitted data, which contributed to a relatively high record surplus rate.
  - Analyses for HealthKeepers indicated that among those records that were surplus, 79.3 percent had a member and header last date of service combination that was not in HealthKeepers-submitted data. This means that DMAS had extra institutional services when compared to the data provided by HealthKeepers for the study. In addition, 58.7 percent of surplus records were denied encounters.
  - Analyses for Optima indicated that among those records that were surplus, 85.4 percent had a header last date of service in the second half of calendar year 2022, and 26.5 percent of them were denied encounters. Of note, since the member identifiers (IDs) between the two data sources were completely different (i.e., element accuracy rate of 0.0 percent in Table 4-14) for Optima, only limited investigations could be conducted.

- For VA Premier, further investigations showed that the average number of detail lines per ClaimNo for DMAS-submitted data and VA Premier-submitted data were 7.2 and 5.2, respectively. That is the primary reason for the higher record count in DMAS-submitted data.

Figure 4-3 illustrates the percentage of records present in the files submitted by the MCOs that were not found in DMAS' files (record omission) and the percentage of records present in DMAS' files but not present in the files submitted by the MCOs (record surplus) for pharmacy encounters. **Lower rates indicate better performance for both record omission and record surplus.**

Figure 4-3—Record Omission and Surplus Rates by MCO for Pharmacy Encounters



Key Findings: Figure 4-3

- Overall, the record omission rate across the state was 10.0 percent, whereas the record surplus rate was 20.9 percent.
- The largest contributors to record omissions were Aetna (37.8 percent) and Optima (15.1 percent).
  - Analyses for Aetna indicated that among those records that were omissions, more than 99.9 percent were denied claims.
  - The *ClaimNos* from Optima-submitted data are 15 digits, whereas *ClaimNos* from DMAS are more than 15 digits (e.g., 15 digits plus a suffix of "998", "999", or "997" and then ending in "P" or "R"). When following up with Optima regarding this difference, Optima noted that it was unclear why DMAS' *ClaimNos* have a suffix. Because of this difference in the *ClaimNos*, the matching between the two data sources was based on *TCN*s only. In addition, Optima-submitted data had duplicates based on the *TCN* field, while DMAS-submitted data did not have any duplicates. That is the primary reason for the record omissions for Optima.

- Contributors to record surplus included Aetna (38.1 percent), HealthKeepers (13.2 percent), Molina (14.0 percent), Optima (39.5 percent), and United (22.8 percent)
  - Analyses for Aetna indicated that among those records that were surplus, more than 99.9 percent were denied encounters. Further investigation found that all denied encounters between the two data sources did not match because (1) the *ClaimNos* did not have the same length and (2) Aetna did not submit *TCN*s, as shown in Table 4-5. When responding to the file review document, Aetna noted that it does not store the *TCN*s for the point-of-sale denials within its system; therefore, it did not provide *TCN*s for these denials in the data submitted to HSAG for the EDV study.

Table 4-5—ClaimNo and TCN Mismatch for Aetna's Denied Pharmacy Encounters

Aetna-Submitted Data		DMAS-Submitted Data	
ClaimNo	**TCN**	**ClaimNo**	**TCN**
19 digits in total, with 18 digits plus "4" at the end	Missing	18 digits	Populated

  - Analyses for HealthKeepers indicated that among those records that were surplus, more than 99.9 percent were denied encounters. When responding to the file review document, HealthKeepers noted that this was because the DMAS-submitted data contained all versions of the same point-of-sale denials, while the HealthKeepers-submitted data for the EDV study only contained the final version per the data requirements document.
  - Analyses for Molina indicated that among those records that were surplus, all were denied encounters. Similar to Aetna (i.e., Molina had the same pharmacy subcontractor as Aetna), Molina does not store the *TCN*s for the point-of-sale denials within its system; therefore, Molina did not provide *TCN*s for these denials in the data submitted to HSAG for the EDV study, and the comparison between the two data sources solely depended on the *ClaimNos*. Further investigation showed that Molina only provided the final version of the *ClaimNo* for each denial to HSAG, which caused the extra records in DMAS-submitted data, as illustrated in Table 4-6.

Table 4-6—ClaimNo and TCN Mismatch for Molina's Denied Pharmacy Encounters

Molina-Submitted Data		DMAS-Submitted Data	
ClaimNo	**TCN**	**ClaimNo**	**TCN**
—	—	Same 15 digits plus "00**1**"	Populated
—	—	Same 15 digits plus "00**2**"	Populated
15 digits plus "00**3**"	Missing	Same 15 digits plus "00**3**"	Populated

  - Analyses for Optima indicated that among those records that were surplus, 93.7 percent had a member, date of service, and NDC combination that was not in Optima-submitted data. This means that DMAS had extra pharmacy services when compared to the data provided by Optima for the study.

- Analyses for United indicated that among those records that were surplus, 98.9 percent were denied encounters. The surplus records also appeared to be due to the fact that United submitted the final version of the point-of-sale denials to HSAG, while DMAS-submitted data contained all versions.

Data Element Completeness and Accuracy

Data element completeness measures are based on the number of records that matched in both DMAS' data files and the MCOs' data files. Element-level completeness is evaluated based on element omission and element surplus rates. The element omission rate represents the percentage of records with values present in the MCOs' submitted data files but not in DMAS' data files. Similarly, the element surplus rate reports the percentage of records with values present in DMAS' data files but not in the MCOs' submitted data files. The data elements are considered relatively complete when they have 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 that contain the same values. In other words, data element accuracy is limited to those records present in both data sources with values present in both data sources. Records with values missing in both data sources were not included in the denominator.

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.

Element Omission and Element Surplus

Table 4-7 shows the statewide element omission, element surplus, and element missing values rates for each key data element from professional encounters. **For the element omission and surplus indicators, lower rates indicate better performance.** However, for the element missing values indicator, lower or higher rates do not indicate better or worse performance. In addition, for the element omission and element surplus rates, Table 4-7 presents the number of MCOs with a rate higher than 5.0 percent (i.e., relatively poor performance) and Table 4-8 shows the MCO variation.

Table 4-7—Data Element Omission and Surplus: Professional Encounters

	Element Omission		Element Surplus		Element Missing
Key Data Elements	Statewide Rate	Number of MCOs With Rate >5%	Statewide Rate	Number of MCOs With Rate >5%	Statewide Rate
Member ID	0.0%	0	<0.1%	0	0.0%
Detail Service From Date	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0.0%	0	1.6%	1	<0.1%
Rendering Provider NPI	0.0%	0	1.6%	1	0.0%
Servicing Provider Taxonomy Code	<0.1%	0	3.4%	2	<0.1%
Referring Provider NPI*	4.5%	1	0.6%	1	70.7%
Primary Diagnosis Code	<0.1%	0	2.4%	1	<0.1%
Secondary Diagnosis Codes*	<0.1%	0	<0.1%	0	68.1%
Procedure Code	0.0%	0	<0.1%	0	0.0%
Procedure Code Modifiers*	0.4%	1	1.5%	1	71.4%
NDC*	0.4%	0	<0.1%	0	95.8%
Drug Quantity*	0.4%	0	<0.1%	0	95.8%
Header Paid Amount	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—
Detail Paid Amount	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—
MCO Received Date	0.0%	0	4.2%	3	0.0%
MCO Paid Date	0.0%	0	0.0%	0	0.0%

* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Key Findings: Table 4-7

- The statewide element omission rates for almost all key data elements were below 0.5 percent. *Referring Provider NPI* (4.5 percent) was the only key data element that was higher. It should be noted that this field is situational and not required for every detail line when submitting data. For the MCOs, only two element omission rates were over 5.0 percent:
  - *Referring Provider NPI:* One MCO (Optima) had an omission rate over 5.0 percent.
  - *Procedure Code Modifiers:* One MCO (Molina) had an omission rate over 5.0 percent.
- The statewide element surplus rates for all key data elements were no more than 5.0 percent. Only three were higher than 2.0 percent: *Primary Diagnosis Code* (2.4 percent), *Servicing Provider Taxonomy Code* (3.4 percent), and *MCO Received Date* (4.2 percent). For the MCOs, nine element surplus rates were over 5.0 percent:
  - *Billing Provider NPI*: One MCO (Optima) had an omission rate over 5.0 percent.
  - *Rendering Provider NPI*: One MCO (Optima) had an omission rate over 5.0 percent.

  - *Servicing Provider Taxonomy Code*: Two MCOs (Aetna and United) had an omission rate over 5.0 percent.
  - *Referring Provider NPI*: One MCO (Molina) had an omission rate over 5.0 percent.
  - *Primary Diagnosis Code*: One MCO (Aetna) had an omission rate over 5.0 percent.
  - *Procedure Code Modifiers*: One MCO (Optima) had an omission rate over 5.0 percent.
  - *MCO Received Date*: Three MCOs (Aetna, Molina, and Optima) had an omission rate over 5.0 percent.
- The statewide element missing rates for key data elements were variable. *Referring Provider NPI*, *Secondary Diagnosis Codes*, *Procedure Code Modifiers*, *NDC*, and *Drug Quantity* had missing rates over 68.0 percent. It should be noted that these fields are situational and not required for every detail line. When comparing the element missing rates among the MCOs, the variation was less than 5.0 percentage points except the following:
  - For *Referring Provider NPI*, the element missing rates ranged from 62.0 (United) to 74.4 percent (HealthKeepers).
  - For *Secondary Diagnosis Codes*, the element missing rates ranged from 61.0 (United) to 71.6 percent (VA Premier).
  - For *Procedure Code Modifiers*, the element missing rates ranged from 66.7 (Optima) to 73.8 percent (HealthKeepers).

Table 4-8—MCO Variation for Data Element Omission and Surplus: Professional Encounters

	Aetna		Health-Keepers		Molina		Optima		United		VA Premier	
Key Data Elements	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**
Member ID												
Detail Service From Date												
Detail Service To Date												
Billing Provider NPI												
Rendering Provider NPI												
Servicing Provider Taxonomy Code												
Referring Provider NPI*												
Primary Diagnosis Code												
Secondary Diagnosis Codes*												
Procedure Code												
Procedure Code Modifiers*												
NDC*												
Drug Quantity*												
Header Paid Amount												
Header TPL Paid Amount^	—	—	—	—	—	—	—	—	—	—	—	—
Detail Paid Amount												
Detail TPL Paid Amount^	—	—	—	—	—	—	—	—	—	—	—	—
MCO Received Date												
MCO Paid Date												

0.0-5.0% 5.1-10.0% 10.1-15.0% 15.1-100.0%

* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Key Findings: Table 4-8

- While all Aetna's element omission rates were below 5.0 percent, Aetna had 14 of 17 key data elements with surplus rates below 5.0 percent. *Servicing Provider Taxonomy Code* (16.1 percent), *Primary Diagnosis Code* (17.2 percent), and *MCO Received Date* (17.2 percent) were the only elements over 5.0 percent.
  - For *Servicing Provider Taxonomy Code*, 83.7 percent of records in Aetna-submitted data contained values, while more than 99.9 percent of DMAS-submitted records contained values. The element surplus records were from internal and NEMT encounters. Of note, although HSAG followed up with Aetna via the file review document, Aetna did not provide the missing taxonomy codes for the servicing providers.
  - For *Primary Diagnosis Code*, all of the records in surplus were for CD services encounters, where 98.0 percent had a primary diagnosis code of "R531" or "Z139" in DMAS-submitted data.
  - For *MCO Received Date*, all of the records in surplus were for CD services encounters. Of note, HSAG followed up with Aetna via the file review document regarding the missing *MCO Received Date* for CD services encounters; however, Aetna did not provide them in the updated data submitted for the EDV study.
- HealthKeepers had all 17 key data elements with element omission and surplus rates below 5.0 percent.
- For Molina, *Procedure Code Modifiers* (5.4 percent) was the only element with an element omission rate over 5.0 percent. For *Procedure Code Modifiers*, 96.8 of the records in omission were for CD services encounters, and the procedure code modifier value omitted from DMAS-submitted data was "HC."
- Molina had 15 of 17 key data elements with surplus rates below 5.0 percent. *Referring Provider NPI* (7.7 percent) and *MCO Received Date* (13.8 percent) were the only elements over 5.0 percent.
  - For *Referring Provider NPI*, all of the records in surplus were for internal encounters. When analyzing all of the internal encounters in the Molina-submitted data, only 28.7 percent had *Referring Provider ID* populated, whereas when analyzing all of the internal encounters in the DMAS-submitted data, 39.7 percent had *Referring Provider ID* populated.
  - For *MCO Received Date*, all of the records in surplus were CD services encounters. Of note, HSAG followed up with Molina via the file review document regarding the missing *MCO Received Date* for CD services encounters; however, Molina did not provide them in the updated data submitted for the EDV study.
- Optima had 16 of 17 key data elements with omission rates below 5.0 percent. *Referring Provider NPI* (34.2 percent) was the only element over 5.0 percent.
  - For *Referring Provider NPI*, all of the records in omission were for internal encounters, because Referring Provider NPI was not populated for the internal encounters in DMAS-submitted data. In addition, for records with referring provider NPIs in Optima-submitted data, 30.9 percent had the same *Referring Provider NPI* as the *Rendering Provider NPI*, which was not reasonable. Therefore, the actual element omission rate might be lower.
- Optima had 13 of 17 key data elements with surplus rates below 5.0 percent. *Billing Provider NPI* (11.0 percent), *Rendering Provider NPI* (11.0 percent), *Procedure Code Modifiers* (12.0 percent), and *MCO Received Date* (5.2 percent) were the only elements over 5.0 percent.
  - For *Billing Provider NPI*, more than 99.9 percent of the records in surplus were for NEMT encounters, and all of the billing provider NPIs were omitted from the Optima-submitted NEMT

encounter data. When following up with Optima via the file review document, Optima noted that this field was not available in the table to pull data.

- For *Rendering Provider NPI,* more than 99.9 percent of the records in surplus were for NEMT encounters, and all of the rendering provider NPIs were omitted from the Optima-submitted NEMT encounter data. When following up with Optima via the file review document, Optima noted that this field was not available in the table to pull data.
- For *Procedure Code Modifiers*, 91.4 of the records in surplus were for NEMT encounters because *Procedure Code Modifiers* was not populated for the NEMT encounters in Optima-submitted data.
- For *MCO Received Date*, all of the records in surplus were for NEMT encounters. When following up with Optima via the file review document, Optima noted that some dates in the database were corrupted during the loading process, and Optima could not correct them before the due date for the EDV data extraction.

- While all United's element omission rates were below 5.0 percent, United had 16 of 17 key data elements with surplus rates below 5.0 percent. *Servicing Provider Taxonomy Code* (7.7 percent) was the only element over 5.0 percent. For *Servicing Provider Taxonomy Code*, all of the records in surplus occurred for internal encounters. For internal encounters, 90.4 percent of records in United-submitted data contained values, while more than 99.9 percent of DMAS-submitted records contained values. Of note, when following up with United via the file review document, United confirmed that this field was blank for this scenario on the claims.
- VA Premier had all 17 key data elements with element omission and surplus rates below 5.0 percent.

Table 4-9 shows the statewide element omission, element surplus, and element missing values rates for each key data element from institutional encounters. **For the element omission and surplus indicators, lower rates indicate better performance.** However, for the element missing values indicator, lower or higher rates do not indicate better or worse performance. In addition, for the element omission and element surplus rates, Table 4-9 presents the number of MCOs with a rate higher than 5.0 percent (i.e., relatively poor performance) and Table 4-10 shows the MCO variation.

Table 4-9—Data Element Omission and Surplus: Institutional Encounters

	Element Omission		Element Surplus		Element Missing
Key Data Elements	Statewide Rate	Number of MCOs With Rate >5%	Statewide Rate	Number of MCOs With Rate >5%	Statewide Rate
Member ID	0.0%	0	<0.1%	0	0.0%
Detail Service From Date	0.0%	0	0.0%	0	0.0%
Header Service From Date	0.0%	0	0.0%	0	0.0%
Header Service To Date	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	<0.1%	0	0.3%	0	0.0%
Attending Provider NPI	<0.1%	0	1.1%	0	0.3%
Servicing Provider Taxonomy Code	15.8%	1	12.8%	1	16.5%
Referring Provider NPI*	0.3%	0	0.4%	0	97.0%
Primary Diagnosis Code	0.0%	0	<0.1%	0	<0.1%
Secondary Diagnosis Codes*	<0.1%	0	3.6%	2	0.2%
Procedure Code*	<0.1%	0	<0.1%	0	21.4%
Procedure Code Modifiers*	<0.1%	0	<0.1%	0	74.8%
Surgical Procedure Codes*	<0.1%	0	<0.1%	0	92.1%
NDC*	3.6%	3	<0.1%	0	82.4%
Drug Quantity*	3.6%	3	<0.1%	0	82.4%
Revenue Code	0.0%	0	<0.1%	0	0.0%
DRG	0.5%	0	0.2%	0	91.3%
Type of Bill Code	0.0%	0	1.0%	1	0.0%
Header Paid Amount	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—
Detail Paid Amount	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—
MCO Received Date	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0.0%	0	0.0%	0	0.0%

* Indicates that the data field is situational (i.e., not required for every encounter line).

^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Key Findings: Table 4-9

- The statewide element omission rates for almost all key data elements were below 5.0 percent. *Servicing Provider Taxonomy Code* (15.8 percent) was the only key data element that was higher. Notably, *NDC* and *Drug Quantity* (3.6 percent each) were the other key data elements with element omission rates over 1.0 percent.
  - For *Servicing Provider Taxonomy Code,* one MCO (Optima) had an element omission rate over 5.0 percent. For *NDC* and *Drug Quantity*, each had three MCOs (Aetna, Optima, and VA Premier) with an element omission rate over 5.0 percent.

- The statewide element surplus rates for almost all key data elements were no more than 5.0 percent. *Servicing Provider Taxonomy Code* (12.8 percent) was the only key data element that was higher.
  - For *Servicing Provider Taxonomy Code,* one MCO (Aetna) had a surplus rate over 5.0 percent. For *Secondary Diagnosis Codes,* two MCOs (HealthKeepers and United) had a surplus rate over 5.0 percent. For *Type of Bill Code,* one MCO (United) had a surplus rate over 5.0 percent.
- The statewide element missing rates for key data elements were variable. *Referring Provider NPI*, *Procedure Code Modifiers*, *Surgical Procedure Codes*, *NDC*, *Drug Quantity*, and *DRG* had missing rates over 74.0 percent. It should be noted that all these fields are situational and not required for every detail line. When comparing the element missing rates among the MCOs, the variation was less than 5.0 percentage points except the following:
  - For *Servicing Provider Taxonomy Code*, the element missing rates for Molina, Optima, and VA Premier were below 2.0 percent, while the remaining MCOs had rates of 13.3 percent or more.
  - For *Procedure Code*, the element missing rate for VA Premier was 12.8 percent, while other MCOs had a rate between 21.0 percent and 24.0 percent.
  - For *Surgical Procedure Codes*, the element missing rates ranged from 89.9 percent (Optima) to 96.8 percent (VA Premier).
  - For *DRG*, the element missing rates ranged from 86.2 percent (Optima) to 95.5 percent (VA Premier).

Table 4-10—MCO Variation for Data Element Omission and Surplus: Institutional Encounters

	Aetna		Health-Keepers		Molina		Optima		United		VA Premier	
Key Data Elements	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**
Member ID												
Detail Service From Date												
Header Service From Date												
Header Service To Date												
Billing Provider NPI												
Attending Provider NPI												
Servicing Provider Taxonomy Code												
Referring Provider NPI*												
Primary Diagnosis Code												
Secondary Diagnosis Codes*												
Procedure Code*												
Procedure Code Modifiers*												
Surgical Procedure Codes*												
NDC*												
Drug Quantity*												
Revenue Code												
DRG												
Type of Bill Code												
Header Paid Amount												
Header TPL Paid Amount^	—	—	—	—	—	—	—	—	—	—	—	—
Detail Paid Amount												
Detail TPL Paid Amount^	—	—	—	—	—	—	—	—	—	—	—	—
MCO Received Date												
MCO Paid Date												

0.0-5.0% 5.1-10.0% 10.1-15.0% 15.1-100.0%

* Indicates that the data field is situational (i.e., not required for every encounter line).

^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Key Findings: Table 4-10

- Aetna had 20 of 22 key data elements with element omission rates below 5.0 percent. *NDC* (7.8 percent) and *Drug Quantity* (7.8 percent) were the only elements over 5.0 percent. For the records with *NDC* and *Drug Quantity* values in Aetna-submitted data but omitted from DMAS-submitted data, more than 99.9 percent of corresponding revenue codes started with "025" or "063," indicating pharmacy. Therefore, it appears that DMAS was missing these *NDC* and *Drug Quantity* values.
- Aetna had 21 of 22 key data elements with element surplus rates below 5.0 percent. *Servicing Provider Taxonomy Code* (86.6 percent) was the only element over 5.0 percent. For *Servicing Provider Taxonomy Code*, less than 0.1 percent of records in Aetna-submitted data contained values, while 85.0 percent of DMAS-submitted records contained values. Of note, although HSAG followed up with Aetna via the file review document, Aetna did not provide the missing taxonomy codes for the attending providers.
- For HealthKeepers, all element omission rates were below 5.0 percent, while *Secondary Diagnosis Codes* (6.6 percent) was the only element with an element surplus rate over 5.0 percent. However, further investigation showed that 78.8 percent of the surplus secondary diagnosis codes (i.e., codes in DMAS-submitted data but not in HealthKeepers-submitted data) were the same as the primary diagnosis code in DMAS-submitted data, as shown in Table 4-11. Therefore, the actual number of records with surplus secondary diagnosis codes should be less.

Table 4-11—Secondary Diagnosis Code Omission Example for HealthKeepers Institutional Encounters

	HealthKeepers-Submitted Data		DMAS-Submitted Data	
#	Primary Diagnosis Code	Secondary Diagnosis Code	Primary Diagnosis Code	Secondary Diagnosis Code
1	E1100	—	E1100	E1100

- Molina had all 22 key data elements with element omission and surplus rates below 5.0 percent.
- While all Optima's element surplus rates were below 5.0 percent, Optima had 19 of 22 key data elements with element omission rates below 5.0 percent. *Servicing Provider Taxonomy Code* (99.0 percent), *NDC* (6.9 percent), and *Drug Quantity* (6.9 percent) were the only elements over 5.0 percent.
  - For DMAS-submitted data, no taxonomy codes were submitted for the attending providers. That is why the element surplus rate for *Servicing Provider Taxonomy Code* was so high. HSAG spot checked the taxonomy codes in Optima-submitted data, and they appeared to be reasonable. Therefore, DMAS should reach out to Optima to obtain the taxonomy codes missing in DMAS' encounter data.
  - For the records with *NDC* and *Drug Quantity* values in Optima-submitted data but omitted from DMAS-submitted data, more than 99.0 percent of corresponding revenue codes started with "025" or "063," indicating pharmacy. Therefore, it appears that DMAS was missing these *NDC* and *Drug Quantity* values.

- All of United's key data elements had omission rates below 5.0 percent. For the element surplus rates, *Secondary Diagnosis Codes* (6.5 percent) and *Type of Bill Code* (5.1 percent) were the only elements over 5.0 percent.
  - For *Secondary Diagnosis Codes*, further investigation showed that 88.3 percent of the surplus secondary diagnosis codes (i.e., codes in DMAS-submitted data but not in United-submitted data) were the same as the primary diagnosis code in DMAS-submitted data, as shown in Table 4-11. Therefore, the actual number of records with surplus secondary diagnosis codes should be less.
  - *Type of Bill Code* is a required field for institutional encounters; therefore, it is unreasonable that United-submitted data had missing values in it. In addition, it is noteworthy that 65.7 of these element surplus records had a paid status in United-submitted data and a denied status in DMAS-submitted data.
- While all VA Premier's element surplus rates were below 5.0 percent, VA Premier had 20 of 22 key data elements with omission rates below 5.0 percent. *NDC* (14.4 percent) and *Drug Quantity* (14.4 percent) were the only elements over 5.0 percent. For the records with *NDC* and *Drug Quantity* values in VA Premier-submitted data but omitted from DMAS-submitted data, more than 99.1 percent of corresponding revenue codes started with "025" or "063," indicating pharmacy. Therefore, it appears that DMAS was missing these *NDC* and *Drug Quantity* values.

Table 4-12 shows the statewide element omission, element surplus, and element missing values rates for each key data element from pharmacy encounters. **For the element omission and surplus indicators, lower rates indicate better performance**. However, for the element missing values indicator, lower or higher rates do not indicate better or worse performance. In addition, for the element omission and element surplus rates, Table 4-12 presents the number of MCOs with a rate higher than 5.0 percent (i.e., relatively poor performance).

Table 4-12—Data Element Omission and Surplus: Pharmacy Encounters

	Element Omission		Element Surplus		Element Missing
Key Data Elements	Statewide Rate	Number of MCOs With Rate >5%	Statewide Rate	Number of MCOs With Rate >5%	Statewide Rate
Member ID	0.0%	0	0.0%	0	0.0%
Detail Service Date	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0.0%	0	0.0%	0	0.0%
Prescribing Provider NPI	0.0%	0	<0.1%	0	0.0%
NDC	0.0%	0	0.0%	0	0.0%
Drug Quantity	0.0%	0	0.0%	0	0.0%
Detail Paid Amount	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—
MCO Received Date	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0.0%	0	0.0%	0	0.0%

^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Key Findings: Table 4-12

- The statewide element omission, surplus, and missing rates for all key data elements were below 0.1 percent. This is true for all MCOs, which indicates completeness for each key data element when comparing DMAS' pharmacy data with the MCOs' pharmacy data.

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 DMAS' submitted encounter data are more accurate. As such, **for the accuracy indicator, higher rates indicate better performance**.

Table 4-13 displays, for each key data element associated with professional encounters, the percentage of records with the same values in each MCO's submitted files and DMAS' submitted files.

Table 4-13—Data Element Accuracy by MCO: Professional

Key Data Elements	Statewide	Aetna	Health-Keepers	Molina	Optima	United	VA Premier
Member ID	90.9%	>99.9%	>99.9%	99.9%	25.1%	100.0%	>99.9%
Detail Service From Date	96.7%	84.8%	>99.9%	85.7%	100.0%	100.0%	100.0%
Detail Service To Date	96.6%	84.8%	>99.9%	85.5%	100.0%	100.0%	100.0%
Billing Provider NPI	94.9%	93.5%	99.7%	99.9%	63.5%	>99.9%	>99.9%
Rendering Provider NPI	97.8%	86.9%	99.1%	99.7%	>99.9%	>99.9%	>99.9%
Servicing Provider Taxonomy Code	82.3%	58.3%	76.0%	77.0%	85.5%	99.3%	100.0%
Referring Provider NPI*	98.0%	>99.9%	100.0%	70.5%	—	>99.9%	100.0%
Primary Diagnosis Code	>99.9%	>99.9%	>99.9%	>99.9%	100.0%	100.0%	100.0%
Secondary Diagnosis Codes*	>99.9%	>99.9%	99.9%	>99.9%	>99.9%	>99.9%	>99.9%
Procedure Code	99.9%	99.6%	>99.9%	99.8%	>99.9%	100.0%	100.0%
Procedure Code Modifiers*	99.7%	98.9%	>99.9%	99.1%	99.9%	>99.9%	100.0%
NDC*	>99.9%	100.0%	>99.9%	>99.9%	>99.9%	100.0%	100.0%
Drug Quantity*	>99.9%	99.9%	>99.9%	>99.9%	99.9%	>99.9%	100.0%
Header Paid Amount	99.5%	99.3%	>99.9%	95.9%	>99.9%	99.3%	>99.9%
Header TPL Paid Amount	96.5%	99.9%	99.9%	99.2%	85.1%	92.8%	96.5%
Detail Paid Amount	99.5%	99.5%	>99.9%	95.9%	>99.9%	99.3%	>99.9%
Detail TPL Paid Amount	96.9%	99.9%	>99.9%	99.4%	86.6%	93.4%	97.0%
MCO Received Date	87.2%	78.7%	88.5%	98.1%	79.0%	100.0%	81.9%
MCO Paid Date	88.3%	82.8%	>99.9%	99.4%	57.5%	99.9%	77.0%

95.0-100.0%	90.0-94.9%	85.0-89.9%	0.0-84.9%

* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
"—" indicates that the denominator is zero.

Key Findings: Table 4-13

- The statewide accuracy for professional data was relatively high, as 14 of 19 key data elements had an accuracy rate of 95.0 percent or higher. Within the remaining five key data elements, two had an accuracy rate between 90.0 and 95.0 percent. The last three key data elements had an accuracy rate between 80.0 and 90.0 percent.
- For Aetna's professional data, seven key data elements had an accuracy rate below 95.0 percent. The following bullets provide additional details regarding mismatches for these data elements.
  - For *Detail Service From/To Date,* the accuracy rate was 84.8 percent. The primary root cause was that Aetna submitted multiple *Detail Service From/To Date* values for the same detail line number as illustrated by line 2 in Table 4-4.
  - For *Billing Provider NPI,* the accuracy rate was 93.5 percent. It appears that 89.5 percent of mismatched billing provider NPIs between the Aetna-submitted data and the DMAS-submitted data were from one pair of NPIs for CD services (i.e., an NPI ended with "4323" in Aetna-submitted data, and an NPI ended with "9983" in DMAS-submitted data).
  - For *Rendering Provider NPI,* the accuracy rate was 86.9 percent. The mismatched values were from internal and CD services encounters. However, the pattern for them was different. For the internal encounters with mismatched rendering provider NPIs, nearly all records had the same billing and rendering provider NPIs in DMAS-submitted data; however, this was not the case for the Aetna-submitted encounters. For CD services encounters, the billing and rendering provider NPIs in Aetna-submitted data were the same and ended with "4323," while the billing and rendering provider NPIs in DMAS-submitted data were the same and ended with "9983."
  - For *Servicing Provider Taxonomy Code,* the accuracy rate was 58.3 percent. Nearly all mismatched values were from internal and CD services encounters. However, the pattern for them was different. For CD services encounters, both the billing and rendering provider taxonomy codes in Aetna-submitted data were "253Z00000X," while the billing and rendering provider taxonomy codes were "251E00000X" in DMAS-submitted data. This was related to the different rendering provider NPIs in the two data sources. For the internal encounters, analyses indicated that within those records that did not match for *Servicing Provider Taxonomy Code*, 87.4 percent of them had the same *Rendering Provider NPI* in both data sources. For some reason, the taxonomy codes for the same rendering provider were different between the two data sources.
  - For *MCO Received Date*, the accuracy rate was 78.7 percent. All mismatched values were from internal and NEMT encounters. Analyses indicated that within those records with *MCO Received Date* that did not match, 94.0 percent of Aetna-submitted data were within one week before the *MCO Received Date* within DMAS-submitted data.
  - For *MCO Paid Date,* the accuracy rate was 82.8 percent. Nearly all mismatched values were from CD services encounters. Analyses indicated that within those records with *MCO Paid Date* that did not match, 87.5 percent of Aetna-submitted data were within one week before the *MCO Paid Date* within DMAS-submitted data.
- For HealthKeepers' professional data, two key data elements had an accuracy rate below 95.0 percent. The following bullets provide additional details regarding mismatches for these data elements.
  - For *Servicing Provider Taxonomy Code,* the accuracy rate was 76.0 percent. Analyses indicated that those records that did not match for *Servicing Provider Taxonomy Code* only occurred in internal encounters. In addition, 97.8 percent of records with mismatched taxonomy codes

actually had the same rendering provider NPIs in both data sources. For some reason, the taxonomy codes for the same *Rendering Provider NPI* were different between the two data sources.

- For *MCO Received Date*, the accuracy rate was 88.5 percent. Analyses indicated that within those records with *MCO Received Date* that did not match, 69.8 percent were from NEMT encounters, since nearly all NEMT encounters had different values for *MCO Received Date* between the two data sources. Overall, 64.8 percent of HealthKeepers-submitted data were between five and 10 days after the *MCO Received Date* within DMAS-submitted data.

- For Molina's professional data, four key data elements had an accuracy rate below 95.0 percent. The following bullets provide additional details regarding mismatches for these data elements.
  - For *Detail Service From Date* and *Detail Service To Date,* the accuracy rates were 85.7 percent and 85.5 percent, respectively. Nearly all mismatches occurred within internal encounters. The primary root cause was that *Detail Service From Date* was set to be equal to the *Header Service From Date* in Molina-submitted data, which is likely due to a data extraction error from Molina for the EDV study.
  - For *Servicing Provider Taxonomy Code*, the accuracy rate was 77.0 percent. Analyses indicated that within those records that did not match for *Servicing Provider Taxonomy Code,* nearly all mismatches occurred within internal encounters. In addition, 99.5 percent of records with mismatched taxonomy codes actually had the same *Rendering Provider NPI* in both data sources. For some reason, the taxonomy codes for the same rendering provider were different between the two data sources.
  - The element accuracy rate for *Referring Provider NPI* was 70.5 percent. All mismatched values were from internal encounters, since there were no subcontractor encounters with *Referring Provider NPI* values in both data sources. Further investigation showed that 35.6 percent of the mismatches had an unreasonable pattern wherein *Rendering Provider NPI* was the same as the referring provider NPIs in DMAS-submitted data. The remaining mismatches might be due to different providers with similar names, or provider group NPI versus individual provider NPI within the same group.

- For Optima's professional data, seven key data elements had an accuracy rate below 95.0 percent. The following bullets provide additional details regarding mismatches for these data elements.
  - For *Member ID*, the accuracy rate was 25.1 percent. All mismatched values were from internal encounters. Analyses indicated that within those records with *Member ID* that did not match, Optima-submitted data primarily used a 10-digit ID, whereas DMAS-submitted data used a 12-digit ID.
  - For *Billing Provider NPI*, the accuracy rate was 63.5 percent. All mismatches occurred within internal encounters. Further investigation showed that the mismatch was likely because Optima populated the billing provider NPIs with the same values as the rendering provider NPIs for all its internal encounters when extracting data for the EDV study.
  - For *Servicing Provider Taxonomy Code,* the accuracy rate was 85.5 percent. All mismatched values were from internal encounters. In addition, more than 99.9 percent of records with mismatched taxonomy codes actually had the same rendering provider NPIs in both data sources. For some reason, the taxonomy codes for the same *Rendering Provider NPI* were different between the two data sources.
  - For *Header TPL Paid Amount*, the accuracy rate was 85.1 percent. All mismatched values were from internal and vision encounters. Additional analyses showed that 79.1 percent of the mismatched records had unequal, non-zero amounts for *Header TPL Paid Amount* in both sets

of submitted data. The average difference per record was $68.26 less in the Optima-submitted data.

- For *Detail TPL Paid Amount*, the accuracy rate was 86.6 percent. All mismatched values were from internal encounters. Additional analyses showed that 70.7 percent of the mismatched records had unequal, non-zero amounts for *Detail TPL Paid Amount* in both sets of submitted data. The average difference per record was $31.88 less in the Optima-submitted data.
- For *MCO Received Date,* the accuracy rate was 79.0 percent. All mismatched values were from Optima's subcontractors, since nearly none of the subcontractor records matched on *MCO Received Date*. Analyses indicated that within those records with *MCO Received Date* that did not match, approximately 97.1 percent of Optima-submitted data were within one month after the *MCO Received Date* within DMAS-submitted data.
- For *MCO Paid Date,* the accuracy rate was 57.5 percent. Nearly all mismatched values were from internal and CD services encounters. Analyses indicated that within those records with *MCO Paid Date* that did not match, 99.8 percent of Optima-submitted data were within one week after the *MCO Paid Date* within DMAS-submitted data.

- For United's professional data, two key data elements had an accuracy rate below 95.0 percent. The following bullets provide additional details regarding mismatches for these data elements.
  - For *Header TPL Paid Amount*, the accuracy rate was 92.8 percent. All mismatched values were from internal encounters. Additional analyses showed that 96.7 percent of the mismatched records had unequal, non-zero amounts for *Header TPL Paid Amount* in both sets of submitted data. The average difference per record was $3.00 more in the United-submitted data.
  - For *Detail TPL Paid Amount*, the accuracy rate was 93.4 percent. All mismatched values were from internal encounters. Additional analyses showed that 96.1 percent of the mismatched records had unequal, non-zero amounts for *Detail TPL Paid Amount* in both sets of submitted data. The average difference per record was $2.64 more in the United-submitted data.
- For VA Premier's professional data, two key data elements had an accuracy rate below 95.0 percent. The following bullets provide additional details regarding mismatches for these data elements.
  - For *MCO Received Date,* the accuracy rate was 81.9 percent. Nearly all mismatched values were from internal encounters. Analyses indicated that within those records with *MCO Received Date* that did not match, 60.2 percent of VA Premier-submitted records were dated one day after the *MCO Received Date* within DMAS-submitted data.
  - For *MCO Paid Date*, the accuracy rate was 77.0 percent. Nearly all mismatched values were from CD services encounters, since none of the CD services records matched on *MCO Paid Date*. Analyses indicated that within those records with *MCO Paid Date* that did not match, 87.9 percent of VA Premier-submitted data were within one week after the *MCO Paid Date* within DMAS-submitted data.

Table 4-14 displays, for each key data element associated with institutional encounters, the percentage of records with the same values in each MCO's submitted files and DMAS' submitted files.

Table 4-14—Data Element Accuracy by MCO: Institutional

Key Data Elements	Statewide	Aetna	Health-Keepers	Molina	Optima	United	VA Premier
Member ID	84.0%	>99.9%	>99.9%	100.0%	0.0%	100.0%	>99.9%
Detail Service From Date	90.0%	60.5%	99.9%	68.2%	96.6%	99.0%	99.8%
Header Service From Date	99.5%	>99.9%	99.4%	99.8%	99.4%	98.7%	100.0%
Header Service To Date	98.3%	>99.9%	98.2%	98.7%	98.2%	96.4%	100.0%
Billing Provider NPI	98.4%	99.9%	>99.9%	>99.9%	90.4%	>99.9%	100.0%
Attending Provider NPI	87.9%	>99.9%	100.0%	0.1%	>99.9%	>99.9%	100.0%
Servicing Provider Taxonomy Code	79.2%	19.7%	100.0%	0.7%	—	99.9%	100.0%
Referring Provider NPI*	96.9%	—	>99.9%	71.3%	—	99.9%	100.0%
Primary Diagnosis Code	99.0%	100.0%	>99.9%	91.9%	>99.9%	100.0%	>99.9%
Secondary Diagnosis Codes*	32.2%	96.8%	5.1%	41.0%	46.6%	0.0%	43.2%
Procedure Code*	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	100.0%	100.0%
Procedure Code Modifiers*	98.9%	>99.9%	>99.9%	>99.9%	92.6%	>99.9%	100.0%
Surgical Procedure Codes*	92.2%	93.6%	98.9%	100.0%	97.6%	69.5%	95.7%
NDC*	>99.9%	100.0%	>99.9%	100.0%	>99.9%	100.0%	100.0%
Drug Quantity*	99.9%	99.3%	>99.9%	100.0%	99.9%	>99.9%	100.0%
Revenue Code	>99.9%	>99.9%	>99.9%	100.0%	>99.9%	100.0%	>99.9%
DRG	45.8%	>99.9%	0.0%	43.6%	52.4%	0.0%	100.0%
Type of Bill Code	93.8%	95.9%	98.8%	91.4%	89.6%	92.1%	89.7%
Header Paid Amount	>99.9%	>99.9%	100.0%	100.0%	>99.9%	>99.9%	100.0%
Header TPL Paid Amount	82.9%	92.7%	99.9%	70.8%	55.5%	80.3%	85.2%
Detail Paid Amount	>99.9%	>99.9%	>99.9%	100.0%	100.0%	>99.9%	100.0%
Detail TPL Paid Amount	90.5%	99.9%	99.9%	77.7%	79.2%	85.9%	93.9%
MCO Received Date	90.1%	55.3%	100.0%	97.6%	100.0%	100.0%	65.2%
MCO Paid Date	93.8%	100.0%	100.0%	100.0%	61.1%	100.0%	>99.9%

95.0-100.0%	90.0-94.9%	85.0-89.9%	0.0-84.9%

* Indicates that the data field is situational (i.e., not required for every encounter line).

"—" indicates that the denominator is zero.

Key Findings: Table 4-14

- The statewide accuracy for institutional data was relatively high, as 12 of 24 key data elements had an accuracy rate of 95.0 percent or higher. Within the remaining 12 key data elements, six had an accuracy rate between 90.0 and 95.0 percent. Only one key data element had an accuracy rate between 85.0 and 90.0 percent, and the remaining five key data elements were below 85.0 percent.
- For Aetna's institutional data, five key data elements had an accuracy rate below 95.0 percent. The following bullets provide additional details regarding mismatches for these data elements. Notably, *Detail Service From Date* was 60.5 percent, *Servicing Provider Taxonomy Code* was 19.7 percent, and *MCO Received Date* was 55.3 percent.
  - For *Detail Service From Date*, the primary root cause was that Aetna submitted multiple *Detail Service From Date* values for the same detail line number, as illustrated by line 2 in Table 4-4.

  - For *Servicing Provider Taxonomy Code*, it is important to note that only 228 records were included in the denominator for the accuracy rate since Aetna-submitted data contained very few values for this field. Therefore, please use cause when interpreting this result.
  - For *Surgical Procedure Codes*, the accuracy rate was 93.6 percent. The mismatch was primarily because the same surgical procedure code was repeatedly listed in multiple surgical procedure code fields (i.e., PX1, PX2, PX3, etc.) in Aetna-submitted data.
  - For *Header TPL Paid Amount*, the accuracy rate was 92.7 percent. Additional analyses showed that 90.6 percent of the mismatched records had a *Header TPL Paid Amount* of $0.00 in DMAS-submitted data. The average difference per record was $3,423.51.
  - Analyses indicated that within those records with *MCO Received Date* that did not match, 95.5 percent of Aetna-submitted data were within one week before the *MCO Received Date* in DMAS-submitted data, and 47.4 percent were one day before.
- For HealthKeepers' institutional data, two key data elements had an accuracy rate below 95.0 percent. The following bullets provide additional details regarding mismatches for these data elements. Notably, *Secondary Diagnosis Codes* accuracy rate was 5.1 percent, and *DRG* was 0.0 percent.
  - Analyses indicated that for records with *Secondary Diagnosis Codes* that did not match, more than 99.9 percent of DMAS-submitted data had more codes than HealthKeepers-submitted data. In addition, 61.0 percent of the mismatches occurred because the primary diagnosis code was listed in the secondary diagnosis code fields again in DMAS-submitted data.
  - Analyses indicated that for records with *DRG* codes that did not match, DMAS-submitted data had the first three digits of the MCO *DRG* code. For example, "7204" in HealthKeepers-submitted data versus "720" in DMAS-submitted data.
- For Molina's institutional data, 10 key data elements had an accuracy rate below 95.0 percent. The following bullets provide additional details regarding mismatches for these data elements.
  - The element accuracy rate for *Detail Service From Date* was 68.2 percent. Analyses indicated that within those records with *Detail Service From Date* that did not match, all of them were due to the fact that *Detail Service From Date* was set to be equal to *Header Service From Date* in Molina-submitted data, which is likely due to a data extraction error from Molina for the EDV study.
  - The element accuracy rate for *Attending Provider NPI* was 0.1 percent. Analyses indicated that within those records that did not match for *Attending Provider NPI*, more than 99.9 percent of them had an attending provider NPI that was the same as the billing provider NPI in Molina-submitted data, which is unreasonable and likely due to a data extraction error from Molina for the EDV study.
  - The element accuracy rate for *Servicing Provider Taxonomy Code* was 0.7 percent. Similar to *Attending Provider NPI*, analyses indicated that within those records that did not match for *Servicing Provider Taxonomy Code*, more than 99.9 percent had an attending provider taxonomy code that was the same as the billing provider taxonomy code in Molina-submitted data. This is likely due to a data extraction error from Molina for the EDV study.
  - The element accuracy rate for *Referring Provider NPI* was 71.3 percent. Further investigation showed that the mismatches might be due to different providers with similar names, or provider group NPI versus individual provider NPI within the same group.

- The element accuracy rate for *Primary Diagnosis Code* was 91.9 percent. Analyses indicated that within those records that did not match for *Primary Diagnosis Code*, more than 99.7 percent had the primary diagnosis listed in the secondary diagnosis code fields, as shown in Table 4-15.

Table 4-15—Diagnosis Code Mismatches for Molina Institutional Encounters

Example	Molina-Submitted Data		DMAS-Submitted Data	
#	Primary Diagnosis Code	Secondary Diagnosis Codes	Primary Diagnosis Code	Secondary Diagnosis Codes
1	R4182	I890, K7030, K7290, K766, N179, N390, Z20822	N390	I890, K7030, K7290, K766, N179, R4182, Z20822

- The element accuracy rate for *Secondary Diagnosis Codes* was 41.0 percent. Analyses indicated that 63.6 percent of the mismatches occurred because the primary diagnosis code was listed in the secondary diagnosis code fields again in DMAS-submitted data.
- The element accuracy rate for *DRG* was 43.6 percent. For the mismatched *DRG* codes that were four digits, the DMAS-submitted data had the first three digits of the MCO *DRG* code (e.g., "7502" in Molina-submitted data versus "750" in DMAS-submitted data). For the mismatched *DRGs* that were three digits, it appeared that Molina-submitted data had a code that was not in DMAS' *DRG* list (e.g., "871" in Molina-submitted data versus "720" in DMAS-submitted data).[4-2]
- The element accuracy rate for *Type of Bill Code* was 91.4 percent. Analyses indicated that within those records that did not match for *Type of Bill Code*, approximately one-third had a value of "137" (*Hospital; Outpatient; Replacement of Prior Claim*) in Molina-submitted data and a value of "131" (*Hospital; Outpatient; Admit thru Discharge Claim*) in DMAS-submitted data.
- The element accuracy rate for *Header TPL Paid Amount* was 70.8 percent. Analyses indicated that for records with *Header TPL Paid Amount* that did not match, 67.3 percent did not have *Header TPL Paid Amount* in DMAS-submitted data, and 32.2 percent did not have *Header TPL Paid Amount* in Molina-submitted data. Of these mismatched records, the dollar amount per record for Molina-submitted data was $2,663.66 more than DMAS-submitted data.
- The element accuracy rate for *Detail TPL Paid Amount* was 77.7 percent. Analyses indicated that for records with *Detail TPL Paid Amount* that did not match, 50.0 percent did not have *Detail TPL Paid Amount* in DMAS-submitted data and 24.4 percent did not have detail TPL paid amount in Molina-submitted data. Of these mismatched records, the dollar amount per record for Molina-submitted data was $179.07 more than DMAS-submitted data.

- For Optima's institutional data, nine key data elements had an accuracy rate below 95.0 percent. The following bullets provide additional details regarding mismatches for these data elements.
  - The element accuracy rate for *Member ID* was 0.0 percent. Analyses indicated that within those records with *Member ID* that did not match, Optima-submitted data primarily used a 10-digit ID, whereas DMAS-submitted data used a 12-digit ID.
  - The element accuracy rate for *Billing Provider NPI* was 90.4 percent. It appears that the mismatched billing provider NPIs between the Optima-submitted data and the DMAS-submitted

[4-2] Virginia Department of Medical Assistance Services. Hospital Rates. Available at: https://www.dmas.virginia.gov/for-providers/rates-and-rate-setting/hospital-rates/. Accessed on: Mar 8, 2024.

data were for the same organization; however, the NPIs were different because they were for different locations or taxonomy codes.

- The element accuracy rate for *Secondary Diagnosis Codes* was 46.6 percent. Analyses indicated that for records with *Secondary Diagnosis Codes* that did not match, 63.1 percent of the mismatches occurred because the primary diagnosis code was listed in the secondary diagnosis code fields again in DMAS-submitted data.
- The element accuracy rate for *Procedure Code Modifiers* was 92.6 percent. Analyses indicated that within those records with *Procedure Code Modifiers* that did not match, 96.8 percent of Optima-submitted data had one less modifier than DMAS-submitted data.
- The element accuracy rate for *DRG* was 52.4 percent. For the mismatched *DRG* codes, the most frequent pair was "871" in Optima-submitted data versus "720" in DMAS-submitted data. In addition, the *DRG* code in the two data sources did not have one-to-one mapping. For example, when Optima-submitted data had a *DRG* code of "871," the matching record in DMAS-submitted data might contain *DRG* codes other than "720" and vice versa.
- The element accuracy rate for *Type of Bill Code* was 89.6 percent. Analyses indicated that within those records that did not match for *Type of Bill Code*, 49.3 percent had a value of "137" (*Hospital; Outpatient; Replacement of Prior Claim*) in Optima-submitted data, and 52.8 percent had a value of "131" (*Hospital; Outpatient; Admit thru Discharge Claim*) in DMAS-submitted data.
- The element accuracy rate for *Header TPL Paid Amount* was 55.5 percent. Analyses indicated that for records with *Header TPL Paid Amount* that did not match, 77.0 percent had an unequal, non-zero *Header TPL Paid Amount* in both data sources. Of these mismatched records, the dollar amount per record for Optima-submitted data was $66.12 more than DMAS-submitted data.
- The element accuracy rate for *Detail TPL Paid Amount* was 79.2 percent. Analyses indicated that for records with *Detail TPL Paid Amount* that did not match, 25.3 percent of DMAS-submitted data had no detail TPL payments; 32.8 percent of Optima-submitted data had no detail TPL payments; and 41.9 percent had unequal, non-zero detail TPL payments in both data sources.
- The element accuracy rate for *MCO Paid Date* was 61.1 percent. Analyses indicated that within those records with *MCO Paid Date* that did not match, 92.5 percent of Optima-submitted records were dated one day after the *MCO Paid Date* within DMAS-submitted data.

- For United's institutional data, six key data elements had an accuracy rate below 95.0 percent. The following bullets provide additional details regarding mismatches for these data elements.
  - The element accuracy rate for *Secondary Diagnosis Codes* was 0.0 percent. Analyses indicated that for records with *Secondary Diagnosis Codes* that did not match, 72.9 percent of the mismatches occurred because the primary diagnosis code was listed in the secondary diagnosis code fields again in DMAS-submitted data.
  - For *Surgical Procedure Codes*, the accuracy rate was 69.5 percent. The mismatch was that DMAS-submitted data had more surgical procedure codes listed than United-submitted data.
  - The element accuracy rate for *DRG* was 0.0 percent. For the mismatched *DRG* codes that were four digits, the DMAS-submitted data had the first three digits of the MCO *DRG* code (e.g., "1613" in United-submitted data versus "161" in DMAS-submitted data). For the mismatched *DRG* codes that were three digits, the DMAS-submitted data had the first two digits of the MCO *DRG* code (e.g., "432" in United-submitted data versus "43" in DMAS-submitted data).

  - The element accuracy rate for *Type of Bill Code* was 92.1 percent. Analyses indicated that within those records that did not match for *Type of Bill Code*, 29.1 percent had a value of "131" (*Hospital; Outpatient; Replacement of Prior Claim*) in United-submitted data, and 30.6 percent had a value of "137" (*Hospital; Outpatient; Admit thru Discharge Claim*) in DMAS-submitted data.
  - The element accuracy rate for *Header TPL Paid Amount* was 80.3 percent. Analyses indicated that for records with *Header TPL Paid Amount* that did not match, 94.6 percent had an unequal, non-zero *Header TPL Paid Amount* in both data sources. Of these mismatched records, the dollar amount per record for United-submitted data was $436.26 more than DMAS-submitted data.
  - The element accuracy rate for *Detail TPL Paid Amount* was 85.9 percent. Analyses indicated that for records with *Detail TPL Paid Amount* that did not match, 42.1 percent of DMAS-submitted data had no detail TPL payments; 5.7 percent of United-submitted data had no detail TPL payments; and 52.2 percent had unequal, non-zero detail TPL payments from both data sources. Of these mismatched records, the dollar amount per record for United-submitted data was $104.91 more than DMAS-submitted data.

- For VA Premier's institutional data, five key data elements had an accuracy rate below 95.0 percent. The following bullets provide additional details regarding mismatches for these data elements.
  - The element accuracy rate for *Secondary Diagnosis Codes* was 43.2 percent. Analyses indicated that 54.3 percent of the mismatches occurred because the primary diagnosis code was listed in the secondary diagnosis code fields again in DMAS-submitted data.
  - The element accuracy rate for *Type of Bill Code* was 89.7 percent. Analyses indicated that within those records that did not match for *Type of Bill Code*, 38.0 percent had a value of "137" (*Hospital; Outpatient; Replacement of Prior Claim*) in VA Premier-submitted data, and 40.8 percent had a value of "131" (*Hospital; Outpatient; Admit thru Discharge Claim*) in DMAS-submitted data.
  - The element accuracy rate for *Header TPL Paid Amount* was 85.2 percent. Analyses indicated that for records with *Header TPL Paid Amount* that did not match, 85.2 percent had zero *Header TPL Paid Amount* in both data sources. Of these mismatched records, the dollar amount per record for VA Premier-submitted data was $2167.30 more than DMAS-submitted data.
  - The element accuracy rate for *Detail TPL Paid Amount* was 93.9 percent. Analyses indicated that for records with *Detail TPL Paid Amount* that did not match, 83.8 percent of DMAS-submitted data had no detail TPL payments; 3.6 percent of United-submitted data had no detail TPL payments; and 12.6 percent had unequal, non-zero detail TPL payments in both data sources. Of these mismatched records, the dollar amount per record for VA Premier-submitted data was $553.69 more than DMAS-submitted data.
  - The element accuracy rate for *MCO Received Date* was 65.2 percent. Analyses indicated that within those records with *MCO Received Date* that did not match, approximately 73.7 percent of VA Premier-submitted records were dated one day after the *MCO Received Date* within DMAS-submitted data.

Table 4-16 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 DMAS' submitted files.

Table 4-16—Data Element Accuracy by MCO: Pharmacy

Key Data Elements	Statewide	Aetna	Health-Keepers	Molina	Optima	United	VA Premier
Member ID	>99.9%	100.0%	100.0%	100.0%	100.0%	>99.9%	100.0%
Detail Service Date	99.5%	100.0%	100.0%	100.0%	95.9%	100.0%	100.0%
Billing Provider NPI	>99.9%	100.0%	100.0%	100.0%	99.9%	>99.9%	100.0%
Prescribing Provider NPI	>99.9%	>99.9%	>99.9%	>99.9%	100.0%	99.9%	100.0%
NDC	99.9%	99.9%	99.8%	99.9%	>99.9%	99.5%	100.0%
Drug Quantity	99.6%	100.0%	100.0%	>99.9%	100.0%	96.2%	100.0%
Detail Paid Amount	99.8%	100.0%	100.0%	>99.9%	>99.9%	99.2%	99.6%
Detail TPL Paid Amount	99.4%	99.7%	99.3%	99.6%	99.1%	>99.9%	99.2%
MCO Received Date	86.2%	98.5%	98.8%	98.9%	<0.1%	96.5%	100.0%
MCO Paid Date	82.4%	100.0%	99.6%	99.6%	45.8%	0.1%	100.0%

95.0-100.0% | 90.0-94.9% | 85.0-89.9% | 0.0-84.9%

Key Findings: Table 4-16

- The statewide element accuracy rates for pharmacy data were relatively high, as eight of 10 key data elements had an accuracy rate of 99.0 percent or higher. Within the remaining two key data elements, *MCO Received Date* had an accuracy rate of 86.2 percent, and *MCO Paid Date* had an accuracy rate of 82.4 percent.
- The pharmacy element accuracy rates for all MCOs and all key data elements were over 95.0 percent, except the following three rates for Optima and United:
  - For Optima's pharmacy data, *MCO Received Date* had an accuracy rate below 0.1 percent. Analyses indicated that within those records with *MCO Received Date* that did not match, Optima populated *MCO Received Date* and *MCO Paid Date* with the same values for the data submitted to HSAG for the EDV study. However, this pattern occurred much less frequently in DMAS-submitted data.
  - For Optima's pharmacy data, *MCO Paid Date* had an accuracy rate of 45.8 percent. Analyses indicated that within those records with *MCO Paid Date* that did not match, 89.6 percent of Optima-submitted dates were seven days after the DMAS-submitted date.
  - For United's pharmacy data, *MCO Paid Date* had an accuracy rate of 0.1 percent. For United-submitted data, the *MCO Paid Date* was always the same as *MCO Received Date* and before the *MCO Submit Date* (i.e., the date when the MCO submitted encounters to DMAS). However, for DMAS-submitted data, 67.4 percent had an *MCO Paid Date* after the *MCO Submit Date,* which is unreasonable, as demonstrated in the first example in Table 4-17. For the remaining records with the *MCO Paid Date* before the *MCO Submit Date* in DMAS-submitted data, the difference between the two data sources was usually less than eight calendar days (e.g., last row in Table 4-17).

Table 4-17—MCO Received Date and Paid Date Mismatch for United Pharmacy Encounters

Optima-Submitted Data			DMAS-Submitted Data		
Received Date	Paid Date	Submit Date	Received Date	Paid Date	Submit Date
7/27/2022	7/27/2022	8/4/2022	7/27/2022	8/23/2022	8/4/2024
8/4/2022	8/4/2022	8/14/2022	8/4/2022	8/11/2022	8/14/2024

All-Element Accuracy

Table 4-18 displays 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.

Table 4-18—All-Element Accuracy by MCO and Encounter Type

MCO	Professional	Institutional	Pharmacy
Aetna	22.2%	6.6%	98.0%
HealthKeepers	64.4%	4.5%	97.9%
Molina	41.4%	<0.1%	98.4%
Optima	0.0%	0.0%	<0.1%
United	84.9%	0.0%	<0.1%
VA Premier	55.1%	20.5%	99.2%
Statewide	**49.7%**	**4.2%**	**75.5%**

Key Findings: Table 4-18

- Overall, statewide all-element accuracy rates were 49.7 percent, 4.2 percent, and 75.5 percent for professional, institutional, and pharmacy encounters, respectively.
- For each MCO, the institutional data usually had the lowest all-element accuracy rate among the three encounter types.
- The low all-element accuracy rates could be caused by the element omission, element surplus, and element inaccuracy from any of the key data elements.

5. Conclusions and Recommendations

Conclusions

This section provides conclusions from each of the two activities.

Information Systems Review

Based on the MCOs' responses to the IS review questionnaire, three of the six MCOs reported changes to their encounter data processing and monitoring systems since July 1, 2021. The changes for Molina and VA Premier were significant, and both MCOs worked with DMAS and completed DMAS' testing plan before implementing the changes.

All the MCOs have subcontractors. Although the MCOs' subcontractors collected and processed encounters for the MCOs, the MCOs themselves always stored these data in their data systems and submitted the encounters to DMAS. The questionnaire collected information from the MCOs regarding the encounter data quality checks performed by the MCOs and their subcontractors. While the quality checks varied across different encounter types, the subcontractors and/or the MCOs performed some quality checks either before or after submitting encounters to DMAS for each encounter type. All MCOs had quality checks to ensure that the submitted records pass DMAS EDI compliance edits and business rules. However, other quality checks regarding encounter volume, reconciliation with financial reports, and timeliness varied among the MCOs. The MCOs and/or their subcontractors should consider building reports to monitor encounter data accuracy, completeness, and timeliness for encounter types with deficiencies shown in Table 3-4 (i.e., red dots) and Table 3-5 (i.e., cells without check marks).

When asking the MCOs about their internal/external challenges for the encounter data submissions, three MCOs noted the challenge of submitting a void/replacement encounter to DMAS when the prior submission was a failed encounter. Additionally, two MCOs noted untimely updates regarding DMAS' reference tables as a challenge. DMAS should review these challenges and resolve them, if appropriate.

Comparative Analysis

Throughout the comparative analysis section, lower rates indicate better performance for omission and surplus rates, while higher rates indicate better performance for accuracy rates.

Record Completeness

HSAG evaluated the record-level data completeness of DMAS' encounter data by investigating the record omission and record surplus in DMAS' data compared to each MCO. Table 5-1 displays the statewide rates as well as the MCOs' performance.

Table 5-1—Summary for Record Omission and Surplus Rates

Encounter Data Type	Statewide Record Omission	Statewide Record Surplus	Aetna	Health-Keepers	Molina	Optima	United	VA Premier
Professional	2.8%	6.7%	●	●	●	◐	●	◐
Institutional	19.1%	17.8%	●	◐	●	◐	●	◐
Pharmacy	10.0%	20.9%	●	◐	◐	●	◐	●

● Both <5.0% ◐ Record Omission <5.0% ◐ Record Surplus <5.0% ● Both >5.0%

For professional encounters, the statewide record omission rate was 2.8 percent, and the statewide record surplus rate was 6.7 percent. HealthKeepers, Molina, and United all had rates below 5.0 percent for both record omission and record surplus, indicating relatively complete encounter data. Conversely, Aetna was the only MCO to have a rate over 5.0 percent for both record omission and record surplus. Optima had a rate below 5.0 percent for record omission and over 5.0 percent for record surplus. Lastly, VA Premier had a rate over 5.0 percent for record omission and below 5.0 percent for record surplus.

For institutional encounters, the statewide record omission rate was 19.1 percent, and the statewide record surplus rate was 17.8 percent. Molina and United had rates below 5.0 percent for both record omission and record surplus. Conversely, Aetna was the only MCO to have a rate over 5.0 percent for both record omission and record surplus. HealthKeepers, Optima, and VA Premier had a rate below 5.0 percent for record omission and over 5.0 percent for record surplus.

For pharmacy encounters, the statewide record omission rate was 10.0 percent, and the statewide record surplus rate was 20.9 percent. VA Premier was the only MCO to have a rate below 5.0 percent for both record omission and record surplus pharmacy encounters. Conversely, Aetna and Optima were the only MCOs to have a rate over 5.0 percent for both record omission and record surplus. HealthKeepers, Molina, and United had rates below 5.0 percent for record omission and over 5.0 percent for record surplus.

As noted in the Comparative Analysis section, the potential reasons for the record omission and surplus included the following. Of note, HSAG highlighted some key conclusions below as illustration; however, these were not the only findings.

- MCO data extraction error: For Aetna's professional and institutional internal encounters, the primary cause for the record omissions was that the Aetna-submitted data contained duplicates based on the *TCN* and *Line Number*.
- Procedural differences between DMAS and MCOs: For pharmacy encounters, the record surplus was primarily because of the point-of-sale denials. For HealthKeepers' and United's submitted data, only the final version was submitted to HSAG for the EDV study, while the DMAS-submitted data contained all versions of the same point-of-sale denials. In addition, Aetna and Molina did not store *TCN* for the point-of-sale denials within their systems; therefore, they did not provide *TCN* for these denials in the data submitted to HSAG for the EDV study, and the comparison between the two data sources was solely dependent on *ClaimNo*, which contributed to their relatively high record surplus rates.
- Potential record omission/surplus: For HealthKeepers, Optima, and VA Premier, there were more institutional records in the DMAS-submitted data than the MCO-submitted data, which contributed to a relatively high record surplus rate. Among the surplus records, the majority had a *Member ID*

and *Header Last Date of Service* combination that did not exist in the MCO-submitted data. This means that DMAS had additional institutional services compared to the data provided by the MCOs for the EDV study.

Data Element Completeness

HSAG evaluated the element-level completeness of DMAS' encounter data by the element omission and element surplus rates for key data elements relevant to each encounter type. Table 5-2 compiles the results from Table 4-7, Table 4-9, and Table 4-12 and calculates an aggregated score for the percentage of key data elements that were below 5.0 percent for both the element omission and element surplus rates. A score of 100 percent indicates that all applicable key data elements for an encounter type had both element omission and surplus rates below 5.0 percent, which indicates relatively complete data for all key data elements. A score of 50.0 percent indicates that only half of the key data elements were below 5.0 percent for both omission and surplus rates.

Table 5-2—Percentage of Key Data Elements With Both Element Omission and Surplus Rates Below 5.0 Percent

Encounter Data Type	Number of Key Data Elements*	Statewide	Aetna	Health-Keepers	Molina	Optima	United	VA Premier
Professional	17	100.0%	82.4%	100.0%	82.4%	70.6%	94.1%	100.0%
Institutional	22	95.5%	86.4%	95.5%	100.0%	86.4%	90.9%	90.9%
Pharmacy	9	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled values with zeros in the TPL-related fields before conducting the analysis. Therefore, the TPL-related fields were not included in this analysis.

At the statewide level, all 17 key data elements had element omission and surplus rates below 5.0 percent for professional encounters. Likewise, both HealthKeepers and VA Premier had omission and surplus rates below 5.0 percent for all key data elements. United had 16 key data elements with both element omission and surplus rates below 5.0 percent, while Aetna and Molina had 14 key data elements with both element omission and surplus rates below 5.0 percent. Lastly, Optima only had 12 key data elements with both element omission and surplus rates below 5.0 percent.

The statewide rate for only one key data element, *Servicing Provider Taxonomy Code*, was over 5.0 percent for either omission or surplus for institutional encounters. Furthermore, all of Molina's key data elements had rates below 5.0 percent for both omission and surplus. Additionally, HealthKeepers had 21 key data elements with both element omission and surplus rates below 5.0 percent, while United and VA Premier had 20 key data elements with both element omission and surplus rates below 5.0 percent. Lastly, Aetna and Optima each had 19 key data elements with both element omission and surplus rates below 5.0 percent for institutional encounters.

Finally, for pharmacy encounters, the statewide rate and the rate for each MCO was below 5.0 percent for element omission and surplus for all key data elements.

As noted in the Comparative Analysis section, the potential reasons for the element omission and surplus included the following. Of note, HSAG highlighted some key conclusions below as illustration; however, these were not the only findings.

- MCO-submitted data from subcontractors: For professional encounters, the element surplus was frequently attributed to the MCOs' subcontractors. For example, two of the three element surplus rates over 5.0 percent from Aetna were due to its CD services encounters and all element surplus, while rates over 5.0 percent from Optima were due to its NEMT encounters.
- MCO data extraction error: For the *Servicing Provider Taxonomy Code* in the institutional encounters, almost no records in the Aetna-submitted data contained values, while a notable percentage of the DMAS-submitted records contained values.
- Potential element omission/surplus: For Optima's professional encounters, the *Referring Provider NPI* was not populated for the internal encounters in the DMAS-submitted data while the Optima-submitted data contained values for some of them. Therefore, DMAS was missing these values in its data warehouse.

Data Element Accuracy

Table 5-3 compiles results from Table 4-13, Table 4-14, and Table 4-16, and aggregates a score for the percentage of key data elements with an element accuracy rate over 95.0 percent. A score of 100 percent indicates that all key data elements had an element accuracy rate over 95.0 percent, which indicates relatively accurate data for all key data elements. A score of 50.0 percent indicates that only half of the key data elements had an element accuracy rate over 95.0 percent.

Table 5-3—Percentage of Key Data Elements With an Element Accuracy Over 95.0 Percent

Encounter Data Type	Number of Key Data Elements	Statewide	Aetna	Health-Keepers	Molina	Optima	United	VA Premier
Professional	19	73.7%	63.2%	89.5%	78.9%	57.9%	89.5%	89.5%
Institutional	24	50.0%	75.0%	91.7%	58.3%	54.2%	75.0%	79.2%
Pharmacy	10	80.0%	100.0%	100.0%	100.0%	80.0%	90.0%	100.0%

For professional encounters, only 14 key data elements (i.e., 73.7 percent) statewide had over 95.0 percent element accuracy. HealthKeepers, United, and VA Premier all had the highest accuracy rates, with 17 key data elements over 95.0 percent. Conversely, Optima had the lowest accuracy rates, with only 11 key data elements over 95.0 percent. Likewise, Aetna (12 key data elements) and Molina (15 key data elements) had low accuracy rates for their key data elements being over 95.0 percent.

Institutional encounters had the lowest percentage of key data elements over 95.0 percent accuracy rates across all three encounter types. The statewide data showed that only 12 of the key data elements had accuracy rates over 95.0percent. HealthKeepers had the highest accuracy, as 22 of its key data elements were over the 95.0 percent threshold. Aetna (18 key data elements), United (18 key data elements), and VA Premier (19 key data elements) had lower rates for their key data elements' accuracy being over 95.0 percent. Conversely, Molina (14 key data elements) and Optima (13 key data elements) had nominal accuracy for their key data elements.

Pharmacy encounters were relatively accurate for the key data elements. Statewide, four out of the six MCOs had all 10 of their key data elements over 95.0 percent accuracy. United (90.0 percent) and Optima (80.0 percent) have some room for improving the accuracy of their key data elements for pharmacy encounters. It should be noted that although most MCOs had 100.0 percent accuracy,

United's low-matching *MCO Paid Date* and Optima's low-matching *MCO Received Date* rates brought the statewide rate to only eight key data elements being over 95.0 percent.

As noted in the Comparative Analysis section, the potential reasons for the element inaccuracy included the following. Of note, HSAG highlighted some key conclusions below as illustration; however, these were not the only findings.

- Procedural differences between DMAS and the MCOs: While the *Rendering Provider NPI* contained the same values in both data sources, the *Servicing Provider Taxonomy Code* contained different values for a notable percentage of the professional encounters for Aetna, HealthKeepers, Molina, and Optima. It seems that the process of gathering reference data used to prepare the *Servicing Provider Taxonomy Code* was different between the MCO-submitted and DMAS-submitted data. For the *Secondary Diagnosis Codes* in the institutional encounters, the primary contributor to the mismatched values was that the primary diagnosis code was also listed in the secondary diagnosis code fields in the DMAS-submitted data, while the MCO-submitted data usually did not have this pattern.
- MCO data extraction error: For the majority of the Molina-submitted institutional encounters, the *Detail Service From Date* values were the same as the *Header Service From Date* values, the *Attending Provider NPI* values were the same as the *Billing Provider NPI* values, and the *Servicing Provider Taxonomy Code* values were the same as the billing provider taxonomy codes. For the Optima-submitted data, *Member ID* generally contained a 10-digit ID, whereas the DMAS-submitted data used a 12-digit ID for its professional and institutional internal encounters. These data extraction errors contributed to the mismatched values between the MCO-submitted and DMAS-submitted data.
- Potential mismatched values: For records with *DRG* codes that did not match, the DMAS-submitted data either had the first three digits of the MCO *DRG* code (e.g., "7204" in the MCO-submitted data versus "720" in the DMAS-submitted data) or the MCO-submitted data had a code not in DMAS' *DRG* list (e.g., "871" in the MCO-submitted data versus "720" in the DMAS-submitted data). *MCO Received Date* and *MCO Paid Date* in the professional encounters and *Header TPL Paid Amount* and *Detail TPL Paid Amount* in the institutional encounters were the common fields with mismatched values. Since these fields are important for rate setting and the evaluation of the timeliness submission measure, it is important to understand what caused the difference between the two data sources.

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 DMAS' data warehouse are complete and accurate for all key data elements. It is evident that because the MCOs had varying element completeness (element omission and element surplus) and inconsistent data element accuracy, the all-element accuracy was negatively affected (i.e., statewide all-element accuracy rates were 49.7 percent, 4.2 percent, and 75.5 percent for professional, institutional, and pharmacy encounters, respectively). Addressing the causes outlined above for each issue will help mitigate nominal all-element accuracy rates.

Recommendations

To improve the quality of encounter data submissions from the MCOs, HSAG offers the following recommendations to assist DMAS and the MCOs in addressing opportunities for improvement:

Information Systems Review

Based on the IS review activity, HSAG has the following recommendations:

- The MCOs and/or their subcontractors should consider building reports to monitor encounter data accuracy, completeness, and timeliness for specific MCO encounter types with a deficiency (i.e., red dots) in Table 3-4.
- The MCOs should consider building reports to monitor encounter data accuracy, completeness, and timeliness for encounters that the MCOs collect based on the deficiencies (i.e., cells without check marks) listed in Table 3-5.
- DMAS should enhance the EPS function so that it can process replacements/voids for failed encounters correctly without manual intervention. In the short term, DMAS should consider the following:
  - Requiring the MCOs to not submit replacements/voids until receiving DMAS' response files for the companion transaction (i.e., original or prior replacement).[5-1] If the prior companion transaction has a validation status of PASS, then the MCOs can submit the replacement/void. For prior companion transactions that are not initial submissions and have a status of FAIL, the MCOs can resubmit them as an initial submission instead of a replacement/void. If the prior companion transaction is not an initial submission and has a status of FAIL, the MCOs should work with DMAS to submit them in batches (e.g., with a special file name indicating the scenario) on a fixed schedule (e.g., once a month) for DMAS to apply the manual override and reprocessing.
- DMAS should reach out to all MCOs regarding their schedule of updating the reference tables and compare with DMAS' schedule to understand the gaps. Once completed, the reference tables can be updated as needed in a synchronous manner between DMAS and MCOs.

Comparative Analysis

DMAS should work with the MCOs to investigate the following findings from the comparative analysis to determine whether the difference between DMAS' data and the MCOs' data was due to issues from the data extraction for the EDV study, or does the difference indicate issues with DMAS' encounter data completeness and accuracy.

- Aetna should investigate the root cause(s) for the results in Table 5-4 to ensure that complete and accurate encounter data are submitted to DMAS.

[5-1] Section 4.2.3 in the Encounters Technical Manual (https://vamedicaid.dmas.virginia.gov/sites/default/files/2023-05/COV-DMAS%20Encounters%20Technical%20Manual%20v3.1.pdf) noted this requirement as a "best practice." HSAG recommends that DMAS change it to a requirement.

Table 5-4—Results Requiring Action From Aetna

Measure	Claim Type	Data Element	Rate
Record Omission	Professional	Not Applicable	8.8%
Record Surplus	Professional	Not Applicable	11.6%
Record Omission	Institutional	Not Applicable	62.3%
Record Surplus	Institutional	Not Applicable	31.7%
Record Omission	Pharmacy	Not Applicable	37.8%
Record Surplus	Pharmacy	Not Applicable	38.1%
Element Surplus	Professional	Servicing Provider Taxonomy Code	16.1%
Element Surplus	Professional	Primary Diagnosis Codes	17.2%
Element Surplus	Professional	MCO Received Date	17.2%
Element Omission	Institutional	NDC	7.8%
Element Omission	Institutional	Drug Quantity	7.8%
Element Surplus	Institutional	Servicing Provider Taxonomy Code	86.6%
Element Accuracy	Professional	Detail Service From Date	84.8%
Element Accuracy	Professional	Detail Service To Date	84.8%
Element Accuracy	Professional	Billing Provider NPI	93.5%
Element Accuracy	Professional	Rendering Provider NPI	86.9%
Element Accuracy	Professional	Servicing Provider Taxonomy Code	58.3%
Element Accuracy	Professional	MCO Received Date	78.7%
Element Accuracy	Professional	MCO Paid Date	82.8%
Element Accuracy	Institutional	Detail Service From Date	60.5%
Element Accuracy	Institutional	Servicing Provider Taxonomy Code	19.7%
Element Accuracy	Institutional	Surgical Procedure Codes	93.6%
Element Accuracy	Institutional	Header TPL Paid Amount	92.7%
Element Accuracy	Institutional	MCO Received Date	55.3%

- HealthKeepers should investigate the root cause(s) for the results in Table 5-5 to ensure that complete and accurate encounter data are submitted to DMAS.

Table 5-5—Results Requiring Action From HealthKeepers

Measure	Claim Type	Data Element	Rate
Record Surplus	Institutional	Not Applicable	13.0%
Record Surplus	Pharmacy	Not Applicable	13.2%
Element Surplus	Institutional	Secondary Diagnosis Codes	6.6%
Element Accuracy	Professional	Servicing Provider Taxonomy Code	76.0%
Element Accuracy	Professional	MCO Received Date	88.5%
Element Accuracy	Institutional	Secondary Diagnosis Codes	5.1%
Element Accuracy	Institutional	DRG	0.0%

- Molina should investigate the root cause(s) for the results in Table 5-6 to ensure that complete and accurate encounter data are submitted to DMAS.

Table 5-6—Results Requiring Action From Molina

Measure	Claim Type	Data Element	Rate
Record Surplus	Pharmacy	Not Applicable	14.0%
Element Omission	Professional	Procedure Code Modifiers	5.4%
Element Surplus	Professional	Referring Provider NPI	7.7%
Element Surplus	Professional	MCO Received Date	13.8%
Element Accuracy	Professional	Detail Service From Date	85.7%
Element Accuracy	Professional	Detail Service To Date	85.5%
Element Accuracy	Professional	Servicing Provider Taxonomy Code	77.0%
Element Accuracy	Professional	Referring Provider NPI	70.5%
Element Accuracy	Institutional	Detail Service From Date	68.2%
Element Accuracy	Institutional	Attending Provider NPI	0.1%
Element Accuracy	Institutional	Servicing Provider Taxonomy Code	0.7%
Element Accuracy	Institutional	Referring Provider NPI	71.3%
Element Accuracy	Institutional	Primary Diagnosis Codes	91.9%
Element Accuracy	Institutional	Secondary Diagnosis Codes	41.0%
Element Accuracy	Institutional	DRG	43.6%
Element Accuracy	Institutional	Type of Bill Code	91.4%
Element Accuracy	Institutional	Header TPL Paid Amount	70.8%
Element Accuracy	Institutional	Detail TPL Paid Amount	77.7%

- Optima should investigate the root cause(s) for the results in Table 5-7 to ensure that complete and accurate encounter data are submitted to DMAS.

Table 5-7—Results Requiring Action From Optima

Measure	Claim Type	Data Element	Rate
Record Surplus	Professional	Not Applicable	26.4%
Record Surplus	Institutional	Not Applicable	17.3 %
Record Omission	Pharmacy	Not Applicable	15.1%
Record Surplus	Pharmacy	Not Applicable	39.5 %
Element Omission	Professional	Referring Provider NPI	34.2%
Element Surplus	Professional	Billing Provider NPI	11.0%
Element Surplus	Professional	Rendering Provider NPI	11.0%
Element Surplus	Professional	Procedure Code Modifiers	12.0%
Element Surplus	Professional	MCO Received Date	5.2%
Element Omission	Institutional	Servicing Provider Taxonomy Code	99.0%
Element Omission	Institutional	NDC	6.9%
Element Omission	Institutional	Drug Quantity	6.9%
Element Accuracy	Professional	Member ID	25.1%
Element Accuracy	Professional	Billing Provider NPI	63.5%
Element Accuracy	Professional	Servicing Provider Taxonomy Code	85.5%
Element Accuracy	Professional	Header TPL Paid Amount	85.1%
Element Accuracy	Professional	Detail TPL Paid Amount	86.6%
Element Accuracy	Professional	MCO Received Date	79.0%
Element Accuracy	Professional	MCO Paid Date	57.5%

Measure	Claim Type	Data Element	Rate
Element Accuracy	Institutional	Member ID	0.0%
Element Accuracy	Institutional	Billing Provider NPI	90.4%
Element Accuracy	Institutional	Secondary Diagnosis Codes	46.6%
Element Accuracy	Institutional	Procedure Code Modifiers	92.6%
Element Accuracy	Institutional	DRG	52.4%
Element Accuracy	Institutional	Type of Bill Code	89.6%
Element Accuracy	Institutional	Header TPL Paid Amount	55.5%
Element Accuracy	Institutional	Detail TPL Paid Amount	79.2%
Element Accuracy	Institutional	MCO Paid Date	61.1%
Element Accuracy	Pharmacy	MCO Received Date	<0.1%
Element Accuracy	Pharmacy	MCO Paid Date	45.8%

- United should investigate the root cause(s) for the results in Table 5-8 to ensure that complete and accurate encounter data are submitted to DMAS.

Table 5-8—Results Requiring Action From United

Measure	Claim Type	Data Element	Rate
Record Surplus	Pharmacy	Not Applicable	22.8%
Element Surplus	Professional	Servicing Provider Taxonomy Code	7.7%
Element Surplus	Institutional	Secondary Diagnosis Codes	6.5%
Element Surplus	Institutional	Type of Bill Code	5.1%
Element Accuracy	Professional	Header TPL Paid Amount	92.8%
Element Accuracy	Professional	Detail TPL Paid Amount	93.4%
Element Accuracy	Institutional	Secondary Diagnosis Codes	0.0%
Element Accuracy	Institutional	Surgical Procedure Codes	69.5%
Element Accuracy	Institutional	DRG	0.0%
Element Accuracy	Institutional	Type of Bill Code	92.1%
Element Accuracy	Institutional	Header TPL Paid Amount	80.3%
Element Accuracy	Institutional	Detail TPL Paid Amount	85.9%
Element Accuracy	Pharmacy	MCO Paid Date	0.1%

- VA Premier should investigate the root cause(s) for the results in Table 5-9 to ensure that complete and accurate encounter data are submitted to DMAS.

Table 5-9—Results Requiring Action From VA Premier

Measure	Claim Type	Data Element	Rate
Record Omission	Professional	Not Applicable	6.5%
Record Surplus	Institutional	Not Applicable	41.8%
Element Omission	Institutional	NDC	14.4%
Element Omission	Institutional	Drug Quantity	14.4%
Element Accuracy	Professional	MCO Received Date	81.9%
Element Accuracy	Professional	MCO Paid Date	77.0%
Element Accuracy	Institutional	Secondary Diagnosis Codes	43.2%

Measure	Claim Type	Data Element	Rate
Element Accuracy	Institutional	Type of Bill Code	89.7%
Element Accuracy	Institutional	Header TPL Paid Amount	85.2%
Element Accuracy	Institutional	Detail TPL Paid Amount	93.9%
Element Accuracy	Institutional	MCO Received Date	65.2%

Lastly, below are the recommendations for DMAS to consider:

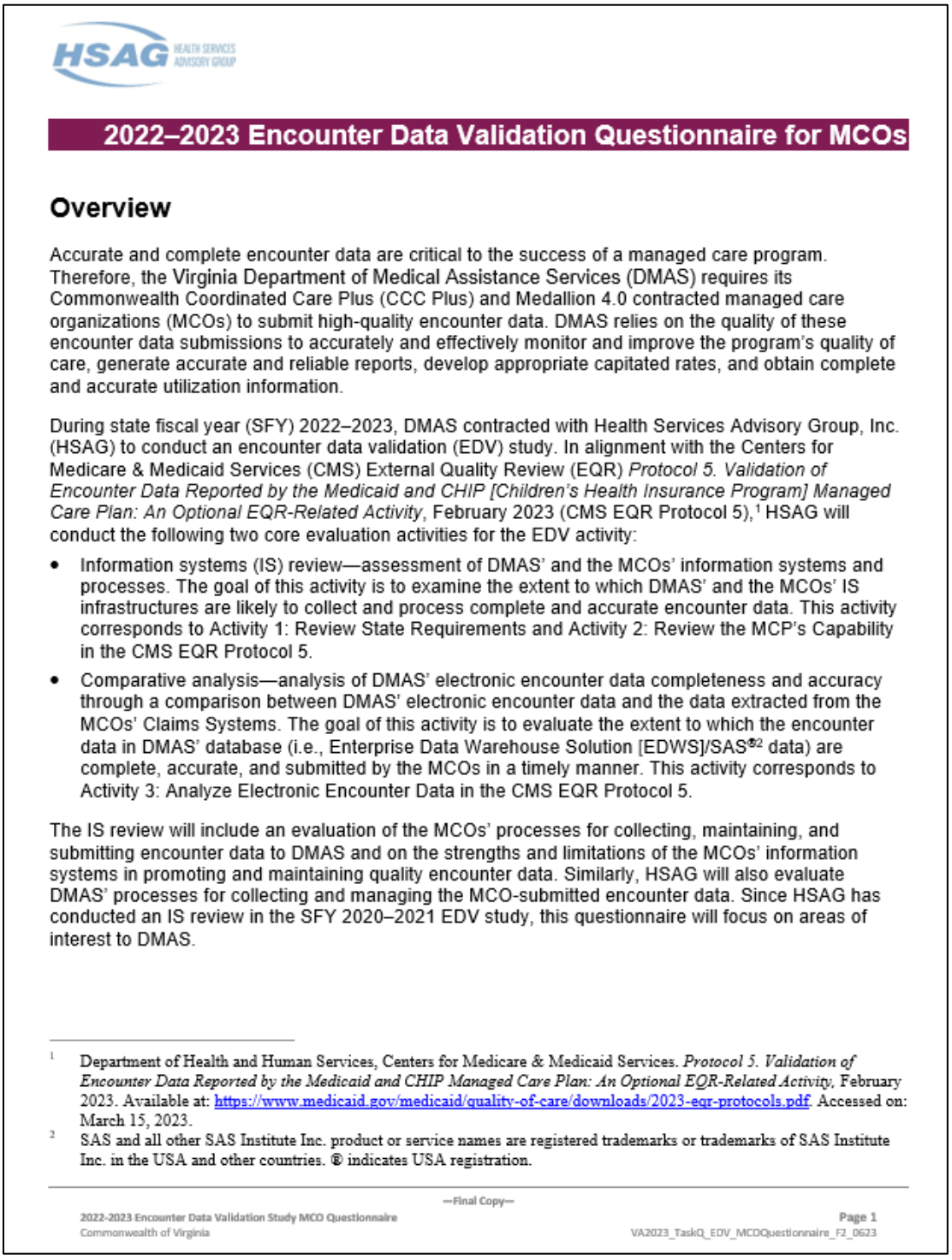
- DMAS should consider distributing findings from the comparative analysis to the MCOs for investigation so that the root causes can be identified and actions can be taken to address any issues related to encounter data completeness and accuracy.
- DMAS should develop contract standards for the measures included in the comparative analysis so that DMAS can use the standards to hold the MCOs accountable or provide incentives upon achieving standards for future comparative analyses.

Study Limitations

- Findings associated with the IS review were based on self-reported questionnaire responses submitted to HSAG by the MCOs. HSAG did not confirm the statements made in the questionnaire.
- The comparative analysis results presented in this study are dependent on the quality of encounter data submitted by DMAS and the MCOs. Any substantial and systematic errors in the extraction of encounter data may bias the results and compromise the validity and reliability of study findings.
- The findings from the comparative analysis are associated with encounters with dates of service between January 1, 2022, and December 31, 2022. As such, results may not reflect the current quality of the MCOs' and DMAS' encounter data, or changes implemented since January 2023.

Appendix A. Blank Questionnaire for the MCOs

This section provides screen shots of the customized MCO questionnaire.



2022–2023 Encounter Data Validation Questionnaire for MCOs

Overview

Accurate and complete encounter data are critical to the success of a managed care program. Therefore, the Virginia Department of Medical Assistance Services (DMAS) requires its Commonwealth Coordinated Care Plus (CCC Plus) and Medallion 4.0 contracted managed care organizations (MCOs) to submit high-quality encounter data. DMAS 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 state fiscal year (SFY) 2022–2023, DMAS contracted with Health Services Advisory Group, Inc. (HSAG) to conduct an encounter data validation (EDV) study. In alignment with the Centers for Medicare & Medicaid Services (CMS) External Quality Review (EQR) *Protocol 5. Validation of Encounter Data Reported by the Medicaid and CHIP [Children's Health Insurance Program] Managed Care Plan: An Optional EQR-Related Activity*, February 2023 (CMS EQR Protocol 5),[1] HSAG will conduct the following two core evaluation activities for the EDV activity:

- Information systems (IS) review—assessment of DMAS' and the MCOs' information systems and processes. The goal of this activity is to examine the extent to which DMAS' and the MCOs' IS infrastructures are likely to collect and process complete and accurate encounter data. This activity corresponds to Activity 1: Review State Requirements and Activity 2: Review the MCP's Capability in the CMS EQR Protocol 5.
- Comparative analysis—analysis of DMAS' electronic encounter data completeness and accuracy through a comparison between DMAS' electronic encounter data and the data extracted from the MCOs' Claims Systems. The goal of this activity is to evaluate the extent to which the encounter data in DMAS' database (i.e., Enterprise Data Warehouse Solution [EDWS]/SAS®[2] data) are complete, accurate, and submitted by the MCOs in a timely manner. This activity corresponds to Activity 3: Analyze Electronic Encounter Data in the CMS EQR Protocol 5.

The IS review will include an evaluation of the MCOs' processes for collecting, maintaining, and submitting encounter data to DMAS and on the strengths and limitations of the MCOs' information systems in promoting and maintaining quality encounter data. Similarly, HSAG will also evaluate DMAS' processes for collecting and managing the MCO-submitted encounter data. Since HSAG has conducted an IS review in the SFY 2020–2021 EDV study, this questionnaire will focus on areas of interest to DMAS.

1 Department of Health and Human Services, Centers for Medicare & Medicaid Services. *Protocol 5. Validation of Encounter Data Reported by the Medicaid and CHIP Managed Care Plan: An Optional EQR-Related Activity,* February 2023. Available at: https://www.medicaid.gov/medicaid/quality-of-care/downloads/2023-eqr-protocols.pdf. Accessed on: March 15, 2023.

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—Final Copy—

2022-2023 Encounter Data Validation Study MCO Questionnaire
Commonwealth of Virginia

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HSAG will conduct the IS Review for the following six MCOs for both the CCC Plus and Medallion 4.0 programs:

- Aetna Better Health of Virginia (Aetna)
- HealthKeepers, Inc. (HealthKeepers)
- Molina Complete Care (Molina)
- Optima Health (Optima)
- UnitedHealthcare of the Mid-Atlantic, Inc. (UnitedHealthcare)
- Virginia Premier Health Plan (VA Premier)

General Instructions

HSAG developed the following questionnaire customized in collaboration with DMAS to gather both general information and specific procedures for data processing, personnel, and data acquisition capabilities. The information requested below pertains to the collection and processing of data for the MCO's Medallion 4.0 and CCC Plus lines of business. The questionnaire is divided into the following three domains:

Section A: Encounter Data Sources and Systems

Section B: Encounter Data Quality Monitoring by Subcontractors

Section C: Encounter Data Quality Monitoring by MCOs

Please provide comprehensive answers to the questions and attach supporting documentation (e.g., policies and procedures, data layouts, data flow diagrams, sample reports, sample data, etc.), where applicable. 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 DMAS' claims and encounters. Please note that the questionnaire responses and supporting documentation will be submitted via an online Universal Survey Tool (UST) based on questions listed in this document. HSAG will demonstrate the tool to DMAS and the MCOs during a meeting on June 21, 2023.

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

Submission of Questionnaire and Documentation

- MCOs should complete the questionnaire using the survey link that HSAG will provide on June 26, 2023.
- HSAG requests that MCOs complete all questions in the questionnaire via the UST no later than **July 18, 2023**.
- Please contact Melissa Branigan via phone at 602-575-7403 or via e-mail at MBranigan@hsag.com for assistance with the questionnaire.

SFY 2022–2023 Encounter Data Validation—MCO Focused Questionnaire

Section A: Encounter Data Sources and Systems

Contact person for this section (Name and Title)	
Contact Information (Phone Number and Email)	

1. Using a data flow diagram (i.e., supporting document listed in the last column), outline the path your MCO's encounter data follow from the time a member receives a service(s) until the encounter is processed by DMAS and your MCO processes DMAS' feedback.

   If the data path differs by or within a claim type, 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 and the associated processes with the subcontractors. If the responses for the CCC Plus and Medallion 4.0 programs are different, please note the differences or provide responses to each program separately. *Note: The first row of the table is provided as an example. The table can be expanded if additional rows are required.*

   Total number of subcontractors: Choose an item.

Data Source[1]	Data Flow	Supporting Document
837 Professional	*Web portal claims keyed via DDE (Direct Data Entry) are converted to 837 files for electronic processing. Once converted, web claims follow the same process as those submitted in electronic format.*	*Encounter_Process_Web.pdf*
Choose an item.		
Choose an item.		
Choose an item.		
Choose an item.		
Choose an item.		
Choose an item.		
<insert other data sources[2]>		

[1] These sources represent claims/encounter submissions from the rendering provider to your MCO or subcontractor.

[2] Examples include hearing, chiropractic, laboratory, etc.

2. Has your MCO or your subcontractors made any changes to the claim and encounter data processing and monitoring systems since July 1, 2021?

☐ Yes (If Yes, please go to Question 3)
☐ No (If No, please go to Question 6)

3. Please describe the change(s) and reasons why the change(s) occurred.

	Changes	Reason for Change
1	*Changed NEMT subcontractor from AAA to BBB*	*The provider network from AAA was not meeting our member needs any more.*
2		
3		
4		
5		

4. How were the changes implemented?

5. How did your MCO ensure that complete and accurate encounter data are submitted to DMAS timely after the changes?

6. Describe how your MCO determines whether the rendering provider is the same as the billing provider so that your MCO can leave the rendering provider information blank in the 837 professional files.

Section B: Encounter Data Quality Monitoring by Subcontractors

Contact person for this section (Name and Title)	
Contact Information (Phone Number and Email)	

This section focuses on the quality checks **performed by your MCO's subcontractors** (not by your MCO). Please answer the following questions for each subcontractor that submits claims/encounter data to your MCO. To help organize the responses, this section includes standard data quality checks in the drop-down list. The table below shows a brief description for these checks. If the checks from the drop-down list are not appropriate for your entity, please choose "Other" and then include the details in the "Description" column.

Data Quality Checks in Drop-Down List	Description
Claim Volume by Submission Month	Evaluates the number of unique claims based on the month when the claims were submitted to your entity. Please describe the specifications for the counts and any stratifications you may use.
Claim Volume per Member per Month (PMPM)	Evaluates the number of unique claims per member per month based on the month when the services occurred. Please describe the specifications for the counts and any stratifications you may use.
Field-Level Completeness	Evaluates whether there are any missing and/or extra values for a specific data element. Please provide a list of variables and specifications for the evaluation.
Field-Level Validity	Evaluates whether the values for a specific data element are valid. Please provide a list of variables and specifications for the evaluation.
Timeliness	Evaluates whether the source entity submits claims to your entity in a timely manner.
Reconciliation with Financial Reports	Evaluates whether the payment fields in the claims align with the financial reports from your entity.
Electronic Data Interchange (EDI) Compliance Edits	Evaluates whether 837 professional and 837 institutional files pass the EDI compliance edits. Please describe the Workgroup for Electronic Data Interchange Strategic National Implementation Process (WEDI SNIP) levels that are used in the EDI compliance checks.
Medical Record Review	Evaluates whether some of the data elements in the claims are complete and accurate when comparing to the medical records.

1. Does your **pharmacy** subcontractor perform data quality checks and validation on the claims/encounter data before it submits to your MCO?
   ☐ Yes
   ☐ No (If No, please provide an explanation why the quality checks were not performed in the box below.)
   ☐ Don't know (If you don't know, please provide an explanation in the box below.)
   ☐ Not applicable. Our MCO does not have a pharmacy subcontractor.

Click or tap here to enter text.

If Yes, list the specific checks and validation the subcontractor performs on the data, describe them briefly, provide the frequency of the checks/validation, and provide example reports to support the listed quality checks. *Note: You can select from the drop-down list. The grey shaded row in the table is provided as an example. The table can be expanded if additional rows are required.*

Data Quality Checks	Description	Frequency	Example Reports
Claim Volume PMPM	*Calculate number of claims PMPM*	*Quarterly*	*Monitoring_2020Q1.pdf*
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>

2. Does your **vision** subcontractor perform data quality checks and validation on the claims/encounter data before it submits to your MCO?
   ☐ Yes
   ☐ No (If No, please provide an explanation why the quality checks were not performed in the box below.)
   ☐ Don't know (If you don't know, please provide an explanation in the box below.)
   ☐ Not applicable. Our MCO does not have a vision subcontractor.

Click or tap here to enter text.

If Yes, list the specific checks and validation the subcontractor performs on the data, describe them briefly, provide the frequency of the checks/validation, and provide example reports to support the listed quality checks. *Note: You can select from the drop-down list. The grey shaded row in the table is provided as an example. The table can be expanded if additional rows are required.*

Data Quality Checks	Description	Frequency	Example Reports
Claim Volume PMPM	*Calculate number of claims PMPM*	*Quarterly*	*Monitoring_2020Q1.pdf*
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>

3. Does your **NEMT** subcontractor perform data quality checks and validation on the claims/encounter data before it submits to your MCO?
   ☐ Yes
   ☐ No (If No, please provide an explanation why the quality checks were not performed in the box below.)
   ☐ Don't know (If you don't know, please provide an explanation in the box below.)
   ☐ Not applicable. Our MCO does not have a NEMT subcontractor.

Click or tap here to enter text.

If Yes, list the specific checks and validation the subcontractor performs on the data, describe them briefly, provide the frequency of the checks/validation, and provide example reports to support the listed quality checks. *Note: You can select from the drop-down list. The grey shaded row in the table is provided as an example. The table can be expanded if additional rows are required.*

Data Quality Checks	Description	Frequency	Example Reports
Claim Volume PMPM	*Calculate number of claims PMPM*	*Quarterly*	*Monitoring_2020Q1.pdf*
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>

4. Does your **CD Services** subcontractor perform data quality checks and validation on the claims/encounter data before it submits to your MCO?

☐ Yes

☐ No (If No, please provide an explanation why the quality checks were not performed in the box below.)

☐ Don't know (If you don't know, please provide an explanation in the box below.)

☐ Not applicable. Our MCO does not have a CD Services subcontractor.

Click or tap here to enter text.

If Yes, list the specific checks and validation the subcontractor performs on the data, describe them briefly, provide the frequency of the checks/validation, and provide example reports to support the listed quality checks. *Note: You can select from the drop-down list. The grey shaded row in the table is provided as an example. The table can be expanded if additional rows are required.*

Data Quality Checks	Description	Frequency	Example Reports
Claim Volume PMPM	*Calculate number of claims PMPM*	*Quarterly*	*Monitoring_2020Q1.pdf*
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>

5. Does your **chiropractic** subcontractor perform data quality checks and validation on the claims/encounter data before it submits to your MCO?

☐ Yes

☐ No (If No, please provide an explanation why the quality checks were not performed in the box below.)

☐ Don't know (If you don't know, please provide an explanation in the box below.)

☐ Not applicable. Our MCO does not have a chiropractic subcontractor.

Click or tap here to enter text.

If Yes, list the specific checks and validation the subcontractor performs on the data, describe them briefly, provide the frequency of the checks/validation, and provide example reports to support the listed quality checks. *Note: You can select from the drop-down list. The grey shaded row in the table is provided as an example. The table can be expanded if additional rows are required.*

Data Quality Checks	Description	Frequency	Example Reports
Claim Volume PMPM	*Calculate number of claims PMPM*	*Quarterly*	*Monitoring_2020Q1.pdf*
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>

6. Does your **hearing** subcontractor perform data quality checks and validation on the claims/encounter data before it submits to your MCO?
   ☐ Yes
   ☐ No (If No, please provide an explanation why the quality checks were not performed in the box below.)
   ☐ Don't know (If you don't know, please provide an explanation in the box below.)
   ☐ Not applicable. Our MCO does not have a hearing subcontractor.

Click or tap here to enter text.

If Yes, list the specific checks and validation the subcontractor performs on the data, describe them briefly, provide the frequency of the checks/validation, and provide example reports to support the listed quality checks. *Note: You can select from the drop-down list. The grey shaded row in the table is provided as an example. The table can be expanded if additional rows are required.*

Data Quality Checks	Description	Frequency	Example Reports
Claim Volume PMPM	*Calculate number of claims PMPM*	*Quarterly*	*Monitoring_2020Q1.pdf*
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>

7. Does your **laboratory** subcontractor perform data quality checks and validation on the claims/encounter data before it submits to your MCO?

☐ Yes

☐ No (If No, please provide an explanation why the quality checks were not performed in the box below.)

☐ Don't know (If you don't know, please provide an explanation in the box below.)

☐ Not applicable. Our MCO does not have a laboratory subcontractor.

Click or tap here to enter text.

If Yes, list the specific checks and validation the subcontractor performs on the data, describe them briefly, provide the frequency of the checks/validation, and provide example reports to support the listed quality checks. *Note: You can select from the drop-down list. The grey shaded row in the table is provided as an example. The table can be expanded if additional rows are required.*

Data Quality Checks	Description	Frequency	Example Reports
Claim Volume PMPM	*Calculate number of claims PMPM*	*Quarterly*	*Monitoring_2020Q1.pdf*
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>

8. Does your **Palliative Care** subcontractor perform data quality checks and validation on the claims/encounter data before it submits to your MCO?

☐ Yes

☐ No (If No, please provide an explanation why the quality checks were not performed in the box below.)

☐ Don't know (If you don't know, please provide an explanation in the box below.)

☐ Not applicable. Our MCO does not have a Palliative Care subcontractor.

Click or tap here to enter text.

If Yes, list the specific checks and validation the subcontractor performs on the data, describe them briefly, provide the frequency of the checks/validation, and provide example reports to support the listed quality checks. *Note: You can select from the drop-down list. The grey shaded row in the table is provided as an example. The table can be expanded if additional rows are required.*

Data Quality Checks	Description	Frequency	Example Reports
Claim Volume PMPM	*Calculate number of claims PMPM*	*Quarterly*	*Monitoring_2020Q1.pdf*
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>

Section C: Encounter Data Quality Monitoring by MCOs

Contact person for this section (Name and Title)	
Contact Information (Phone Number and Email)	

This section focuses on the quality checks **performed by your MCO** regarding the claims/encounter data in your MCO's data warehouse, as well as claims/encounter data submitted to DMAS.

To help organize the responses, this section includes some standard data quality checks in the drop-down list. The table below shows a brief description for these checks. If the checks from the drop-down list are not appropriate for your MCO, please choose "Other" and then include the details in the "Description" column.

Data Quality Checks in Drop-Down List	Description
Claim Volume by Submission Month	Evaluates the number of unique claims based on the month when the claims were submitted to your entity. Please describe the specifications for the counts and any stratifications you may use.
Claim Volume per Member per Month (PMPM)	Evaluates the number of unique claims per member per month based on the month when the services occurred. Please describe the specifications for the counts and any stratifications you may use.
Field-Level Completeness	Evaluates whether there are any missing and/or extra values for a specific data element. Please provide a list of variables and specifications for the evaluation.
Field-Level Validity	Evaluates whether the values for a specific data element are valid. Please provide a list of variables and specifications for the evaluation.
Timeliness	Evaluates whether the source entity submits claims to your entity in a timely manner.
Reconciliation with Financial Reports	Evaluates whether the payment fields in the claims align with the financial reports from your entity.
EDI Compliance Edits	Evaluates whether 837 professional and 837 institutional files pass the EDI compliance edits. Please describe the Workgroup for Electronic Data Interchange Strategic National Implementation Process (WEDI SNIP) levels that are used in the EDI compliance checks.
Medical Record Review	Evaluates whether some of the data elements in the claims are complete and accurate when comparing to the medical records.

1. Upon receiving claims/encounter files from your subcontractors, please use the table below to indicate the following for each subcontractor:

- Column A: Enter a subcontractor
- Column B: Does subcontractor submit encounter files to DMAS?
- Column C: Does your MCO store the claims/encounter files from subcontractors in your data warehouse?
- Column D: Does your MCO perform any quality checks on the claims/encounter files from subcontractors **before** submitting them to DMAS? If not, please provide an explanation why the quality checks are not performed in the second box below.
- Column E: Does your MCO modify the claims/encounter files from subcontractors **before** submitting them to DMAS?
- Column F: Does your MCO perform any quality checks on the claims/encounter data from subcontractors **after** submitting them to DMAS?

Subcontractor	Submits to DMAS by Subcontractor	Stored by MCO	Reviewed by MCO Before Submission	Modified by MCO	Reviewed by MCO After Submission
Pharmacy	*Yes*	*Yes*	*No*	*No*	*Yes*
Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Subcontractor	Explanation Why Claims/Encounter Data are Not Reviewed by MCO Before Submission to DMAS
Choose an item.	*MCO is satisfied with the quality checks that the subcontractor has in place.*
Choose an item.	
Choose an item.	
Choose an item.	
Choose an item.	
Choose an item.	

2. Does your MCO perform quality checks on the claims/encounter data from your **pharmacy** subcontractor?

☐ Yes

☐ No (If No, please provide an explanation why the quality checks were not performed in the box below.)

☐ Don't know (If you don't know, please provide an explanation in the box below.)

☐ Not applicable. Our MCO does not have a pharmacy subcontractor.

Click or tap here to enter text.

If Yes, list the specific checks and validation your MCO performs on the data, describe them briefly, provide the frequency of the checks/validation, and provide example reports to support the listed quality checks. *Note: You can select from the drop-down list. The grey shaded row in the table is provided as an example. The table can be expanded if additional rows are required.*

Data Quality Checks	Description	Frequency	Example Reports
Claim Volume PMPM	*Calculate number of claims PMPM*	*Quarterly*	*Monitoring_2020Q1.pdf*
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>

3. Does your MCO perform quality checks on the claims/encounter data from your **vision** subcontractor?

☐ Yes

☐ No (If No, please provide an explanation why the quality checks were not performed in the box below.)

☐ Don't know (If you don't know, please provide an explanation in the box below.)

☐ Not applicable. Our MCO does not have a vision subcontractor.

Click or tap here to enter text.

If Yes, list the specific checks and validation your MCO performs on the data, describe them briefly, provide the frequency of the checks/validation, and provide example reports to support the listed quality checks. *Note: You can select from the drop-down list. The grey shaded row in the table is provided as an example. The table can be expanded if additional rows are required.*

Data Quality Checks	Description	Frequency	Example Reports
Claim Volume PMPM	*Calculate number of claims PMPM*	*Quarterly*	*Monitoring_2020Q1.pdf*
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>

4. Does your MCO perform quality checks on the claims/encounter data from your **NEMT** subcontractor?

☐ Yes

☐ No (If No, please provide an explanation why the quality checks were not performed in the box below.)

☐ Don't know (If you don't know, please provide an explanation in the box below.)

☐ Not applicable. Our MCO does not have a NEMT subcontractor.

Click or tap here to enter text.

If Yes, list the specific checks and validation your MCO performs on the data, describe them briefly, provide the frequency of the checks/validation, and provide example reports to support the listed quality checks. *Note: You can select from the drop-down list. The grey shaded row in the table is provided as an example. The table can be expanded if additional rows are required.*

Data Quality Checks	Description	Frequency	Example Reports
Claim Volume PMPM	*Calculate number of claims PMPM*	*Quarterly*	*Monitoring_2020Q1.pdf*
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>

5. Does your MCO perform quality checks on the claims/encounter data from your **CD Services** subcontractor?
   - ☐ Yes
   - ☐ No (If No, please provide an explanation why the quality checks were not performed in the box below.)
   - ☐ Don't know (If you don't know, please provide an explanation in the box below.)
   - ☐ Not applicable. Our MCO does not have a CD Services subcontractor.

Click or tap here to enter text.

If Yes, list the specific checks and validation your MCO performs on the data, describe them briefly, provide the frequency of the checks/validation, and provide example reports to support the listed quality checks. *Note: You can select from the drop-down list. The grey shaded row in the table is provided as an example. The table can be expanded if additional rows are required.*

Data Quality Checks	Description	Frequency	Example Reports
Claim Volume PMPM	*Calculate number of claims PMPM*	*Quarterly*	*Monitoring_2020Q1.pdf*
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>

6. Does your MCO perform quality checks on the claims/encounter data from your **chiropractic** subcontractor?
   - ☐ Yes
   - ☐ No (If No, please provide an explanation why the quality checks were not performed in the box below.)
   - ☐ Don't know (If you don't know, please provide an explanation in the box below.)
   - ☐ Not applicable. Our MCO does not have a chiropractic subcontractor.

Click or tap here to enter text.

If Yes, list the specific checks and validation your MCO performs on the data, describe them briefly, provide the frequency of the checks/validation, and provide example reports to support the listed quality checks. *Note: You can select from the drop-down list. The grey shaded row in the table is provided as an example. The table can be expanded if additional rows are required.*

Data Quality Checks	Description	Frequency	Example Reports
Claim Volume PMPM	*Calculate number of claims PMPM*	*Quarterly*	*Monitoring_2020Q1.pdf*
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>

7. Does your MCO perform quality checks on the claims/encounter data from your **hearing** subcontractor?
   - ☐ Yes
   - ☐ No (If No, please provide an explanation why the quality checks were not performed in the box below.)
   - ☐ Don't know (If you don't know, please provide an explanation in the box below.)
   - ☐ Not applicable. Our MCO does not have a hearing subcontractor.

Click or tap here to enter text.

If Yes, list the specific checks and validation your MCO performs on the data, describe them briefly, provide the frequency of the checks/validation, and provide example reports to support the listed quality checks. *Note: You can select from the drop-down list. The grey shaded row in the table is provided as an example. The table can be expanded if additional rows are required.*

Data Quality Checks	Description	Frequency	Example Reports
Claim Volume PMPM	*Calculate number of claims PMPM*	*Quarterly*	*Monitoring_2020Q1.pdf*
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>

8. Does your MCO perform quality checks on the claims/encounter data from your **laboratory** subcontractor?
   - ☐ Yes
   - ☐ No (If No, please provide an explanation why the quality checks were not performed in the box below.)

☐ Don't know (If you don't know, please provide an explanation in the box below.)

☐ Not applicable. Our MCO does not have a laboratory subcontractor.

Click or tap here to enter text.

If Yes, list the specific checks and validation your MCO performs on the data, describe them briefly, provide the frequency of the checks/validation, and provide example reports to support the listed quality checks. *Note: You can select from the drop-down list. The grey shaded row in the table is provided as an example. The table can be expanded if additional rows are required.*

Data Quality Checks	Description	Frequency	Example Reports
Claim Volume PMPM	*Calculate number of claims PMPM*	*Quarterly*	*Monitoring_2020Q1.pdf*
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>

9. Does your MCO perform quality checks on the claims/encounter data from your **Palliative Care** subcontractor?

☐ Yes

☐ No (If No, please provide an explanation why the quality checks were not performed in the box below.)

☐ Don't know (If you don't know, please provide an explanation in the box below.)

☐ Not applicable. Our MCO does not have a Palliative Care subcontractor.

Click or tap here to enter text.

If Yes, list the specific checks and validation your MCO performs on the data, describe them briefly, provide the frequency of the checks/validation, and provide example reports to support the listed quality checks. *Note: You can select from the drop-down list. The grey shaded row in the table is provided as an example. The table can be expanded if additional rows are required.*

Data Quality Checks	Description	Frequency	Example Reports
Claim Volume PMPM	*Calculate number of claims PMPM*	*Quarterly*	*Monitoring_2020Q1.pdf*
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>

Data Quality Checks	Description	Frequency	Example Reports
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>

10. Does your MCO perform any quality checks on the claims/encounter data that are processed by your MCO and stored in your data warehouse but **NOT** initiated by the subcontractors?

☐ Yes

☐ No (If No, please provide an explanation why the quality checks are not performed in the box below.)

☐ Don't know (If you don't know, please provide an explanation in the box below.)

Click or tap here to enter text.

If Yes, please list the specific checks and validation your MCO performs on the data, describe them briefly, provide the frequency of the checks/validation, and provide example reports to support the listed quality checks. *Note: You can select from the drop-down list. The grey shaded row in the table is provided as an example. The table can be expanded if additional rows are required.*

Data Quality Checks	Description	Frequency	Example Reports
Claim Volume PMPM	*Calculate number of claims PMPM*	*Quarterly*	*Monitoring_2020Q1.pdf*
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>
Choose an item.	Click or tap here to enter text.	Choose an item.	<insert file name>

11. Select the *Function* from the drop-down menu and describe the function and role of DMAS staff responsible for when working with your MCO. Additionally, please select *Yes* or *No* regarding the number of DMAS staff members considered to be sufficient to complete the subsequent *Function* using the drop-down menu under *Sufficient*. *Note: The first row of the table is provided as an example. The table can be expanded if additional rows are required.*

Function	Description	# of DMAS Staff Members	Sufficient? [Y/N]
General communication with MCO	*Maintain communication protocol with MCO, organize ongoing meetings with MCO, document and track action items from MCO.*	*1*	*Y*
Choose an item.			Choose an item.

Function	Description	# of DMAS Staff Members	Sufficient? [Y/N]
Choose an item.			Choose an item.
Choose an item.			Choose an item.
Choose an item.			Choose an item.

12. What internal challenges do you face in submitting complete and accurate encounter data to DMAS timely?

13. What external challenges do you face in submitting complete and accurate encounter data to DMAS timely? For example, are there challenges with DMAS' EDI translator or the Medicaid Management Information System (MMIS)?

14. What changes in processes or additional resources and support from DMAS would you find most helpful in overcoming your challenges with successfully submitting encounter data to DMAS?

15. Do you have any upcoming changes to your encounter submission process that may impact your answers to the questions above? If yes, what changes are expected and when are they likely to become effective?

Appendix B. Statewide Comparative Analysis Results

This appendix contains statewide comparative analysis results, as well as recommendations to DMAS from the IS review activity.

Information Systems Review

Based on the questionnaire responses received from DMAS and the MCOs, HSAG identified the following areas of strength and opportunities for improvement. Along with each opportunity for improvement, HSAG has also provided a recommendation to help target improvement efforts.

Strengths

Strength: When the MCOs had significant changes to their claim/encounter systems, DMAS had a formal test plan for the MCOs to follow and complete before implementation of the changes.

Opportunities for Improvement

Weakness #1: When a replacement/void was submitted for a failed encounter, DMAS could not process it automatically. The current process is manual and slow.

Recommendation: DMAS should enhance the EPS function so that it can process replacements/voids for failed encounters correctly without manual intervention. In the short term, DMAS should consider the following:

- Requiring the MCOs to not submit replacements/voids until receiving DMAS' response files for the companion transaction (i.e., original or prior replacement).[B-1] If the prior companion transaction has a validation status of PASS, then the MCOs can submit the replacement/void. If the prior companion transaction is an initial submission and has a status of FAIL, the MCOs can resubmit it as an initial submission instead of a replacement/void. If the prior companion transaction is not an initial submission and has a status of FAIL, the MCOs should work with DMAS to submit it in batches (e.g., with a special file name indicating the scenario) on a fixed schedule (e.g., once a month) for DMAS to apply the manual override and reprocessing.

Weakness #2: Based on the MCOs' responses, DMAS did not update some of the reference tables (e.g., NDC reference table) in a timely manner.

Recommendation: DMAS should reach out to all the MCOs regarding the MCOs' schedule of updating their reference tables and then compare these schedules with DMAS' schedule to understand the gaps. Subsequently, DMAS should adjust its schedule, as needed, so that the reference table update schedules between DMAS and the MCOs are synchronized.

[B-1] Section 4.2.3 in the Encounters Technical Manual (https://vamedicaid.dmas.virginia.gov/sites/default/files/2023-05/COV-DMAS%20Encounters%20Technical%20Manual%20v3.1.pdf) noted this requirement as a "best practice." HSAG recommends DMAS change it to a requirement.

Comparative Analysis

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

	Record Omission			Record Surplus		
Encounter Data Source	Denominator	Numerator	Rate	Denominator	Numerator	Rate
Professional	34,607,402	967,363	2.8%	36,046,395	2,406,356	6.7%
Institutional	12,477,820	2,381,371	19.1%	12,285,995	2,189,546	17.8%
Pharmacy	10,428,304	1,043,300	10.0%	11,860,543	2,475,539	20.9%

Note: Lower rates indicate better performance.

Table B-2—Element Omission, Surplus, and Missing by Key Data Element: Professional

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	Number of Records[1]	Rate	Number of Records[2]	Rate	Number of Records[3]	Rate
Number of Matched Records: 33,640,039						
Member ID	0	0.0%	2,249	<0.1%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	544,061	1.6%	83	<0.1%
Rendering Provider NPI	0	0.0%	542,730	1.6%	0	0.0%
Servicing Provider Taxonomy Code	220	<0.1%	1,149,768	3.4%	5,491	<0.1%
Referring Provider NPI	1,508,581	4.5%	217,141	0.6%	23,767,306	70.7%
Primary Diagnosis Code	4	<0.1%	818,457	2.4%	67	<0.1%
Secondary Diagnosis Codes	101	<0.1%	4,705	<0.1%	22,901,298	68.1%
Procedure Code	0	0.0%	4,079	<0.1%	0	0.0%
Procedure Code Modifiers	150,530	0.4%	493,173	1.5%	24,013,274	71.4%
NDC	101,327	0.4%	434	<0.1%	25,532,829	95.8%
Drug Quantity	101,327	0.4%	434	<0.1%	25,532,829	95.8%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount	—	—	—	—	—	—
MCO Received Date	0	0.0%	1,411,645	4.2%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.

[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table B-3—Element Omission, Surplus, and Missing by Key Data Element: Institutional

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 10,096,449						
Member ID	0	0.0%	1,086	<0.1%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Header Service From Date	0	0.0%	0	0.0%	0	0.0%
Header Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	63	<0.1%	29,829	0.3%	0	0.0%
Attending Provider NPI	3,537	<0.1%	107,238	1.1%	31,589	0.3%
Servicing Provider Taxonomy Code	1,600,089	15.8%	1,296,670	12.8%	1,661,110	16.5%
Referring Provider NPI	35,245	0.3%	39,593	0.4%	9,794,415	97.0%
Primary Diagnosis Code	0	0.0%	180	<0.1%	17	<0.1%
Secondary Diagnosis Codes	2,152	<0.1%	366,471	3.6%	24,341	0.2%
Procedure Code	147	<0.1%	22	<0.1%	2,157,372	21.4%
Procedure Code Modifiers	191	<0.1%	30	<0.1%	7,548,600	74.8%
Surgical Procedure Codes	1,720	<0.1%	161	<0.1%	9,301,639	92.1%
NDC	365,846	3.6%	1,299	<0.1%	8,319,820	82.4%
Drug Quantity	365,670	3.6%	1,299	<0.1%	8,319,996	82.4%
Revenue Code	0	0.0%	39	<0.1%	0	0.0%
DRG	53,716	0.5%	15,434	0.2%	9,222,663	91.3%
Type of Bill Code	0	0.0%	105,558	1.0%	0	0.0%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	Number of Records[1]	Rate	Number of Records[2]	Rate	Number of Records[3]	Rate
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line).

Table B-4—Element Omission, Surplus, and Missing by Key Data Element: Pharmacy

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	Number of Records[1]	Rate	Number of Records[2]	Rate	Number of Records[3]	Rate
Number of Matched Records: 9,385,004						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	1,917	<0.1%	0	0.0%
Prescribing Provider NPI	0	0.0%	0	0.0%	0	0.0%
NDC	0	0.0%	0	0.0%	0	0.0%
Drug Quantity	0	0.0%	0	0.0%	0	0.0%
Detail Paid Amount	—	—	—	—	—	—
Detail TPL Paid Amount	0	0.0%	0	0.0%	0	0.0%
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table B-5—Data Element Percent Present and Percent of Accuracy: Professional

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	33,637,790	>99.9%	30,566,329	90.9%
Detail Service From Date	33,640,039	100.0%	32,517,378	96.7%
Detail Service To Date	33,640,039	100.0%	32,507,265	96.6%

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Billing Provider NPI	33,095,895	98.4%	31,417,097	94.9%
Rendering Provider NPI	33,097,309	98.4%	32,367,071	97.8%
Servicing Provider Taxonomy Code	32,484,560	96.6%	26,749,968	82.3%
Referring Provider NPI	8,147,011	24.2%	7,986,800	98.0%
Primary Diagnosis Code	32,821,511	97.6%	32,821,309	>99.9%
Secondary Diagnosis Codes	10,733,935	31.9%	10,731,374	>99.9%
Procedure Code	33,635,960	>99.9%	33,613,030	99.9%
Procedure Code Modifiers	8,983,062	26.7%	8,960,383	99.7%
NDC	1,025,633	3.8%	1,025,607	>99.9%
Drug Quantity	1,025,633	3.8%	1,025,325	>99.9%
Header Paid Amount	33,640,039	100.0%	33,460,677	99.5%
Header TPL Paid Amount	33,640,039	100.0%	32,477,553	96.5%
Detail Paid Amount	33,640,039	100.0%	33,473,259	99.5%
Detail TPL Paid Amount	33,640,039	100.0%	32,604,544	96.9%
MCO Received Date	32,228,394	95.8%	28,105,247	87.2%
MCO Paid Date	33,640,039	100.0%	29,697,185	88.3%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table B-6—Data Element Percent Present and Percent of Accuracy: Institutional

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	10,095,363	>99.9%	8,482,691	84.0%
Detail Service From Date	10,096,449	100.0%	9,084,175	90.0%
Header Service From Date	10,096,449	100.0%	10,042,756	99.5%
Header Service To Date	10,096,449	100.0%	9,927,092	98.3%
Billing Provider NPI	10,066,557	99.7%	9,907,638	98.4%
Attending Provider NPI	9,954,085	98.6%	8,749,398	87.9%
Servicing Provider Taxonomy Code	5,538,580	54.9%	4,384,557	79.2%
Referring Provider NPI	227,196	2.3%	220,182	96.9%
Primary Diagnosis Code	10,096,252	>99.9%	9,997,530	99.0%
Secondary Diagnosis Codes	9,703,485	96.1%	3,127,635	32.2%
Procedure Code	7,938,908	78.6%	7,938,618	>99.9%
Procedure Code Modifiers	2,547,628	25.2%	2,520,214	98.9%

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Surgical Procedure Codes	792,929	7.9%	731,297	92.2%
NDC	1,409,484	14.0%	1,409,445	>99.9%
Drug Quantity	1,409,484	14.0%	1,408,121	99.9%
Revenue Code	10,096,410	>99.9%	10,095,961	>99.9%
DRG	804,636	8.0%	368,292	45.8%
Type of Bill Code	9,990,891	99.0%	9,369,927	93.8%
Header Paid Amount	10,096,449	100.0%	10,096,371	>99.9%
Header TPL Paid Amount	10,096,449	100.0%	8,365,227	82.9%
Detail Paid Amount	10,096,449	100.0%	10,096,443	>99.9%
Detail TPL Paid Amount	10,096,449	100.0%	9,135,602	90.5%
MCO Received Date	10,096,449	100.0%	9,095,682	90.1%
MCO Paid Date	10,096,449	100.0%	9,469,167	93.8%

Table B-7—Data Element Percent Present and Percent of Accuracy: Pharmacy

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	9,385,004	100.0%	9,384,894	>99.9%
Detail Service From Date	9,385,004	100.0%	9,336,065	99.5%
Billing Provider NPI	9,385,004	100.0%	9,383,698	>99.9%
Prescribing Provider NPI	9,383,087	>99.9%	9,382,486	>99.9%
NDC	9,385,004	100.0%	9,372,536	99.9%
Drug Quantity	9,385,004	100.0%	9,347,427	99.6%
Detail Paid Amount	9,385,004	100.0%	9,368,694	99.8%
Detail TPL Paid Amount	9,385,004	100.0%	9,330,256	99.4%
MCO Received Date	9,385,004	100.0%	8,092,561	86.2%
MCO Paid Date	9,385,004	100.0%	7,735,782	82.4%

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

Encounter Date Source	Number of Records in Both Files	Number of Records With Same Values in Both Files	Rate
Professional	33,640,039	16,710,121	49.7%
Institutional	10,096,449	426,018	4.2%
Pharmacy	9,385,004	7,087,274	75.5%

Appendix C. Results for Aetna Better Health of Virginia

This appendix contains IS review and comparative analysis results for Aetna.

Information Systems Review

Based on the questionnaire responses received from Aetna, HSAG identified the following areas of strength and opportunities for improvement. Along with each opportunity for improvement, HSAG has also provided a recommendation to help target improvement efforts.

Strengths

Strength #1: Aetna and its subcontractors had relatively robust reports to monitor encounter data accuracy, completeness, and timeliness for encounters collected by all four of Aetna's subcontractors.

Strength #2: Aetna had relatively robust internal reports to monitor encounter data accuracy, completeness, and timeliness for encounters that Aetna collected.

Opportunities for Improvement

Weakness #1: None were identified.

Recommendation: None were identified.

Comparative Analysis

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

	Record Omission			Record Surplus		
Encounter Data Source	Denominator	Numerator	Rate	Denominator	Numerator	Rate
Professional	5,230,069	462,612	8.8%	5,392,222	624,765	11.6%
CD Services	820,433	2,194	0.3%	980,612	162,373	16.6%
Internal	4,017,607	460,339	11.5%	3,947,653	390,385	9.9%
NEMT	391,975	54	<0.1%	444,387	52,466	11.8%
Vision	54	25	46.3%	19,570	19,541	99.9%
Institutional	3,670,130	2,287,632	62.3%	2,025,438	642,940	31.7%
Pharmacy	1,854,742	700,379	37.8%	1,864,725	710,362	38.1%

Note: Lower rates indicate better performance.

Table C-2—Element Omission, Surplus, and Missing by Key Data Element: Professional

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 4,767,457						
Member ID	0	0.0%	2,249	<0.1%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	44,268	0.9%	1	<0.1%
Rendering Provider NPI	0	0.0%	43,785	0.9%	0	0.0%
Servicing Provider Taxonomy Code	119	<0.1%	768,250	16.1%	235	<0.1%
Referring Provider NPI*	5,878	0.1%	0	0.0%	3,295,427	69.1%
Primary Diagnosis Code	1	<0.1%	818,246	17.2%	0	0.0%
Secondary Diagnosis Codes*	75	<0.1%	9	<0.1%	3,205,198	67.2%
Procedure Code	0	0.0%	2	<0.1%	0	0.0%
Procedure Code Modifiers*	31	<0.1%	28	<0.1%	3,430,783	72.0%
NDC*	129	<0.1%	1	<0.1%	3,375,981	94.9%
Drug Quantity*	129	<0.1%	1	<0.1%	3,375,981	94.9%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	818,239	17.2%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files..
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table C-3—Element Omission, Surplus, and Missing by Key Data Element: Professional—CD Services

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	Number of Records[1]	Rate	Number of Records[2]	Rate	Number of Records[3]	Rate
Number of Matched Records: 818,239						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Rendering Provider NPI	0	0.0%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	0	0.0%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	818,239	100.0%
Primary Diagnosis Code	0	0.0%	818,239	100.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	818,239	100.0%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	30	<0.1%	2	<0.1%	804,078	98.3%
NDC*	—	—	—	—	—	—
Drug Quantity*	—	—	—	—	—	—
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	818,239	100.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table C-4—Element Omission, Surplus, and Missing by Key Data Element: Professional—Internal

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 3,557,268						
Member ID	0	0.0%	1,925	0.1%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	3,884	0.1%	1	<0.1%
Rendering Provider NPI	0	0.0%	3,401	0.1%	0	0.0%
Servicing Provider Taxonomy Code	119	<0.1%	727,815	20.5%	235	<0.1%
Referring Provider NPI*	5,878	0.2%	0	0.0%	2,085,238	58.6%
Primary Diagnosis Code	1	<0.1%	7	<0.1%	0	0.0%
Secondary Diagnosis Codes*	75	<0.1%	9	<0.1%	1,995,017	56.1%
Procedure Code	0	0.0%	2	<0.1%	0	0.0%
Procedure Code Modifiers*	1	<0.1%	25	<0.1%	2,626,682	73.8%
NDC*	129	<0.1%	1	<0.1%	3,375,981	94.9%
Drug Quantity*	129	<0.1%	1	<0.1%	3,375,981	94.9%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table C-5—Element Omission, Surplus, and Missing by Key Data Element: Professional—NEMT

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 391,921						
Member ID	0	0.0%	324	0.1%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	40,384	10.3%	0	0.0%
Rendering Provider NPI	0	0.0%	40,384	10.3%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	40,435	10.3%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	391,921	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	391,921	100.0%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	0	0.0%
NDC*	—	—	—	—	—	—
Drug Quantity*	—	—	—	—	—	—
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table C-6—Element Omission, Surplus, and Missing by Key Data Element: Professional—Vision

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	Number of Records[1]	Rate	Number of Records[2]	Rate	Number of Records[3]	Rate
Number of Matched Records: 29						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Rendering Provider NPI	0	0.0%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	0	0.0%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	29	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	21	72.4%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	1	3.4%	23	79.3%
NDC*	—	—	—	—	—	—
Drug Quantity*	—	—	—	—	—	—
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table C-7—Element Omission, Surplus, and Missing by Key Data Element: Institutional

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 1,382,498						
Member ID	0	0.0%	1,086	0.1%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Header Service From Date	0	0.0%	0	0.0%	0	0.0%
Header Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	7,526	0.5%	0	0.0%
Attending Provider NPI	131	<0.1%	0	0.0%	560	<0.1%
Servicing Provider Taxonomy Code	1	<0.1%	1,197,932	86.6%	184,281	13.3%
Referring Provider NPI*	31,965	2.3%	0	0.0%	1,350,533	97.7%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	2,131	0.2%	29	<0.1%	4,219	0.3%
Procedure Code*	0	0.0%	1	<0.1%	328,830	23.8%
Procedure Code Modifiers*	4	<0.1%	0	0.0%	1,019,866	73.8%
Surgical Procedure Codes*	0	0.0%	1	<0.1%	1,260,708	91.2%
NDC*	107,974	7.8%	1	<0.1%	1,135,937	82.2%
Drug Quantity*	107,974	7.8%	1	<0.1%	1,135,937	82.2%
Revenue Code	0	0.0%	3	<0.1%	0	0.0%
DRG	68	<0.1%	0	0.0%	1,206,859	87.3%
Type of Bill Code	0	0.0%	4	<0.1%	0	0.0%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line).
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table C-8—Element Omission, Surplus, and Missing by Key Data Element: Pharmacy

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 1,154,363						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Prescribing Provider NPI	0	0.0%	330	<0.1%	0	0.0%
NDC	0	0.0%	0	0.0%	0	0.0%
Drug Quantity	0	0.0%	0	0.0%	0	0.0%
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table C-9—Data Element Percent Present and Percent of Accuracy: Professional

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	4,765,208	>99.9%	4,765,189	>99.9%
Detail Service From Date	4,767,457	100.0%	4,043,141	84.8%
Detail Service To Date	4,767,457	100.0%	4,041,570	84.8%
Billing Provider NPI	4,723,188	99.1%	4,414,452	93.5%
Rendering Provider NPI	4,723,672	99.1%	4,105,627	86.9%
Servicing Provider Taxonomy Code	3,998,853	83.9%	2,332,501	58.3%
Referring Provider NPI	1,466,152	30.8%	1,466,150	>99.9%
Primary Diagnosis Code	3,949,210	82.8%	3,949,194	>99.9%
Secondary Diagnosis Codes	1,562,175	32.8%	1,561,997	>99.9%
Procedure Code	4,767,455	>99.9%	4,750,160	99.6%
Procedure Code Modifiers	1,336,615	28.0%	1,322,094	98.9%
NDC*	181,157	5.1%	181,157	100.0%

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Drug Quantity*	181,157	5.1%	181,000	99.9%
Header Paid Amount	4,767,457	100.0%	4,732,648	99.3%
Header TPL Paid Amount	4,767,457	100.0%	4,762,157	99.9%
Detail Paid Amount	4,767,457	100.0%	4,744,276	99.5%
Detail TPL Paid Amount	4,767,457	100.0%	4,763,911	99.9%
MCO Received Date	3,949,218	82.8%	3,108,409	78.7%
MCO Paid Date	4,767,457	100.0%	3,949,083	82.8%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table C-10—Data Element Percent Present and Percent of Accuracy: Professional—CD Services

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	818,239	100.0%	818,239	100.0%
Detail Service From Date	818,239	100.0%	818,239	100.0%
Detail Service To Date	818,239	100.0%	818,239	100.0%
Billing Provider NPI	818,239	100.0%	541,800	66.2%
Rendering Provider NPI	818,239	100.0%	541,800	66.2%
Servicing Provider Taxonomy Code	818,239	100.0%	541,800	66.2%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	0	0.0%	0	—
Secondary Diagnosis Codes	0	0.0%	0	—
Procedure Code	818,239	100.0%	818,239	100.0%
Procedure Code Modifiers	14,129	1.7%	14,129	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	818,239	100.0%	783,521	95.8%
Header TPL Paid Amount	818,239	100.0%	818,239	100.0%
Detail Paid Amount	818,239	100.0%	795,199	97.2%
Detail TPL Paid Amount	818,239	100.0%	818,239	100.0%
MCO Received Date	0	0.0%	0	—
MCO Paid Date	818,239	100.0%	4	<0.1%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table C-11—Data Element Percent Present and Percent of Accuracy: Professional—Internal

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	3,555,343	99.9%	3,555,324	>99.9%
Detail Service From Date	3,557,268	100.0%	2,832,952	79.6%
Detail Service To Date	3,557,268	100.0%	2,831,381	79.6%
Billing Provider NPI	3,553,383	99.9%	3,521,090	99.1%
Rendering Provider NPI	3,553,867	99.9%	3,212,261	90.4%
Servicing Provider Taxonomy Code	2,829,099	79.5%	1,439,188	50.9%
Referring Provider NPI	1,466,152	41.2%	1,466,150	>99.9%
Primary Diagnosis Code	3,557,260	>99.9%	3,557,244	>99.9%
Secondary Diagnosis Codes	1,562,167	43.9%	1,561,989	>99.9%
Procedure Code	3,557,266	>99.9%	3,557,259	>99.9%
Procedure Code Modifiers	930,560	26.2%	930,549	>99.9%
NDC	181,157	5.1%	181,157	100.0%
Drug Quantity	181,157	5.1%	181,000	99.9%
Header Paid Amount	3,557,268	100.0%	3,557,268	100.0%
Header TPL Paid Amount	3,557,268	100.0%	3,551,968	99.9%
Detail Paid Amount	3,557,268	100.0%	3,557,268	100.0%
Detail TPL Paid Amount	3,557,268	100.0%	3,553,722	99.9%
MCO Received Date	3,557,268	100.0%	2,744,941	77.2%
MCO Paid Date	3,557,268	100.0%	3,557,268	100.0%

Table C-12—Data Element Percent Present and Percent of Accuracy: Professional—NEMT

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	391,597	99.9%	391,597	100.0%
Detail Service From Date	391,921	100.0%	391,921	100.0%
Detail Service To Date	391,921	100.0%	391,921	100.0%
Billing Provider NPI	351,537	89.7%	351,537	100.0%
Rendering Provider NPI	351,537	89.7%	351,537	100.0%
Servicing Provider Taxonomy Code	351,486	89.7%	351,484	>99.9%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	391,921	100.0%	391,921	100.0%
Secondary Diagnosis Codes	0	0.0%	0	—

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Procedure Code	391,921	100.0%	374,638	95.6%
Procedure Code Modifiers	391,921	100.0%	377,411	96.3%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	391,921	100.0%	391,830	>99.9%
Header TPL Paid Amount	391,921	100.0%	391,921	100.0%
Detail Paid Amount	391,921	100.0%	391,785	>99.9%
Detail TPL Paid Amount	391,921	100.0%	391,921	100.0%
MCO Received Date	391,921	100.0%	363,439	92.7%
MCO Paid Date	391,921	100.0%	391,782	>99.9%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table C-13—Data Element Percent Present and Percent of Accuracy: Professional—Vision

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	29	100.0%	29	100.0%
Detail Service From Date	29	100.0%	29	100.0%
Detail Service To Date	29	100.0%	29	100.0%
Billing Provider NPI	29	100.0%	25	86.2%
Rendering Provider NPI	29	100.0%	29	100.0%
Servicing Provider Taxonomy Code	29	100.0%	29	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	29	100.0%	29	100.0%
Secondary Diagnosis Codes	8	27.6%	8	100.0%
Procedure Code	29	100.0%	24	82.8%
Procedure Code Modifiers	5	17.2%	5	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	29	100.0%	29	100.0%
Header TPL Paid Amount	29	100.0%	29	100.0%
Detail Paid Amount	29	100.0%	24	82.8%
Detail TPL Paid Amount	29	100.0%	29	100.0%
MCO Received Date	29	100.0%	29	100.0%
MCO Paid Date	29	100.0%	29	100.0%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table C-14—Data Element Percent Present and Percent of Accuracy: Institutional

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	1,381,412	99.9%	1,381,378	>99.9%
Detail Service From Date	1,382,498	100.0%	835,851	60.5%
Header Service From Date	1,382,498	100.0%	1,382,486	>99.9%
Header Service To Date	1,382,498	100.0%	1,382,487	>99.9%
Billing Provider NPI	1,374,972	99.5%	1,373,126	99.9%
Attending Provider NPI	1,381,807	>99.9%	1,381,789	>99.9%
Servicing Provider Taxonomy Code	284	<0.1%	56	19.7%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	1,382,498	100.0%	1,382,498	100.0%
Secondary Diagnosis Codes	1,376,119	99.5%	1,332,602	96.8%
Procedure Code	1,053,667	76.2%	1,053,654	>99.9%
Procedure Code Modifiers	362,628	26.2%	362,602	>99.9%
Surgical Procedure Codes	121,789	8.8%	113,982	93.6%
NDC	138,586	10.0%	138,586	100.0%
Drug Quantity	138,586	10.0%	137,583	99.3%
Revenue Code	1,382,495	>99.9%	1,382,492	>99.9%
DRG	175,571	12.7%	175,537	>99.9%
Type of Bill Code	1,382,494	>99.9%	1,326,498	95.9%
Header Paid Amount	1,382,498	100.0%	1,382,489	>99.9%
Header TPL Paid Amount	1,382,498	100.0%	1,282,023	92.7%
Detail Paid Amount	1,382,498	100.0%	1,382,496	>99.9%
Detail TPL Paid Amount	1,382,498	100.0%	1,381,549	99.9%
MCO Received Date	1,382,498	100.0%	763,972	55.3%
MCO Paid Date	1,382,498	100.0%	1,382,498	100.0%

Table C-15—Data Element Percent Present and Percent of Accuracy: Pharmacy

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	1,154,363	100.0%	1,154,363	100.0%
Detail Service Date	1,154,363	100.0%	1,154,363	100.0%
Billing Provider NPI	1,154,363	100.0%	1,154,363	100.0%
Prescribing Provider NPI	1,154,033	>99.9%	1,154,032	>99.9%
NDC	1,154,363	100.0%	1,152,810	99.9%

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Drug Quantity	1,154,363	100.0%	1,154,363	100.0%
Detail Paid Amount	1,154,363	100.0%	1,154,363	100.0%
Detail TPL Paid Amount	1,154,363	100.0%	1,150,902	99.7%
MCO Received Date	1,154,363	100.0%	1,136,833	98.5%
MCO Paid Date	1,154,363	100.0%	1,154,363	100.0%

Table C-16—All-Element Accuracy by Encounter Type

Encounter Date Source	Number of Records in Both Files	Number of Records With Same Values in Both Files	Rate
Professional	4,767,457	1,057,750	22.2%
CD Services	818,239	0	0.0%
Internal	3,557,268	745,646	21.0%
NEMT	391,921	312,082	79.6%
Vision	29	22	75.9%
Institutional	1,382,498	90,754	6.6%
Pharmacy	1,154,363	1,131,559	98.0%

Appendix D. Results for HealthKeepers, Inc.

This appendix contains IS review and comparative analysis results for HealthKeepers.

Information Systems Review

Based on the questionnaire responses received from HealthKeepers, Inc., HSAG identified the following areas of strength and opportunities for improvement. Along with each opportunity for improvement, HSAG has also provided a recommendation to help target improvement efforts.

Strengths

Strength: For vision encounters collected by its subcontractor, HealthKeepers and/or its subcontractor had relatively robust reports to monitor encounter data accuracy, completeness, and timeliness.

Opportunities for Improvement

Weakness #1: For pharmacy encounters, HealthKeepers lacked a sufficient number of comprehensive reports to monitor encounter data accuracy, completeness, and timeliness.

Recommendation: HealthKeepers and/or its pharmacy subcontractor should consider building reports to monitor encounter accuracy, completeness, and timeliness through metrics such as encounter volume by submission month or encounter volume PMPM.

Weakness #2: For chiropractic encounters, HealthKeepers lacked a sufficient number of comprehensive reports to monitor encounter data accuracy, completeness, and timeliness.

Recommendation: HealthKeepers and/or its chiropractic subcontractor should consider building reports to monitor encounter accuracy, completeness, and timeliness through metrics such as encounter volume by submission month, encounter volume PMPM, as well as reconciliation with financial reports.

Weakness #3: HealthKeepers lacked a sufficient number of comprehensive reports to monitor encounter data accuracy, completeness, and timeliness for encounters that HealthKeepers collects.

Recommendation: HealthKeepers should consider building reports to monitor encounter completeness through metrics such as encounter volume by submission month or encounter volume PMPM, as well as encounter accuracy, completeness, and timeliness through reconciliation with financial reports for encounters that HealthKeepers collects.

Comparative Analysis

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

	Record Omission			Record Surplus		
Encounter Data Source	**Denominator**	**Numerator**	**Rate**	**Denominator**	**Numerator**	**Rate**
Professional	11,814,310	66,869	0.6%	11,749,202	1,761	<0.1%
Internal	10,846,664	66,625	0.6%	10,781,800	1,761	<0.1%
NEMT	943,278	144	<0.1%	943,134	0	0.0%
Vision	24,368	100	0.4%	24,268	0	0.0%
Institutional	2,828,850	16,950	0.6%	3,230,715	418,815	13.0%
Pharmacy	3,197,079	478	<0.1%	3,683,860	487,259	13.2%

Note: Lower rates indicate better performance.

Table D-2—Element Omission, Surplus, and Missing by Key Data Element: Professional

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 11,747,441						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	39,126	0.3%	82	<0.1%
Rendering Provider NPI	0	0.0%	39,198	0.3%	0	0.0%
Servicing Provider Taxonomy Code	5	<0.1%	34,085	0.3%	5,155	<0.1%
Referring Provider NPI*	58,760	0.5%	12	<0.1%	8,742,083	74.4%
Primary Diagnosis Code	0	0.0%	16	<0.1%	0	0.0%
Secondary Diagnosis Codes*	18	<0.1%	3,840	<0.1%	8,298,828	70.6%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	63	<0.1%	56	<0.1%	8,673,154	73.8%
NDC*	6,605	0.1%	432	<0.1%	10,396,617	96.4%
Drug Quantity*	6,605	0.1%	432	<0.1%	10,396,617	96.4%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	Number of Records[1]	Rate	Number of Records[2]	Rate	Number of Records[3]	Rate
Number of Matched Records: 11,747,441						
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table D-3—Element Omission, Surplus, and Missing by Key Data Element: Professional—Internal

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	Number of Records[1]	Rate	Number of Records[2]	Rate	Number of Records[3]	Rate
Number of Matched Records: 10,780,039						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	39,126	0.4%	82	<0.1%
Rendering Provider NPI	0	0.0%	39,198	0.4%	0	0.0%
Servicing Provider Taxonomy Code	5	<0.1%	34,085	0.3%	5,155	<0.1%
Referring Provider NPI*	58,760	0.5%	12	<0.1%	7,774,681	72.1%
Primary Diagnosis Code	0	0.0%	16	<0.1%	0	0.0%
Secondary Diagnosis Codes*	18	<0.1%	23	<0.1%	7,336,962	68.1%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	63	<0.1%	56	<0.1%	8,650,193	80.2%
NDC*	6,605	0.1%	432	<0.1%	10,396,617	96.4%
Drug Quantity*	6,605	0.1%	432	<0.1%	10,396,617	96.4%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 10,780,039						
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table D-4—Element Omission, Surplus, and Missing by Key Data Element: Professional—NEMT

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 943,134						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Rendering Provider NPI	0	0.0%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	0	0.0%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	943,134	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	943,134	100.0%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	0	0.0%
NDC*	—	—	—	—	—	—
Drug Quantity*	—	—	—	—	—	—
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—

Key Data Element	Element Omission		Element Surplus		Element Missing Values	
	Number of Records[1]	Rate	Number of Records[2]	Rate	Number of Records[3]	Rate
Number of Matched Records: 943,134						
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table D-5—Element Omission, Surplus, and Missing by Key Data Element: Professional—Vision

Key Data Element	Element Omission		Element Surplus		Element Missing Values	
	Number of Records[1]	Rate	Number of Records[2]	Rate	Number of Records[3]	Rate
Number of Matched Records: 24,268						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Rendering Provider NPI	0	0.0%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	0	0.0%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	24,268	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	3,817	15.7%	18,732	77.2%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	22,961	94.6%
NDC*	—	—	—	—	—	—
Drug Quantity*	—	—	—	—	—	—
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 24,268						
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table D-6—Element Omission, Surplus, and Missing by Key Data Element: Institutional

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 2,811,900						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Header Service From Date	0	0.0%	0	0.0%	0	0.0%
Header Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	63	<0.1%	21,275	0.8%	0	0.0%
Attending Provider NPI	7	<0.1%	48,526	1.7%	2,473	0.1%
Servicing Provider Taxonomy Code	0	0.0%	51,745	1.8%	813,861	28.9%
Referring Provider NPI*	155	<0.1%	30,933	1.1%	2,696,551	95.9%
Primary Diagnosis Code	0	0.0%	146	<0.1%	0	0.0%
Secondary Diagnosis Codes*	4	<0.1%	184,616	6.6%	13,269	0.5%
Procedure Code*	22	<0.1%	19	<0.1%	618,975	22.0%

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 2,811,900						
Procedure Code Modifiers*	34	<0.1%	30	<0.1%	2,093,572	74.5%
Surgical Procedure Codes*	3	<0.1%	0	0.0%	2,575,940	91.6%
NDC*	89	<0.1%	1,292	<0.1%	2,286,907	81.3%
Drug Quantity*	89	<0.1%	1,292	<0.1%	2,286,907	81.3%
Revenue Code	0	0.0%	0	0.0%	0	0.0%
DRG	186	<0.1%	4,359	0.2%	2,661,197	94.6%
Type of Bill Code	0	0.0%	0	0.0%	0	0.0%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%
Member ID	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line).
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table D-7—Element Omission, Surplus, and Missing by Key Data Element: Pharmacy

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 3,196,601						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Prescribing Provider NPI	0	0.0%	1,371	<0.1%	0	0.0%
National Drug Code (NDC)	0	0.0%	0	0.0%	0	0.0%

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 3,196,601						
Drug Quantity	0	0.0%	0	0.0%	0	0.0%
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%
Member ID	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table D-8—Data Element Percent Present and Percent of Accuracy: Professional

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	11,747,441	100.0%	11,747,294	>99.9%
Detail Service From Date	11,747,441	100.0%	11,747,080	>99.9%
Detail Service To Date	11,747,441	100.0%	11,743,826	>99.9%
Billing Provider NPI	11,708,233	99.7%	11,669,759	99.7%
Rendering Provider NPI	11,708,243	99.7%	11,605,040	99.1%
Servicing Provider Taxonomy Code	11,708,196	99.7%	8,897,509	76.0%
Referring Provider NPI	2,946,586	25.1%	2,946,586	100.0%
Primary Diagnosis Code	11,747,425	>99.9%	11,747,327	>99.9%
Secondary Diagnosis Codes	3,444,755	29.3%	3,442,905	99.9%
Procedure Code	11,747,441	100.0%	11,747,195	>99.9%
Procedure Code Modifiers	3,074,168	26.2%	3,074,045	>99.9%
NDC	376,385	3.5%	376,369	>99.9%
Drug Quantity	376,385	3.5%	376,304	>99.9%
Header Paid Amount	11,747,441	100.0%	11,747,377	>99.9%
Header TPL Paid Amount	11,747,441	100.0%	11,741,035	99.9%
Detail Paid Amount	11,747,441	100.0%	11,747,440	>99.9%
Detail TPL Paid Amount	11,747,441	100.0%	11,742,118	>99.9%
MCO Received Date	11,747,441	100.0%	10,400,752	88.5%
MCO Paid Date	11,747,441	100.0%	11,747,440	>99.9%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table D-9—Data Element Percent Present and Percent of Accuracy: Professional—Internal

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	10,780,039	100.0%	10,779,892	>99.9%
Detail Service From Date	10,780,039	100.0%	10,779,678	>99.9%
Detail Service To Date	10,780,039	100.0%	10,776,424	>99.9%
Billing Provider NPI	10,740,831	99.6%	10,702,357	99.6%
Rendering Provider NPI	10,740,841	99.6%	10,637,638	99.0%
Servicing Provider Taxonomy Code	10,740,794	99.6%	7,930,107	73.8%
Referring Provider NPI	2,946,586	27.3%	2,946,586	100.0%
Primary Diagnosis Code	10,780,023	>99.9%	10,779,925	>99.9%
Secondary Diagnosis Codes	3,443,036	31.9%	3,442,905	>99.9%
Procedure Code	10,780,039	100.0%	10,779,793	>99.9%
Procedure Code Modifiers	2,129,727	19.8%	2,129,604	>99.9%
NDC*	376,385	3.5%	376,369	>99.9%
Drug Quantity*	376,385	3.5%	376,304	>99.9%
Header Paid Amount	10,780,039	100.0%	10,779,975	>99.9%
Header TPL Paid Amount	10,780,039	100.0%	10,773,633	99.9%
Detail Paid Amount	10,780,039	100.0%	10,780,038	>99.9%
Detail TPL Paid Amount	10,780,039	100.0%	10,774,716	>99.9%
MCO Received Date	10,780,039	100.0%	10,391,287	96.4%
MCO Paid Date	10,780,039	100.0%	10,780,038	>99.9%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table D-10—Data Element Percent Present and Percent of Accuracy: Professional—NEMT

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	943,134	100.0%	943,134	100.0%
Detail Service From Date	943,134	100.0%	943,134	100.0%
Detail Service To Date	943,134	100.0%	943,134	100.0%
Billing Provider NPI	943,134	100.0%	943,134	100.0%
Rendering Provider NPI	943,134	100.0%	943,134	100.0%
Servicing Provider Taxonomy Code	943,134	100.0%	943,134	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	943,134	100.0%	943,134	100.0%

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Secondary Diagnosis Codes	0	0.0%	0	—
Procedure Code	943,134	100.0%	943,134	100.0%
Procedure Code Modifiers	943,134	100.0%	943,134	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	943,134	100.0%	943,134	100.0%
Header TPL Paid Amount	943,134	100.0%	943,134	100.0%
Detail Paid Amount	943,134	100.0%	943,134	100.0%
Detail TPL Paid Amount	943,134	100.0%	943,134	100.0%
MCO Received Date	943,134	100.0%	3,484	0.4%
MCO Paid Date	943,134	100.0%	943,134	100.0%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table D-11—Data Element Percent Present and Percent of Accuracy: Professional—Vision

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	24,268	100.0%	24,268	100.0%
Detail Service From Date	24,268	100.0%	24,268	100.0%
Detail Service To Date	24,268	100.0%	24,268	100.0%
Billing Provider NPI	24,268	100.0%	24,268	100.0%
Rendering Provider NPI	24,268	100.0%	24,268	100.0%
Servicing Provider Taxonomy Code	24,268	100.0%	24,268	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	24,268	100.0%	24,268	100.0%
Secondary Diagnosis Codes	1,719	7.1%	0	0.0%
Procedure Code	24,268	100.0%	24,268	100.0%
Procedure Code Modifiers	1,307	5.4%	1,307	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	24,268	100.0%	24,268	100.0%
Header TPL Paid Amount	24,268	100.0%	24,268	100.0%
Detail Paid Amount	24,268	100.0%	24,268	100.0%
Detail TPL Paid Amount	24,268	100.0%	24,268	100.0%
MCO Received Date	24,268	100.0%	5,981	24.6%

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
MCO Paid Date	24,268	100.0%	24,268	100.0%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table D-12—Data Element Percent Present and Percent of Accuracy: Institutional

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	2,811,900	100.0%	2,811,535	>99.9%
Detail Service From Date	2,811,900	100.0%	2,809,288	99.9%
Header Service From Date	2,811,900	100.0%	2,796,125	99.4%
Header Service To Date	2,811,900	100.0%	2,762,578	98.2%
Billing Provider NPI	2,790,562	99.2%	2,789,479	>99.9%
Attending Provider NPI	2,760,894	98.2%	2,760,894	100.0%
Servicing Provider Taxonomy Code	1,946,294	69.2%	1,946,294	100.0%
Referring Provider NPI	84,261	3.0%	84,235	>99.9%
Primary Diagnosis Code	2,811,754	>99.9%	2,811,489	>99.9%
Secondary Diagnosis Codes	2,614,011	93.0%	132,035	5.1%
Procedure Code	2,192,884	78.0%	2,192,757	>99.9%
Procedure Code Modifiers	718,264	25.5%	718,236	>99.9%
Surgical Procedure Codes	235,957	8.4%	233,375	98.9%
NDC	523,612	18.6%	523,588	>99.9%
Drug Quantity	523,612	18.6%	523,492	>99.9%
Revenue Code	2,811,900	100.0%	2,811,823	>99.9%
DRG	146,158	5.2%	0	0.0%
Type of Bill Code	2,811,900	100.0%	2,778,636	98.8%
Header Paid Amount	2,811,900	100.0%	2,811,900	100.0%
Header TPL Paid Amount	2,811,900	100.0%	2,808,002	99.9%
Detail Paid Amount	2,811,900	100.0%	2,811,898	>99.9%
Detail TPL Paid Amount	2,811,900	100.0%	2,810,481	99.9%
MCO Received Date	2,811,900	100.0%	2,811,900	100.0%
MCO Paid Date	2,811,900	100.0%	2,811,900	100.0%

Table D-13—Data Element Percent Present and Percent of Accuracy: Pharmacy

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	3,196,601	100.0%	3,196,601	100.0%
Detail Service Date	3,196,601	100.0%	3,196,601	100.0%
Billing Provider NPI	3,196,601	100.0%	3,196,601	100.0%
Prescribing Provider NPI	3,195,230	>99.9%	3,195,218	>99.9%
National Drug Code (NDC)	3,196,601	100.0%	3,191,636	99.8%
Drug Quantity	3,196,601	100.0%	3,196,601	100.0%
Detail Paid Amount	3,196,601	100.0%	3,196,601	100.0%
Detail TPL Paid Amount^	3,196,601	100.0%	3,175,141	99.3%
MCO Received Date	3,196,601	100.0%	3,157,718	98.8%
MCO Paid Date	3,196,601	100.0%	3,183,874	99.6%

Table D-14—All-Element Accuracy by Encounter Type

Encounter Date Source	Number of Records in Both Files	Number of Records With Same Values in Both Files	Rate
Professional	11,747,441	7,566,957	64.4%
Internal	10,780,039	7,558,185	70.1%
NEMT	943,134	3,484	0.4%
Vision	24,268	5,288	21.8%
Institutional	2,811,900	127,049	4.5%
Pharmacy	3,196,601	3,130,529	97.9%

Appendix E. Results for Molina Complete Care

This appendix contains IS review and comparative analysis results for Molina.

Information Systems Review

Based on the questionnaire responses received from Molina Complete Care, HSAG identified the following areas of strength and opportunities for improvement. Along with each opportunity for improvement, HSAG has also provided a recommendation to help target improvement efforts.

Strengths

Strength: Molina had relatively robust internal reports to monitor encounter data accuracy, completeness, and timeliness for encounters that Molina collected.

Opportunities for Improvement

Weakness: For vision encounters, Molina lacked a sufficient number of comprehensive reports to monitor encounter data accuracy, completeness, and timeliness.

Recommendation: Molina and/or its vision subcontractor should consider building reports to monitor encounter accuracy, completeness, and timeliness via metrics such as encounter volume by submission month or encounter volume PMPM.

Comparative Analysis

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

	Record Omission			Record Surplus		
Encounter Data Source	Denominator	Numerator	Rate	Denominator	Numerator	Rate
Professional	2,779,217	2,131	0.1%	2,787,855	10,769	0.4%
CD Services	382,173	0	0.0%	382,934	761	0.2%
Internal	1,906,473	1,956	0.1%	1,912,503	7,986	0.4%
NEMT	484,872	0	0.0%	486,211	1,339	0.3%
Vision	5,699	175	3.1%	6,207	683	11.0%
Institutional	1,231,929	22,774	1.8%	1,238,798	29,643	2.4%
Pharmacy	879,104	3,401	0.4%	1,018,393	142,690	14.0%

Note: Lower rates indicate better performance.

Table E-2—Element Omission, Surplus, and Missing by Key Data Element: Professional

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records**	**Rate**	**Number of Records**	**Rate**	**Number of Records**	**Rate**
Number of Matched Records: 2,777,086						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	116	<0.1%	0	0.0%
Rendering Provider NPI	0	0.0%	2	<0.1%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	141	<0.1%	0	0.0%
Referring Provider NPI*	4,184	0.2%	215,075	7.7%	2,015,065	72.6%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	2	<0.1%	842	<0.1%	1,925,426	69.3%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	150,436	5.4%	8	<0.1%	1,879,980	67.7%
NDC*	4	<0.1%	1	<0.1%	1,788,235	93.9%
Drug Quantity*	4	<0.1%	1	<0.1%	1,788,235	93.9%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	382,173	13.8%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table E-3—Element Omission, Surplus, and Missing by Key Data Element: Professional—CD Services

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records**	**Rate**	**Number of Records**	**Rate**	**Number of Records**	**Rate**
Number of Matched Records: 382,173						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Rendering Provider NPI	0	0.0%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	0	0.0%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	382,173	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	382,173	100.0%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	145,547	38.1%	0	0.0%	219,939	57.5%
NDC*	—	—	—	—	—	—
Drug Quantity*	—	—	—	—	—	—
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	382,173	100.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table E-4—Element Omission, Surplus, and Missing by Key Data Element: Professional—Internal

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records**	**Rate**	**Number of Records**	**Rate**	**Number of Records**	**Rate**
Number of Matched Records: 1,904,517						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	116	<0.1%	0	0.0%
Rendering Provider NPI	0	0.0%	2	<0.1%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	141	<0.1%	0	0.0%
Referring Provider NPI*	4,184	0.2%	215,075	11.3%	1,142,496	60.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	2	<0.1%	0	0.0%	1,054,826	55.4%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	1,409,224	74.0%
NDC*	4	<0.1%	1	<0.1%	1,788,235	93.9%
Drug Quantity*	4	<0.1%	1	<0.1%	1,788,235	93.9%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table E-5—Element Omission, Surplus, and Missing by Key Data Element: Professional—NEMT

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records**	**Rate**	**Number of Records**	**Rate**	**Number of Records**	**Rate**
Number of Matched Records: 484,872						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Rendering Provider NPI	0	0.0%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	0	0.0%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	484,872	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	484,872	100.0%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	250,590	51.7%
NDC*	—	—	—	—	—	—
Drug Quantity*	—	—	—	—	—	—
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table E-6—Element Omission, Surplus, and Missing by Key Data Element: Professional—Vision

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records**	**Rate**	**Number of Records**	**Rate**	**Number of Records**	**Rate**
Number of Matched Records: 5,524						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Rendering Provider NPI	0	0.0%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	0	0.0%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	5,524	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	842	15.2%	3,555	64.4%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	4,889	88.5%	8	0.1%	227	4.1%
NDC*	—	—	—	—	—	—
Drug Quantity*	—	—	—	—	—	—
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table E-7—Element Omission, Surplus, and Missing by Key Data Element: Institutional

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 1,209,155						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Header Service From Date	0	0.0%	0	0.0%	0	0.0%
Header Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Attending Provider NPI	3,399	0.3%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	3,680	0.3%	45,779	3.8%	50	<0.1%
Referring Provider NPI*	1,174	0.1%	8,223	0.7%	1,175,581	97.2%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	43,116	3.6%	2,707	0.2%
Procedure Code*	0	0.0%	0	0.0%	261,792	21.7%
Procedure Code Modifiers*	7	<0.1%	0	0.0%	887,320	73.4%
Surgical Procedure Codes*	0	0.0%	0	0.0%	1,119,536	92.6%
NDC*	0	0.0%	5	<0.1%	999,545	82.7%
Drug Quantity*	0	0.0%	5	<0.1%	999,545	82.7%
Revenue Code	0	0.0%	4	<0.1%	0	0.0%
DRG	34,095	2.8%	1,900	0.2%	1,074,467	88.9%
Type of Bill Code	0	0.0%	0	0.0%	0	0.0%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line).

Table E-8—Element Omission, Surplus, and Missing by Key Data Element: Pharmacy

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	Number of Records[1]	Rate	Number of Records[2]	Rate	Number of Records[3]	Rate
Number of Matched Records: 875,703						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Prescribing Provider NPI	0	0.0%	216	<0.1%	0	0.0%
NDC	0	0.0%	0	0.0%	0	0.0%
Drug Quantity	0	0.0%	0	0.0%	0	0.0%
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table E-9—Data Element Percent Present and Percent of Accuracy: Professional

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	2,777,086	100.0%	2,775,321	99.9%
Detail Service From Date	2,777,086	100.0%	2,379,102	85.7%
Detail Service To Date	2,777,086	100.0%	2,373,814	85.5%
Billing Provider NPI	2,776,970	>99.9%	2,775,483	99.9%
Rendering Provider NPI	2,777,084	>99.9%	2,769,732	99.7%
Servicing Provider Taxonomy Code	2,776,945	>99.9%	2,139,036	77.0%
Referring Provider NPI	542,762	19.5%	382,716	70.5%
Primary Diagnosis Code	2,777,086	100.0%	2,776,998	>99.9%
Secondary Diagnosis Codes	850,816	30.6%	850,719	>99.9%
Procedure Code	2,777,086	100.0%	2,771,735	99.8%
Procedure Code Modifiers	746,662	26.9%	739,687	99.1%
NDC*	116,277	6.1%	116,274	>99.9%
Drug Quantity*	116,277	6.1%	116,276	>99.9%

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Header Paid Amount	2,777,086	100.0%	2,664,150	95.9%
Header TPL Paid Amount	2,777,086	100.0%	2,754,159	99.2%
Detail Paid Amount	2,777,086	100.0%	2,664,549	95.9%
Detail TPL Paid Amount	2,777,086	100.0%	2,759,254	99.4%
MCO Received Date	2,394,913	86.2%	2,349,007	98.1%
MCO Paid Date	2,777,086	100.0%	2,760,760	99.4%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table E-10—Data Element Percent Present and Percent of Accuracy: Professional—CD Services

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	382,173	100.0%	382,173	100.0%
Detail Service From Date	382,173	100.0%	382,173	100.0%
Detail Service To Date	382,173	100.0%	382,173	100.0%
Billing Provider NPI	382,173	100.0%	382,173	100.0%
Rendering Provider NPI	382,173	100.0%	382,173	100.0%
Servicing Provider Taxonomy Code	382,173	100.0%	382,173	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	382,173	100.0%	382,173	100.0%
Secondary Diagnosis Codes	0	0.0%	0	—
Procedure Code	382,173	100.0%	382,173	100.0%
Procedure Code Modifiers	16,687	4.4%	10,105	60.6%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	382,173	100.0%	271,012	70.9%
Header TPL Paid Amount	382,173	100.0%	382,173	100.0%
Detail Paid Amount	382,173	100.0%	271,644	71.1%
Detail TPL Paid Amount	382,173	100.0%	382,173	100.0%
MCO Received Date	0	0.0%	0	—
MCO Paid Date	382,173	100.0%	382,173	100.0%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table E-11—Data Element Percent Present and Percent of Accuracy: Professional—Internal

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	1,904,517	100.0%	1,904,098	>99.9%
Detail Service From Date	1,904,517	100.0%	1,508,806	79.2%
Detail Service To Date	1,904,517	100.0%	1,501,275	78.8%
Billing Provider NPI	1,904,401	>99.9%	1,903,116	99.9%
Rendering Provider NPI	1,904,515	>99.9%	1,898,754	99.7%
Servicing Provider Taxonomy Code	1,904,376	>99.9%	1,266,618	66.5%
Referring Provider NPI	542,762	28.5%	382,716	70.5%
Primary Diagnosis Code	1,904,517	100.0%	1,904,517	100.0%
Secondary Diagnosis Codes	849,689	44.6%	849,625	>99.9%
Procedure Code	1,904,517	100.0%	1,904,516	>99.9%
Procedure Code Modifiers	495,293	26.0%	495,289	>99.9%
NDC*	116,277	6.1%	116,274	>99.9%
Drug Quantity*	116,277	6.1%	116,276	>99.9%
Header Paid Amount	1,904,517	100.0%	1,902,797	99.9%
Header TPL Paid Amount	1,904,517	100.0%	1,881,629	98.8%
Detail Paid Amount	1,904,517	100.0%	1,903,326	99.9%
Detail TPL Paid Amount	1,904,517	100.0%	1,886,724	99.1%
MCO Received Date	1,904,517	100.0%	1,865,427	97.9%
MCO Paid Date	1,904,517	100.0%	1,902,509	99.9%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table E-12—Data Element Percent Present and Percent of Accuracy: Professional—NEMT

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	484,872	100.0%	483,526	99.7%
Detail Service From Date	484,872	100.0%	484,842	>99.9%
Detail Service To Date	484,872	100.0%	484,842	>99.9%
Billing Provider NPI	484,872	100.0%	484,872	100.0%
Rendering Provider NPI	484,872	100.0%	484,866	>99.9%
Servicing Provider Taxonomy Code	484,872	100.0%	484,866	>99.9%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	484,872	100.0%	484,872	100.0%

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Secondary Diagnosis Codes	0	0.0%	0	—
Procedure Code	484,872	100.0%	479,627	98.9%
Procedure Code Modifiers	234,282	48.3%	234,275	>99.9%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	484,872	100.0%	484,872	100.0%
Header TPL Paid Amount	484,872	100.0%	484,872	100.0%
Detail Paid Amount	484,872	100.0%	484,872	100.0%
Detail TPL Paid Amount	484,872	100.0%	484,872	100.0%
MCO Received Date	484,872	100.0%	483,580	99.7%
MCO Paid Date	484,872	100.0%	470,554	97.0%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table E-13—Data Element Percent Present and Percent of Accuracy: Professional—Vision

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	5,524	100.0%	5,524	100.0%
Detail Service From Date	5,524	100.0%	3,281	59.4%
Detail Service To Date	5,524	100.0%	5,524	100.0%
Billing Provider NPI	5,524	100.0%	5,322	96.3%
Rendering Provider NPI	5,524	100.0%	3,939	71.3%
Servicing Provider Taxonomy Code	5,524	100.0%	5,379	97.4%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	5,524	100.0%	5,436	98.4%
Secondary Diagnosis Codes	1,127	20.4%	1,094	97.1%
Procedure Code	5,524	100.0%	5,419	98.1%
Procedure Code Modifiers	400	7.2%	18	4.5%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	5,524	100.0%	5,469	99.0%
Header TPL Paid Amount	5,524	100.0%	5,485	99.3%
Detail Paid Amount	5,524	100.0%	4,707	85.2%
Detail TPL Paid Amount	5,524	100.0%	5,485	99.3%
MCO Received Date	5,524	100.0%	0	0.0%
MCO Paid Date	5,524	100.0%	5,524	100.0%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table E-14—Data Element Percent Present and Percent of Accuracy: Institutional

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	1,209,155	100.0%	1,209,155	100.0%
Detail Service From Date	1,209,155	100.0%	825,066	68.2%
Header Service From Date	1,209,155	100.0%	1,206,233	99.8%
Header Service To Date	1,209,155	100.0%	1,192,985	98.7%
Billing Provider NPI	1,209,155	100.0%	1,209,054	>99.9%
Attending Provider NPI	1,205,756	99.7%	1,623	0.1%
Servicing Provider Taxonomy Code	1,159,646	95.9%	7,593	0.7%
Referring Provider NPI	24,177	2.0%	17,245	71.3%
Primary Diagnosis Code	1,209,155	100.0%	1,111,133	91.9%
Secondary Diagnosis Codes	1,163,332	96.2%	476,461	41.0%
Procedure Code	947,363	78.3%	947,359	>99.9%
Procedure Code Modifiers	321,828	26.6%	321,825	>99.9%
Surgical Procedure Codes	89,619	7.4%	89,619	100.0%
NDC	209,605	17.3%	209,605	100.0%
Drug Quantity	209,605	17.3%	209,605	100.0%
Revenue Code	1,209,151	>99.9%	1,209,151	100.0%
DRG	98,693	8.2%	42,995	43.6%
Type of Bill Code	1,209,155	100.0%	1,105,221	91.4%
Header Paid Amount	1,209,155	100.0%	1,209,155	100.0%
Header TPL Paid Amount	1,209,155	100.0%	856,369	70.8%
Detail Paid Amount	1,209,155	100.0%	1,209,155	100.0%
Detail TPL Paid Amount	1,209,155	100.0%	938,993	77.7%
MCO Received Date	1,209,155	100.0%	1,180,417	97.6%
MCO Paid Date	1,209,155	100.0%	1,209,155	100.0%

Table E-15—Data Element Percent Present and Percent of Accuracy: Pharmacy

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	875,703	100.0%	875,703	100.0%
Detail Service Date	875,703	100.0%	875,703	100.0%
Billing Provider NPI	875,703	100.0%	875,703	100.0%
Prescribing Provider NPI	875,487	>99.9%	875,486	>99.9%
NDC	875,703	100.0%	874,882	99.9%

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Drug Quantity	875,703	100.0%	875,699	>99.9%
Detail Paid Amount	875,703	100.0%	875,629	>99.9%
Detail TPL Paid Amount	875,703	100.0%	872,448	99.6%
MCO Received Date	875,703	100.0%	866,276	98.9%
MCO Paid Date	875,703	100.0%	872,216	99.6%

Table E-16—All-Element Accuracy by Encounter Type

Encounter Date Source	Number of Records in Both Files	Number of Records With Same Values in Both Files	Rate
Professional	2,777,086	1,150,209	41.4%
CD Services	382,173	0	0.0%
Internal	1,904,517	687,499	36.1%
NEMT	484,872	462,710	95.4%
Vision	5,524	0	0.0%
Institutional	1,209,155	37	<0.1%
Pharmacy	875,703	862,009	98.4%

Appendix F. Results for Optima Health

This appendix contains IS review and comparative analysis results for Optima.

Information Systems Review

Based on the questionnaire responses received from Optima Health, HSAG identified the following areas of strength and opportunities for improvement. Along with each opportunity for improvement, HSAG has also provided a recommendation to help target improvement efforts.

Strengths

Strength: None were identified.

Opportunities for Improvement

Weakness #1: For NEMT encounters, Optima lacked a sufficient number of comprehensive reports to monitor encounter data accuracy, completeness, and timeliness.

Recommendation: Optima and/or its NEMT subcontractor should consider building reports to monitor encounter accuracy, completeness, and timeliness through reconciliation with financial reports.

Weakness #2: Optima lacked a sufficient number of comprehensive reports to monitor encounter data accuracy, completeness, and timeliness for encounters that Optima collects.

Recommendation: Optima should consider building reports to monitor encounter accuracy, completeness, and timeliness through reconciliation with financial reports for encounters that Optima collects.

Comparative Analysis

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

	Record Omission			Record Surplus		
Encounter Data Source	Denominator	Numerator	Rate	Denominator	Numerator	Rate
Professional	4,110,283	14,528	0.4%	5,565,414	1,469,659	26.4%
CD Services	561,534	2,376	0.4%	1,051,744	492,586	46.8%
Internal	3,069,590	514	<0.1%	3,972,788	903,712	22.7%
NEMT	460,825	9,982	2.2%	522,508	71,665	13.7%
Vision	18,334	1,656	9.0%	18,374	1,696	9.2%
Institutional	1,618,405	6,181	0.4%	1,950,263	338,039	17.3%
Pharmacy	1,403,287	211,406	15.1%	1,969,813	777,932	39.5%

Note: Lower rates indicate better performance.

Table F-2—Element Omission, Surplus, and Missing by Key Data Element: Professional

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 4,095,755						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	450,912	11.0%	0	0.0%
Rendering Provider NPI	0	0.0%	450,912	11.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	16,694	0.4%	0	0.0%
Referring Provider NPI*	1,400,871	34.2%	0	0.0%	2,694,884	65.8%
Primary Diagnosis Code	0	0.0%	195	<0.1%	67	<0.1%
Secondary Diagnosis Codes*	0	0.0%	14	<0.1%	2,591,444	63.3%
Procedure Code	0	0.0%	4,077	0.1%	0	0.0%
Procedure Code Modifiers*	0	0.0%	493,081	12.0%	2,730,418	66.7%
NDC*	18,309	0.6%	0	0.0%	3,014,617	98.2%
Drug Quantity*	18,309	0.6%	0	0.0%	3,014,617	98.2%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	211,233	5.2%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table F-3—Element Omission, Surplus, and Missing by Key Data Element: Professional—CD Services

Key Data Element	Element Omission		Element Surplus		Element Missing Values	
	Number of Records[1]	Rate	Number of Records[2]	Rate	Number of Records[3]	Rate
Number of Matched Records: 559,158						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Rendering Provider NPI	0	0.0%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	0	0.0%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	559,158	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	559,158	100.0%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	38,444	6.9%	520,714	93.1%
NDC*	—	—	—	—	—	—
Drug Quantity*	—	—	—	—	—	—
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table F-4—Element Omission, Surplus, and Missing by Key Data Element: Professional—Internal

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records**	**Rate**	**Number of Records**	**Rate**	**Number of Records**	**Rate**
Number of Matched Records: 3,069,076						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	69	<0.1%	0	0.0%
Rendering Provider NPI	0	0.0%	69	<0.1%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	16	<0.1%	0	0.0%
Referring Provider NPI*	1,400,871	45.6%	0	0.0%	1,668,205	54.4%
Primary Diagnosis Code	0	0.0%	195	<0.1%	67	<0.1%
Secondary Diagnosis Codes*	0	0.0%	14	<0.1%	1,567,488	51.1%
Procedure Code	0	0.0%	4,077	0.1%	0	0.0%
Procedure Code Modifiers*	0	0.0%	2,806	0.1%	2,194,014	71.5%
NDC*	18,309	0.6%	0	0.0%	3,014,617	98.2%
Drug Quantity*	18,309	0.6%	0	0.0%	3,014,617	98.2%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table F-5—Element Omission, Surplus, and Missing by Key Data Element: Professional—NEMT

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records**	**Rate**	**Number of Records**	**Rate**	**Number of Records**	**Rate**
Number of Matched Records: 450,843						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	450,843	100.0%	0	0.0%
Rendering Provider NPI	0	0.0%	450,843	100.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	0	0.0%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	450,843	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	450,843	100.0%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	450,812	>99.9%	31	<0.1%
NDC*	—	—	—	—	—	—
Drug Quantity*	—	—	—	—	—	—
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	211,233	46.9%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table F-6—Element Omission, Surplus, and Missing by Key Data Element: Professional—Vision

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records**	**Rate**	**Number of Records**	**Rate**	**Number of Records**	**Rate**
Number of Matched Records: 16,678						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Rendering Provider NPI	0	0.0%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	16,678	100.0%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	16,678	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	13,955	83.7%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	1,019	6.1%	15,659	93.9%
NDC*	—	—	—	—	—	—
Drug Quantity*	—	—	—	—	—	—
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table F-7—Element Omission, Surplus, and Missing by Key Data Element: Institutional

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 1,612,224						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Header Service From Date	0	0.0%	0	0.0%	0	0.0%
Header Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	59	<0.1%	0	0.0%
Attending Provider NPI	0	0.0%	58,693	3.6%	16,118	1.0%
Servicing Provider Taxonomy Code	1,596,071	99.0%	0	0.0%	16,153	1.0%
Referring Provider NPI*	76	<0.1%	0	0.0%	1,612,148	>99.9%
Primary Diagnosis Code	0	0.0%	34	<0.1%	17	<0.1%
Secondary Diagnosis Codes*	17	<0.1%	2,580	0.2%	0	0.0%
Procedure Code*	0	0.0%	2	<0.1%	379,478	23.5%
Procedure Code Modifiers*	146	<0.1%	0	0.0%	1,240,826	77.0%
Surgical Procedure Codes*	162	<0.1%	160	<0.1%	1,449,696	89.9%
NDC*	110,835	6.9%	0	0.0%	1,327,585	82.3%
Drug Quantity*	110,838	6.9%	0	0.0%	1,327,582	82.3%
Revenue Code	0	0.0%	32	<0.1%	0	0.0%
DRG	19,367	1.2%	4,961	0.3%	1,389,688	86.2%
Type of Bill Code	0	0.0%	0	0.0%	0	0.0%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line).

Table F-8—Element Omission, Surplus, and Missing by Key Data Element: Pharmacy

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	Number of Records[1]	Rate	Number of Records[2]	Rate	Number of Records[3]	Rate
Number of Matched Records: 1,191,881						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Prescribing Provider NPI	0	0.0%	0	0.0%	0	0.0%
NDC	0	0.0%	0	0.0%	0	0.0%
Drug Quantity	0	0.0%	0	0.0%	0	0.0%
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table F-9—Data Element Percent Present and Percent of Accuracy: Professional

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	4,095,755	100.0%	1,026,679	25.1%
Detail Service From Date	4,095,755	100.0%	4,095,755	100.0%
Detail Service To Date	4,095,755	100.0%	4,095,755	100.0%
Billing Provider NPI	3,644,843	89.0%	2,315,109	63.5%
Rendering Provider NPI	3,644,843	89.0%	3,644,786	>99.9%
Servicing Provider Taxonomy Code	4,079,061	99.6%	3,488,954	85.5%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	4,095,493	>99.9%	4,095,493	100.0%
Secondary Diagnosis Codes	1,504,297	36.7%	1,503,886	>99.9%
Procedure Code	4,091,678	99.9%	4,091,640	>99.9%
Procedure Code Modifiers	872,256	21.3%	871,268	99.9%
NDC*	36,150	1.2%	36,143	>99.9%
Drug Quantity*	36,150	1.2%	36,096	99.9%

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Header Paid Amount	4,095,755	100.0%	4,095,743	>99.9%
Header TPL Paid Amount	4,095,755	100.0%	3,484,858	85.1%
Detail Paid Amount	4,095,755	100.0%	4,095,722	>99.9%
Detail TPL Paid Amount	4,095,755	100.0%	3,547,244	86.6%
MCO Received Date	3,884,522	94.8%	3,069,077	79.0%
MCO Paid Date	4,095,755	100.0%	2,355,098	57.5%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table F-10—Data Element Percent Present and Percent of Accuracy: Professional—CD Services

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	559,158	100.0%	559,158	100.0%
Detail Service From Date	559,158	100.0%	559,158	100.0%
Detail Service To Date	559,158	100.0%	559,158	100.0%
Billing Provider NPI	559,158	100.0%	559,158	100.0%
Rendering Provider NPI	559,158	100.0%	559,158	100.0%
Servicing Provider Taxonomy Code	559,158	100.0%	559,158	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	559,158	100.0%	559,158	100.0%
Secondary Diagnosis Codes	0	0.0%	0	—
Procedure Code	559,158	100.0%	559,158	100.0%
Procedure Code Modifiers	0	0.0%	0	—
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	559,158	100.0%	559,157	>99.9%
Header TPL Paid Amount	559,158	100.0%	559,158	100.0%
Detail Paid Amount	559,158	100.0%	559,158	100.0%
Detail TPL Paid Amount	559,158	100.0%	559,158	100.0%
MCO Received Date	559,158	100.0%	0	0.0%
MCO Paid Date	559,158	100.0%	156,183	27.9%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table F-11—Data Element Percent Present and Percent of Accuracy: Professional—Internal

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	3,069,076	100.0%	0	0.0%
Detail Service From Date	3,069,076	100.0%	3,069,076	100.0%
Detail Service To Date	3,069,076	100.0%	3,069,076	100.0%
Billing Provider NPI	3,069,007	>99.9%	1,739,273	56.7%
Rendering Provider NPI	3,069,007	>99.9%	3,068,950	>99.9%
Servicing Provider Taxonomy Code	3,069,060	>99.9%	2,478,953	80.8%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	3,068,814	>99.9%	3,068,814	100.0%
Secondary Diagnosis Codes	1,501,574	48.9%	1,501,163	>99.9%
Procedure Code	3,064,999	99.9%	3,064,995	>99.9%
Procedure Code Modifiers	872,256	28.4%	871,268	99.9%
NDC*	36,150	1.2%	36,143	>99.9%
Drug Quantity*	36,150	1.2%	36,096	99.9%
Header Paid Amount	3,069,076	100.0%	3,069,075	>99.9%
Header TPL Paid Amount	3,069,076	100.0%	2,467,615	80.4%
Detail Paid Amount	3,069,076	100.0%	3,069,075	>99.9%
Detail TPL Paid Amount	3,069,076	100.0%	2,520,565	82.1%
MCO Received Date	3,069,076	100.0%	3,069,076	100.0%
MCO Paid Date	3,069,076	100.0%	1,731,592	56.4%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table F-12—Data Element Percent Present and Percent of Accuracy: Professional—NEMT

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	450,843	100.0%	450,843	100.0%
Detail Service From Date	450,843	100.0%	450,843	100.0%
Detail Service To Date	450,843	100.0%	450,843	100.0%
Billing Provider NPI	0	0.0%	0	—
Rendering Provider NPI	0	0.0%	0	—
Servicing Provider Taxonomy Code	450,843	100.0%	450,843	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	450,843	100.0%	450,843	100.0%

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Secondary Diagnosis Codes	0	0.0%	0	—
Procedure Code	450,843	100.0%	450,809	>99.9%
Procedure Code Modifiers	0	0.0%	0	—
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	450,843	100.0%	450,833	>99.9%
Header TPL Paid Amount	450,843	100.0%	450,843	100.0%
Detail Paid Amount	450,843	100.0%	450,811	>99.9%
Detail TPL Paid Amount	450,843	100.0%	450,843	100.0%
MCO Received Date	239,610	53.1%	0	0.0%
MCO Paid Date	450,843	100.0%	450,645	>99.9%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table F-13—Data Element Percent Present and Percent of Accuracy: Professional—Vision

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	16,678	100.0%	16,678	100.0%
Detail Service From Date	16,678	100.0%	16,678	100.0%
Detail Service To Date	16,678	100.0%	16,678	100.0%
Billing Provider NPI	16,678	100.0%	16,678	100.0%
Rendering Provider NPI	16,678	100.0%	16,678	100.0%
Servicing Provider Taxonomy Code	0	0.0%	0	—
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	16,678	100.0%	16,678	100.0%
Secondary Diagnosis Codes	2,723	16.3%	2,723	100.0%
Procedure Code	16,678	100.0%	16,678	100.0%
Procedure Code Modifiers	0	0.0%	0	—
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	16,678	100.0%	16,678	100.0%
Header TPL Paid Amount	16,678	100.0%	7,242	43.4%
Detail Paid Amount	16,678	100.0%	16,678	100.0%
Detail TPL Paid Amount	16,678	100.0%	16,678	100.0%
MCO Received Date	16,678	100.0%	1	<0.1%
MCO Paid Date	16,678	100.0%	16,678	100.0%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table F-14—Data Element Percent Present and Percent of Accuracy: Institutional

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	1,612,224	100.0%	0	0.0%
Detail Service From Date	1,612,224	100.0%	1,557,196	96.6%
Header Service From Date	1,612,224	100.0%	1,603,162	99.4%
Header Service To Date	1,612,224	100.0%	1,582,937	98.2%
Billing Provider NPI	1,612,165	>99.9%	1,456,741	90.4%
Attending Provider NPI	1,537,413	95.4%	1,537,366	>99.9%
Servicing Provider Taxonomy Code	0	0.0%	0	—
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	1,612,173	>99.9%	1,611,768	>99.9%
Secondary Diagnosis Codes	1,609,627	99.8%	749,587	46.6%
Procedure Code	1,232,744	76.5%	1,232,598	>99.9%
Procedure Code Modifiers	371,252	23.0%	343,950	92.6%
Surgical Procedure Codes	162,206	10.1%	158,382	97.6%
NDC	173,804	10.8%	173,789	>99.9%
Drug Quantity	173,804	10.8%	173,565	99.9%
Revenue Code	1,612,192	>99.9%	1,611,825	>99.9%
DRG	198,208	12.3%	103,838	52.4%
Type of Bill Code	1,612,224	100.0%	1,444,131	89.6%
Header Paid Amount	1,612,224	100.0%	1,612,216	>99.9%
Header TPL Paid Amount	1,612,224	100.0%	895,560	55.5%
Detail Paid Amount	1,612,224	100.0%	1,612,224	100.0%
Detail TPL Paid Amount	1,612,224	100.0%	1,276,378	79.2%
MCO Received Date	1,612,224	100.0%	1,612,224	100.0%
MCO Paid Date	1,612,224	100.0%	984,953	61.1%

Table F-15—Data Element Percent Present and Percent of Accuracy: Pharmacy

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	1,191,881	100.0%	1,191,881	100.0%
Detail Service Date	1,191,881	100.0%	1,142,942	95.9%
Billing Provider NPI	1,191,881	100.0%	1,190,585	99.9%
Prescribing Provider NPI	1,191,881	100.0%	1,191,881	100.0%
NDC	1,191,881	100.0%	1,191,811	>99.9%
Drug Quantity	1,191,881	100.0%	1,191,881	100.0%
Detail Paid Amount	1,191,881	100.0%	1,191,880	>99.9%
Detail TPL Paid Amount	1,191,881	100.0%	1,181,645	99.1%
MCO Received Date	1,191,881	100.0%	218	<0.1%
MCO Paid Date	1,191,881	100.0%	545,757	45.8%

Table F-16—All-Element Accuracy by Encounter Type

Encounter Date Source	Number of Records in Both Files	Number of Records With Same Values in Both Files	Rate
Professional	4,095,755	0	0.0%
CD Services	559,158	0	0.0%
Internal	3,069,076	0	0.0%
NEMT	450,843	0	0.0%
Vision	16,678	0	0.0%
Institutional	1,612,224	0	0.0%
Pharmacy	1,191,881	203	<0.1%

Appendix G. Results for UnitedHealthcare of the Mid-Atlantic, Inc.

This appendix contains IS review and comparative analysis results for United.

Information Systems Review

Based on the questionnaire responses received from UnitedHealthcare of the Mid-Atlantic, Inc., HSAG identified the following areas of strength and opportunities for improvement. Along with each opportunity for improvement, HSAG has also provided a recommendation to help target improvement efforts.

Strengths

Strength: None were identified.

Opportunities for Improvement

Weakness #1: For pharmacy encounters, United lacked a sufficient number of comprehensive reports to monitor encounter data accuracy, completeness, and timeliness.

Recommendation: United and/or its pharmacy subcontractor should consider building reports to monitor encounter accuracy, completeness, and timeliness through metrics such as encounter volume by submission month or encounter volume PMPM.

Weakness #2: For NEMT encounters, United lacked a sufficient number of comprehensive reports to monitor encounter data accuracy, completeness, and timeliness.

Recommendation: United and/or its NEMT subcontractor should consider building reports to monitor encounter accuracy, completeness, and timeliness through metrics such as encounter volume by submission month or encounter volume PMPM.

Weakness #3: United lacked a sufficient number of comprehensive reports to monitor encounter data accuracy, completeness, and timeliness for encounters that United collects.

Recommendation: United should consider building reports to monitor encounter accuracy, completeness, and timeliness through metrics such as encounter volume by submission month or encounter volume PMPM for encounters that United collects.

Comparative Analysis

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

	Record Omission			Record Surplus		
Encounter Data Source	Denominator	Numerator	Rate	Denominator	Numerator	Rate
Professional	4,327,236	8,679	0.2%	4,367,752	49,195	1.1%
CD Services	621,269	28	<0.1%	621,241	0	0.0%

	Record Omission			Record Surplus		
Encounter Data Source	**Denominator**	**Numerator**	**Rate**	**Denominator**	**Numerator**	**Rate**
Internal	3,455,422	8,362	0.2%	3,496,082	49,022	1.4%
NEMT	228,174	289	0.1%	228,036	151	0.1%
Vision	22,371	0	0.0%	22,393	22	0.1%
Institutional	2,075,325	10,396	0.5%	2,096,073	31,144	1.5%
Pharmacy	1,020,029	32,493	3.2%	1,279,320	291,784	22.8%

Note: Lower rates indicate better performance.

Table G-2—Element Omission, Surplus, and Missing by Key Data Element: Professional

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 4,318,557						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Rendering Provider NPI	0	0.0%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	330,597	7.7%	99	<0.1%
Referring Provider NPI*	399	<0.1%	2,054	<0.1%	2,679,297	62.0%
Primary Diagnosis Code	3	<0.1%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	6	<0.1%	0	0.0%	2,634,214	61.0%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	3,075,898	71.2%
NDC*	709	<0.1%	0	0.0%	3,315,707	96.2%
Drug Quantity*	709	<0.1%	0	0.0%	3,315,707	96.2%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.

* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table G-3—Element Omission, Surplus, and Missing by Key Data Element: Professional—CD Services

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 621,241						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Rendering Provider NPI	0	0.0%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	0	0.0%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	621,241	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	621,241	100.0%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	578,445	93.1%
NDC*	—	—	—	—	—	—
Drug Quantity*	—	—	—	—	—	—
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table G-4—Element Omission, Surplus, and Missing by Key Data Element: Professional—Internal

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 3,447,060						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Rendering Provider NPI	0	0.0%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	330,597	9.6%	99	<0.1%
Referring Provider NPI*	399	<0.1%	2,054	0.1%	1,816,340	52.7%
Primary Diagnosis Code	3	<0.1%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	6	<0.1%	0	0.0%	1,769,839	51.3%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	2,482,572	72.0%
NDC*	709	<0.1%	0	0.0%	3,315,707	96.2%
Drug Quantity*	709	<0.1%	0	0.0%	3,315,707	96.2%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table G-5—Element Omission, Surplus, and Missing by Key Data Element: Professional—NEMT

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 227,885						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Rendering Provider NPI	0	0.0%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	0	0.0%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	227,885	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	227,885	100.0%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	0	0.0%
NDC*	—	—	—	—	—	—
Drug Quantity*	—	—	—	—	—	—
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table G-6—Element Omission, Surplus, and Missing by Key Data Element: Professional—Vision

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 22,371						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Rendering Provider NPI	0	0.0%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	0	0.0%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	13,831	61.8%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	15,249	68.2%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	14,881	66.5%
NDC*	—	—	—	—	—	—
Drug Quantity*	—	—	—	—	—	—
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table G-7—Element Omission, Surplus, and Missing by Key Data Element: Institutional

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 2,064,929						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Header Service From Date	0	0.0%	0	0.0%	0	0.0%
Header Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Attending Provider NPI	0	0.0%	19	<0.1%	341	<0.1%
Servicing Provider Taxonomy Code	329	<0.1%	1,214	0.1%	634,672	30.7%
Referring Provider NPI*	825	<0.1%	437	<0.1%	1,978,816	95.8%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	134,906	6.5%	0	0.0%
Procedure Code*	125	<0.1%	0	0.0%	438,090	21.2%
Procedure Code Modifiers*	0	0.0%	0	0.0%	1,556,828	75.4%
Surgical Procedure Codes*	1,555	0.1%	0	0.0%	1,912,424	92.6%
NDC*	181	<0.1%	1	<0.1%	1,708,453	82.7%
Drug Quantity*	2	<0.1%	1	<0.1%	1,708,632	82.7%
Revenue Code	0	0.0%	0	0.0%	0	0.0%
DRG	0	0.0%	4,214	0.2%	1,920,631	93.0%
Type of Bill Code	0	0.0%	105,552	5.1%	0	0.0%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line).

Table G-8—Element Omission, Surplus, and Missing by Key Data Element: Pharmacy

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	Number of Records[1]	Rate	Number of Records[2]	Rate	Number of Records[3]	Rate
Number of Matched Records: 987,536						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Prescribing Provider NPI	0	0.0%	0	0.0%	0	0.0%
NDC	0	0.0%	0	0.0%	0	0.0%
Drug Quantity	0	0.0%	0	0.0%	0	0.0%
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table G-9—Data Element Percent Present and Percent of Accuracy: Professional

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	4,318,557	100.0%	4,318,557	100.0%
Detail Service From Date	4,318,557	100.0%	4,318,557	100.0%
Detail Service To Date	4,318,557	100.0%	4,318,557	100.0%
Billing Provider NPI	4,318,557	100.0%	4,318,191	>99.9%
Rendering Provider NPI	4,318,557	100.0%	4,316,998	>99.9%
Servicing Provider Taxonomy Code	3,987,861	92.3%	3,958,324	99.3%
Referring Provider NPI	1,636,807	37.9%	1,636,644	>99.9%
Primary Diagnosis Code	4,318,554	>99.9%	4,318,554	100.0%
Secondary Diagnosis Codes	1,684,337	39.0%	1,684,313	>99.9%
Procedure Code	4,318,557	100.0%	4,318,557	100.0%
Procedure Code Modifiers	1,242,659	28.8%	1,242,587	>99.9%
NDC*	130,644	3.8%	130,644	100.0%
Drug Quantity*	130,644	3.8%	130,629	>99.9%

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Header Paid Amount	4,318,557	100.0%	4,287,053	99.3%
Header TPL Paid Amount	4,318,557	100.0%	4,006,823	92.8%
Detail Paid Amount	4,318,557	100.0%	4,287,565	99.3%
Detail TPL Paid Amount	4,318,557	100.0%	4,034,690	93.4%
MCO Received Date	4,318,557	100.0%	4,318,557	100.0%
MCO Paid Date	4,318,557	100.0%	4,315,447	99.9%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table G-10—Data Element Percent Present and Percent of Accuracy: Professional—CD Services

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	621,241	100.0%	621,241	100.0%
Detail Service From Date	621,241	100.0%	621,241	100.0%
Detail Service To Date	621,241	100.0%	621,241	100.0%
Billing Provider NPI	621,241	100.0%	621,241	100.0%
Rendering Provider NPI	621,241	100.0%	621,241	100.0%
Servicing Provider Taxonomy Code	621,241	100.0%	621,241	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	621,241	100.0%	621,241	100.0%
Secondary Diagnosis Codes	0	0.0%	0	—
Procedure Code	621,241	100.0%	621,241	100.0%
Procedure Code Modifiers	42,796	6.9%	42,796	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	621,241	100.0%	621,241	100.0%
Header TPL Paid Amount	621,241	100.0%	621,241	100.0%
Detail Paid Amount	621,241	100.0%	621,241	100.0%
Detail TPL Paid Amount	621,241	100.0%	621,241	100.0%
MCO Received Date	621,241	100.0%	621,241	100.0%
MCO Paid Date	621,241	100.0%	621,241	100.0%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table G-11—Data Element Percent Present and Percent of Accuracy: Professional—Internal

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	3,447,060	100.0%	3,447,060	100.0%
Detail Service From Date	3,447,060	100.0%	3,447,060	100.0%
Detail Service To Date	3,447,060	100.0%	3,447,060	100.0%
Billing Provider NPI	3,447,060	100.0%	3,446,694	>99.9%
Rendering Provider NPI	3,447,060	100.0%	3,445,501	>99.9%
Servicing Provider Taxonomy Code	3,116,364	90.4%	3,086,827	99.1%
Referring Provider NPI	1,628,267	47.2%	1,628,104	>99.9%
Primary Diagnosis Code	3,447,057	>99.9%	3,447,057	100.0%
Secondary Diagnosis Codes	1,677,215	48.7%	1,677,191	>99.9%
Procedure Code	3,447,060	100.0%	3,447,060	100.0%
Procedure Code Modifiers	964,488	28.0%	964,416	>99.9%
NDC*	130,644	3.8%	130,644	100.0%
Drug Quantity*	130,644	3.8%	130,629	>99.9%
Header Paid Amount	3,447,060	100.0%	3,415,556	99.1%
Header TPL Paid Amount	3,447,060	100.0%	3,135,326	91.0%
Detail Paid Amount	3,447,060	100.0%	3,416,068	99.1%
Detail TPL Paid Amount	3,447,060	100.0%	3,163,193	91.8%
MCO Received Date	3,447,060	100.0%	3,447,060	100.0%
MCO Paid Date	3,447,060	100.0%	3,447,060	100.0%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table G-12—Data Element Percent Present and Percent of Accuracy: Professional—NEMT

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	227,885	100.0%	227,885	100.0%
Detail Service From Date	227,885	100.0%	227,885	100.0%
Detail Service To Date	227,885	100.0%	227,885	100.0%
Billing Provider NPI	227,885	100.0%	227,885	100.0%
Rendering Provider NPI	227,885	100.0%	227,885	100.0%
Servicing Provider Taxonomy Code	227,885	100.0%	227,885	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	227,885	100.0%	227,885	100.0%

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Secondary Diagnosis Codes	0	0.0%	0	—
Procedure Code	227,885	100.0%	227,885	100.0%
Procedure Code Modifiers	227,885	100.0%	227,885	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	227,885	100.0%	227,885	100.0%
Header TPL Paid Amount	227,885	100.0%	227,885	100.0%
Detail Paid Amount	227,885	100.0%	227,885	100.0%
Detail TPL Paid Amount	227,885	100.0%	227,885	100.0%
MCO Received Date	227,885	100.0%	227,885	100.0%
MCO Paid Date	227,885	100.0%	224,775	98.6%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table G-13—Data Element Percent Present and Percent of Accuracy: Professional—Vision

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	22,371	100.0%	22,371	100.0%
Detail Service From Date	22,371	100.0%	22,371	100.0%
Detail Service To Date	22,371	100.0%	22,371	100.0%
Billing Provider NPI	22,371	100.0%	22,371	100.0%
Rendering Provider NPI	22,371	100.0%	22,371	100.0%
Servicing Provider Taxonomy Code	22,371	100.0%	22,371	100.0%
Referring Provider NPI	8,540	38.2%	8,540	100.0%
Primary Diagnosis Code	22,371	100.0%	22,371	100.0%
Secondary Diagnosis Codes	7,122	31.8%	7,122	100.0%
Procedure Code	22,371	100.0%	22,371	100.0%
Procedure Code Modifiers	7,490	33.5%	7,490	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	22,371	100.0%	22,371	100.0%
Header TPL Paid Amount	22,371	100.0%	22,371	100.0%
Detail Paid Amount	22,371	100.0%	22,371	100.0%
Detail TPL Paid Amount	22,371	100.0%	22,371	100.0%
MCO Received Date	22,371	100.0%	22,371	100.0%

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
MCO Paid Date	22,371	100.0%	22,371	100.0%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table G-14—Data Element Percent Present and Percent of Accuracy: Institutional

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	2,064,929	100.0%	2,064,929	100.0%
Detail Service From Date	2,064,929	100.0%	2,043,528	99.0%
Header Service From Date	2,064,929	100.0%	2,039,007	98.7%
Header Service To Date	2,064,929	100.0%	1,990,362	96.4%
Billing Provider NPI	2,064,929	100.0%	2,064,464	>99.9%
Attending Provider NPI	2,064,569	>99.9%	2,064,080	>99.9%
Servicing Provider Taxonomy Code	1,428,714	69.2%	1,426,972	99.9%
Referring Provider NPI	84,851	4.1%	84,795	99.9%
Primary Diagnosis Code	2,064,929	100.0%	2,064,929	100.0%
Secondary Diagnosis Codes	1,930,023	93.5%	0	0.0%
Procedure Code	1,626,714	78.8%	1,626,714	100.0%
Procedure Code Modifiers	508,101	24.6%	508,046	>99.9%
Surgical Procedure Codes	150,950	7.3%	104,913	69.5%
NDC	356,294	17.3%	356,294	100.0%
Drug Quantity	356,294	17.3%	356,293	>99.9%
Revenue Code	2,064,929	100.0%	2,064,929	100.0%
DRG	140,084	6.8%	0	0.0%
Type of Bill Code	1,959,377	94.9%	1,803,884	92.1%
Header Paid Amount	2,064,929	100.0%	2,064,868	>99.9%
Header TPL Paid Amount	2,064,929	100.0%	1,658,224	80.3%
Detail Paid Amount	2,064,929	100.0%	2,064,927	>99.9%
Detail TPL Paid Amount	2,064,929	100.0%	1,774,617	85.9%
MCO Received Date	2,064,929	100.0%	2,064,929	100.0%
MCO Paid Date	2,064,929	100.0%	2,064,929	100.0%

Table G-15—Data Element Percent Present and Percent of Accuracy: Pharmacy

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	987,536	100.0%	987,426	>99.9%
Detail Service Date	987,536	100.0%	987,536	100.0%
Billing Provider NPI	987,536	100.0%	987,526	>99.9%
Prescribing Provider NPI	987,536	100.0%	986,949	99.9%
NDC	987,536	100.0%	982,477	99.5%
Drug Quantity	987,536	100.0%	949,963	96.2%
Detail Paid Amount	987,536	100.0%	979,337	99.2%
Detail TPL Paid Amount	987,536	100.0%	987,502	>99.9%
MCO Received Date	987,536	100.0%	952,596	96.5%
MCO Paid Date	987,536	100.0%	652	0.1%

Table G-16—All-Element Accuracy by Encounter Type

Encounter Date Source	Number of Records in Both Files	Number of Records With Same Values in Both Files	Rate
Professional	4,318,557	3,665,000	84.9%
CD Services	621,241	621,241	100.0%
Internal	3,447,060	2,796,613	81.1%
NEMT	227,885	224,775	98.6%
Vision	22,371	22,371	100.0%
Institutional	2,064,929	0	0.0%
Pharmacy	987,536	364	<0.1%

Appendix H. Results for Virginia Premier Health Plan, Inc.

This appendix contains IS review and comparative analysis results for VA Premier.

Information Systems Review

Based on the questionnaire responses received from Virginia Premier Health Plan, Inc., HSAG identified the following areas of strength and opportunities for improvement. Along with each opportunity for improvement, HSAG has also provided a recommendation to help target improvement efforts.

Strengths

Strength: None were identified.

Opportunities for Improvement

Weakness #1: For vision encounters, VA Premier lacked a sufficient number of comprehensive reports to monitor encounter data accuracy, completeness, and timeliness.

Recommendation: VA Premier and/or its vision subcontractor should consider building reports to monitor encounter accuracy, completeness, and timeliness through reconciliation with financial reports.

Weakness #2: For NEMT encounters, VA Premier lacked a sufficient number of comprehensive reports to monitor encounter data accuracy, completeness, and timeliness.

Recommendation: VA Premier and/or its NEMT subcontractor should consider building reports to monitor encounter accuracy, completeness, and timeliness through reconciliation with financial reports.

Weakness #3: VA Premier lacked a sufficient number of comprehensive reports to monitor encounter data accuracy, completeness, and timeliness for encounters that VA Premier collects.

Recommendation: VA Premier should consider building reports to monitor encounter accuracy, completeness, and timeliness through reconciliation with financial reports for encounters that VA Premier collects.

Comparative Analysis

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

	Record Omission			Record Surplus		
Encounter Data Source	Denominator	Numerator	Rate	Denominator	Numerator	Rate
Professional	6,346,287	412,544	6.5%	6,183,950	250,207	4.0%

	Record Omission			Record Surplus		
Encounter Data Source	**Denominator**	**Numerator**	**Rate**	**Denominator**	**Numerator**	**Rate**
CD Services	1,742,520	379,232	21.8%	1,363,339	51	<0.1%
Internal	3,911,619	9,356	0.2%	4,107,060	204,797	5.0%
NEMT	674,512	23,689	3.5%	696,178	45,355	6.5%
Vision	17,636	267	1.5%	17,373	4	<0.1%
Institutional	1,053,181	37,438	3.6%	1,744,708	728,965	41.8%
Pharmacy	2,074,063	95,143	4.6%	2,044,432	65,512	3.2%

Note: Lower rates indicate better performance.

Table H-2—Element Omission, Surplus, and Missing by Key Data Element: Professional

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 5,933,743						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	9,639	0.2%	0	0.0%
Rendering Provider NPI	0	0.0%	8,833	0.1%	0	0.0%
Servicing Provider Taxonomy Code	96	<0.1%	1	<0.1%	2	<0.1%
Referring Provider NPI*	38,489	0.6%	0	0.0%	4,340,550	73.2%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	4,246,188	71.6%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	4,223,041	71.2%
NDC*	75,571	1.9%	0	0.0%	3,641,672	93.3%
Drug Quantity*	75,571	1.9%	0	0.0%	3,641,672	93.3%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.

[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table H-3—Element Omission, Surplus, and Missing by Key Data Element: Professional—CD Services

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 1,363,288						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Rendering Provider NPI	0	0.0%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	0	0.0%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	1,363,288	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	1,363,288	100.0%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	1,297,625	95.2%
NDC*	—	—	—	—	—	—
Drug Quantity*	—	—	—	—	—	—
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table H-4—Element Omission, Surplus, and Missing by Key Data Element: Professional—Internal

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 3,902,263						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	9,639	0.2%	0	0.0%
Rendering Provider NPI	0	0.0%	8,833	0.2%	0	0.0%
Servicing Provider Taxonomy Code	96	<0.1%	1	<0.1%	2	<0.1%
Referring Provider NPI*	38,487	1.0%	0	0.0%	2,309,301	59.2%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	2,224,211	57.0%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	2,910,969	74.6%
NDC*	75,571	1.9%	0	0.0%	3,641,672	93.3%
Drug Quantity*	75,571	1.9%	0	0.0%	3,641,672	93.3%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table H-5—Element Omission, Surplus, and Missing by Key Data Element: Professional—NEMT

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 650,823						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Rendering Provider NPI	0	0.0%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	0	0.0%	0	0.0%
Referring Provider NPI*	2	<0.1%	0	0.0%	650,592	>99.9%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	646,411	99.3%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	17	<0.1%
NDC*	—	—	—	—	—	—
Drug Quantity*	—	—	—	—	—	—
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table H-6—Element Omission, Surplus, and Missing by Key Data Element: Professional—Vision

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 17,369						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Detail Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Rendering Provider NPI	0	0.0%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	0	0.0%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	17,369	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	12,278	70.7%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	14,430	83.1%
NDC*	—	—	—	—	—	—
Drug Quantity*	—	—	—	—	—	—
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line). In addition, since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table H-7—Element Omission, Surplus, and Missing by Key Data Element: Institutional

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	**Number of Records[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 1,015,743						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service From Date	0	0.0%	0	0.0%	0	0.0%
Header Service From Date	0	0.0%	0	0.0%	0	0.0%
Header Service To Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	969	0.1%	0	0.0%
Attending Provider NPI	0	0.0%	0	0.0%	12,097	1.2%
Servicing Provider Taxonomy Code	8	<0.1%	0	0.0%	12,093	1.2%
Referring Provider NPI*	1,050	0.1%	0	0.0%	980,786	96.6%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	1,224	0.1%	4,146	0.4%
Procedure Code*	0	0.0%	0	0.0%	130,207	12.8%
Procedure Code Modifiers*	0	0.0%	0	0.0%	750,188	73.9%
Surgical Procedure Codes*	0	0.0%	0	0.0%	983,335	96.8%
NDC*	146,767	14.4%	0	0.0%	861,393	84.8%
Drug Quantity*	146,767	14.4%	0	0.0%	861,393	84.8%
Revenue Code	0	0.0%	0	0.0%	0	0.0%
DRG	0	0.0%	0	0.0%	969,821	95.5%
Type of Bill Code	0	0.0%	2	<0.1%	0	0.0%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
* Indicates that the data field is situational (i.e., not required for every encounter line).

Table H-8—Element Omission, Surplus, and Missing by Key Data Element: Pharmacy

	Element Omission		Element Surplus		Element Missing Values	
Key Data Element	Number of Records[1]	Rate	Number of Records[2]	Rate	Number of Records[3]	Rate
Number of Matched Records: 1,978,920						
Member ID	0	0.0%	0	0.0%	0	0.0%
Detail Service Date	0	0.0%	0	0.0%	0	0.0%
Billing Provider NPI	0	0.0%	0	0.0%	0	0.0%
Prescribing Provider NPI	0	0.0%	0	0.0%	0	0.0%
NDC	0	0.0%	0	0.0%	0	0.0%
Drug Quantity	0	0.0%	0	0.0%	0	0.0%
Detail Paid Amount	0	0.0%	0	0.0%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	0	0.0%	0	0.0%
MCO Paid Date	0	0.0%	0	0.0%	0	0.0%

Note: Lower rates indicate better performance for element omission and element surplus rates.
[1] Indicates the number of records with values not in DMAS' file.
[2] Indicates the number of records with values not in MCOs' files.
[3] Indicates the number of records with missing values in both DMAS' and MCOs' files.
^ MCOs used missing and zero interchangeably when there were no payments from third parties. As such, HSAG filled missing values with zeros in the field before conducting the analysis. Therefore, element omission, element surplus, and element missing rates are not presented (i.e., they are all 0.0 percent).

Table H-9—Data Element Percent Present and Percent of Accuracy: Professional

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	5,933,743	100.0%	5,933,289	>99.9%
Detail Service From Date	5,933,743	100.0%	5,933,743	100.0%
Detail Service To Date	5,933,743	100.0%	5,933,743	100.0%
Billing Provider NPI	5,924,104	99.8%	5,924,103	>99.9%
Rendering Provider NPI	5,924,910	99.9%	5,924,888	>99.9%
Servicing Provider Taxonomy Code	5,933,644	>99.9%	5,933,644	100.0%
Referring Provider NPI	1,554,704	26.2%	1,554,704	100.0%
Primary Diagnosis Code	5,933,743	100.0%	5,933,743	100.0%
Secondary Diagnosis Codes	1,687,555	28.4%	1,687,554	>99.9%
Procedure Code	5,933,743	100.0%	5,933,743	100.0%
Procedure Code Modifiers	1,710,702	28.8%	1,710,702	100.0%
NDC*	185,020	4.7%	185,020	100.0%
Drug Quantity*	185,020	4.7%	185,020	100.0%

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Header Paid Amount	5,933,743	100.0%	5,933,706	>99.9%
Header TPL Paid Amount	5,933,743	100.0%	5,728,521	96.5%
Detail Paid Amount	5,933,743	100.0%	5,933,707	>99.9%
Detail TPL Paid Amount	5,933,743	100.0%	5,757,327	97.0%
MCO Received Date	5,933,743	100.0%	4,859,445	81.9%
MCO Paid Date	5,933,743	100.0%	4,569,357	77.0%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table H-10—Data Element Percent Present and Percent of Accuracy: Professional—CD Services

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	1,363,288	100.0%	1,363,288	100.0%
Detail Service From Date	1,363,288	100.0%	1,363,288	100.0%
Detail Service To Date	1,363,288	100.0%	1,363,288	100.0%
Billing Provider NPI	1,363,288	100.0%	1,363,288	100.0%
Rendering Provider NPI	1,363,288	100.0%	1,363,288	100.0%
Servicing Provider Taxonomy Code	1,363,288	100.0%	1,363,288	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	1,363,288	100.0%	1,363,288	100.0%
Secondary Diagnosis Codes	0	0.0%	0	—
Procedure Code	1,363,288	100.0%	1,363,288	100.0%
Procedure Code Modifiers	65,663	4.8%	65,663	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	1,363,288	100.0%	1,363,288	100.0%
Header TPL Paid Amount	1,363,288	100.0%	1,363,288	100.0%
Detail Paid Amount	1,363,288	100.0%	1,363,288	100.0%
Detail TPL Paid Amount	1,363,288	100.0%	1,363,288	100.0%
MCO Received Date	1,363,288	100.0%	1,363,288	100.0%
MCO Paid Date	1,363,288	100.0%	0	0.0%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table H-11—Data Element Percent Present and Percent of Accuracy: Professional—Internal

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	3,902,263	100.0%	3,901,809	>99.9%
Detail Service From Date	3,902,263	100.0%	3,902,263	100.0%
Detail Service To Date	3,902,263	100.0%	3,902,263	100.0%
Billing Provider NPI	3,892,624	99.8%	3,892,623	>99.9%
Rendering Provider NPI	3,893,430	99.8%	3,893,408	>99.9%
Servicing Provider Taxonomy Code	3,902,164	>99.9%	3,902,164	100.0%
Referring Provider NPI	1,554,475	39.8%	1,554,475	100.0%
Primary Diagnosis Code	3,902,263	100.0%	3,902,263	100.0%
Secondary Diagnosis Codes	1,678,052	43.0%	1,678,051	>99.9%
Procedure Code	3,902,263	100.0%	3,902,263	100.0%
Procedure Code Modifiers	991,294	25.4%	991,294	100.0%
NDC*	185,020	4.7%	185,020	100.0%
Drug Quantity*	185,020	4.7%	185,020	100.0%
Header Paid Amount	3,902,263	100.0%	3,902,261	>99.9%
Header TPL Paid Amount	3,902,263	100.0%	3,697,406	94.8%
Detail Paid Amount	3,902,263	100.0%	3,902,262	>99.9%
Detail TPL Paid Amount	3,902,263	100.0%	3,726,205	95.5%
MCO Received Date	3,902,263	100.0%	2,829,351	72.5%
MCO Paid Date	3,902,263	100.0%	3,901,165	>99.9%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table H-12—Data Element Percent Present and Percent of Accuracy: Professional—NEMT

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	650,823	100.0%	650,823	100.0%
Detail Service From Date	650,823	100.0%	650,823	100.0%
Detail Service To Date	650,823	100.0%	650,823	100.0%
Billing Provider NPI	650,823	100.0%	650,823	100.0%
Rendering Provider NPI	650,823	100.0%	650,823	100.0%
Servicing Provider Taxonomy Code	650,823	100.0%	650,823	100.0%
Referring Provider NPI	229	<0.1%	229	100.0%
Primary Diagnosis Code	650,823	100.0%	650,823	100.0%

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Secondary Diagnosis Codes	4,412	0.7%	4,412	100.0%
Procedure Code	650,823	100.0%	650,823	100.0%
Procedure Code Modifiers	650,806	>99.9%	650,806	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	650,823	100.0%	650,823	100.0%
Header TPL Paid Amount	650,823	100.0%	650,494	99.9%
Detail Paid Amount	650,823	100.0%	650,823	100.0%
Detail TPL Paid Amount	650,823	100.0%	650,501	>99.9%
MCO Received Date	650,823	100.0%	649,437	99.8%
MCO Paid Date	650,823	100.0%	650,823	100.0%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table H-13—Data Element Percent Present and Percent of Accuracy: Professional—Vision

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	17,369	100.0%	17,369	100.0%
Detail Service From Date	17,369	100.0%	17,369	100.0%
Detail Service To Date	17,369	100.0%	17,369	100.0%
Billing Provider NPI	17,369	100.0%	17,369	100.0%
Rendering Provider NPI	17,369	100.0%	17,369	100.0%
Servicing Provider Taxonomy Code	17,369	100.0%	17,369	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	17,369	100.0%	17,369	100.0%
Secondary Diagnosis Codes	5,091	29.3%	5,091	100.0%
Procedure Code	17,369	100.0%	17,369	100.0%
Procedure Code Modifiers	2,939	16.9%	2,939	100.0%
NDC*	0	0.0%	0	—
Drug Quantity*	0	0.0%	0	—
Header Paid Amount	17,369	100.0%	17,334	99.8%
Header TPL Paid Amount	17,369	100.0%	17,333	99.8%
Detail Paid Amount	17,369	100.0%	17,334	99.8%
Detail TPL Paid Amount	17,369	100.0%	17,333	99.8%
MCO Received Date	17,369	100.0%	17,369	100.0%

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
MCO Paid Date	17,369	100.0%	17,369	100.0%

* Since NDC and Drug Quantity fields are not applicable to CD services, NEMT, and Vision services, they were not included in the analysis for these professional encounters.

Table H-14—Data Element Percent Present and Percent of Accuracy: Institutional

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	1,015,743	100.0%	1,015,694	>99.9%
Detail Service From Date	1,015,743	100.0%	1,013,246	99.8%
Header Service From Date	1,015,743	100.0%	1,015,743	100.0%
Header Service To Date	1,015,743	100.0%	1,015,743	100.0%
Billing Provider NPI	1,014,774	99.9%	1,014,774	100.0%
Attending Provider NPI	1,003,646	98.8%	1,003,646	100.0%
Servicing Provider Taxonomy Code	1,003,642	98.8%	1,003,642	100.0%
Referring Provider NPI	33,907	3.3%	33,907	100.0%
Primary Diagnosis Code	1,015,743	100.0%	1,015,713	>99.9%
Secondary Diagnosis Codes	1,010,373	99.5%	436,950	43.2%
Procedure Code	885,536	87.2%	885,536	100.0%
Procedure Code Modifiers	265,555	26.1%	265,555	100.0%
Surgical Procedure Codes	32,408	3.2%	31,026	95.7%
NDC	7,583	0.7%	7,583	100.0%
Drug Quantity	7,583	0.7%	7,583	100.0%
Revenue Code	1,015,743	100.0%	1,015,741	>99.9%
DRG	45,922	4.5%	45,922	100.0%
Type of Bill Code	1,015,741	>99.9%	911,557	89.7%
Header Paid Amount	1,015,743	100.0%	1,015,743	100.0%
Header TPL Paid Amount	1,015,743	100.0%	865,049	85.2%
Detail Paid Amount	1,015,743	100.0%	1,015,743	100.0%
Detail TPL Paid Amount	1,015,743	100.0%	953,584	93.9%
MCO Received Date	1,015,743	100.0%	662,240	65.2%
MCO Paid Date	1,015,743	100.0%	1,015,732	>99.9%

Table H-15—Data Element Percent Present and Percent of Accuracy: Pharmacy

Key Data Element	Number of Records With Values Present in Both Files	Percent Present	Number of Records With Same Values in Both Files	Percent Accuracy
Member ID	1,978,920	100.0%	1,978,920	100.0%
Detail Service Date	1,978,920	100.0%	1,978,920	100.0%
Billing Provider NPI	1,978,920	100.0%	1,978,920	100.0%
Prescribing Provider NPI	1,978,920	100.0%	1,978,920	100.0%
NDC	1,978,920	100.0%	1,978,920	100.0%
Drug Quantity	1,978,920	100.0%	1,978,920	100.0%
Detail Paid Amount	1,978,920	100.0%	1,970,884	99.6%
Detail TPL Paid Amount	1,978,920	100.0%	1,962,618	99.2%
MCO Received Date	1,978,920	100.0%	1,978,920	100.0%
MCO Paid Date	1,978,920	100.0%	1,978,920	100.0%

Table H-16—All-Element Accuracy by Encounter Type

Encounter Date Source	Number of Records in Both Files	Number of Records With Same Values in Both Files	Rate
Professional	5,933,743	3,270,205	55.1%
CD Services	1,363,288	0	0.0%
Internal	3,902,263	2,603,499	66.7%
NEMT	650,823	649,373	99.8%
Vision	17,369	17,333	99.8%
Institutional	1,015,743	208,178	20.5%
Pharmacy	1,978,920	1,962,610	99.2%