Commonwealth of Virginia Department of Medical Assistance Services

2022–2023 Medallion 4.0 (Acute) Encounter Data Validation Aggregate Report

HSAG HEALTH SERVICES ADVISORY GROUP

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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 Medallion 4.0 (Acute) contracted 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—Medallion 4.0 (Acute) 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	1.6%	7.6%	Both >5.0%	Both <5.0%	Both <5.0%	Record Omission <5.0%	Both <5.0%	Both <5.0%
Institutional	6.0%	20.6%	Both >5.0%	Record Omission <5.0%	Both <5.0%	Record Omission <5.0%	Both <5.0%	Record Omission <5.0%
Pharmacy	8.7%	18.6%	Both >5.0%	Record Omission <5.0%	Record Omission <5.0%	Both >5.0%	Record Omission <5.0%	Record Surplus <5.0%

Legend: Both <5.0% | Record Omission <5.0% | Record Surplus <5.0% | Both >5.0%

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	88.2%	94.1%	100.0%	94.1%	94.1%	94.1%	100.0%
Institutional	22	90.9%	95.5%	95.5%	95.5%	95.5%	90.9%	86.4%
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)-related fields before conducting the analysis. Therefore, the TPL-related fields were not included in this analysis.

Among the three encounter types, 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%	78.9%	89.5%	78.9%	73.7%	100.0%	94.7%
Institutional	24	62.5%	83.3%	91.7%	70.8%	66.7%	83.3%	75.0%
Pharmacy	10	80.0%	100.0%	100.0%	100.0%	80.0%	80.0%	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 62.5 percent 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 52.9 percent, 3.1 percent, and 71.4 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	7	6	2	Table 5-4
HealthKeepers	2	4	1	Table 5-5
Molina	5	8	1	Table 5-6
Optima	6	8	4	Table 5-7
United	1	6	3	Table 5-8
VA Premier	1	10	1	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 Medallion 4.0 (Acute) 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 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.

Throughout the report, HSAG stratified the results, if appropriate, by the category of service (COS) listed in Table 2-2.

Table 2-2—Description of COS

COS	Description
Institutional—Internal	Institutional encounters collected by the MCO but not from its subcontractor(s)
Institutional—Kaiser	Institutional encounters collected by Kaiser
Professional—CD Services	Professional encounters from MCO's consumer-directed (CD) services subcontractor
Professional—EMT (Kaiser)	Professional encounters from Kaiser's emergency medical transportation (EMT) subcontractor
Professional—Internal	Professional encounters collected by the MCO but not from its subcontractor(s)
Professional—Kaiser	Professional encounters collected by Kaiser
Professional—NEMT	Professional encounters from the MCO's non-emergency medical transportation (NEMT) subcontractor
Professional—NEMT (Kaiser)	Professional encounters from Kaiser's NEMT subcontractor
Professional—Vision	Professional encounters from MCO's vision subcontractor
Pharmacy	Pharmacy encounters
Pharmacy—Elixir Solutions	Pharmacy encounters collected by Elixir Solutions
Pharmacy—Kaiser	Pharmacy encounters collected by Kaiser

3. Information Systems Review

Representatives from all six MCOs in the Medallion 4.0 (Acute) 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 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	Green	Green	Green	Green
HealthKeepers	All	Green	Green	Green	Green
Molina	All	Green	Red	Green	Green
Optima	All	Green	Green	Green	Green
United	All	Green	Green	Green	Green
VA Premier	NEMT, Pharmacy, Vision	Green	Green	Red	Green
	CD Services	Green	Green	Green	Green

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 subcontractor 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	Green	Green	Green	Green
	Vision	Green	Green	Green	Green
	NEMT	Green	Green	Green	Green
	CD Services	Green	Green	Green	Green
HealthKeepers	Pharmacy	Green	Red	Green	Red
	Vision	Green	Green	Green	Green
	NEMT	Green	Red	Green	Green
	Chiropractic	Green	Red	Red	Green
	Palliative Care*	Green	Red	Red	Green
Molina	Pharmacy	Green	Green	Green	Red
	Vision	Green	Red	Green	Red
	NEMT	Green	Red	Green	Green
	CD Services	Green	Green	Green	Red
Optima	Pharmacy	Green	Green	Red	Green
	Vision	Green	Green	Red	Green
	NEMT	Green	Green	Red	Red
	CD Services	Green	Green	Green	Red
United	Pharmacy	Green	Red	Green	Red
	Vision	Green	Red	Green	Green
	NEMT	Green	Red	Green	Red
	CD Services	Green	Green	Green	Red
VA Premier	Pharmacy	Green	Green	Green	Red
	Vision	Green	Green	Red	Red
	NEMT	Green	Green	Red	Red
	CD Services	Green	Green	Green	Red

* Subcontractor performs medical record review monthly to monitor encounter data quality.

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
	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 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. • 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.

MCO	Type of Feedback	Description
	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

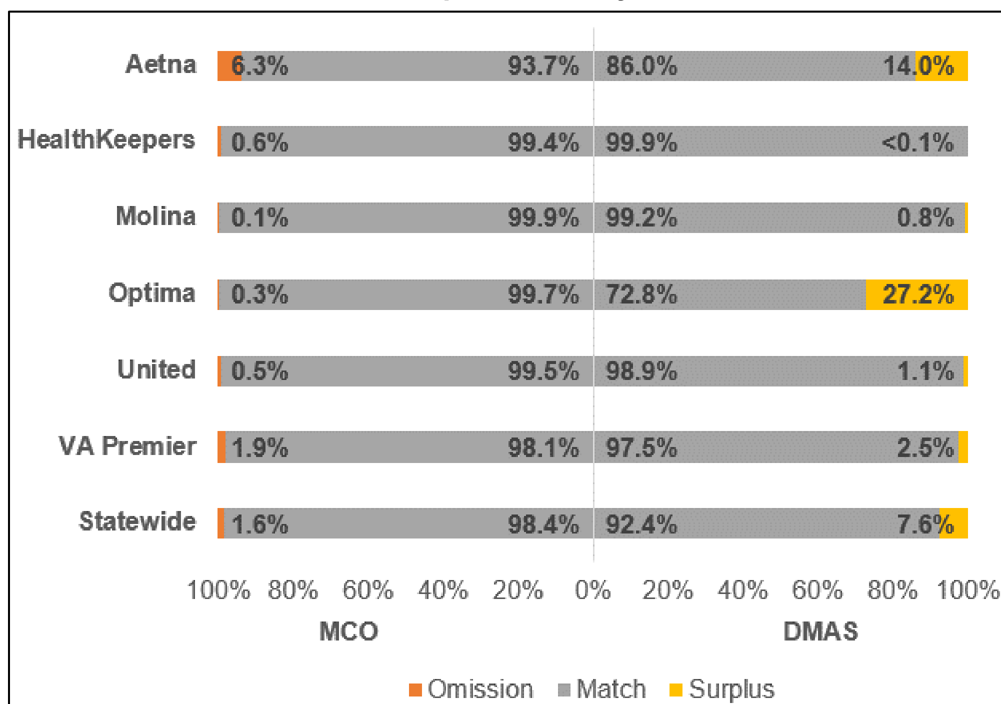
As described in the “Methodology” section, two aspects of record completeness were used—record omission and record surplus.

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 1.6 percent, whereas the record surplus rate was 7.6 percent.
- The largest contributor to the record omission rate was Aetna (6.3 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	1,066	554	52.0%	653	141	21.6%
Internal	4,840,805	308,394	6.4%	5,236,730	704,319	13.4%
NEMT	195,685	35	<0.1%	213,534	17,884	8.4%
Vision	29,791	9,518	31.9%	70,020	49,747	71.0%

- The largest contributors to the record surplus rate were Aetna (14.0 percent) and Optima (27.2 percent).
  - For Aetna, Table 4-1 shows that the record surpluses were primarily from Aetna's internal encounters. Among those records that were surplus (i.e., in DMAS-submitted data only), 50.1 percent had a *Member ID* and *Detail Service To Date* combination that was not in the Aetna-submitted data. 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 relatively small percentage of professional encounters, 69.4 percent had a *Member ID* and *Detail Service To Date* combination that was not in Aetna-submitted data since the volume (i.e., the denominator in Table 4-1) between the two data sources had a large difference.
  - For Optima, Table 4-2 shows that the record surpluses were primarily from Optima's internal and NEMT encounters. At a high level, the record surpluses were due to the fact that the DMAS-submitted data contained more records for each COS. Other than the fact that 89.9 percent of the surplus records were paid, HSAG did not identify other notable patterns. 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.

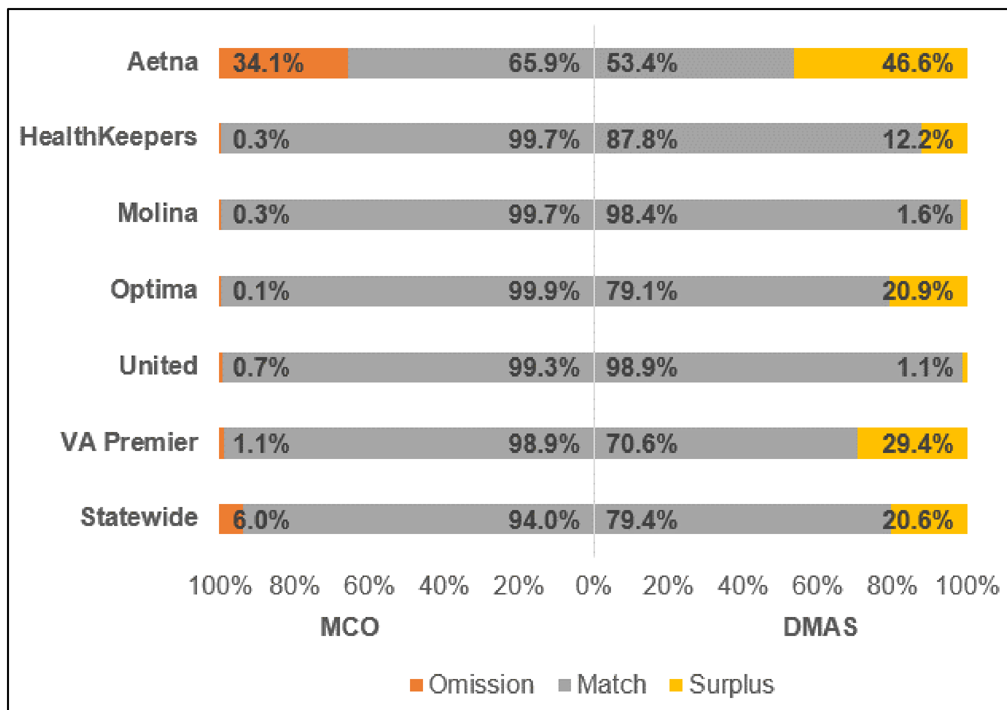
Table 4-2—Record Surplus for Optima Professional Encounters by Subcontractor

	Record Surplus		
Encounter Data Source	**Denominator**	**Numerator**	**Rate**
CD Services	1,936	835	43.1%
Internal	6,430,715	1,750,762	27.2%

	Record Surplus		
Encounter Data Source	**Denominator**	**Numerator**	**Rate**
NEMT	279,054	101,222	36.3%
Vision	142,191	9,911	7.0%

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 6.0 percent, whereas the record surplus rate was 20.6 percent.
- The largest contributor to the record omission rate was Aetna (34.1 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 4-3, which is the primary reason why there were more records in Aetna-submitted data (i.e., record omission).

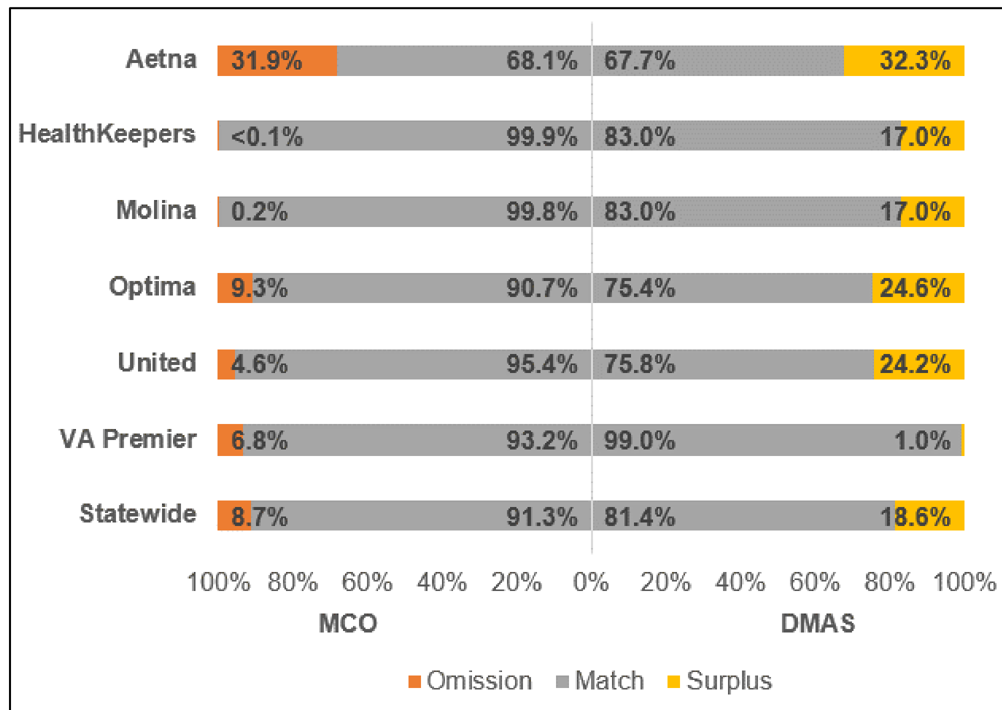
Table 4-3—Example Duplicates Based on TCN and Line Number for Aetna Institutional Encounters

	Aetna-Submitted Data		DMAS-Submitted Data	
Line	**Detail Service From Date**	**Detail Service To Date**	**Detail Service From Date**	**Detail Service 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 the record surplus rate were Aetna (46.6 percent), HealthKeepers (12.2 percent), Optima (20.9 percent), and VA Premier (29.4 percent).
  - Analyses for Aetna indicated that among those records that were surplus (i.e., in DMAS-submitted data only), 86.3 percent had a *Member ID* and *Header Service To Date* 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, 61.8 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, 88.7 percent had a *Member ID* and *Header Service To Date* 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, 56.5 percent of surplus records were denied encounters.
  - Analyses for Optima indicated that among those records that were surplus, 87.5 percent had a *Header Service To Date* in the second half of calendar year 2022, and 20.7 percent of them were denied encounters. Of note, since the *Member ID* values between the two data sources were completely different (i.e., element accuracy rate of 0.0 percent in Table 4-13) for Optima, only limited investigations could be conducted.
  - Analyses for VA Premier indicated that among those records that were surplus, nearly all were from its internal encounters instead of its subcontractor, Kaiser. In addition, 42.7 percent of internal surplus encounters had a *Member ID* and *Header Service To Date* combination that was not in the VA Premier-submitted data. This means that DMAS had extra institutional services when compared to the data provided by VA Premier for the study. In addition, 19.6 percent of internal surplus records from internal encounters were denied encounters.

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 8.7 percent, whereas the record surplus rate was 18.6 percent.
- The largest contributors to the record omission rate were Aetna (31.9 percent), Optima (9.3 percent), and VA Premier (6.8 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 TCNs only. In addition, Optima-submitted data had duplicates based on the TCN field, while DMAS-submitted data did not have any duplicates. These duplicates contributed 50.0 percent of the record omissions for Optima.
  - Analyses for VA Premier indicated that 99.7 percent of omitted records were from its primary pharmacy subcontractor (i.e., Elixir Solutions, not Kaiser). Further analyses indicated that among those records that were record omissions, 79.8 percent had a *Member ID*, *Date of Service*, and *NDC* combination that was not in the DMAS-submitted data. This means that DMAS was missing pharmacy services when compared to the data provided by VA Premier for the study.
- Contributors to record surplus included Aetna (32.3 percent), HealthKeepers (17.0 percent), Molina (17.0 percent), Optima (24.6 percent), and United (24.2 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 *TCNs*, as shown in Table 4-4. When responding to the file review document, Aetna noted that it does not store the *TCNs* for the point-of-sale denials within its system; therefore, it did not provide *TCNs* for these denials in the data submitted to HSAG for the EDV study.

Table 4-4—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 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 *TCNs* for the point-of-sale denials within its system; therefore, Molina did not provide *TCNs* 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 4-5.

Table 4-5—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, 88.8 percent had a *Member ID*, *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, 99.6 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 4-6 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 4-6 presents the number of MCO(s) with a rate higher than 5.0 percent (i.e., relatively poor performance) and Table 4-7 shows the MCO variation.

Table 4-6—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%	0.0%
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	<0.1%	0	0.9%	0	<0.1%
Rendering Provider NPI	<0.1%	0	0.9%	0	0.0%
Servicing Provider Taxonomy Code	<0.1%	0	5.1%	2	<0.1%
Referring Provider NPI*	7.9%	1	0.9%	1	54.3%
Primary Diagnosis Code	<0.1%	0	<0.1%	0	<0.1%
Secondary Diagnosis Codes*	<0.1%	0	<0.1%	0	49.5%
Procedure Code	0.0%	0	<0.1%	0	0.0%
Procedure Code Modifiers*	<0.1%	0	0.5%	0	68.2%
NDC*	1.5%	0	<0.1%	0	89.1%
Drug Quantity*	1.5%	0	<0.1%	0	89.1%
Header Paid Amount	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—
Detail Paid Amount	0.0%	0	<0.1%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—
MCO Received Date	0.0%	0	0.2%	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). 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 4-6

- The statewide element omission rates for almost all key data elements were below 0.5 percent. *Referring Provider NPI* (7.9 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 *Referring Provider NPI,* one MCO (Optima) had an omission rate over 5.0 percent.
- The statewide element surplus rate for *Servicing Provider Taxonomy Code* (5.1 percent) was the only key data element with a rate over 5.0 percent.
  - For *Servicing Provider Taxonomy Code,* two MCOs (Aetna and United) had a surplus rate over 5.0 percent.
  - For *Referring Provider NPI,* one MCO (Molina) had a surplus rate over 5.0 percent.
- The statewide element missing rates for key data elements were variable. *Referring Provider NPI*, *Secondary Diagnosis Codes*, *Procedure Code*, *Procedure Code Modifiers*, *NDC*, and *Drug Quantity*

had high missing rates. It should be noted that these fields are situational and not required for every detail line when submitting data. When comparing the element missing rates among the MCOs, the variation was more than 5.0 percentage points for all these data elements, as shown in the following:

- For *Referring Provider NPI*, the element missing rates ranged from 47.3 percent (Optima) to 58.6 percent (Molina).
- For *Secondary Diagnosis Codes*, the element missing rates ranged from 38.7 percent (Optima) to 55.7 percent (Molina).
- For *Procedure Code Modifiers*, the element missing rates ranged from 64.2 percent (Optima) to 71.6 percent (Molina).
- For both *NDC* and *Drug Quantity*, the element missing rates ranged from 86.6 percent (Molina) to 94.3 percent (Optima).

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

	Aetna		HealthKeepers		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 4-7

- While all Aetna's element omission rates were below 5.0 percent, Aetna had 16 of 17 key data elements with surplus rates below 5.0 percent. *Servicing Provider Taxonomy Code* (26.8 percent) was the only element over 5.0 percent.

    - For *Servicing Provider Taxonomy Code*, 73.4 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 mostly from internal encounters; however, some NEMT encounters and a minimal number of vision encounters were included. 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.
- HealthKeepers had all 17 key data elements with element omission and surplus rates below 5.0 percent.
- While all Molina's element omission rates were below 5.0 percent, Molina had 16 of 17 key data elements with less than 5.0 percent surplus rates. *Referring Provider NPI* (13.3 percent) was the only element 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 31.0 percent had *Referring Provider ID* populated, whereas when analyzing all of the internal encounters in the DMAS-submitted data, 45.5 percent had *Referring Provider ID* populated. In addition, for records with referring provider NPIs, only in DMAS-submitted data (i.e., element surplus), 31.6 percent had the same *Referring Provider NPI* as the *Rendering Provider NPI*, which might not be reasonable. Therefore, the actual element surplus rate might be lower.
- While all Optima's element surplus rates were below 5.0 percent, Optima had 16 of 17 key data elements with omission rates below 5.0 percent. *Referring Provider NPI* (52.7 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, 26.3 percent had the same *Referring Provider NPI* as the *Rendering Provider NPI*, which might not be reasonable. Therefore, the actual element omission rate might be lower.
- 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* (8.1 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, 91.4 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 4-8 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 4-8 presents the number of MCO(s) with a rate higher than 5.0 percent (i.e., relatively poor performance), and Table 4-9 shows the MCO variation.

Table 4-8—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	0.4%	0	0.0%
Attending Provider NPI	0.1%	0	0.8%	0	0.5%
Servicing Provider Taxonomy Code	31.1%	2	8.7%	1	15.0%
Referring Provider NPI*	0.4%	0	0.1%	0	97.0%
Primary Diagnosis Code	0.0%	0	<0.1%	0	<0.1%
Secondary Diagnosis Codes*	<0.1%	0	8.1%	3	0.3%
Procedure Code*	<0.1%	0	<0.1%	0	18.7%
Procedure Code Modifiers*	<0.1%	0	<0.1%	0	80.4%
Surgical Procedure Codes*	<0.1%	0	<0.1%	0	90.8%
NDC*	2.3%	1	0.1%	0	81.9%
Drug Quantity*	2.3%	1	0.1%	0	81.9%
Revenue Code	0.0%	0	<0.1%	0	0.0%
DRG	0.5%	0	0.1%	0	89.3%
Type of Bill Code	0.0%	0	3.5%	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 4-8

- The statewide element omission rates for almost all key data elements were below 5.0 percent. *Servicing Provider Taxonomy Code* (31.1 percent) was the only key data element that was higher. Notably, *NDC* and *Drug Quantity* (2.3 percent each) were the other key data elements with omission rates over 1.0. It should be noted that these fields are situational and not required for every encounter line when submitting data.
  - *Servicing Provider Taxonomy Code* had two MCOs (Optima and VA Premier) that had an omission rate greater than 5.0 percent. *NDC* and *Drug Quantity*, each had one MCO (VA Premier) that had an 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* (8.7 percent) and *Secondary Diagnosis Codes* (8.1 percent) were the only key data elements that were higher. Notably *Type of Bill Code* (3.5 percent) was the only other key data element with a surplus rate over 1.0 percent.

  - *Servicing Provider Taxonomy Code* had one MCO (Aetna) that had a surplus rate over 5.0 percent. *Secondary Diagnosis Codes* had three MCOs (HealthKeepers, Molina, and United) that had a surplus rate over 5.0 percent. *Type of Bill Code* had one MCO (United) that 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 80.0 percent. It should be noted that all of these fields are situational and not required for every encounter line when submitting data. 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 three MCOs had rates of 24.0 percent or more.
  - For *Procedure Code*, the element missing ranged from 14.8 percent (VA Premier) to 21.7 percent (Aetna).
  - For *Surgical Procedure Codes*, the element missing rates ranged from 88.1 percent (Aetna) to 95.1 percent (VA Premier).
  - For *DRG*, the element missing rates ranged from 84.5 percent (Aetna) to 93.7 percent (VA Premier).

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

	Aetna		HealthKeepers		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 4-9

- For Aetna, all element omission rates were below 5.0 percent, while *Servicing Provider Taxonomy Code* (71.9 percent) was the one key data element with more than a 5.0 percent surplus rate.
  - For *Servicing Provider Taxonomy Code*, less than 0.1 percent of records in the Aetna-submitted data contained values, while 71.7 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* (15.7 percent) was the one key data element with more than a 5.0 percent surplus rate.
  - For *Secondary Diagnosis Codes*, further investigation showed that 57.3 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 4-10. Therefore, the actual number of records with surplus secondary diagnosis codes should be less.

Table 4-10—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

- For Molina, all key data elements had element omission rates below 5.0 percent. For the element surplus rates, *Secondary Diagnosis Codes* (7.5 percent) was the only element over 5.0 percent.
  - For *Secondary Diagnosis Codes*, further investigation showed that 70.5 percent of the surplus secondary diagnosis codes (i.e., codes in DMAS-submitted data but not in Molina-submitted data) were the same as the primary diagnosis code in the DMAS-submitted data, as shown in Table 4-10. Therefore, the actual number of records with surplus secondary diagnosis codes should be less.
- For Optima, all element surplus rates were below 5.0 percent. For the element omission rates, *Servicing Provider Taxonomy Code* (98.9 percent) was the only element over 5.0 percent.
  - For *Servicing Provider Taxonomy Code*, no taxonomy codes were submitted for the attending providers in DMAS-submitted data. 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 United, all element omission rates were below 5.0 percent, while *Secondary Diagnosis Codes* (15.6 percent) and *Type of Bill Code* (26.9 percent) were the only elements with surplus rates over 5.0 percent.
  - For *Secondary Diagnosis Codes*, further investigation showed that 66.7 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 4-10. 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 66.7 of these element surplus records had a paid status in United-submitted data and a denied status in DMAS-submitted data.
- For VA Premier, all element surplus rates were below 5.0 percent, while *Servicing Provider Taxonomy Code* (87.7 percent), *NDC* (14.5 percent), and *Drug* Quantity (14.5 percent) were the only key data elements with more than a 5.0 percent omission rate.
   - For *Servicing Provider Taxonomy Code*, 98.4 percent of records in VA Premier-submitted data contained values, while 7.8 percent of DMAS-submitted records contained values. Therefore, DMAS should reach out to Optima to obtain the taxonomy codes missing in DMAS' encounter data. Of note, although HSAG followed up with VA Premier via the file review document, VA Premier did not provide the missing taxonomy codes for the attending providers.
   - For the records with *NDC* and *Drug Quantity* values in VA Premier-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.

Table 4-11 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 4-11 presents the number of MCO(s) with a rate higher than 5.0 percent (i.e., relatively poor performance).

Table 4-11—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	<0.1%	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 4-11

- 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 4-12 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 4-12—Data Element Accuracy by MCO: Professional

Key Data Elements	Statewide	Aetna	Health-Keepers	Molina	Optima	United	VA Premier
Member ID	86.1%	99.8%	99.7%	99.9%	6.2%	99.5%	98.2%
Detail Service From Date	97.3%	87.5%	>99.9%	85.3%	100.0%	100.0%	100.0%
Detail Service To Date	97.3%	87.5%	>99.9%	85.2%	100.0%	100.0%	100.0%
Billing Provider NPI	90.8%	98.2%	98.7%	99.9%	38.5%	99.9%	>99.9%
Rendering Provider NPI	97.7%	87.7%	98.4%	99.5%	>99.9%	99.9%	>99.9%
Servicing Provider Taxonomy Code	82.3%	68.6%	74.4%	81.9%	71.8%	98.6%	>99.9%
Referring Provider NPI*	98.6%	100.0%	100.0%	73.3%	—	>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%	100.0%
Procedure Code	99.9%	99.6%	>99.9%	99.9%	>99.9%	100.0%	>99.9%
Procedure Code Modifiers*	99.9%	99.6%	>99.9%	99.7%	>99.9%	>99.9%	>99.9%
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%	100.0%	>99.9%
Header Paid Amount	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	100.0%	>99.9%
Header TPL Paid Amount	99.3%	>99.9%	>99.9%	99.8%	96.1%	99.9%	99.7%
Detail Paid Amount	>99.9%	99.9%	>99.9%	99.9%	100.0%	100.0%	>99.9%
Detail TPL Paid Amount	99.6%	>99.9%	>99.9%	99.8%	98.0%	99.9%	99.7%
MCO Received Date	88.7%	95.6%	89.7%	98.8%	95.2%	100.0%	70.0%
MCO Paid Date	93.7%	>99.9%	>99.9%	99.6%	58.6%	99.9%	98.2%

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 4-12

- 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, four key data elements had an accuracy rate below 95.0 percent. The following bullets below provide additional details regarding mismatches for these data elements.
  - For *Detail Service From Date* and *Detail Service To Date,* the accuracy rates were 87.5 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 4-3.
  - For *Rendering Provider NPI*, the accuracy rate was 87.7 percent. Approximately 99.9 percent of mismatched values were from internal encounters. In addition, analyses indicated that among the internal encounters with mismatched *Rendering Provider NPI,* 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 *Servicing Provider Taxonomy Code*, the accuracy rate was 68.6 percent. Nearly all mismatched values were from internal encounters. In addition, analyses indicated that within those records that did not match for *Servicing Provider Taxonomy Code*, 70.2 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 HealthKeepers' professional data, two key data elements had an accuracy rate below 95.0 percent. The following bullets below provide additional details regarding mismatches for these data elements.
  - For *Servicing Provider Taxonomy Code*, the accuracy rate was 74.4 percent. Analyses indicated that those records that did not match for *Servicing Provider Taxonomy Code* only occurred in internal encounters. In addition, 96.0 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 89.7 percent. Analyses indicated that within those records with *MCO Received Date* that did not match, 50.4 percent were from internal encounters, whereas 39.9 percent were from NEMT encounters, since nearly all NEMT encounters had different values for *MCO Received Date* between the two data sources. Overall, 63.8 percent of HealthKeepers-submitted data was between one 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 below provide additional details regarding mismatches for these data elements.
  - For *Detail Service From Date* and *Detail Service To Date*, the accuracy rates were 85.3 percent and 85.2 percent, respectively. Almost 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,* and similarly, the *Detail Service to Date* was set to equal the *Header Service To Date* for all records 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 81.9 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, 99.2 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 Optima's *Referring Provider NPI* was 73.3 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 31.1 percent of the mismatches had an unreasonable pattern wherein *Rendering Provider NPI* was the same as the *Referring Provider NPI* in DMAS-submitted data.
- For Optima'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 *Member ID,* the accuracy rate was 6.2 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 38.5 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 71.8 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 *MCO Paid Date*, the accuracy rate was 58.6 percent. Nearly all mismatched values were from internal encounters. Analyses indicated that within those records with *MCO Paid Date* that did not match, 99.9 percent of Optima-submitted data were within one week after the *MCO Paid Date* within DMAS-submitted data.
- The accuracy rates for United professional data were over 95.0 percent for all key data elements.
- For VA Premier's professional data, one key data element had an accuracy rate below 95.0 percent. For *MCO Received Date*, the accuracy rate was 70.0 percent. Nearly all mismatched values were from internal encounters. Analyses indicated that within those records with *MCO Received Date* that did not match, 67.1 percent of VA Premier-submitted records were dated one day after the *MCO Received Date* within DMAS-submitted data.

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

Key Data Elements	Statewide	Aetna	Health-Keepers	Molina	Optima	United	VA Premier
Member ID	80.7%	99.5%	99.1%	99.9%	0.0%	99.2%	98.7%
Detail Service From Date	96.8%	85.8%	>99.9%	87.7%	99.6%	99.4%	98.7%
Header Service From Date	99.9%	100.0%	99.8%	99.9%	>99.9%	99.7%	100.0%
Header Service To Date	99.1%	100.0%	98.6%	99.2%	99.4%	98.6%	100.0%
Billing Provider NPI	98.4%	99.9%	>99.9%	>99.9%	91.7%	>99.9%	100.0%
Attending Provider NPI	90.5%	100.0%	100.0%	0.3%	>99.9%	>99.9%	>99.9%
Servicing Provider Taxonomy Code	80.0%	82.8%	100.0%	0.5%	—	>99.9%	100.0%
Referring Provider NPI*	97.4%	—	>99.9%	72.1%	—	>99.9%	100.0%
Primary Diagnosis Code	99.7%	>99.9%	>99.9%	97.0%	>99.9%	100.0%	>99.9%
Secondary Diagnosis Codes*	40.8%	97.6%	0.9%	50.9%	78.2%	0.0%	47.5%
Procedure Code*	99.7%	>99.9%	>99.9%	>99.9%	100.0%	>99.9%	98.0%
Procedure Code Modifiers*	99.7%	>99.9%	>99.9%	100.0%	98.6%	>99.9%	99.8%
Surgical Procedure Codes*	94.4%	96.3%	99.2%	100.0%	98.0%	72.3%	94.6%
NDC*	99.8%	>99.9%	>99.9%	100.0%	>99.9%	100.0%	91.9%
Drug Quantity*	99.7%	99.1%	>99.9%	>99.9%	>99.9%	100.0%	92.6%
Revenue Code	99.4%	>99.9%	>99.9%	100.0%	>99.9%	>99.9%	95.8%
DRG	54.8%	100.0%	0.0%	69.3%	88.4%	0.0%	100.0%
Type of Bill Code	94.1%	99.5%	99.4%	90.5%	89.5%	91.2%	87.8%
Header Paid Amount	>99.9%	>99.9%	100.0%	100.0%	>99.9%	99.9%	>99.9%
Header TPL Paid Amount	98.2%	99.6%	99.9%	96.5%	95.2%	99.6%	97.3%
Detail Paid Amount	99.8%	>99.9%	100.0%	100.0%	100.0%	>99.9%	98.6%
Detail TPL Paid Amount	99.0%	>99.9%	>99.9%	98.1%	98.5%	96.9%	99.2%
MCO Received Date	93.0%	94.8%	>99.9%	>99.9%	100.0%	100.0%	55.5%
MCO Paid Date	90.4%	100.0%	100.0%	100.0%	48.7%	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 4-13

- The statewide accuracy for institutional data was relatively high, as 15 of 24 key data elements had an accuracy rate of 95.0 percent or higher. Within the remaining nine key data elements, five had an accuracy rate between 90.0 and 95.0 percent, two key data elements had an accuracy rate between 80.0 and 90.0 percent, and two key data elements had an accuracy rate below 55.0 percent.
- For Aetna's institutional data, three 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 85.8 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 4-3.
  - The element accuracy rate for *Servicing Provider Taxonomy Code* was 82.8 percent. It is important to note that only 64 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.

- The element accuracy rate for *MCO Received Date* was 94.8 percent. Analyses indicated that within those records with *MCO Received Date* that did not match, 99.4 percent of Aetna-submitted data were within one week before the *MCO Received Date* in DMAS-submitted data, and 53.0 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.
  - The element accuracy rate for *Secondary Diagnosis Codes* was 0.9 percent. Analyses indicated that for records with *Secondary Diagnosis Codes* that did not match, 53.2 percent of the mismatches occurred because the primary diagnosis code was listed in the secondary diagnosis code fields again in DMAS-submitted data. For the remaining mismatched records, nearly all DMAS-submitted records contained more secondary diagnosis codes than the HealthKeepers-submitted data. Of note, some of the mismatches were because DMAS-submitted data contained the same diagnosis code in multiple secondary diagnosis code fields (e.g., DX2 = "J029" and DX3 = "J029").
  - The element accuracy rate for *DRG* codes was 0.0 percent. 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, seven 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 87.7 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 the *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 0.3 percent. Analyses indicated that within those records that did not match for *Attending Provider NPI*, all 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 0.5 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 72.1 percent. Further investigation shows that the mismatches might be due to different providers with similar names, or provider group NPI versus individual provider NPI within the same group. Please note that there were only 5,993 records with mismatched values; therefore, use caution when interpreting this result.
  - The element accuracy rate for *Secondary Diagnosis Codes* was 50.9 percent. Analyses indicated that 57.9 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 69.3 percent. For the mismatched *DRG* codes that were four digits and began with a non-zero number in the first digit, DMAS generally 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 *DRG* that were three digits, it appeared that Molina-submitted data had a code that was not in DMAS' *DRG* list (e.g., "807" in Molina-submitted data versus "560" in DMAS-submitted data).[4-2]

  - The element accuracy rate for *Type of Bill Code* was 90.5 percent. Analyses indicated that within those records that did not match for *Type of Bill Code*, 46.0 percent 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, while 30.8 percent had "131" in Molina-submitted data and "137" in DMAS-submitted data.

- For Optima'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 *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 91.7 percent. It appears that the mismatched billing provider NPIs between the Optima-submitted data and the DMAS-submitted 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 78.2 percent. Analyses indicated that for records with *Secondary Diagnosis Codes* that did not match, 43.3 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 *DRG* was 88.4 percent. For the mismatched *DRG* codes, the *DRG* code in the two data sources did not have a one-to-one mapping. For example, when Optima-submitted data had a *DRG* code of "807", the matching record in DMAS-submitted data might contain *DRG* codes other than "560" and vice versa.
  - The element accuracy rate for *Type of Bill Code* was 89.5 percent. Analyses indicated that within those records that did not match for *Type of Bill Code*, 75.0 percent had a value of "137" (*Hospital; Outpatient; Replacement of Prior Claim*) in Optima-submitted data and a value of "131" (*Hospital; Outpatient; Admit thru Discharge Claim*) in DMAS-submitted data.
  - The element accuracy rate for *MCO Paid Date* was 48.7 percent. Analyses indicated that within those records with *MCO Paid Date* that did not match, 92.3 percent of Optima-submitted records were dated one day after the *MCO Paid Date* within DMAS-submitted data.
- For United's institutional 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.
  - 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, 57.6 percent of the mismatches occurred because the primary diagnosis code was listed in the secondary diagnosis code fields again in DMAS-submitted data. For the remaining mismatched records, all DMAS-submitted records contained more secondary diagnosis codes than United-submitted data. Of note, some of the mismatches were because DMAS-submitted data contained the same diagnosis code in multiple secondary diagnosis code fields (e.g., DX2 = "J029" and DX3 = "J029").

[4-2] https://www.dmas.virginia.gov/for-providers/rates-and-rate-setting/hospital-rates/

- For *Surgical Procedure Codes*, the accuracy rate was 72.3 percent. The mismatches occurred because DMAS-submitted data had more surgical procedure codes listed than United-submitted data.
- The element accuracy rate for *DRG* was 0.0 percent. 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 (e.g., "1613" in United-submitted data versus "161" in DMAS-submitted data).
- The element accuracy rate for *Type of Bill Code* was 91.2 percent. Analyses indicated that within those records that did not match for *Type of Bill Code*, 66.0 percent had a value of "131" (*Hospital; Outpatient; Admit thru Discharge Claim*) in United-submitted data and a value of "137" (*Hospital; Outpatient; Replacement of Prior Claim*) in DMAS-submitted data.

- For VA Premier'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 47.5 percent. The mismatch was from both VA Premier's internal encounters and Kaiser encounters. However, the reasons for the mismatches were different, as noted below:
    - For internal encounters, 67.3 percent of the mismatches occurred because VA Premier-submitted data had more diagnosis codes than DMAS-submitted data. Of note, some of the mismatches occurred because VA Premier-submitted data had the same code in multiple secondary diagnosis code fields (e.g., DX3 = "J029" and DX4 = "J029").
    - For Kaiser encounters, 99.0 percent of the mismatches occurred because Kaiser-submitted data had fewer diagnosis codes than DMAS-submitted data (e.g., approximately half of the mismatches occurred because the primary diagnosis code was listed in the secondary diagnosis code fields again in DMAS-submitted data, while this was not the case for Kaiser-submitted data).
  - For *Surgical Procedure Codes*, the accuracy rate was 94.6 percent. More than two-thirds of the mismatched values were from Kaiser encounters. Notably, more than 90.0 percent of Kaiser encounters had more codes in VA Premier-submitted (i.e., Kaiser-submitted) data than DMAS-submitted data. Conversely, all of the internal encounters had more codes in DMAS-submitted data than VA-Premier submitted data.
  - The element accuracy rate for *NDC* was 91.9 percent. All mismatched values were from Kaiser encounters. Please note that there were only 2,751 records with mismatched values; therefore, use caution when interpreting this result.
  - The element accuracy rate for *Drug Quantity* was 92.6 percent. All mismatched values were from Kaiser encounters. Please note that there were only 2,514 records with mismatched values; therefore, use caution when interpreting this result.
  - The element accuracy rate for *Type of Bill Code* was 87.8 percent. Analyses indicated that within those records for internal encounters that did not match for *Type of Bill Code*, 49.6 percent had a value of "131" (*Hospital; Outpatient; Admit thru Discharge Claim*) in VA Premier-submitted data and a value of "137" (*Hospital; Outpatient; Replacement of Prior Claim*) in DMAS-submitted data, while 40.0 percent had "137" in VA Premier-submitted data and "131" in DMAS-submitted data. Likewise, within those mismatched records for Kaiser encounters, 42.1 percent had a value of "131" (*Hospital; Outpatient; Admit thru Discharge Claim*) in VA Premier-submitted data and a value of "137" (*Hospital; Outpatient; Replacement of Prior Claim*) in DMAS-submitted data.
  - The element accuracy rate for *MCO Received Date* was 55.5 percent. All mismatched values were from internal encounters. Analyses indicated that within those records with *MCO Received*

Date that did not match, 78.1 percent of VA Premier-submitted records were dated one day after the *MCO Received Date* in DMAS-submitted data.

Table 4-14 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 4-14—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%	>99.9%	>99.9%	>99.9%	100.0%
Detail Service Date	99.5%	100.0%	100.0%	100.0%	96.9%	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%	>99.9%	99.9%	100.0%
NDC	99.9%	99.9%	99.9%	99.9%	>99.9%	99.5%	100.0%
Drug Quantity	99.5%	100.0%	100.0%	>99.9%	>99.9%	94.8%	100.0%
Detail Paid Amount	99.9%	100.0%	100.0%	>99.9%	>99.9%	>99.9%	99.5%
Detail TPL Paid Amount	99.3%	99.7%	99.4%	99.2%	99.6%	>99.9%	98.6%
MCO Received Date	81.9%	98.8%	99.0%	99.3%	<0.1%	97.1%	100.0%
MCO Paid Date	77.9%	100.0%	99.8%	99.8%	31.4%	<0.1%	>99.9%

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

Key Findings: Table 4-14

- 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 81.9 percent, and *MCO Paid Date* had an accuracy rate of 77.9 percent.
- The pharmacy element accuracy rates for all MCOs and all key data elements were over 95.0 percent, except the following four 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 31.4 percent. Analyses indicated that within those records with *MCO Paid Date* that did not match, 90.0 percent of Optima-submitted dates were seven days after the DMAS-submitted date.
  - For United's pharmacy data, *Drug Quantity* had an accuracy rate of 94.8 percent. Analyses indicated that the DMAS-submitted data had values that were rounded to the nearest tenth, whereas the United-submitted data had values rounded to the nearest whole number. This was the primary cause for the mismatches.
  - For United's pharmacy data, *MCO Paid Date* had an accuracy rate below 0.1 percent. For United-submitted data, the *MCO Paid Date* was almost always the same as *MCO Received Date* and before *MCO Submit Date* (i.e., the date when the MCO submitted encounters to DMAS). However, for DMAS-submitted data, approximately 70.0 percent had an *MCO Paid*

Date after the *MCO Submit Date*, which is unreasonable, as demonstrated in the first example in Table 4-15. For the remaining records with *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 4-15).

Table 4-15—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 4-16 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 4-16—All-Element Accuracy by MCO and Encounter Type

MCO	Professional	Institutional	Pharmacy
Aetna	37.2%	23.4%	98.3%
HealthKeepers	63.0%	0.9%	98.4%
Molina	50.7%	<0.1%	98.3%
Optima	0.0%	0.0%	<0.1%
United	89.8%	0.0%	<0.1%
VA Premier	64.4%	0.4%	98.5%
Statewide	**52.9%**	**3.1%**	**71.4%**

Key Findings: Table 4-16

- Overall, statewide all-element accuracy rates were 52.9 percent, 3.1 percent, and 71.4 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	1.6%	7.6%	Both >5.0%	Both <5.0%	Both <5.0%	Record Omission <5.0%	Both <5.0%	Both <5.0%
Institutional	6.0%	20.6%	Both >5.0%	Record Omission <5.0%	Both <5.0%	Record Omission <5.0%	Both <5.0%	Record Omission <5.0%
Pharmacy	8.7%	18.6%	Both >5.0%	Record Omission <5.0%	Record Omission <5.0%	Both >5.0%	Record Omission <5.0%	Record Surplus <5.0%

Legend: Both <5.0% | Record Omission <5.0% | Record Surplus <5.0% | Both >5.0%

For professional encounters, the statewide record omission rate was 1.6 percent, and the statewide record surplus rate was 7.6 percent. HealthKeepers, Molina, United, and VA Premier 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 of more than 5.0 percent for both record omission and record surplus. Lastly, Optima had a rate below 5.0 percent for record omission and over 5.0 percent for record surplus.

For institutional encounters, the statewide record omission rate was 6.0 percent, and the statewide record surplus rate was 20.6 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 of more than 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 8.7 percent, and the statewide record surplus rate was 18.6 percent. No MCOs had a rate below 5.0 percent for both record omission and record surplus. Conversely, Aetna and Optima were the only MCOs to have a rate of more than 5.0 percent for both record omission and record surplus. HealthKeepers, Molina, and United had a rate below 5.0 percent record omission and over 5.0 percent for record surplus. Lastly, VA Premier had over 5.0 percent record omission and below 5.0 record surplus rates.

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 4-6, Table 4-8, and Table 4-11 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 Omission and Surplus Below 5.0 Percent

Encounter Data Type	Number of Key Data Elements*	Statewide	Aetna	Health-Keepers	Molina	Optima	United	VA Premier
Professional	17	88.2%	94.1%	100.0%	94.1%	94.1%	94.1%	100.0%
Institutional	22	90.9%	95.5%	95.5%	95.5%	95.5%	90.9%	86.4%
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, 15 key data elements (i.e., 88.2 percent) 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. Moreover, Aetna, Molina, Optima, and United had 16 key data elements with both element omission and surplus rates below 5.0 percent.

The statewide rates for only two key data elements, *Servicing Provider Taxonomy Code* and *Secondary Diagnosis Codes*, were over 5.0 percent for either element omission or surplus rates for institutional encounters. Furthermore, all of the key data elements for Aetna, HealthKeepers, Molina, and Optima had rates below 5.0 percent for both omission and surplus except one key data element. Additionally, United had 20 and VA Premier 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 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 4-12, Table 4-13, and Table 4-14, 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%	78.9%	89.5%	78.9%	73.7%	100.0%	94.7%
Institutional	24	62.5%	83.3%	91.7%	70.8%	66.7%	83.3%	75.0%
Pharmacy	10	80.0%	100.0%	100.0%	100.0%	80.0%	80.0%	100.0%

For professional encounters, only 14 key data elements (i.e., 73.7 percent) statewide had over 95.0 percent element accuracy. United had the highest accuracy, as all key data elements had accuracy rates over 95.0 percent, followed by VA Premier and HealthKeepers with 18 and 17 key data elements, respectively. Conversely, Optima had the lowest accuracy, as 14 key data elements had accuracy rates over 95.0 percent. Aetna and Molina had 15 key data elements with accuracy rates 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 15 of the 24 key data elements (i.e., 62.5 percent) had accuracy rates over 95.0 percent. HealthKeepers had the highest accuracy, as 22 of its key data elements were over the 95.0 percent threshold. Aetna and United both had 20 key data elements with accuracy rates over 95.0 percent, and VA Premier had 18 key data elements with accuracy rates over 95.0 percent. Conversely, Molina (17 key data elements) and Optima (16 key data elements) had the lowest accuracy rates 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 and Optima had some room for improving the accuracy of their key data elements for pharmacy encounters, as only eight of their key data elements had accuracy rates over 95.0 percent. 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 (i.e., 80.0 percent) 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 some 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).

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 52.9 percent, 3.1 percent, and 71.4 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	6.3%
Record Surplus	Professional	Not Applicable	14.0%
Record Omission	Institutional	Not Applicable	34.1%
Record Surplus	Institutional	Not Applicable	46.6%
Record Omission	Pharmacy	Not Applicable	31.9%
Record Surplus	Pharmacy	Not Applicable	32.3%
Element Surplus	Professional	Servicing Provider Taxonomy Code	26.8%
Element Surplus	Institutional	Servicing Provider Taxonomy Code	71.9%
Element Accuracy	Professional	Detail Service From Date	87.5%
Element Accuracy	Professional	Detail Service To Date	87.5%
Element Accuracy	Professional	Rendering Provider NPI	87.7%
Element Accuracy	Professional	Servicing Provider Taxonomy Code	68.6%
Element Accuracy	Institutional	Detail Service From Date	85.8%
Element Accuracy	Institutional	Servicing Provider Taxonomy Code	82.8%
Element Accuracy	Institutional	MCO Received Date	94.8%

- 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	12.2%
Record Surplus	Pharmacy	Not Applicable	17.0%
Element Surplus	Institutional	Secondary Diagnosis Codes	15.7%
Element Accuracy	Professional	Servicing Provider Taxonomy Code	74.4%
Element Accuracy	Professional	MCO Received Date	89.7%
Element Accuracy	Institutional	Secondary Diagnosis Codes	0.9%
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	17.0%
Element Surplus	Professional	Referring Provider NPI	13.3%
Element Surplus	Institutional	Secondary Diagnosis Codes	7.5%
Element Accuracy	Professional	Detail Service From Date	85.3%
Element Accuracy	Professional	Detail Service To Date	85.2%
Element Accuracy	Professional	Servicing Provider Taxonomy Code	81.9%
Element Accuracy	Professional	Referring Provider NPI	73.3%
Element Accuracy	Institutional	Detail Service From Date	87.7%
Element Accuracy	Institutional	Attending Provider NPI	0.3%

Measure	Claim Type	Data Element	Rate
Element Accuracy	Institutional	Servicing Provider Taxonomy Code	0.5%
Element Accuracy	Institutional	Referring Provider NPI	72.1%
Element Accuracy	Institutional	Secondary Diagnosis Codes	50.9%
Element Accuracy	Institutional	DRG	69.3%
Element Accuracy	Institutional	Type of Bill Code	90.5%

- 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	27.2%
Record Surplus	Institutional	Not Applicable	20.9%
Record Omission	Pharmacy	Not Applicable	9.3%
Record Surplus	Pharmacy	Not Applicable	24.6%
Element Omission	Professional	Referring Provider NPI	52.7%
Element Omission	Institutional	Servicing Provider Taxonomy Code	98.9%
Element Accuracy	Professional	Member ID	6.2%
Element Accuracy	Professional	Billing Provider NPI	38.5%
Element Accuracy	Professional	Servicing Provider Taxonomy Code	71.8%
Element Accuracy	Professional	MCO Paid Date	58.6%
Element Accuracy	Institutional	Member ID	0.0%
Element Accuracy	Institutional	Billing Provider NPI	91.7%
Element Accuracy	Institutional	Secondary Diagnosis Codes	78.2%
Element Accuracy	Institutional	DRG	88.4%
Element Accuracy	Institutional	Type of Bill Code	89.5%
Element Accuracy	Institutional	MCO Paid Date	48.7%
Element Accuracy	Pharmacy	MCO Received Date	<0.1%
Element Accuracy	Pharmacy	MCO Paid Date	31.4%

- 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	24.2%
Element Surplus	Professional	Servicing Provider Taxonomy Code	8.1%
Element Surplus	Institutional	Secondary Diagnosis Codes	15.6%
Element Surplus	Institutional	Type of Bill Code	26.9%
Element Accuracy	Institutional	Secondary Diagnosis Codes	0.0%
Element Accuracy	Institutional	Surgical Procedure Codes	72.3%
Element Accuracy	Institutional	DRG	0.0%
Element Accuracy	Institutional	Type of Bill Code	91.2%
Element Accuracy	Pharmacy	Drug Quantity	94.8%
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 Surplus	Institutional	Not Applicable	29.4%
Record Omission	Pharmacy	Not Applicable	6.8%
Element Omission	Institutional	Servicing Provider Taxonomy Code	87.7%
Element Omission	Institutional	NDC	14.5%
Element Omission	Institutional	Drug Quantity	14.5%
Element Accuracy	Professional	MCO Received Date	70.0%
Element Accuracy	Institutional	Secondary Diagnosis Codes	47.5%
Element Accuracy	Institutional	Surgical Procedure Codes	94.6%
Element Accuracy	Institutional	NDC	91.9%
Element Accuracy	Institutional	Drug Quantity	92.6%
Element Accuracy	Institutional	Type of Bill Code	87.8%
Element Accuracy	Institutional	MCO Received Date	55.5%

Lastly, below are the recommendations for DMAS to consider:

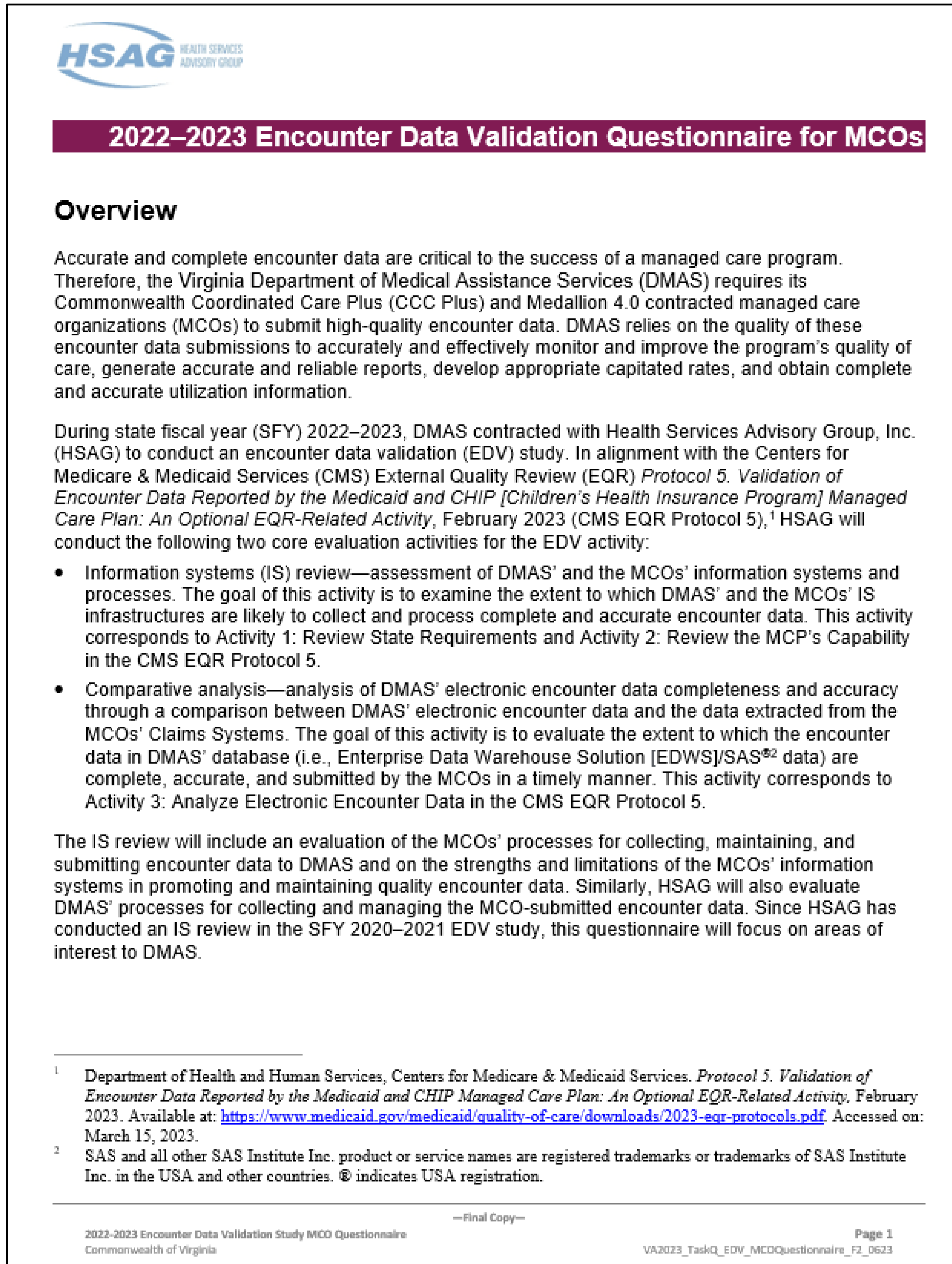
- DMAS should consider distributing findings from the comparative analysis to the MCOs for investigation so that the root causes can be identified and actions can be taken to address any issues related to encounter data completeness and accuracy.
- DMAS should develop contract standards for the measures 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.

[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.

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.

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EDV QUESTIONNAIRE FOR MCOS

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.

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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.

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EDV QUESTIONNAIRE FOR MCOS

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>

HSAG HEALTH SERVICES ADVISORY GROUP

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.*

HSAG HEALTH SERVICES ADVISORY GROUP

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.*

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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.*

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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>

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EDV QUESTIONNAIRE FOR MCOS

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.

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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?

—Final Copy—

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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	35,792,426	579,945	1.6%	38,108,072	2,895,591	7.6%
Institutional	9,928,567	599,594	6.0%	11,753,658	2,424,685	20.6%
Pharmacy	18,569,273	1,622,187	8.7%	20,827,435	3,880,349	18.6%

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: 35,212,481						
Member ID	0	0.0%	10,383	<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	8	<0.1%	311,513	0.9%	520	<0.1%
Rendering Provider NPI	8	<0.1%	309,865	0.9%	0	0.0%
Servicing Provider Taxonomy Code	128	<0.1%	1,790,605	5.1%	11,401	<0.1%
Referring Provider NPI*	2,789,514	7.9%	330,820	0.9%	19,122,886	54.3%
Primary Diagnosis Code	93	<0.1%	716	<0.1%	61	<0.1%
Secondary Diagnosis Codes*	144	<0.1%	16,931	<0.1%	17,432,778	49.5%
Procedure Code	0	0.0%	3,494	<0.1%	0	0.0%
Procedure Code Modifiers*	15,673	<0.1%	187,724	0.5%	24,015,789	68.2%
NDC*	511,556	1.5%	2,481	<0.1%	29,549,199	89.1%
Drug Quantity*	511,556	1.5%	2,481	<0.1%	29,549,199	89.1%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	5,109	<0.1%	0	0.0%
Detail TPL Paid Amount^	—	—	—	—	—	—
MCO Received Date	0	0.0%	73,538	0.2%	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: 9,328,973						
Member ID	0	0.0%	6,136	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	17	<0.1%	39,667	0.4%	0	0.0%
Attending Provider NPI	4,853	0.1%	79,040	0.8%	46,085	0.5%
Servicing Provider Taxonomy Code	2,904,007	31.1%	815,855	8.7%	1,399,301	15.0%
Referring Provider NPI*	35,277	0.4%	7,684	0.1%	9,052,947	97.0%
Primary Diagnosis Code	0	0.0%	3,080	<0.1%	2	<0.1%
Secondary Diagnosis Codes*	3,460	<0.1%	757,123	8.1%	25,281	0.3%
Procedure Code*	1,995	<0.1%	1,945	<0.1%	1,749,011	18.7%
Procedure Code Modifiers*	2,459	<0.1%	2,431	<0.1%	7,497,696	80.4%
Surgical Procedure Codes*	335	<0.1%	24	<0.1%	8,469,132	90.8%
NDC*	218,775	2.3%	5,739	0.1%	7,636,155	81.9%
Drug Quantity*	218,694	2.3%	5,739	0.1%	7,636,236	81.9%
Revenue Code	0	0.0%	295	<0.1%	0	0.0%
DRG	42,019	0.5%	9,888	0.1%	8,327,120	89.3%
Type of Bill Code	0	0.0%	328,641	3.5%	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**
Number of Matched Records: 9,328,973						
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 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: 16,947,086						
Member ID	0	0.0%	473	<0.1%	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%	4,302	<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%

^ 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	35,202,098	>99.9%	30,319,146	86.1%
Detail Service From Date	35,212,481	100.0%	34,258,834	97.3%
Detail Service To Date	35,212,481	100.0%	34,257,439	97.3%
Billing Provider NPI	34,900,440	99.1%	31,705,241	90.8%

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
Rendering Provider NPI	34,902,608	99.1%	34,116,468	97.7%
Servicing Provider Taxonomy Code	33,410,347	94.9%	27,512,771	82.3%
Referring Provider NPI	12,969,261	36.8%	12,786,805	98.6%
Primary Diagnosis Code	35,211,611	>99.9%	35,211,276	>99.9%
Secondary Diagnosis Codes	17,762,628	50.4%	17,758,177	>99.9%
Procedure Code	35,208,987	>99.9%	35,187,914	99.9%
Procedure Code Modifiers	10,993,295	31.2%	10,985,029	99.9%
NDC*	3,116,548	9.4%	3,116,526	>99.9%
Drug Quantity*	3,116,548	9.4%	3,116,072	>99.9%
Header Paid Amount	35,212,481	100.0%	35,210,909	>99.9%
Header TPL Paid Amount	35,212,481	100.0%	34,981,547	99.3%
Detail Paid Amount	35,207,372	>99.9%	35,200,959	>99.9%
Detail TPL Paid Amount	35,212,481	100.0%	35,082,268	99.6%
MCO Received Date	35,138,943	99.8%	31,174,370	88.7%
MCO Paid Date	35,212,481	100.0%	33,002,597	93.7%

* 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	9,322,837	99.9%	7,521,035	80.7%
Detail Service From Date	9,328,973	100.0%	9,033,269	96.8%
Header Service From Date	9,328,973	100.0%	9,318,297	99.9%
Header Service To Date	9,328,973	100.0%	9,249,098	99.1%
Billing Provider NPI	9,289,289	99.6%	9,142,806	98.4%
Attending Provider NPI	9,198,995	98.6%	8,325,034	90.5%
Servicing Provider Taxonomy Code	4,209,810	45.1%	3,366,539	80.0%
Referring Provider NPI*	233,065	2.5%	227,021	97.4%
Primary Diagnosis Code	9,325,891	>99.9%	9,298,646	99.7%
Secondary Diagnosis Codes	8,543,109	91.6%	3,482,141	40.8%
Procedure Code	7,576,022	81.2%	7,553,131	99.7%
Procedure Code Modifiers	1,826,387	19.6%	1,820,942	99.7%
Surgical Procedure Codes	859,482	9.2%	811,066	94.4%

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
NDC	1,468,304	15.7%	1,465,461	99.8%
Drug Quantity	1,468,304	15.7%	1,463,893	99.7%
Revenue Code	9,328,678	>99.9%	9,272,103	99.4%
DRG	949,946	10.2%	520,415	54.8%
Type of Bill Code	9,000,332	96.5%	8,468,710	94.1%
Header Paid Amount	9,328,973	100.0%	9,327,732	>99.9%
Header TPL Paid Amount	9,328,973	100.0%	9,164,979	98.2%
Detail Paid Amount	9,328,973	100.0%	9,310,746	99.8%
Detail TPL Paid Amount	9,328,973	100.0%	9,235,451	99.0%
MCO Received Date	9,328,973	100.0%	8,675,292	93.0%
MCO Paid Date	9,328,973	100.0%	8,435,696	90.4%

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	16,946,613	>99.9%	16,945,793	>99.9%
Detail Service Date	16,947,086	100.0%	16,856,908	99.5%
Billing Provider NPI	16,947,086	100.0%	16,943,646	>99.9%
Prescribing Provider NPI	16,942,784	>99.9%	16,941,878	>99.9%
NDC	16,947,086	100.0%	16,933,609	99.9%
Drug Quantity	16,947,086	100.0%	16,858,408	99.5%
Detail Paid Amount	16,947,086	100.0%	16,926,767	99.9%
Detail TPL Paid Amount	16,947,086	100.0%	16,834,820	99.3%
MCO Received Date	16,947,086	100.0%	13,883,175	81.9%
MCO Paid Date	16,947,086	100.0%	13,205,912	77.9%

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	35,212,481	18,623,839	52.9%
Institutional	9,328,973	289,019	3.1%
Pharmacy	16,947,086	12,102,101	71.4%

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	5,067,347	318,501	6.3%	5,520,937	772,091	14.0%
CD Services	1,066	554	52.0%	653	141	21.6%
Internal	4,840,805	308,394	6.4%	5,236,730	704,319	13.4%
NEMT	195,685	35	<0.1%	213,534	17,884	8.4%
Vision	29,791	9,518	31.9%	70,020	49,747	71.0%
Institutional	1,657,888	565,148	34.1%	2,048,117	955,377	46.6%
Pharmacy	3,041,067	970,652	31.9%	3,059,053	988,638	32.3%

Note: Lower rates indicate better performance.

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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: 4,748,846						
Member ID	0	0.0%	10,383	0.2%	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%	39,169	0.8%	6	<0.1%
Rendering Provider NPI	0	0.0%	38,417	0.8%	0	0.0%
Servicing Provider Taxonomy Code	123	<0.1%	1,273,980	26.8%	551	<0.1%
Referring Provider NPI*	4,090	0.1%	0	0.0%	2,495,952	52.6%
Primary Diagnosis Code	90	<0.1%	520	<0.1%	0	0.0%
Secondary Diagnosis Codes*	120	<0.1%	14	<0.1%	2,426,809	51.1%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	175	<0.1%	507	<0.1%	3,229,518	68.0%
NDC*	113	<0.1%	0	0.0%	4,001,037	88.3%
Drug Quantity*	113	<0.1%	0	0.0%	4,001,037	88.3%
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%	512	<0.1%	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: 512						
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%	512	100.0%
Primary Diagnosis Code	0	0.0%	512	100.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	512	100.0%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	511	99.8%
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%	512	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: 4,532,411						
Member ID	0	0.0%	9,270	0.2%	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%	3,823	0.1%	6	<0.1%
Rendering Provider NPI	0	0.0%	3,071	0.1%	0	0.0%
Servicing Provider Taxonomy Code	123	<0.1%	1,238,465	27.3%	551	<0.1%
Referring Provider NPI*	4,090	0.1%	0	0.0%	2,279,517	50.3%
Primary Diagnosis Code	90	<0.1%	8	<0.1%	0	0.0%
Secondary Diagnosis Codes*	116	<0.1%	14	<0.1%	2,216,496	48.9%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	1	<0.1%	8	<0.1%	3,212,687	70.9%
NDC*	113	<0.1%	0	0.0%	4,001,037	88.3%
Drug Quantity*	113	<0.1%	0	0.0%	4,001,037	88.3%
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 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: 195,650						
Member ID	0	0.0%	1,113	0.6%	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%	35,346	18.1%	0	0.0%
Rendering Provider NPI	0	0.0%	35,346	18.1%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	35,472	18.1%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	195,650	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	195,650	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: 20,273						
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%	43	0.2%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	20,273	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	4	<0.1%	0	0.0%	14,151	69.8%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	174	0.9%	499	2.5%	16,320	80.5%
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 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: 1,092,740						
Member ID	0	0.0%	6,135	0.6%	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%	1,141	0.1%	0	0.0%
Attending Provider NPI	123	<0.1%	0	0.0%	260	<0.1%
Servicing Provider Taxonomy Code	26	<0.1%	785,841	71.9%	306,809	28.1%
Referring Provider NPI*	31,547	2.9%	0	0.0%	1,061,193	97.1%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	3,457	0.3%	13	<0.1%	4,783	0.4%
Procedure Code*	0	0.0%	0	0.0%	237,071	21.7%
Procedure Code Modifiers*	15	<0.1%	0	0.0%	896,940	82.1%
Surgical Procedure Codes*	0	0.0%	0	0.0%	962,522	88.1%
NDC*	13,510	1.2%	5	<0.1%	897,889	82.2%
Drug Quantity*	13,510	1.2%	5	<0.1%	897,889	82.2%
Revenue Code	0	0.0%	5	<0.1%	0	0.0%
DRG	38	<0.1%	0	0.0%	923,908	84.5%
Type of Bill Code	0	0.0%	64	<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: 2,070,415						
Member ID	0	0.0%	473	<0.1%	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%	1,538	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	4,738,463	99.8%	4,730,888	99.8%
Detail Service From Date	4,748,846	100.0%	4,157,057	87.5%
Detail Service To Date	4,748,846	100.0%	4,156,564	87.5%
Billing Provider NPI	4,709,671	99.2%	4,627,194	98.2%
Rendering Provider NPI	4,710,429	99.2%	4,129,317	87.7%
Servicing Provider Taxonomy Code	3,474,192	73.2%	2,382,727	68.6%
Referring Provider NPI	2,248,804	47.4%	2,248,804	100.0%
Primary Diagnosis Code	4,748,236	>99.9%	4,748,126	>99.9%
Secondary Diagnosis Codes	2,321,903	48.9%	2,321,433	>99.9%
Procedure Code	4,748,846	100.0%	4,729,746	99.6%
Procedure Code Modifiers	1,518,646	32.0%	1,513,032	99.6%
NDC*	531,261	11.7%	531,261	100.0%
Drug Quantity*	531,261	11.7%	531,037	>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	4,748,846	100.0%	4,748,423	>99.9%
Header TPL Paid Amount	4,748,846	100.0%	4,747,958	>99.9%
Detail Paid Amount	4,748,846	100.0%	4,745,117	99.9%
Detail TPL Paid Amount	4,748,846	100.0%	4,748,368	>99.9%
MCO Received Date	4,748,334	>99.9%	4,537,874	95.6%
MCO Paid Date	4,748,846	100.0%	4,748,270	>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-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	512	100.0%	512	100.0%
Detail Service From Date	512	100.0%	512	100.0%
Detail Service To Date	512	100.0%	512	100.0%
Billing Provider NPI	512	100.0%	0	0.0%
Rendering Provider NPI	512	100.0%	0	0.0%
Servicing Provider Taxonomy Code	512	100.0%	0	0.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	0	0.0%	0	—
Secondary Diagnosis Codes	0	0.0%	0	—
Procedure Code	512	100.0%	512	100.0%
Procedure Code Modifiers	1	0.2%	1	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	512	100.0%	507	99.0%
Header TPL Paid Amount	512	100.0%	512	100.0%
Detail Paid Amount	512	100.0%	507	99.0%
Detail TPL Paid Amount	512	100.0%	512	100.0%
MCO Received Date	0	0.0%	0	—
MCO Paid Date	512	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.

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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	4,523,141	99.8%	4,515,566	99.8%
Detail Service From Date	4,532,411	100.0%	3,940,622	86.9%
Detail Service To Date	4,532,411	100.0%	3,940,129	86.9%
Billing Provider NPI	4,528,582	99.9%	4,450,737	98.3%
Rendering Provider NPI	4,529,340	99.9%	3,948,740	87.2%
Servicing Provider Taxonomy Code	3,293,272	72.7%	2,203,651	66.9%
Referring Provider NPI	2,248,804	49.6%	2,248,804	100.0%
Primary Diagnosis Code	4,532,313	>99.9%	4,532,285	>99.9%
Secondary Diagnosis Codes	2,315,785	51.1%	2,315,463	>99.9%
Procedure Code	4,532,411	100.0%	4,532,398	>99.9%
Procedure Code Modifiers	1,319,715	29.1%	1,319,705	>99.9%
NDC	531,261	11.7%	531,261	100.0%
Drug Quantity	531,261	11.7%	531,037	>99.9%
Header Paid Amount	4,532,411	100.0%	4,532,411	100.0%
Header TPL Paid Amount	4,532,411	100.0%	4,531,523	>99.9%
Detail Paid Amount	4,532,411	100.0%	4,532,403	>99.9%
Detail TPL Paid Amount	4,532,411	100.0%	4,531,933	>99.9%
MCO Received Date	4,532,411	100.0%	4,338,014	95.7%
MCO Paid Date	4,532,411	100.0%	4,532,411	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	194,537	99.4%	194,537	100.0%
Detail Service From Date	195,650	100.0%	195,650	100.0%
Detail Service To Date	195,650	100.0%	195,650	100.0%
Billing Provider NPI	160,304	81.9%	160,304	100.0%
Rendering Provider NPI	160,304	81.9%	160,304	100.0%
Servicing Provider Taxonomy Code	160,178	81.9%	160,176	>99.9%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	195,650	100.0%	195,650	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	195,650	100.0%	180,340	92.2%
Procedure Code Modifiers	195,650	100.0%	190,112	97.2%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	195,650	100.0%	195,589	>99.9%
Header TPL Paid Amount	195,650	100.0%	195,650	100.0%
Detail Paid Amount	195,650	100.0%	195,578	>99.9%
Detail TPL Paid Amount	195,650	100.0%	195,650	100.0%
MCO Received Date	195,650	100.0%	179,587	91.8%
MCO Paid Date	195,650	100.0%	195,586	>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	20,273	100.0%	20,273	100.0%
Detail Service From Date	20,273	100.0%	20,273	100.0%
Detail Service To Date	20,273	100.0%	20,273	100.0%
Billing Provider NPI	20,273	100.0%	16,153	79.7%
Rendering Provider NPI	20,273	100.0%	20,273	100.0%
Servicing Provider Taxonomy Code	20,230	99.8%	18,900	93.4%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	20,273	100.0%	20,191	99.6%
Secondary Diagnosis Codes	6,118	30.2%	5,970	97.6%
Procedure Code	20,273	100.0%	16,496	81.4%
Procedure Code Modifiers	3,280	16.2%	3,214	98.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	20,273	100.0%	19,916	98.2%
Header TPL Paid Amount	20,273	100.0%	20,273	100.0%
Detail Paid Amount	20,273	100.0%	16,629	82.0%
Detail TPL Paid Amount	20,273	100.0%	20,273	100.0%
MCO Received Date	20,273	100.0%	20,273	100.0%
MCO Paid Date	20,273	100.0%	20,273	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	1,086,605	99.4%	1,081,574	99.5%
Detail Service From Date	1,092,740	100.0%	937,355	85.8%
Header Service From Date	1,092,740	100.0%	1,092,740	100.0%
Header Service To Date	1,092,740	100.0%	1,092,740	100.0%
Billing Provider NPI	1,091,599	99.9%	1,090,754	99.9%
Attending Provider NPI	1,092,357	>99.9%	1,092,357	100.0%
Servicing Provider Taxonomy Code	64	<0.1%	53	82.8%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	1,092,740	100.0%	1,092,699	>99.9%
Secondary Diagnosis Codes	1,084,487	99.2%	1,058,996	97.6%
Procedure Code	855,669	78.3%	855,664	>99.9%
Procedure Code Modifiers	195,785	17.9%	195,782	>99.9%
Surgical Procedure Codes	130,218	11.9%	125,415	96.3%
NDC	181,336	16.6%	181,333	>99.9%
Drug Quantity	181,336	16.6%	179,758	99.1%
Revenue Code	1,092,735	>99.9%	1,092,732	>99.9%
DRG	168,794	15.4%	168,794	100.0%
Type of Bill Code	1,092,676	>99.9%	1,087,588	99.5%
Header Paid Amount	1,092,740	100.0%	1,092,712	>99.9%
Header TPL Paid Amount	1,092,740	100.0%	1,088,072	99.6%
Detail Paid Amount	1,092,740	100.0%	1,092,738	>99.9%
Detail TPL Paid Amount	1,092,740	100.0%	1,092,674	>99.9%
MCO Received Date	1,092,740	100.0%	1,035,762	94.8%
MCO Paid Date	1,092,740	100.0%	1,092,740	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	2,069,942	>99.9%	2,069,942	100.0%
Detail Service Date	2,070,415	100.0%	2,070,415	100.0%
Billing Provider NPI	2,070,415	100.0%	2,070,415	100.0%
Prescribing Provider NPI	2,068,877	99.9%	2,068,876	>99.9%
NDC	2,070,415	100.0%	2,068,815	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	2,070,415	100.0%	2,070,415	100.0%
Detail Paid Amount	2,070,415	100.0%	2,070,415	100.0%
Detail TPL Paid Amount	2,070,415	100.0%	2,063,639	99.7%
MCO Received Date	2,070,415	100.0%	2,044,926	98.8%
MCO Paid Date	2,070,415	100.0%	2,070,415	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	4,748,846	1,766,112	37.2%
CD Services	512	0	0.0%
Internal	4,532,411	1,614,342	35.6%
NEMT	195,650	139,728	71.4%
Vision	20,273	12,042	59.4%
Institutional	1,092,740	255,967	23.4%
Pharmacy	2,070,415	2,034,725	98.3%

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: For palliative care encounters, HealthKeepers lacked a sufficient number of comprehensive reports to monitor encounter data accuracy, completeness, and timeliness.

Recommendation: HealthKeepers and/or its palliative care subcontractors 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 #4: 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	11,674,068	74,239	0.6%	11,604,391	4,562	<0.1%
Internal	11,045,418	73,992	0.7%	10,975,827	4,401	<0.1%
NEMT	477,860	236	<0.1%	477,691	67	<0.1%
Vision	150,790	11	<0.1%	150,873	94	0.1%
Institutional	3,060,447	8,436	0.3%	3,476,669	424,658	12.2%
Pharmacy	5,480,883	266	<0.1%	6,606,741	1,126,124	17.0%

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: 11,599,829						
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%	89,482	0.8%	514	<0.1%
Rendering Provider NPI	0	0.0%	89,990	0.8%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	78,838	0.7%	10,753	0.1%
Referring Provider NPI*	73,149	0.6%	0	0.0%	6,622,328	57.1%
Primary Diagnosis Code	0	0.0%	6	<0.1%	0	0.0%
Secondary Diagnosis Codes*	20	<0.1%	14,161	0.1%	5,697,578	49.1%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	36	<0.1%	49	<0.1%	7,860,287	67.8%
NDC*	10	<0.1%	2,449	<0.1%	9,782,285	89.2%
Drug Quantity*	10	<0.1%	2,449	<0.1%	9,782,285	89.2%
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^	—	—	—	—	—	—

	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: 11,599,829						
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-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: 10,971,426						
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%	89,482	0.8%	514	<0.1%
Rendering Provider NPI	0	0.0%	89,990	0.8%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	78,838	0.7%	10,753	0.1%
Referring Provider NPI*	73,149	0.7%	0	0.0%	5,993,925	54.6%
Primary Diagnosis Code	0	0.0%	6	<0.1%	0	0.0%
Secondary Diagnosis Codes*	20	<0.1%	16	<0.1%	5,086,860	46.4%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	36	<0.1%	49	<0.1%	7,715,560	70.3%
NDC*	10	<0.1%	2,449	<0.1%	9,782,285	89.2%
Drug Quantity*	10	<0.1%	2,449	<0.1%	9,782,285	89.2%
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%

	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: 10,971,426						
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: 477,624						
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%	477,624	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	477,624	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^	—	—	—	—	—	—

	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: 477,624						
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

	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: 150,779						
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%	150,779	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	14,145	9.4%	133,094	88.3%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	144,727	96.0%
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: 150,779						
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: 3,052,011						
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	17	<0.1%	37,584	1.2%	0	0.0%
Attending Provider NPI	0	0.0%	14	<0.1%	5,260	0.2%
Servicing Provider Taxonomy Code	0	0.0%	76	<0.1%	751,109	24.6%
Referring Provider NPI*	310	<0.1%	0	0.0%	2,934,876	96.2%
Primary Diagnosis Code	0	0.0%	3,037	0.1%	0	0.0%
Secondary Diagnosis Codes*	3	<0.1%	479,455	15.7%	13,086	0.4%
Procedure Code*	60	<0.1%	28	<0.1%	542,329	17.8%
Procedure Code Modifiers*	36	<0.1%	30	<0.1%	2,407,947	78.9%

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: 3,052,011						
Surgical Procedure Codes*	18	<0.1%	0	0.0%	2,797,828	91.7%
NDC*	38	<0.1%	360	<0.1%	2,470,926	81.0%
Drug Quantity*	38	<0.1%	360	<0.1%	2,470,926	81.0%
Revenue Code	0	0.0%	0	0.0%	0	0.0%
DRG	241	<0.1%	2,661	0.1%	2,795,949	91.6%
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%

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

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: 5,480,617						
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%	2,239	<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%

	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: 5,480,617						
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 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	11,599,829	100.0%	11,562,843	99.7%
Detail Service From Date	11,599,829	100.0%	11,599,646	>99.9%
Detail Service To Date	11,599,829	100.0%	11,599,701	>99.9%
Billing Provider NPI	11,509,833	99.2%	11,364,004	98.7%
Rendering Provider NPI	11,509,839	99.2%	11,322,163	98.4%
Servicing Provider Taxonomy Code	11,510,238	99.2%	8,567,500	74.4%
Referring Provider NPI	4,904,352	42.3%	4,904,352	100.0%
Primary Diagnosis Code	11,599,823	>99.9%	11,599,737	>99.9%
Secondary Diagnosis Codes	5,888,070	50.8%	5,884,447	99.9%
Procedure Code	11,599,829	100.0%	11,599,595	>99.9%
Procedure Code Modifiers	3,739,457	32.2%	3,739,393	>99.9%
NDC*	1,186,682	10.8%	1,186,672	>99.9%
Drug Quantity*	1,186,682	10.8%	1,186,640	>99.9%
Header Paid Amount	11,599,829	100.0%	11,599,811	>99.9%
Header TPL Paid Amount	11,599,829	100.0%	11,596,003	>99.9%
Detail Paid Amount	11,599,829	100.0%	11,599,826	>99.9%
Detail TPL Paid Amount	11,599,829	100.0%	11,596,704	>99.9%
MCO Received Date	11,599,829	100.0%	10,410,392	89.7%
MCO Paid Date	11,599,829	100.0%	11,599,817	>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	10,971,426	100.0%	10,934,440	99.7%
Detail Service From Date	10,971,426	100.0%	10,971,243	>99.9%
Detail Service To Date	10,971,426	100.0%	10,971,298	>99.9%
Billing Provider NPI	10,881,430	99.2%	10,735,601	98.7%
Rendering Provider NPI	10,881,436	99.2%	10,693,760	98.3%
Servicing Provider Taxonomy Code	10,881,835	99.2%	7,939,097	73.0%
Referring Provider NPI	4,904,352	44.7%	4,904,352	100.0%
Primary Diagnosis Code	10,971,420	>99.9%	10,971,334	>99.9%
Secondary Diagnosis Codes	5,884,530	53.6%	5,884,447	>99.9%
Procedure Code	10,971,426	100.0%	10,971,192	>99.9%
Procedure Code Modifiers	3,255,781	29.7%	3,255,717	>99.9%
NDC*	1,186,682	10.8%	1,186,672	>99.9%
Drug Quantity*	1,186,682	10.8%	1,186,640	>99.9%
Header Paid Amount	10,971,426	100.0%	10,971,408	>99.9%
Header TPL Paid Amount	10,971,426	100.0%	10,967,600	>99.9%
Detail Paid Amount	10,971,426	100.0%	10,971,423	>99.9%
Detail TPL Paid Amount	10,971,426	100.0%	10,968,301	>99.9%
MCO Received Date	10,971,426	100.0%	10,372,268	94.5%
MCO Paid Date	10,971,426	100.0%	10,971,414	>99.9%

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	477,624	100.0%	477,624	100.0%
Detail Service From Date	477,624	100.0%	477,624	100.0%
Detail Service To Date	477,624	100.0%	477,624	100.0%
Billing Provider NPI	477,624	100.0%	477,624	100.0%
Rendering Provider NPI	477,624	100.0%	477,624	100.0%
Servicing Provider Taxonomy Code	477,624	100.0%	477,624	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	477,624	100.0%	477,624	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	477,624	100.0%	477,624	100.0%
Procedure Code Modifiers	477,624	100.0%	477,624	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	477,624	100.0%	477,624	100.0%
Header TPL Paid Amount	477,624	100.0%	477,624	100.0%
Detail Paid Amount	477,624	100.0%	477,624	100.0%
Detail TPL Paid Amount	477,624	100.0%	477,624	100.0%
MCO Received Date	477,624	100.0%	3,625	0.8%
MCO Paid Date	477,624	100.0%	477,624	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	150,779	100.0%	150,779	100.0%
Detail Service From Date	150,779	100.0%	150,779	100.0%
Detail Service To Date	150,779	100.0%	150,779	100.0%
Billing Provider NPI	150,779	100.0%	150,779	100.0%
Rendering Provider NPI	150,779	100.0%	150,779	100.0%
Servicing Provider Taxonomy Code	150,779	100.0%	150,779	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	150,779	100.0%	150,779	100.0%
Secondary Diagnosis Codes	3,540	2.3%	0	0.0%
Procedure Code	150,779	100.0%	150,779	100.0%
Procedure Code Modifiers	6,052	4.0%	6,052	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	150,779	100.0%	150,779	100.0%
Header TPL Paid Amount	150,779	100.0%	150,779	100.0%
Detail Paid Amount	150,779	100.0%	150,779	100.0%
Detail TPL Paid Amount	150,779	100.0%	150,779	100.0%
MCO Received Date	150,779	100.0%	34,499	22.9%
MCO Paid Date	150,779	100.0%	150,779	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	3,052,011	100.0%	3,024,579	99.1%
Detail Service From Date	3,052,011	100.0%	3,051,676	>99.9%
Header Service From Date	3,052,011	100.0%	3,046,807	99.8%
Header Service To Date	3,052,011	100.0%	3,007,861	98.6%
Billing Provider NPI	3,014,410	98.8%	3,013,230	>99.9%
Attending Provider NPI	3,046,737	99.8%	3,046,737	100.0%
Servicing Provider Taxonomy Code	2,300,826	75.4%	2,300,826	100.0%
Referring Provider NPI	116,825	3.8%	116,793	>99.9%
Primary Diagnosis Code	3,048,974	99.9%	3,048,948	>99.9%
Secondary Diagnosis Codes	2,559,467	83.9%	22,832	0.9%
Procedure Code	2,509,594	82.2%	2,509,393	>99.9%
Procedure Code Modifiers	643,998	21.1%	643,988	>99.9%
Surgical Procedure Codes	254,165	8.3%	252,040	99.2%
NDC	580,687	19.0%	580,610	>99.9%
Drug Quantity	580,687	19.0%	580,420	>99.9%
Revenue Code	3,052,011	100.0%	3,051,866	>99.9%
DRG	253,160	8.3%	0	0.0%
Type of Bill Code	3,052,011	100.0%	3,034,977	99.4%
Header Paid Amount	3,052,011	100.0%	3,052,011	100.0%
Header TPL Paid Amount	3,052,011	100.0%	3,049,426	99.9%
Detail Paid Amount	3,052,011	100.0%	3,052,011	100.0%
Detail TPL Paid Amount	3,052,011	100.0%	3,050,802	>99.9%
MCO Received Date	3,052,011	100.0%	3,052,009	>99.9%
MCO Paid Date	3,052,011	100.0%	3,052,011	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	5,480,617	100.0%	5,480,617	100.0%
Detail Service Date	5,480,617	100.0%	5,480,617	100.0%
Billing Provider NPI	5,480,617	100.0%	5,480,617	100.0%
Prescribing Provider NPI	5,478,378	>99.9%	5,478,372	>99.9%
NDC	5,480,617	100.0%	5,477,521	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	5,480,617	100.0%	5,480,617	100.0%
Detail Paid Amount	5,480,617	100.0%	5,480,617	100.0%
Detail TPL Paid Amount	5,480,617	100.0%	5,447,499	99.4%
MCO Received Date	5,480,617	100.0%	5,428,437	99.0%
MCO Paid Date	5,480,617	100.0%	5,468,848	99.8%

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	11,599,829	7,305,046	63.0%
Internal	10,971,426	7,268,911	66.3%
NEMT	477,624	3,625	0.8%
Vision	150,779	32,510	21.6%
Institutional	3,052,011	27,168	0.9%
Pharmacy	5,480,617	5,390,775	98.4%

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	2,456,097	2,176	0.1%	2,473,476	19,555	0.8%
CD Services	595	244	41.0%	356	5	1.4%
Internal	2,221,214	1,585	0.1%	2,236,758	17,129	0.8%
NEMT	215,592	0	0.0%	216,267	675	0.3%
Vision	18,696	347	1.9%	20,095	1,746	8.7%
Institutional	883,221	2,365	0.3%	895,379	14,523	1.6%
Pharmacy	1,100,948	2,193	0.2%	1,323,544	224,789	17.0%

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[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 2,453,921						
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%	285	<0.1%	0	0.0%
Rendering Provider NPI	0	0.0%	48	<0.1%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	148	<0.1%	0	0.0%
Referring Provider NPI*	5,390	0.2%	327,318	13.3%	1,438,007	58.6%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	2,718	0.1%	1,367,941	55.7%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	15,393	0.6%	16	<0.1%	1,756,179	71.6%
NDC*	5	<0.1%	28	<0.1%	1,922,194	86.6%
Drug Quantity*	5	<0.1%	28	<0.1%	1,922,194	86.6%
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%	351	<0.1%	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

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: 351						
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%	351	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	351	100.0%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	162	46.2%	0	0.0%	189	53.8%
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%	351	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[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 2,219,629						
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%	285	<0.1%	0	0.0%
Rendering Provider NPI	0	0.0%	48	<0.1%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	148	<0.1%	0	0.0%
Referring Provider NPI*	5,390	0.2%	327,318	14.7%	1,203,715	54.2%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	1,139,169	51.3%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	1,639,577	73.9%
NDC*	5	<0.1%	28	<0.1%	1,922,194	86.6%
Drug Quantity*	5	<0.1%	28	<0.1%	1,922,194	86.6%
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[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 215,592						
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%	215,592	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	215,592	100.0%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	115,737	53.7%
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[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 18,349						
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%	18,349	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	2,718	14.8%	12,829	69.9%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	15,231	83.0%	16	0.1%	676	3.7%
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-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: 880,856						
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	4,550	0.5%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	4,687	0.5%	29,326	3.3%	0	0.0%
Referring Provider NPI*	1,936	0.2%	7,407	0.8%	850,057	96.5%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	65,691	7.5%	1,975	0.2%
Procedure Code*	0	0.0%	0	0.0%	172,958	19.6%
Procedure Code Modifiers*	5	<0.1%	0	0.0%	710,797	80.7%
Surgical Procedure Codes*	0	0.0%	0	0.0%	797,837	90.6%
NDC*	2	<0.1%	4	<0.1%	719,032	81.6%
Drug Quantity*	2	<0.1%	4	<0.1%	719,032	81.6%
Revenue Code	0	0.0%	14	<0.1%	0	0.0%
DRG	20,316	2.3%	641	0.1%	769,005	87.3%
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).
^ 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-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: 1,098,755						
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%	525	<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	2,453,921	100.0%	2,451,055	99.9%
Detail Service From Date	2,453,921	100.0%	2,092,246	85.3%
Detail Service To Date	2,453,921	100.0%	2,091,289	85.2%
Billing Provider NPI	2,453,636	>99.9%	2,450,747	99.9%
Rendering Provider NPI	2,453,873	>99.9%	2,442,027	99.5%
Servicing Provider Taxonomy Code	2,453,773	>99.9%	2,008,893	81.9%
Referring Provider NPI	683,206	27.8%	501,045	73.3%
Primary Diagnosis Code	2,453,921	100.0%	2,453,782	>99.9%
Secondary Diagnosis Codes	1,083,262	44.1%	1,083,192	>99.9%
Procedure Code	2,453,921	100.0%	2,452,226	99.9%
Procedure Code Modifiers	682,333	27.8%	680,000	99.7%
NDC*	297,402	13.4%	297,401	>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*	297,402	13.4%	297,399	>99.9%
Header Paid Amount	2,453,921	100.0%	2,452,948	>99.9%
Header TPL Paid Amount	2,453,921	100.0%	2,448,867	99.8%
Detail Paid Amount	2,453,921	100.0%	2,451,399	99.9%
Detail TPL Paid Amount	2,453,921	100.0%	2,449,553	99.8%
MCO Received Date	2,453,570	>99.9%	2,424,824	98.8%
MCO Paid Date	2,453,921	100.0%	2,445,141	99.6%

* 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 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	351	100.0%	351	100.0%
Detail Service From Date	351	100.0%	351	100.0%
Detail Service To Date	351	100.0%	351	100.0%
Billing Provider NPI	351	100.0%	351	100.0%
Rendering Provider NPI	351	100.0%	351	100.0%
Servicing Provider Taxonomy Code	351	100.0%	351	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	351	100.0%	351	100.0%
Secondary Diagnosis Codes	0	0.0%	0	—
Procedure Code	351	100.0%	351	100.0%
Procedure Code Modifiers	0	0.0%	0	—
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	351	100.0%	243	69.2%
Header TPL Paid Amount	351	100.0%	351	100.0%
Detail Paid Amount	351	100.0%	239	68.1%
Detail TPL Paid Amount	351	100.0%	351	100.0%
MCO Received Date	0	0.0%	0	—
MCO Paid Date	351	100.0%	351	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	2,219,629	100.0%	2,217,956	99.9%
Detail Service From Date	2,219,629	100.0%	1,865,572	84.0%
Detail Service To Date	2,219,629	100.0%	1,857,001	83.7%
Billing Provider NPI	2,219,344	>99.9%	2,216,552	99.9%
Rendering Provider NPI	2,219,581	>99.9%	2,213,625	99.7%
Servicing Provider Taxonomy Code	2,219,481	>99.9%	1,775,002	80.0%
Referring Provider NPI	683,206	30.8%	501,045	73.3%
Primary Diagnosis Code	2,219,629	100.0%	2,219,629	100.0%
Secondary Diagnosis Codes	1,080,460	48.7%	1,080,440	>99.9%
Procedure Code	2,219,629	100.0%	2,219,629	100.0%
Procedure Code Modifiers	580,052	26.1%	580,048	>99.9%
NDC	297,402	13.4%	297,401	>99.9%
Drug Quantity	297,402	13.4%	297,399	>99.9%
Header Paid Amount	2,219,629	100.0%	2,218,870	>99.9%
Header TPL Paid Amount	2,219,629	100.0%	2,214,587	99.8%
Detail Paid Amount	2,219,629	100.0%	2,219,611	>99.9%
Detail TPL Paid Amount	2,219,629	100.0%	2,215,273	99.8%
MCO Received Date	2,219,629	100.0%	2,209,548	99.5%
MCO Paid Date	2,219,629	100.0%	2,219,559	>99.9%

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	215,592	100.0%	214,400	99.4%
Detail Service From Date	215,592	100.0%	215,588	>99.9%
Detail Service To Date	215,592	100.0%	215,588	>99.9%
Billing Provider NPI	215,592	100.0%	215,592	100.0%
Rendering Provider NPI	215,592	100.0%	215,592	100.0%
Servicing Provider Taxonomy Code	215,592	100.0%	215,592	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	215,592	100.0%	215,592	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	215,592	100.0%	214,238	99.4%
Procedure Code Modifiers	99,855	46.3%	99,855	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	215,592	100.0%	215,592	100.0%
Header TPL Paid Amount	215,592	100.0%	215,592	100.0%
Detail Paid Amount	215,592	100.0%	215,592	100.0%
Detail TPL Paid Amount	215,592	100.0%	215,592	100.0%
MCO Received Date	215,592	100.0%	215,276	99.9%
MCO Paid Date	215,592	100.0%	206,882	96.0%

* 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	18,349	100.0%	18,348	>99.9%
Detail Service From Date	18,349	100.0%	10,735	58.5%
Detail Service To Date	18,349	100.0%	18,349	100.0%
Billing Provider NPI	18,349	100.0%	18,252	99.5%
Rendering Provider NPI	18,349	100.0%	12,459	67.9%
Servicing Provider Taxonomy Code	18,349	100.0%	17,948	97.8%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	18,349	100.0%	18,210	99.2%
Secondary Diagnosis Codes	2,802	15.3%	2,752	98.2%
Procedure Code	18,349	100.0%	18,008	98.1%
Procedure Code Modifiers	2,426	13.2%	97	4.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	18,349	100.0%	18,243	99.4%
Header TPL Paid Amount	18,349	100.0%	18,337	99.9%
Detail Paid Amount	18,349	100.0%	15,957	87.0%
Detail TPL Paid Amount	18,349	100.0%	18,337	99.9%
MCO Received Date	18,349	100.0%	0	0.0%
MCO Paid Date	18,349	100.0%	18,349	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	880,856	100.0%	880,155	99.9%
Detail Service From Date	880,856	100.0%	772,298	87.7%
Header Service From Date	880,856	100.0%	879,959	99.9%
Header Service To Date	880,856	100.0%	873,728	99.2%
Billing Provider NPI	880,856	100.0%	880,821	>99.9%
Attending Provider NPI	876,306	99.5%	2,669	0.3%
Servicing Provider Taxonomy Code	846,843	96.1%	3,998	0.5%
Referring Provider NPI	21,456	2.4%	15,463	72.1%
Primary Diagnosis Code	880,856	100.0%	854,478	97.0%
Secondary Diagnosis Codes	813,190	92.3%	414,315	50.9%
Procedure Code	707,898	80.4%	707,894	>99.9%
Procedure Code Modifiers	170,054	19.3%	170,054	100.0%
Surgical Procedure Codes	83,019	9.4%	83,019	100.0%
NDC	161,818	18.4%	161,818	100.0%
Drug Quantity	161,818	18.4%	161,817	>99.9%
Revenue Code	880,842	>99.9%	880,842	100.0%
DRG	90,894	10.3%	63,005	69.3%
Type of Bill Code	880,856	100.0%	797,203	90.5%
Header Paid Amount	880,856	100.0%	880,856	100.0%
Header TPL Paid Amount	880,856	100.0%	849,736	96.5%
Detail Paid Amount	880,856	100.0%	880,856	100.0%
Detail TPL Paid Amount	880,856	100.0%	863,736	98.1%
MCO Received Date	880,856	100.0%	880,628	>99.9%
MCO Paid Date	880,856	100.0%	880,856	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	1,098,755	100.0%	1,098,415	>99.9%
Detail Service Date	1,098,755	100.0%	1,098,755	100.0%
Billing Provider NPI	1,098,755	100.0%	1,098,755	100.0%
Prescribing Provider NPI	1,098,230	>99.9%	1,098,221	>99.9%
NDC	1,098,755	100.0%	1,098,074	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	1,098,755	100.0%	1,098,753	>99.9%
Detail Paid Amount	1,098,755	100.0%	1,098,713	>99.9%
Detail TPL Paid Amount	1,098,755	100.0%	1,089,745	99.2%
MCO Received Date	1,098,755	100.0%	1,090,611	99.3%
MCO Paid Date	1,098,755	100.0%	1,096,902	99.8%

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	2,453,921	1,244,400	50.7%
CD Services	351	0	0.0%
Internal	2,219,629	1,040,378	46.9%
NEMT	215,592	204,022	94.6%
Vision	18,349	0	0.0%
Institutional	880,856	44	<0.1%
Pharmacy	1,098,755	1,080,243	98.3%

HSAG HEALTH SERVICES ADVISORY GROUP

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	5,008,305	17,139	0.3%	6,853,896	1,862,730	27.2%
CD Services	1,129	28	2.5%	1,936	835	43.1%
Internal	4,680,663	710	<0.1%	6,430,715	1,750,762	27.2%
NEMT	181,571	3,739	2.1%	279,054	101,222	36.3%
Vision	144,942	12,662	8.7%	142,191	9,911	7.0%
Institutional	1,743,154	982	0.1%	2,201,630	459,458	20.9%
Pharmacy	3,228,135	300,378	9.3%	3,883,849	956,092	24.6%

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: 4,991,166						
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	8	<0.1%	177,943	3.6%	0	0.0%
Rendering Provider NPI	8	<0.1%	177,943	3.6%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	132,294	2.7%	0	0.0%
Referring Provider NPI*	2,628,840	52.7%	0	0.0%	2,362,326	47.3%
Primary Diagnosis Code	0	0.0%	190	<0.1%	61	<0.1%
Secondary Diagnosis Codes*	0	0.0%	38	<0.1%	1,933,617	38.7%
Procedure Code	0	0.0%	3,494	0.1%	0	0.0%
Procedure Code Modifiers*	0	0.0%	187,152	3.7%	3,206,306	64.2%
NDC*	205,759	4.4%	0	0.0%	4,413,946	94.3%
Drug Quantity*	205,759	4.4%	0	0.0%	4,413,946	94.3%
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%	72,675	1.5%	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

	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: 1,101						
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%	1,101	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	1,101	100.0%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	1,101	100.0%
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 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[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 4,679,953						
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%	111	<0.1%	0	0.0%
Rendering Provider NPI	0	0.0%	111	<0.1%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	14	<0.1%	0	0.0%
Referring Provider NPI*	2,628,840	56.2%	0	0.0%	2,051,113	43.8%
Primary Diagnosis Code	0	0.0%	190	<0.1%	61	<0.1%
Secondary Diagnosis Codes*	0	0.0%	38	<0.1%	1,641,029	35.1%
Procedure Code	0	0.0%	3,494	0.1%	0	0.0%
Procedure Code Modifiers*	0	0.0%	3,111	0.1%	3,079,134	65.8%
NDC*	205,759	4.4%	0	0.0%	4,413,946	94.3%
Drug Quantity*	205,759	4.4%	0	0.0%	4,413,946	94.3%
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 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[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 177,832						
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%	177,832	100.0%	0	0.0%
Rendering Provider NPI	0	0.0%	177,832	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%	177,832	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	177,832	100.0%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	177,830	>99.9%	2	<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%	72,675	40.9%	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[1]**	**Rate**	**Number of Records[2]**	**Rate**	**Number of Records[3]**	**Rate**
Number of Matched Records: 132,280						
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	8	<0.1%	0	0.0%	0	0.0%
Rendering Provider NPI	8	<0.1%	0	0.0%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	132,280	100.0%	0	0.0%
Referring Provider NPI*	0	0.0%	0	0.0%	132,280	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	113,655	85.9%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	6,211	4.7%	126,069	95.3%
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 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: 1,742,172						
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%	20	<0.1%	0	0.0%
Attending Provider NPI	0	0.0%	79,026	4.5%	19,320	1.1%
Servicing Provider Taxonomy Code	1,722,700	98.9%	0	0.0%	19,472	1.1%
Referring Provider NPI*	123	<0.1%	0	0.0%	1,742,049	>99.9%
Primary Diagnosis Code	0	0.0%	43	<0.1%	2	<0.1%
Secondary Diagnosis Codes*	0	0.0%	837	<0.1%	2	<0.1%
Procedure Code*	0	0.0%	0	0.0%	344,904	19.8%
Procedure Code Modifiers*	0	0.0%	0	0.0%	1,393,751	80.0%
Surgical Procedure Codes*	65	<0.1%	24	<0.1%	1,538,335	88.3%
NDC*	11,215	0.6%	0	0.0%	1,439,177	82.6%
Drug Quantity*	11,215	0.6%	0	0.0%	1,439,177	82.6%
Revenue Code	0	0.0%	270	<0.1%	0	0.0%
DRG	21,424	1.2%	2,690	0.2%	1,486,305	85.3%
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).
^ 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-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: 2,927,757						
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	4,991,166	100.0%	311,213	6.2%
Detail Service From Date	4,991,166	100.0%	4,991,166	100.0%
Detail Service To Date	4,991,166	100.0%	4,991,166	100.0%
Billing Provider NPI	4,813,215	96.4%	1,852,623	38.5%
Rendering Provider NPI	4,813,215	96.4%	4,813,129	>99.9%
Servicing Provider Taxonomy Code	4,858,872	97.3%	3,488,845	71.8%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	4,990,915	>99.9%	4,990,915	100.0%
Secondary Diagnosis Codes	3,057,511	61.3%	3,057,239	>99.9%
Procedure Code	4,987,672	99.9%	4,987,654	>99.9%
Procedure Code Modifiers	1,597,708	32.0%	1,597,502	>99.9%
NDC*	60,248	1.3%	60,237	>99.9%
Drug Quantity*	60,248	1.3%	60,233	>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	4,991,166	100.0%	4,991,156	>99.9%
Header TPL Paid Amount	4,991,166	100.0%	4,797,625	96.1%
Detail Paid Amount	4,991,166	100.0%	4,991,166	100.0%
Detail TPL Paid Amount	4,991,166	100.0%	4,891,695	98.0%
MCO Received Date	4,918,491	98.5%	4,679,964	95.2%
MCO Paid Date	4,991,166	100.0%	2,927,100	58.6%

* 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 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	1,101	100.0%	1,101	100.0%
Detail Service From Date	1,101	100.0%	1,101	100.0%
Detail Service To Date	1,101	100.0%	1,101	100.0%
Billing Provider NPI	1,101	100.0%	1,101	100.0%
Rendering Provider NPI	1,101	100.0%	1,101	100.0%
Servicing Provider Taxonomy Code	1,101	100.0%	1,101	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	1,101	100.0%	1,101	100.0%
Secondary Diagnosis Codes	0	0.0%	0	—
Procedure Code	1,101	100.0%	1,101	100.0%
Procedure Code Modifiers	0	0.0%	0	—
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	1,101	100.0%	1,101	100.0%
Header TPL Paid Amount	1,101	100.0%	1,101	100.0%
Detail Paid Amount	1,101	100.0%	1,101	100.0%
Detail TPL Paid Amount	1,101	100.0%	1,101	100.0%
MCO Received Date	1,101	100.0%	0	0.0%
MCO Paid Date	1,101	100.0%	376	34.2%

* 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	4,679,953	100.0%	0	0.0%
Detail Service From Date	4,679,953	100.0%	4,679,953	100.0%
Detail Service To Date	4,679,953	100.0%	4,679,953	100.0%
Billing Provider NPI	4,679,842	>99.9%	1,719,250	36.7%
Rendering Provider NPI	4,679,842	>99.9%	4,679,756	>99.9%
Servicing Provider Taxonomy Code	4,679,939	>99.9%	3,309,912	70.7%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	4,679,702	>99.9%	4,679,702	100.0%
Secondary Diagnosis Codes	3,038,886	64.9%	3,038,614	>99.9%
Procedure Code	4,676,459	99.9%	4,676,441	>99.9%
Procedure Code Modifiers	1,597,708	34.1%	1,597,502	>99.9%
NDC	60,248	1.3%	60,237	>99.9%
Drug Quantity	60,248	1.3%	60,233	>99.9%
Header Paid Amount	4,679,953	100.0%	4,679,945	>99.9%
Header TPL Paid Amount	4,679,953	100.0%	4,562,945	97.5%
Detail Paid Amount	4,679,953	100.0%	4,679,953	100.0%
Detail TPL Paid Amount	4,679,953	100.0%	4,580,482	97.9%
MCO Received Date	4,679,953	100.0%	4,679,953	100.0%
MCO Paid Date	4,679,953	100.0%	2,616,634	55.9%

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	177,832	100.0%	177,832	100.0%
Detail Service From Date	177,832	100.0%	177,832	100.0%
Detail Service To Date	177,832	100.0%	177,832	100.0%
Billing Provider NPI	0	0.0%	0	—
Rendering Provider NPI	0	0.0%	0	—
Servicing Provider Taxonomy Code	177,832	100.0%	177,832	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	177,832	100.0%	177,832	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	177,832	100.0%	177,832	100.0%
Procedure Code Modifiers	0	0.0%	0	—
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	177,832	100.0%	177,830	>99.9%
Header TPL Paid Amount	177,832	100.0%	177,832	100.0%
Detail Paid Amount	177,832	100.0%	177,832	100.0%
Detail TPL Paid Amount	177,832	100.0%	177,832	100.0%
MCO Received Date	105,157	59.1%	0	0.0%
MCO Paid Date	177,832	100.0%	177,810	>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	132,280	100.0%	132,280	100.0%
Detail Service From Date	132,280	100.0%	132,280	100.0%
Detail Service To Date	132,280	100.0%	132,280	100.0%
Billing Provider NPI	132,272	>99.9%	132,272	100.0%
Rendering Provider NPI	132,272	>99.9%	132,272	100.0%
Servicing Provider Taxonomy Code	0	0.0%	0	—
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	132,280	100.0%	132,280	100.0%
Secondary Diagnosis Codes	18,625	14.1%	18,625	100.0%
Procedure Code	132,280	100.0%	132,280	100.0%
Procedure Code Modifiers	0	0.0%	0	—
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	132,280	100.0%	132,280	100.0%
Header TPL Paid Amount	132,280	100.0%	55,747	42.1%
Detail Paid Amount	132,280	100.0%	132,280	100.0%
Detail TPL Paid Amount	132,280	100.0%	132,280	100.0%
MCO Received Date	132,280	100.0%	11	<0.1%
MCO Paid Date	132,280	100.0%	132,280	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	1,742,172	100.0%	0	0.0%
Detail Service From Date	1,742,172	100.0%	1,735,932	99.6%
Header Service From Date	1,742,172	100.0%	1,741,350	>99.9%
Header Service To Date	1,742,172	100.0%	1,731,162	99.4%
Billing Provider NPI	1,742,152	>99.9%	1,598,318	91.7%
Attending Provider NPI	1,643,826	94.4%	1,643,772	>99.9%
Servicing Provider Taxonomy Code	0	0.0%	0	—
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	1,742,127	>99.9%	1,741,409	>99.9%
Secondary Diagnosis Codes	1,741,333	>99.9%	1,361,331	78.2%
Procedure Code	1,397,268	80.2%	1,397,268	100.0%
Procedure Code Modifiers	348,421	20.0%	343,544	98.6%
Surgical Procedure Codes	203,748	11.7%	199,646	98.0%
NDC	291,780	16.7%	291,768	>99.9%
Drug Quantity	291,780	16.7%	291,729	>99.9%
Revenue Code	1,741,902	>99.9%	1,741,892	>99.9%
DRG	231,753	13.3%	204,813	88.4%
Type of Bill Code	1,742,172	100.0%	1,558,772	89.5%
Header Paid Amount	1,742,172	100.0%	1,742,151	>99.9%
Header TPL Paid Amount	1,742,172	100.0%	1,658,378	95.2%
Detail Paid Amount	1,742,172	100.0%	1,742,172	100.0%
Detail TPL Paid Amount	1,742,172	100.0%	1,716,260	98.5%
MCO Received Date	1,742,172	100.0%	1,742,172	100.0%
MCO Paid Date	1,742,172	100.0%	848,960	48.7%

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	2,927,757	100.0%	2,927,417	>99.9%
Detail Service Date	2,927,757	100.0%	2,837,579	96.9%
Billing Provider NPI	2,927,757	100.0%	2,924,320	99.9%
Prescribing Provider NPI	2,927,757	100.0%	2,927,754	>99.9%
NDC	2,927,757	100.0%	2,927,623	>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	2,927,757	100.0%	2,927,753	>99.9%
Detail Paid Amount	2,927,757	100.0%	2,927,754	>99.9%
Detail TPL Paid Amount	2,927,757	100.0%	2,916,912	99.6%
MCO Received Date	2,927,757	100.0%	314	<0.1%
MCO Paid Date	2,927,757	100.0%	919,945	31.4%

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	4,991,166	0	0.0%
CD Services	1,101	0	0.0%
Internal	4,679,953	0	0.0%
NEMT	177,832	0	0.0%
Vision	132,280	0	0.0%
Institutional	1,742,172	0	0.0%
Pharmacy	2,927,757	305	<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	3,784,007	17,562	0.5%	3,809,995	43,550	1.1%

	Record Omission			Record Surplus		
Encounter Data Source	**Denominator**	**Numerator**	**Rate**	**Denominator**	**Numerator**	**Rate**
Internal	3,573,018	17,351	0.5%	3,599,109	43,442	1.2%
NEMT	112,217	211	0.2%	112,068	62	0.1%
Vision	98,772	0	0.0%	98,818	46	<0.1%
Institutional	1,228,870	8,180	0.7%	1,234,221	13,531	1.1%
Pharmacy	1,802,889	82,528	4.6%	2,269,300	548,939	24.2%

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: 3,766,445						
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	5	<0.1%	305,253	8.1%	97	<0.1%
Referring Provider NPI*	284	<0.1%	3,502	0.1%	1,926,040	51.1%
Primary Diagnosis Code	2	<0.1%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	4	<0.1%	0	0.0%	1,789,131	47.5%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	2,521,888	67.0%
NDC*	6,684	0.2%	0	0.0%	3,145,137	88.5%
Drug Quantity*	6,684	0.2%	0	0.0%	3,145,137	88.5%
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—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: 3,555,667						
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	5	<0.1%	305,253	8.6%	97	<0.1%
Referring Provider NPI*	284	<0.1%	3,502	0.1%	1,747,148	49.1%
Primary Diagnosis Code	2	<0.1%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	4	<0.1%	0	0.0%	1,616,151	45.5%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	2,450,852	68.9%
NDC*	6,684	0.2%	0	0.0%	3,145,137	88.5%
Drug Quantity*	6,684	0.2%	0	0.0%	3,145,137	88.5%
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—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: 112,006						
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%	112,006	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	112,006	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-5—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: 98,772						
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%	66,886	67.7%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	60,974	61.7%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	71,036	71.9%
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 G-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: 1,220,690						
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	180	<0.1%	0	0.0%	105	<0.1%
Servicing Provider Taxonomy Code	502	<0.1%	611	0.1%	300,401	24.6%
Referring Provider NPI*	362	<0.1%	277	<0.1%	1,178,787	96.6%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	191,022	15.6%	0	0.0%
Procedure Code*	8	<0.1%	1	<0.1%	252,958	20.7%
Procedure Code Modifiers*	0	0.0%	0	0.0%	993,477	81.4%
Surgical Procedure Codes*	241	<0.1%	0	0.0%	1,098,283	90.0%
NDC*	100	<0.1%	0	0.0%	1,001,726	82.1%
Drug Quantity*	19	<0.1%	0	0.0%	1,001,807	82.1%
Revenue Code	0	0.0%	0	0.0%	0	0.0%
DRG	0	0.0%	3,896	0.3%	1,095,252	89.7%
Type of Bill Code	0	0.0%	328,575	26.9%	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 G-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: 1,720,361						
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-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	3,766,445	100.0%	3,747,689	99.5%
Detail Service From Date	3,766,445	100.0%	3,766,445	100.0%
Detail Service To Date	3,766,445	100.0%	3,766,445	100.0%
Billing Provider NPI	3,766,445	100.0%	3,764,422	99.9%
Rendering Provider NPI	3,766,445	100.0%	3,762,382	99.9%
Servicing Provider Taxonomy Code	3,461,090	91.9%	3,413,001	98.6%
Referring Provider NPI	1,836,619	48.8%	1,836,324	>99.9%
Primary Diagnosis Code	3,766,443	>99.9%	3,766,443	100.0%
Secondary Diagnosis Codes	1,977,310	52.5%	1,977,294	>99.9%
Procedure Code	3,766,445	100.0%	3,766,445	100.0%
Procedure Code Modifiers	1,244,557	33.0%	1,244,522	>99.9%
NDC*	403,846	11.4%	403,846	100.0%
Drug Quantity*	403,846	11.4%	403,846	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	3,766,445	100.0%	3,766,445	100.0%
Header TPL Paid Amount	3,766,445	100.0%	3,763,718	99.9%
Detail Paid Amount	3,766,445	100.0%	3,766,445	100.0%
Detail TPL Paid Amount	3,766,445	100.0%	3,763,203	99.9%
MCO Received Date	3,766,445	100.0%	3,766,445	100.0%
MCO Paid Date	3,766,445	100.0%	3,764,389	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-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	3,555,667	100.0%	3,536,911	99.5%
Detail Service From Date	3,555,667	100.0%	3,555,667	100.0%
Detail Service To Date	3,555,667	100.0%	3,555,667	100.0%
Billing Provider NPI	3,555,667	100.0%	3,553,644	99.9%
Rendering Provider NPI	3,555,667	100.0%	3,551,604	99.9%
Servicing Provider Taxonomy Code	3,250,312	91.4%	3,202,223	98.5%
Referring Provider NPI	1,804,733	50.8%	1,804,438	>99.9%
Primary Diagnosis Code	3,555,665	>99.9%	3,555,665	100.0%
Secondary Diagnosis Codes	1,939,512	54.5%	1,939,496	>99.9%
Procedure Code	3,555,667	100.0%	3,555,667	100.0%
Procedure Code Modifiers	1,104,815	31.1%	1,104,780	>99.9%
NDC	403,846	11.4%	403,846	100.0%
Drug Quantity	403,846	11.4%	403,846	100.0%
Header Paid Amount	3,555,667	100.0%	3,555,667	100.0%
Header TPL Paid Amount	3,555,667	100.0%	3,552,940	99.9%
Detail Paid Amount	3,555,667	100.0%	3,555,667	100.0%
Detail TPL Paid Amount	3,555,667	100.0%	3,552,425	99.9%
MCO Received Date	3,555,667	100.0%	3,555,667	100.0%
MCO Paid Date	3,555,667	100.0%	3,555,667	100.0%

Table G-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	112,006	100.0%	112,006	100.0%
Detail Service From Date	112,006	100.0%	112,006	100.0%
Detail Service To Date	112,006	100.0%	112,006	100.0%
Billing Provider NPI	112,006	100.0%	112,006	100.0%
Rendering Provider NPI	112,006	100.0%	112,006	100.0%
Servicing Provider Taxonomy Code	112,006	100.0%	112,006	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	112,006	100.0%	112,006	100.0%
Secondary Diagnosis Codes	0	0.0%	0	—
Procedure Code	112,006	100.0%	112,006	100.0%
Procedure Code Modifiers	112,006	100.0%	112,006	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	112,006	100.0%	112,006	100.0%
Header TPL Paid Amount	112,006	100.0%	112,006	100.0%
Detail Paid Amount	112,006	100.0%	112,006	100.0%
Detail TPL Paid Amount	112,006	100.0%	112,006	100.0%
MCO Received Date	112,006	100.0%	112,006	100.0%
MCO Paid Date	112,006	100.0%	109,950	98.2%

* 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—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	98,772	100.0%	98,772	100.0%
Detail Service From Date	98,772	100.0%	98,772	100.0%
Detail Service To Date	98,772	100.0%	98,772	100.0%
Billing Provider NPI	98,772	100.0%	98,772	100.0%
Rendering Provider NPI	98,772	100.0%	98,772	100.0%
Servicing Provider Taxonomy Code	98,772	100.0%	98,772	100.0%
Referring Provider NPI	31,886	32.3%	31,886	100.0%
Primary Diagnosis Code	98,772	100.0%	98,772	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	37,798	38.3%	37,798	100.0%
Procedure Code	98,772	100.0%	98,772	100.0%
Procedure Code Modifiers	27,736	28.1%	27,736	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	98,772	100.0%	98,772	100.0%
Header TPL Paid Amount	98,772	100.0%	98,772	100.0%
Detail Paid Amount	98,772	100.0%	98,772	100.0%
Detail TPL Paid Amount	98,772	100.0%	98,772	100.0%
MCO Received Date	98,772	100.0%	98,772	100.0%
MCO Paid Date	98,772	100.0%	98,772	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: 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	1,220,690	100.0%	1,211,492	99.2%
Detail Service From Date	1,220,690	100.0%	1,213,560	99.4%
Header Service From Date	1,220,690	100.0%	1,216,937	99.7%
Header Service To Date	1,220,690	100.0%	1,203,103	98.6%
Billing Provider NPI	1,220,690	100.0%	1,220,101	>99.9%
Attending Provider NPI	1,220,405	>99.9%	1,220,136	>99.9%
Servicing Provider Taxonomy Code	919,176	75.3%	918,761	>99.9%
Referring Provider NPI	41,264	3.4%	41,245	>99.9%
Primary Diagnosis Code	1,220,690	100.0%	1,220,690	100.0%
Secondary Diagnosis Codes	1,029,668	84.4%	0	0.0%
Procedure Code	967,723	79.3%	967,720	>99.9%
Procedure Code Modifiers	227,213	18.6%	227,211	>99.9%
Surgical Procedure Codes	122,166	10.0%	88,374	72.3%
NDC	218,864	17.9%	218,864	100.0%
Drug Quantity	218,864	17.9%	218,864	100.0%
Revenue Code	1,220,690	100.0%	1,220,688	>99.9%
DRG	121,542	10.0%	0	0.0%
Type of Bill Code	892,115	73.1%	813,868	91.2%

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	1,220,690	100.0%	1,219,526	99.9%
Header TPL Paid Amount	1,220,690	100.0%	1,215,682	99.6%
Detail Paid Amount	1,220,690	100.0%	1,220,659	>99.9%
Detail TPL Paid Amount	1,220,690	100.0%	1,182,368	96.9%
MCO Received Date	1,220,690	100.0%	1,220,690	100.0%
MCO Paid Date	1,220,690	100.0%	1,220,690	100.0%

Table G-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	1,720,361	100.0%	1,720,221	>99.9%
Detail Service Date	1,720,361	100.0%	1,720,361	100.0%
Billing Provider NPI	1,720,361	100.0%	1,720,358	>99.9%
Prescribing Provider NPI	1,720,361	100.0%	1,719,474	99.9%
NDC	1,720,361	100.0%	1,712,395	99.5%
Drug Quantity	1,720,361	100.0%	1,631,689	94.8%
Detail Paid Amount	1,720,361	100.0%	1,720,142	>99.9%
Detail TPL Paid Amount^	1,720,361	100.0%	1,720,287	>99.9%
MCO Received Date	1,720,361	100.0%	1,669,706	97.1%
MCO Paid Date	1,720,361	100.0%	623	<0.1%

Table G-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	3,766,445	3,383,717	89.8%
Internal	3,555,667	3,174,995	89.3%
NEMT	112,006	109,950	98.2%
Vision	98,772	98,772	100.0%
Institutional	1,220,690	0	0.0%
Pharmacy	1,720,361	378	<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	7,802,602	150,328	1.9%	7,845,377	193,103	2.5%

	Record Omission			Record Surplus		
Encounter Data Source	Denominator	Numerator	Rate	Denominator	Numerator	Rate
CD Services	12,786	1,307	10.2%	11,479	0	0.0%
EMT (Kaiser)	3,695	270	7.3%	3,431	6	0.2%
Internal	6,308,359	135,892	2.2%	6,329,834	157,367	2.5%
Kaiser	1,050,434	2,203	0.2%	1,053,070	4,839	0.5%
NEMT	332,423	9,796	2.9%	353,473	30,846	8.7%
NEMT (Kaiser)	8,711	0	0.0%	8,712	1	<0.1%
Vision	86,194	860	1.0%	85,378	44	0.1%
Institutional	1,354,987	14,483	1.1%	1,897,642	557,138	29.4%
Internal	1,206,116	8,809	0.7%	1,749,561	552,254	31.6%
Kaiser	148,871	5,674	3.8%	148,081	4,884	3.3%
Pharmacy	3,915,351	266,170	6.8%	3,684,948	35,767	1.0%
Elixir Solutions	3,476,008	265,393	7.6%	3,244,796	34,181	1.1%
Kaiser	439,343	777	0.2%	440,152	1,586	0.4%

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: 7,652,274						
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%	4,634	0.1%	0	0.0%
Rendering Provider NPI	0	0.0%	3,467	<0.1%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	92	<0.1%	0	0.0%
Referring Provider NPI*	77,761	1.0%	0	0.0%	4,278,233	55.9%
Primary Diagnosis Code	1	<0.1%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	4,217,702	55.1%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	69	<0.1%	0	0.0%	5,441,611	71.1%
NDC*	298,985	4.1%	4	<0.1%	6,284,600	87.0%
Drug Quantity*	298,985	4.1%	4	<0.1%	6,284,600	87.0%
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: 7,652,274						
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	5,109	0.1%	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: 11,479						
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%	11,479	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	11,479	100.0%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	10,677	93.0%
NDC*	—	—	—	—	—	—

	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: 11,479						
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—EMT

	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: 3,425						
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%	3,425	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	3,425	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%

	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: 3,425						
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-5—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: 6,172,467						
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%	4,634	0.1%	0	0.0%
Rendering Provider NPI	0	0.0%	3,467	0.1%	0	0.0%
Servicing Provider Taxonomy Code	0	0.0%	12	<0.1%	0	0.0%
Referring Provider NPI*	77,713	1.3%	0	0.0%	3,383,275	54.8%
Primary Diagnosis Code	1	<0.1%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	3,191,759	51.7%
Procedure Code	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: 6,172,467						
Procedure Code Modifiers*	0	0.0%	0	0.0%	4,491,780	72.8%
NDC*	298,985	4.8%	0	0.0%	5,344,950	86.6%
Drug Quantity*	298,985	4.8%	0	0.0%	5,344,950	86.6%
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—Kaiser

	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: 1,048,231						
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%	80	<0.1%	0	0.0%
Referring Provider NPI*	48	<0.1%	0	0.0%	463,417	44.2%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	617,960	59.0%

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: 1,048,231						
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	69	<0.1%	0	0.0%	858,772	81.9%
NDC*	0	0.0%	4	<0.1%	939,650	89.6%
Drug Quantity*	0	0.0%	4	<0.1%	939,650	89.6%
Header Paid Amount	0	0.0%	0	0.0%	0	0.0%
Header TPL Paid Amount^	—	—	—	—	—	—
Detail Paid Amount	0	0.0%	5,109	0.5%	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: Professional—NEMT (Kaiser)

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: 8,711						
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%	8,711	100.0%
Primary Diagnosis Code	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: 8,711						
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	8,711	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 H-8—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: 322,627						
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%	322,592	>99.9%

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: 322,627						
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	322,375	99.9%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	4	<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-9—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: 85,334						
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%

	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: 85,334						
Referring Provider NPI*	0	0.0%	0	0.0%	85,334	100.0%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	0	0.0%	61,993	72.6%
Procedure Code	0	0.0%	0	0.0%	0	0.0%
Procedure Code Modifiers*	0	0.0%	0	0.0%	80,378	94.2%
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-10—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: 1,340,504						
Member ID	0	0.0%	1	<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%	922	0.1%	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: 1,340,504						
Attending Provider NPI	0	0.0%	0	0.0%	21,140	1.6%
Servicing Provider Taxonomy Code	1,176,092	87.7%	1	<0.1%	21,510	1.6%
Referring Provider NPI*	999	0.1%	0	0.0%	1,285,985	95.9%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	20,105	1.5%	5,435	0.4%
Procedure Code*	1,927	0.1%	1,916	0.1%	198,791	14.8%
Procedure Code Modifiers*	2,403	0.2%	2,401	0.2%	1,094,784	81.7%
Surgical Procedure Codes*	11	<0.1%	0	0.0%	1,274,327	95.1%
NDC*	193,910	14.5%	5,370	0.4%	1,107,405	82.6%
Drug Quantity*	193,910	14.5%	5,370	0.4%	1,107,405	82.6%
Revenue Code	0	0.0%	6	<0.1%	0	0.0%
DRG	0	0.0%	0	0.0%	1,256,701	93.7%
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).
^ 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-11—Element Omission, Surplus, and Missing by Key Data Element: Institutional—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: 1,197,307						
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%	922	0.1%	0	0.0%
Attending Provider NPI	0	0.0%	0	0.0%	21,052	1.8%
Servicing Provider Taxonomy Code	1,176,092	98.2%	0	0.0%	21,215	1.8%
Referring Provider NPI*	999	0.1%	0	0.0%	1,157,747	96.7%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	2,057	0.2%	5,435	0.5%
Procedure Code*	0	0.0%	0	0.0%	156,925	13.1%
Procedure Code Modifiers*	0	0.0%	0	0.0%	970,319	81.0%
Surgical Procedure Codes*	3	<0.1%	0	0.0%	1,158,416	96.8%
NDC*	188,868	15.8%	0	0.0%	992,864	82.9%
Drug Quantity*	188,868	15.8%	0	0.0%	992,864	82.9%
Revenue Code	0	0.0%	6	<0.1%	0	0.0%
DRG	0	0.0%	0	0.0%	1,148,386	95.9%
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).
^ 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-12—Element Omission, Surplus, and Missing by Key Data Element: Institutional—Kaiser

	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: 143,197						
Member ID	0	0.0%	1	<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%	0	0.0%	0	0.0%
Attending Provider NPI	0	0.0%	0	0.0%	88	0.1%
Servicing Provider Taxonomy Code	0	0.0%	1	<0.1%	295	0.2%
Referring Provider NPI*	0	0.0%	0	0.0%	128,238	89.6%
Primary Diagnosis Code	0	0.0%	0	0.0%	0	0.0%
Secondary Diagnosis Codes*	0	0.0%	18,048	12.6%	0	0.0%
Procedure Code*	1,927	1.3%	1,916	1.3%	41,866	29.2%
Procedure Code Modifiers*	2,403	1.7%	2,401	1.7%	124,465	86.9%
Surgical Procedure Codes*	8	<0.1%	0	0.0%	115,911	80.9%
NDC*	5,042	3.5%	5,370	3.8%	114,541	80.0%
Drug Quantity*	5,042	3.5%	5,370	3.8%	114,541	80.0%
Revenue Code	0	0.0%	0	0.0%	0	0.0%
DRG	0	0.0%	0	0.0%	108,315	75.6%
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).
^ 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-13—Element Omission, Surplus, and Missing by Key Data Element: Pharmacy—Total

	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: 3,649,181						
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-14—Element Omission, Surplus, and Missing by Key Data Element: Pharmacy—Elixir Solutions

	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: 3,210,615						
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-15—Element Omission, Surplus, and Missing by Key Data Element: Pharmacy—Kaiser

	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: 438,566						
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-16—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	7,652,274	100.0%	7,515,458	98.2%
Detail Service From Date	7,652,274	100.0%	7,652,274	100.0%
Detail Service To Date	7,652,274	100.0%	7,652,274	100.0%
Billing Provider NPI	7,647,640	99.9%	7,646,251	>99.9%
Rendering Provider NPI	7,648,807	>99.9%	7,647,450	>99.9%
Servicing Provider Taxonomy Code	7,652,182	>99.9%	7,651,805	>99.9%
Referring Provider NPI	3,296,280	43.1%	3,296,280	100.0%
Primary Diagnosis Code	7,652,273	>99.9%	7,652,273	100.0%
Secondary Diagnosis Codes	3,434,572	44.9%	3,434,572	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
Procedure Code	7,652,274	100.0%	7,652,248	>99.9%
Procedure Code Modifiers	2,210,594	28.9%	2,210,580	>99.9%
NDC*	637,109	8.8%	637,109	100.0%
Drug Quantity*	637,109	8.8%	636,917	>99.9%
Header Paid Amount	7,652,274	100.0%	7,652,126	>99.9%
Header TPL Paid Amount	7,652,274	100.0%	7,627,376	99.7%
Detail Paid Amount	7,647,165	99.9%	7,647,006	>99.9%
Detail TPL Paid Amount	7,652,274	100.0%	7,632,745	99.7%
MCO Received Date	7,652,274	100.0%	5,354,871	70.0%
MCO Paid Date	7,652,274	100.0%	7,517,880	98.2%

* 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-17—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	11,479	100.0%	11,479	100.0%
Detail Service From Date	11,479	100.0%	11,479	100.0%
Detail Service To Date	11,479	100.0%	11,479	100.0%
Billing Provider NPI	11,479	100.0%	11,479	100.0%
Rendering Provider NPI	11,479	100.0%	11,479	100.0%
Servicing Provider Taxonomy Code	11,479	100.0%	11,479	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	11,479	100.0%	11,479	100.0%
Secondary Diagnosis Codes	0	0.0%	0	—
Procedure Code	11,479	100.0%	11,479	100.0%
Procedure Code Modifiers	802	7.0%	802	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	11,479	100.0%	11,479	100.0%
Header TPL Paid Amount	11,479	100.0%	11,479	100.0%
Detail Paid Amount	11,479	100.0%	11,479	100.0%
Detail TPL Paid Amount	11,479	100.0%	11,479	100.0%
MCO Received Date	11,479	100.0%	11,479	100.0%
MCO Paid Date	11,479	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-18—Data Element Percent Present and Percent of Accuracy: Professional—EMT (Kaiser)

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	3,425	100.0%	176	5.1%
Detail Service From Date	3,425	100.0%	3,425	100.0%
Detail Service To Date	3,425	100.0%	3,425	100.0%
Billing Provider NPI	3,425	100.0%	2,553	74.5%
Rendering Provider NPI	3,425	100.0%	2,553	74.5%
Servicing Provider Taxonomy Code	3,425	100.0%	3,425	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	3,425	100.0%	3,425	100.0%
Secondary Diagnosis Codes	0	0.0%	0	—
Procedure Code	3,425	100.0%	3,410	99.6%
Procedure Code Modifiers	3,425	100.0%	3,425	100.0%
NDC	—	—	—	—
Drug Quantity	—	—	—	—
Header Paid Amount	3,425	100.0%	3,425	100.0%
Header TPL Paid Amount	3,425	100.0%	3,425	100.0%
Detail Paid Amount	3,425	100.0%	3,410	99.6%
Detail TPL Paid Amount	3,425	100.0%	3,425	100.0%
MCO Received Date	3,425	100.0%	3,425	100.0%
MCO Paid Date	3,425	100.0%	3,425	100.0%

Table H-19—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	6,172,467	100.0%	6,165,660	99.9%
Detail Service From Date	6,172,467	100.0%	6,172,467	100.0%
Detail Service To Date	6,172,467	100.0%	6,172,467	100.0%
Billing Provider NPI	6,167,833	99.9%	6,167,807	>99.9%
Rendering Provider NPI	6,169,000	99.9%	6,168,992	>99.9%
Servicing Provider Taxonomy Code	6,172,455	>99.9%	6,172,428	>99.9%
Referring Provider NPI	2,711,479	43.9%	2,711,479	100.0%
Primary Diagnosis Code	6,172,466	>99.9%	6,172,466	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	2,980,708	48.3%	2,980,708	100.0%
Procedure Code	6,172,467	100.0%	6,172,467	100.0%
Procedure Code Modifiers	1,680,687	27.2%	1,680,687	100.0%
NDC	528,532	8.6%	528,532	100.0%
Drug Quantity	528,532	8.6%	528,532	100.0%
Header Paid Amount	6,172,467	100.0%	6,172,467	100.0%
Header TPL Paid Amount	6,172,467	100.0%	6,148,487	99.6%
Detail Paid Amount	6,172,467	100.0%	6,172,467	100.0%
Detail TPL Paid Amount	6,172,467	100.0%	6,153,813	99.7%
MCO Received Date	6,172,467	100.0%	3,875,380	62.8%
MCO Paid Date	6,172,467	100.0%	6,050,180	98.0%

Table H-20—Data Element Percent Present and Percent of Accuracy: Professional—Kaiser

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	1,048,231	100.0%	925,694	88.3%
Detail Service From Date	1,048,231	100.0%	1,048,231	100.0%
Detail Service To Date	1,048,231	100.0%	1,048,231	100.0%
Billing Provider NPI	1,048,231	100.0%	1,048,216	>99.9%
Rendering Provider NPI	1,048,231	100.0%	1,048,230	>99.9%
Servicing Provider Taxonomy Code	1,048,151	>99.9%	1,048,078	>99.9%
Referring Provider NPI	584,766	55.8%	584,766	100.0%
Primary Diagnosis Code	1,048,231	100.0%	1,048,231	100.0%
Secondary Diagnosis Codes	430,271	41.0%	430,271	100.0%
Procedure Code	1,048,231	100.0%	1,048,228	>99.9%
Procedure Code Modifiers	189,390	18.1%	189,376	>99.9%
NDC	108,577	10.4%	108,577	100.0%
Drug Quantity	108,577	10.4%	108,385	99.8%
Header Paid Amount	1,048,231	100.0%	1,048,198	>99.9%
Header TPL Paid Amount	1,048,231	100.0%	1,047,323	99.9%
Detail Paid Amount	1,043,122	99.5%	1,043,093	>99.9%
Detail TPL Paid Amount	1,048,231	100.0%	1,047,366	99.9%
MCO Received Date	1,048,231	100.0%	1,048,217	>99.9%
MCO Paid Date	1,048,231	100.0%	1,047,723	>99.9%

Table H-21—Data Element Percent Present and Percent of Accuracy: Professional—NEMT (Kaiser)

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	8,711	100.0%	4,488	51.5%
Detail Service From Date	8,711	100.0%	8,711	100.0%
Detail Service To Date	8,711	100.0%	8,711	100.0%
Billing Provider NPI	8,711	100.0%	8,235	94.5%
Rendering Provider NPI	8,711	100.0%	8,235	94.5%
Servicing Provider Taxonomy Code	8,711	100.0%	8,434	96.8%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	8,711	100.0%	8,711	100.0%
Secondary Diagnosis Codes	0	0.0%	0	—
Procedure Code	8,711	100.0%	8,711	100.0%
Procedure Code Modifiers	8,711	100.0%	8,711	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	8,711	100.0%	8,711	100.0%
Header TPL Paid Amount	8,711	100.0%	8,711	100.0%
Detail Paid Amount	8,711	100.0%	8,711	100.0%
Detail TPL Paid Amount	8,711	100.0%	8,711	100.0%
MCO Received Date	8,711	100.0%	8,711	100.0%
MCO Paid Date	8,711	100.0%	8,711	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-22—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	322,627	100.0%	322,627	100.0%
Detail Service From Date	322,627	100.0%	322,627	100.0%
Detail Service To Date	322,627	100.0%	322,627	100.0%
Billing Provider NPI	322,627	100.0%	322,627	100.0%
Rendering Provider NPI	322,627	100.0%	322,627	100.0%
Servicing Provider Taxonomy Code	322,627	100.0%	322,627	100.0%
Referring Provider NPI	35	<0.1%	35	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
Primary Diagnosis Code	322,627	100.0%	322,627	100.0%
Secondary Diagnosis Codes	252	0.1%	252	100.0%
Procedure Code	322,627	100.0%	322,619	>99.9%
Procedure Code Modifiers	322,623	>99.9%	322,623	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	322,627	100.0%	322,519	>99.9%
Header TPL Paid Amount	322,627	100.0%	322,627	100.0%
Detail Paid Amount	322,627	100.0%	322,519	>99.9%
Detail TPL Paid Amount	322,627	100.0%	322,627	100.0%
MCO Received Date	322,627	100.0%	322,325	99.9%
MCO Paid Date	322,627	100.0%	322,507	>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-23—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	85,334	100.0%	85,334	100.0%
Detail Service From Date	85,334	100.0%	85,334	100.0%
Detail Service To Date	85,334	100.0%	85,334	100.0%
Billing Provider NPI	85,334	100.0%	85,334	100.0%
Rendering Provider NPI	85,334	100.0%	85,334	100.0%
Servicing Provider Taxonomy Code	85,334	100.0%	85,334	100.0%
Referring Provider NPI	0	0.0%	0	—
Primary Diagnosis Code	85,334	100.0%	85,334	100.0%
Secondary Diagnosis Codes	23,341	27.4%	23,341	100.0%
Procedure Code	85,334	100.0%	85,334	100.0%
Procedure Code Modifiers	4,956	5.8%	4,956	100.0%
NDC*	—	—	—	—
Drug Quantity*	—	—	—	—
Header Paid Amount	85,334	100.0%	85,327	>99.9%
Header TPL Paid Amount	85,334	100.0%	85,324	>99.9%
Detail Paid Amount	85,334	100.0%	85,327	>99.9%
Detail TPL Paid Amount	85,334	100.0%	85,324	>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
MCO Received Date	85,334	100.0%	85,334	100.0%
MCO Paid Date	85,334	100.0%	85,334	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-24—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	1,340,503	>99.9%	1,323,235	98.7%
Detail Service From Date	1,340,504	100.0%	1,322,448	98.7%
Header Service From Date	1,340,504	100.0%	1,340,504	100.0%
Header Service To Date	1,340,504	100.0%	1,340,504	100.0%
Billing Provider NPI	1,339,582	99.9%	1,339,582	100.0%
Attending Provider NPI	1,319,364	98.4%	1,319,363	>99.9%
Servicing Provider Taxonomy Code	142,901	10.7%	142,901	100.0%
Referring Provider NPI	53,520	4.0%	53,520	100.0%
Primary Diagnosis Code	1,340,504	100.0%	1,340,422	>99.9%
Secondary Diagnosis Codes	1,314,964	98.1%	624,667	47.5%
Procedure Code	1,137,870	84.9%	1,115,192	98.0%
Procedure Code Modifiers	240,916	18.0%	240,363	99.8%
Surgical Procedure Codes	66,166	4.9%	62,572	94.6%
NDC	33,819	2.5%	31,068	91.9%
Drug Quantity	33,819	2.5%	31,305	92.6%
Revenue Code	1,340,498	>99.9%	1,284,083	95.8%
DRG	83,803	6.3%	83,803	100.0%
Type of Bill Code	1,340,502	>99.9%	1,176,302	87.8%
Header Paid Amount	1,340,504	100.0%	1,340,476	>99.9%
Header TPL Paid Amount	1,340,504	100.0%	1,303,685	97.3%
Detail Paid Amount	1,340,504	100.0%	1,322,310	98.6%
Detail TPL Paid Amount	1,340,504	100.0%	1,329,611	99.2%
MCO Received Date	1,340,504	100.0%	744,031	55.5%
MCO Paid Date	1,340,504	100.0%	1,340,439	>99.9%

Table H-25—Data Element Percent Present and Percent of Accuracy: Institutional—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	1,197,307	100.0%	1,196,451	99.9%
Detail Service From Date	1,197,307	100.0%	1,197,208	>99.9%
Header Service From Date	1,197,307	100.0%	1,197,307	100.0%
Header Service To Date	1,197,307	100.0%	1,197,307	100.0%
Billing Provider NPI	1,196,385	99.9%	1,196,385	100.0%
Attending Provider NPI	1,176,255	98.2%	1,176,255	100.0%
Servicing Provider Taxonomy Code	0	0.0%	0	—
Referring Provider NPI	38,561	3.2%	38,561	100.0%
Primary Diagnosis Code	1,197,307	100.0%	1,197,225	>99.9%
Secondary Diagnosis Codes	1,189,815	99.4%	624,667	52.5%
Procedure Code	1,040,382	86.9%	1,040,382	100.0%
Procedure Code Modifiers	226,988	19.0%	226,988	100.0%
Surgical Procedure Codes	38,888	3.2%	37,719	97.0%
NDC	15,575	1.3%	15,575	100.0%
Drug Quantity	15,575	1.3%	15,575	100.0%
Revenue Code	1,197,301	>99.9%	1,197,301	100.0%
DRG	48,921	4.1%	48,921	100.0%
Type of Bill Code	1,197,307	100.0%	1,050,834	87.8%
Header Paid Amount	1,197,307	100.0%	1,197,307	100.0%
Header TPL Paid Amount	1,197,307	100.0%	1,162,280	97.1%
Detail Paid Amount	1,197,307	100.0%	1,197,307	100.0%
Detail TPL Paid Amount	1,197,307	100.0%	1,187,960	99.2%
MCO Received Date	1,197,307	100.0%	600,834	50.2%
MCO Paid Date	1,197,307	100.0%	1,197,290	>99.9%

Table H-26—Data Element Percent Present and Percent of Accuracy: Institutional—Kaiser

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	143,196	>99.9%	126,784	88.5%
Detail Service From Date	143,197	100.0%	125,240	87.5%
Header Service From Date	143,197	100.0%	143,197	100.0%
Header Service To Date	143,197	100.0%	143,197	100.0%
Billing Provider NPI	143,197	100.0%	143,197	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
Attending Provider NPI	143,109	99.9%	143,108	>99.9%
Servicing Provider Taxonomy Code	142,901	99.8%	142,901	100.0%
Referring Provider NPI	14,959	10.4%	14,959	100.0%
Primary Diagnosis Code	143,197	100.0%	143,197	100.0%
Secondary Diagnosis Codes	125,149	87.4%	0	0.0%
Procedure Code	97,488	68.1%	74,810	76.7%
Procedure Code Modifiers	13,928	9.7%	13,375	96.0%
Surgical Procedure Codes	27,278	19.0%	24,853	91.1%
NDC	18,244	12.7%	15,493	84.9%
Drug Quantity	18,244	12.7%	15,730	86.2%
Revenue Code	143,197	100.0%	86,782	60.6%
DRG	34,882	24.4%	34,882	100.0%
Type of Bill Code	143,195	>99.9%	125,468	87.6%
Header Paid Amount	143,197	100.0%	143,169	>99.9%
Header TPL Paid Amount	143,197	100.0%	141,405	98.7%
Detail Paid Amount	143,197	100.0%	125,003	87.3%
Detail TPL Paid Amount	143,197	100.0%	141,651	98.9%
MCO Received Date	143,197	100.0%	143,197	100.0%
MCO Paid Date	143,197	100.0%	143,149	>99.9%

Table H-27—Data Element Percent Present and Percent of Accuracy: Pharmacy—Total

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	3,649,181	100.0%	3,649,181	100.0%
Detail Service Date	3,649,181	100.0%	3,649,181	100.0%
Billing Provider NPI	3,649,181	100.0%	3,649,181	100.0%
Prescribing Provider NPI	3,649,181	100.0%	3,649,181	100.0%
NDC	3,649,181	100.0%	3,649,181	100.0%
Drug Quantity	3,649,181	100.0%	3,649,181	100.0%
Detail Paid Amount	3,649,181	100.0%	3,629,126	99.5%
Detail TPL Paid Amount	3,649,181	100.0%	3,596,738	98.6%
MCO Received Date	3,649,181	100.0%	3,649,181	100.0%
MCO Paid Date	3,649,181	100.0%	3,649,179	>99.9%

Table H-28—Data Element Percent Present and Percent of Accuracy: Pharmacy—Elixir Solutions

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	3,210,615	100.0%	3,210,615	100.0%
Detail Service Date	3,210,615	100.0%	3,210,615	100.0%
Billing Provider NPI	3,210,615	100.0%	3,210,615	100.0%
Prescribing Provider NPI	3,210,615	100.0%	3,210,615	100.0%
NDC	3,210,615	100.0%	3,210,615	100.0%
Drug Quantity	3,210,615	100.0%	3,210,615	100.0%
Detail Paid Amount	3,210,615	100.0%	3,191,620	99.4%
Detail TPL Paid Amount	3,210,615	100.0%	3,158,172	98.4%
MCO Received Date	3,210,615	100.0%	3,210,615	100.0%
MCO Paid Date	3,210,615	100.0%	3,210,614	>99.9%

Table H-29—Data Element Percent Present and Percent of Accuracy: Pharmacy—Kaiser

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	438,566	100.0%	438,566	100.0%
Detail Service Date	438,566	100.0%	438,566	100.0%
Billing Provider NPI	438,566	100.0%	438,566	100.0%
Prescribing Provider NPI	438,566	100.0%	438,566	100.0%
NDC	438,566	100.0%	438,566	100.0%
Drug Quantity	438,566	100.0%	438,566	100.0%
Detail Paid Amount	438,566	100.0%	437,506	99.8%
Detail TPL Paid Amount	438,566	100.0%	438,566	100.0%
MCO Received Date	438,566	100.0%	438,566	100.0%
MCO Paid Date	438,566	100.0%	438,565	>99.9%

Table H-30—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	7,652,274	4,924,564	64.4%
CD Services	11,479	0	0.0%
EMT (Kaiser)	3,425	172	5.0%
Internal	6,172,467	3,592,702	58.2%
Kaiser	1,048,231	919,559	87.7%
NEMT	322,627	322,325	99.9%
NEMT (Kaiser)	8,711	4,482	51.5%
Vision	85,334	85,324	>99.9%
Institutional	1,340,504	5,840	0.4%
Internal	1,197,307	5,840	0.5%
Kaiser	143,197	0	0.0%
Pharmacy	3,649,181	3,595,675	98.5%
Elixir Solutions	3,210,615	3,158,170	98.4%
Kaiser	438,566	437,505	99.8%