Florida Agency for Health Care Administration

SFY 2020–2021 Encounter Data Validation Study: Aggregate Report

August 2021

HSAG HEALTH SERVICES ADVISORY GROUP

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Agency .... Florida Agency for Health Care Administration
CDT...Current Dental Terminology
CMS ....Centers for Medicare & Medicaid Services
CNET .... Capitated Non-Emergency Transportation
CPT ....Current Procedural Terminology
CY .... Calendar Year
EDV ....Encounter Data Validation
EQR..External Quality Review
HCPCS ....Healthcare Common Procedure Coding System
HIPAA ....Health Insurance Portability and Accountability Act of 1996
HSAG.. Health Services Advisory Group, Inc.
ICD-10-CM.....................International Classification of Diseases, Tenth Revision, Clinical Modification
ICN...Internal Control Number
ID ....Identification
IRR ....Interrater Reliability
MM ....Member Months
NPI ....National Provider Identifier
SAFE.. Secure Access File Exchange
SFY ....State Fiscal Year
SMMC ....Statewide Medicaid Managed Care
TCN.. Transaction Control Number

HSAG assessed the encounters submitted by the Florida Agency for Health Care Administration's (Agency's) contracted Capitated Non-Emergency Transportation (CNET) plans and dental plans (collectively referred to as "plans"). The table below lists the contracted plans included in this study.

List of Contracted Plans

Plan Name	Plan Abbreviation
CNET Plans	
LogistiCare	LCS
Medical Transportation Management	MTM
Dental Plans	
DentaQuest of Florida	DQT
Liberty Dental Plan of Florida	LIB
Managed Care of North America	MCA

Introduction

Accurate and complete encounter data are critical to the success of any managed care program. State Medicaid agencies rely on the quality of the 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. The completeness and accuracy of these data are essential to the success of the state's overall management and oversight of its Medicaid managed care program and in demonstrating its responsibility and stewardship.

During state fiscal year (SFY) 2020–2021, the Agency contracted with Health Services Advisory Group, Inc. (HSAG), to conduct an Encounter Data Validation (EDV) study. The goal of the study is to examine the extent to which encounters submitted to the Agency by its contracted Capitated Non-Emergency Transportation (CNET) plans and Statewide Medicaid Managed Care (SMMC) dental plans (collectively referred to as "plans") are complete and accurate.

Overview of 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 Managed Care Plan: An Optional EQR-Related Activity*, October 2019,[1-1] HSAG conducted the following core evaluation activities for the EDV activity:

- Comparative analysis—Analysis of the Agency's electronic encounter data completeness and accuracy through a comparative analysis between the Agency's electronic encounter data and the data extracted from the plans' data systems. The comparative analysis of the encounter data involved a series of analyses divided into two analytic sections:

  1. HSAG assessed **record-level data completeness** using the following metrics for each encounter type:

  – *Record omission*—The percentage of records present in the plan-submitted files that were not found in the Agency-submitted files.

  – *Record surplus*—The percentage of records present in the Agency-submitted files that were not found in the plan-submitted files.

  2. Based on the number of records present in both data sources, HSAG examined **data element-level completeness and accuracy** for key data elements based on the following metrics:

[1-1] Department of Health and Human Services, Centers for Medicare & Medicaid Services. *Protocol 5. Validation of Encounter Data Reported by the Medicaid and CHIP Managed Care Plan: An Optional EQR-Related Activity*, October 2019. Available at: https://www.medicaid.gov/medicaid/quality-of-care/downloads/2019-eqr-protocols.pdf. Accessed on: June 22, 2021.

- – *Element omission*—The percentage of records with values present in the plan-submitted files but not present in the Agency-submitted files.
  - – *Element surplus*—The percentage of records with values present in the Agency-submitted files but not present in the plan-submitted files.
  - – *Element accuracy*—The percentage of records with the same values in both the Agency- and plan-submitted files.
- • Transportation/dental medical record review—Analysis of the Agency's electronic encounter data completeness and accuracy by comparing the Agency's electronic encounter data to the information documented in the corresponding enrollees' transportation/dental records. Four study indicators were developed to report the transportation/dental record review results:
  - – *Transportation/dental record omission*—The percentage of dates of service identified in the electronic encounter data that were not found in the enrollees' transportation/dental records. This rate was also calculated for data elements *Diagnosis Code*, *Procedure Code*, *Procedure Code Modifier*, and *Units*.
  - – *Encounter data omission*—The percentage of dates of service from enrollees' transportation/dental records that were not found in the electronic encounter data. This rate was also calculated for data elements *Diagnosis Code*, *Procedure Code*, *Procedure Code Modifier*, and *Units*.
  - – *Coding accuracy*—The percentage of diagnosis codes, procedure codes, and procedure code modifiers associated with validated dates of service from the electronic encounter data that were correctly coded based on the enrollees' transportation/dental records.
  - – *Overall accuracy*—The percentage of dates of service with all data elements coded correctly among all validated dates of service from the electronic encounter data.

Snapshot of Findings and Recommendations

Comparative Analysis

Record Completeness

Table 1-1 displays the statewide and plan range of record omission and record surplus rates by encounter type. **Lower rates indicate better performance for both record omission and record surplus**, and rates less than 10.0 percent are generally considered low.

Table 1-1—Encounter Data Completeness Summary

Encounter Type	Record Omission[1]		Record Surplus[2]	
	All Plans' Rate	Plan Range	All Plans' Rate	Plan Range
Non-Emergency Transportation	1.6%	0.8%–2.1%	0.9%	0.0%–1.5%
Dental	4.6%	0.9%–18.9%	1.8%	0.1%–10.5%

[1] Records present in the plan-submitted files but not found in the Agency-submitted files.
[2] Records present in the Agency-submitted files but not found in the plan-submitted files.

Findings: The overall record omission and surplus rates were very low for both the non-emergency transportation and dental encounter types, suggesting very low discrepancies at the record level when comparing the Agency-submitted files to the plan-submitted files. The overall record omission and surplus rates for dental plans were slightly higher when compared to the CNET plan rates. The higher overall record omission rate for the dental plans was mostly attributable to one plan's rate, where the plan-submitted file included duplicated records at the detail lines. Additionally, the higher overall record surplus rate for dental plans was also mostly attributable to one plan's rate. During the preliminary review process of the data submitted by this plan, HSAG provided documentation noting record count comparison as well as the number of unique *Internal Control Numbers* (*ICNs*)/*Transaction Control Numbers* (*TCNs*) in the plan-submitted file when compared to the Agency-submitted file. HSAG also provided example records associated with discrepant *ICNs*/*TCNs* for the plan to investigate and/or resubmit the data. The plan provided a response indicating there were *ICN*s missing from its initial submission and that it would need to submit a supplemental dataset; however, the plan did not submit the supplemental dataset with its response to the file review document, which may have contributed to the high surplus rate.

Data Element Completeness and Accuracy

Table 1-2 displays the statewide data element omission, surplus, and accuracy results for the key data elements evaluated from the non-emergency transportation and dental encounters. For data element omission and surplus, lower rates indicate better performance, whereas for element accuracy, higher rates indicate better performance. Generally, for element omission and element surplus, rates less than 5.0 percent are considered low, whereas for element accuracy, rates greater than 95.0 percent are considered high.

Table 1-2—Data Element Omission, Surplus, and Accuracy Rates: Non-Emergency Transportation and Dental

Key Data Element	Non-Emergency Transportation			Dental		
	Omission	Surplus	Accuracy	Omission	Surplus	Accuracy
Enrollee ID	0.1%	0.0%	>99.9%	<0.1%	<0.1%	>99.9%
Detail Service From Date	0.0%	0.0%	100%	0.0%	0.0%	>99.9%
Detail Service To Date	0.0%	0.0%	100%	0.0%	0.0%	99.8%
Billing Provider National Provider Identifier (NPI)	0.0%	0.0%	100%	0.6%	0.0%	89.0%
Rendering Provider NPI	0.0%	95.0%	0.0%	<0.1%	9.2%	94.6%
Current Dental Terminology (CDT)/Current Procedural Terminology (CPT)/Healthcare Common Procedure Coding System (HCPCS) Procedure Code	0.0%	0.0%	100%	<0.1%	0.0%	>99.9%
Procedure Code Modifier[1]	0.0%	0.0%	>99.9%			
Units of Service	0.0%	58.8%	100%	0.0%	0.0%	>99.9%
Tooth Number				0.2%	<0.1%	98.7%
Mouth Quadrant				<0.1%	0.3%	98.2%
Tooth Surface 1				3.5%	1.5%	99.8%

Key Data Element	Non-Emergency Transportation			Dental		
	Omission	Surplus	Accuracy	Omission	Surplus	Accuracy
Tooth Surface 2				2.6%	<0.1%	99.9%
Tooth Surface 3				0.7%	0.2%	91.6%
Tooth Surface 4				0.1%	0.2%	84.1%
Tooth Surface 5				<0.1%	0.5%	78.7%
Tooth Surface 6				<0.1%	0.5%	NA
Primary Diagnosis Code	0.0%	0.0%	100%			
Detail Paid Amount	0.0%	0.0%	>99.9%	0.0%	0.0%	>99.9%

[1] Note: Gray cells indicate that data elements were not evaluated for certain encounter types.

Findings: Overall, among encounters that could be matched between the Agency- and plan-submitted data, the encounter data elements exhibited a high level of completeness (i.e., low omission and low surplus rates) across both encounter types (i.e., non-emergency transportation and dental encounters). The element omission and surplus rates were below 5 percent for the key data elements evaluated, with few exceptions. Data elements with relatively incomplete data included *Rendering Provider NPI* in both the non-emergency transportation and dental encounters and *Units of Service* in the non-emergency transportation encounters. The high surplus rates for the *Rendering Provider NPI* data element were due to this data element being populated with the same values as *Billing Provider NPI* in the Agency-submitted data, while the plan-submitted data had no values populated in the *Rendering Provider NPI* data element. The high overall record surplus rate for the *Units of Service* data element was attributed to one plan's submitted data, where the plan did not have values populated in this data element. Overall, among encounters that could be matched between the Agency- and plan-submitted data, the encounter data elements exhibited a high level of accuracy (i.e., high accuracy rates) across both encounter types, except for the *Rendering Provider NPI* data element from the non-emergency transportation encounters. It appears that the Agency-submitted data populated this data element with the same values as the *Billing Provider NPI* (i.e., the plan NPI), while the plan-submitted data were populated with different NPI values.

Recommendations: Based on the comparative analysis results, HSAG recommends the following to the Agency to improve encounter data completeness and accuracy:

- The comparative analysis results for both the non-emergency transportation and dental encounters indicate a high degree of complete and accurate data. As such, HSAG recommends that the Agency continue its current efforts in monitoring encounter data submissions and addressing any identified data issues with the CNET and dental plans' encounter file submissions.

- As recommended in the prior year's EDV activity, HSAG recommends for future EDV studies that the Agency consider a series of follow-up activities during the study timeline, designed to assist the plans in addressing and resolving encounter data issues identified from the comparative analysis component of the study. The follow-up activities could include:

  – Distribution of data discrepancy reports to the plans identified as having data issues, which include a description of key issues for the plans to review. Samples of encounters highlighting identified issues may also be distributed to further assist the plans in reviewing their results.

–   Conducting collaborative technical assistance sessions with the plans to discuss data issues identified in the study, whereby root causes of discrepancies can be discussed and resolved.

•   HSAG recommends the Agency consider developing standards for the measures included in the comparative analysis. In collaboration with HSAG, the Agency may consider developing and implementing processes to evaluate the plans' performance and provide results to the plans for initial feedback to ensure the plans understand the measures evaluated and eventually the associated standards. These standards can potentially be included in the Agency's provider agreement as part of the validation of the plans' encounter data to assess and monitor the plans' performance in submitting complete and accurate encounter data to the Agency.

Transportation/Dental Record Review Findings

Encounter Data Completeness and Accuracy

Table 1-3 displays the transportation/dental record omission, encounter data omission, element accuracy, and all-element accuracy rates for each key data element.

Table 1-3—Encounter Data Completeness and Accuracy Summary

Key Data Element	Transportation/Dental Record Omission[1]		Encounter Data Omission[2]		Element Accuracy	
	All Plans' Rate	Plan Range	All Plans' Rate	Plan Range	All Plans' Rate	Plan Range
Date of Service	0.7%	0.0%–1.8%	3.0%	0.0%–6.0%	—	—
Diagnosis Code[3]	13.2%	3.5%–23.0%	0.6%	0.0%–1.4%	100%	100%–100%
Procedure Code	11.3%	4.1%–24.8%	7.6%	0.0%–10.9%	94.3%	91.8%–100%
Procedure Code Modifier[3]	18.2%	4.5%–28.2%	3.0%	1.7%–4.3%	83.6%	71.8%–95.8%
Units[3]	17.2%	6.3%–24.8%	0.4%	0.0%–0.8%	74.7%	46.4%–99.2%
All-Element Accuracy[4]					45.5%	20.4%–55.6%

"—" Indicates that the accuracy rate analysis was not applicable to a given data element.

[1] Services documented in the encounter data but not supported by the enrollees' transportation/dental records.

[2] Services documented in the enrollees' transportation/dental records but not in the encounter data.

[3] Review of data element is applicable to non-emergency transportation encounters only.

[4] The all-element accuracy rate describes the percentage of dates of service present in both the Agency's encounter data and in the transportation/dental records with **all** data elements coded correctly (i.e., not omitted from the transportation/dental record, not omitted from the encounter data, and when populated have the same values). As such, the gray cells indicate the evaluation for transportation/dental record omission or encounter data omission is not applicable.

Findings: Overall, the *Date of Service* data element within the Agency's encounter data was well-supported by the enrollees' transportation/dental records, as evidenced by the low transportation/dental record omission rate. However, the other four data elements (i.e., *Diagnosis Code*, *Procedure Code*,

Procedure Code Modifier, and *Units*) were moderately supported by the transportation/dental records. Of note, the low transportation record omission rates reported by one plan contributed to the low overall rates for data elements *Diagnosis Code*, *Procedure Code*, *Procedure Code Modifier*, and *Units*, where the plan submitted insufficient documentation to verify these key data elements. In contrast, the low encounter data omission rates indicate that all the key data elements found in the transportation/dental records were well-supported by the information found in the Agency's electronic encounter data, with rates less than 8 percent across all key data elements. Overall, when key data elements were present in both the Agency's encounter data and the enrollees' transportation/dental records and were evaluated independently, the data elements were found to be relatively accurate for the *Diagnosis Code* and *Procedure Code* data elements, where each had an accuracy rate of greater than 90 percent. However, the *Procedure Code Modifier* and *Units of Service* data elements were found to be less accurate, where each had an accuracy rate of less than 90 percent. One plan's low accuracy rate for the *Procedure Code Modifier* data element contributed to the lower overall accuracy rate, while another plan's low accuracy rate for the *Units of Service* data element contributed to the lower overall accuracy rate, compared to the other key data elements (i.e., *Diagnosis Code* and *Procedure Code*). Less than 50 percent of the dates of service present in both sources (i.e., in the Agency's encounter data and transportation/dental records) contained matching values for all four data elements when compared to the enrollees' transportation/dental records. The low overall all-element accuracy rates were caused by the transportation/dental record omission, encounter data omission, and element inaccuracy from all evaluated key data elements.

Recommendations: Based on study findings from the transportation/dental record review component, HSAG recommends the following to the Agency to improve encounter data quality:

- To ensure the plans' accountability for record-keeping and documentation requirements, the Agency may consider strengthening and/or enforcing its contract requirements with the plans regarding provision of oversight activities in this area. For example, while the Agency *Rule 59G-1.054 Recordkeeping and Documentation Requirements* stipulate that providers must retain records related to services rendered to Florida Medicaid enrollees for a period of at least five years from the date of service, one plan noted that it is only able to maintain three months of records on-site, and all other records after 90 days are kept off-site. This scenario caused delays in HSAG receiving the requested documentation from the plan. HSAG recommends the Agency work with the plan(s) to ensure documentation and/or records are easily accessible when requested.

- Since the results of the record review are dependent on the plans' submission of complete and accurate supporting documentation, HSAG recommends the Agency consider setting record submission standards to ensure the plans are more responsive in procuring requested records. By having the plans submit complete and accurate documentation and/or records, results will be more representative of the actual documentation available.

- The Agency may consider developing standards for the measures included in the record review component. For future studies, in collaboration with HSAG, the Agency may consider developing and implementing processes to evaluate the plans' performance and provide results to the plans for initial feedback to ensure the plans understand the measures being evaluated and eventually the associated standards. These standards can potentially be included in the Agency's provider agreement as part of the validation of the plans' encounter data to assess and monitor the plans' performance in submitting complete and accurate encounter data to the Agency.

Background

Based on the approved scope of work, HSAG worked with the Agency's EDV team to develop the data submission requirements for conducting the EDV study. Once finalized, the data submission requirements were submitted to both the Agency and the plans to guide the extraction and collection of study data. Data were requested for non-emergency transportation and dental encounters with dates of service between January 1, 2019, and December 31, 2019, that were in their final status and submitted to the Agency on or before July 31, 2020. In addition to the file specifications, the data submission requirements also included the required data types (i.e., non-emergency transportation and dental) and the associated required data elements. HSAG also requested the Agency provide supporting data files related to enrollment, demographics, and providers associated with the encounter files.

The set of encounter files received from the Agency and the plans was used to examine the extent to which the data extracted and submitted were reasonable and complete. HSAG's review involved multiple methods and evaluated that:

- The volume of submitted encounters was reasonable.
- Key encounter data elements contained complete and/or valid values.
- Other anomalies associated with the data extraction and submission were documented.

Encounter Volume Completeness and Reasonableness

Capturing, sending, and receiving encounter data has historically been difficult and costly for the plans and states alike. The encounter data collection process is lengthy and has many steps wherein data can be lost or errors can be introduced into submitted data elements. Assessment of the completeness and accuracy of encounter data provides insight into areas that need improvement for these processes and quantifies the general reliability of encounter data. These analyses were performed with the key data elements as individual units of assessment at the aggregate level for the encounter data sources (the plans' encounter systems and the Agency's encounter system) and stratified by individual plan.

Encounter Data Submission by the Agency and the Plans

HSAG received the initial set of data files from the plans in December 2020. All encounters submitted by the plans to HSAG underwent a preliminary file review to ensure that the submitted data files were generally comparable to the encounters extracted and submitted by the Agency. HSAG provided a preliminary file review results document to each plan identifying issues noted during the review. Additionally, HSAG provided example records in which discrepancies were identified when compared to the Agency-submitted files during the review of the plans' initial data submission. Based on the review

results, the plans had one opportunity to resubmit their files. If the plan chose not to address the identified discrepancies, HSAG used the original data submission files in the comparative analysis component of the study.

Table 2-1 displays the encounter data volume submitted by the Agency and the initial/resubmitted data files submitted by the plans. The table highlights the number of records submitted by each source as well as the percentage difference in counts relative to the Agency's data between the two sources. As noted in Appendix A, both the Agency and the plans were required to supply the same data (i.e., final status claims/encounters that were submitted to the Agency as of July 31, 2020, for dates of service between January 1, 2019, and December 31, 2019).

Table 2-1—Encounter Data Submission by the Agency and the Plans (January 1, 2019—December 31, 2019)

Plan	Encounter Records Submitted		Percent Difference (Relative to Agency Data)
	Agency	Plan	
LogistiCare (LCS)	167,500	168,554	(0.6%)
Medical Transportation Management (MTM)	115,703	116,612	(0.8%)
All CNET Plans	**283,203**	**285,166**	**(0.7%)**
DentaQuest of Florida (DQT)	5,753,408	5,803,746	(0.9%)
Liberty Dental Plan of Florida (LIB)	3,873,677	3,968,919	(2.5%)
Managed Care of North America (MCA)	1,751,671	1,933,321	(10.4%)
All Dental Plans	**11,378,756**	**11,705,986**	**(2.9%)**

Key Findings: Table 2-1

- Overall, for non-emergency transportation encounters, the total encounter records submitted by the CNET plans had 0.7 percent more records compared to the Agency-submitted files.
  - The number of records submitted by both CNET plans (LCS and MTM) was slightly higher than the number of records received from the Agency.
- Overall, for dental encounters, the total encounter records submitted by the dental plans had 2.9 percent more records compared to the Agency-submitted files.
  - The number of records submitted by all three dental plans (DQT, LIB, and MCA) was consistently higher than the number of records received from the Agency, with the MCA-submitted files having considerably more records compared to the number of MCA records received from the Agency.
  - During the file review process, HSAG provided each dental plan with the file review results document along with example records that showed discrepant *ICN*s and/or *TCN*s when compared to the Agency-submitted files. MCA acknowledged the discrepancies with its data extract but did not resubmit its data.

Utilization Statistics

The volume of encounters submitted by a plan provides useful information on the completeness of the Agency's encounter data. Lags in encounter submissions were accounted for in the data collection period by requesting only finalized records submitted to the Agency within the study period from participating plans. The evaluation of "encounters" in this section refers to the unique combination of plan, enrollee identification (ID), provider number/NPI, and date of service. Since only unique combinations of these data elements were considered, duplicate records were removed.

Overall, the encounter counts reflect the number of encounters that a plan's enrollees experienced. Additionally, to normalize the encounter counts by the enrollee counts, the encounter counts per 1,000 member months (MM) were also calculated. The MM presented were calculated based on all enrollees enrolled with the participating plans.

Table 2-2 provides a general overview of the average utilization per enrollee by plan for calendar year (CY) 2019 (January 1, 2019, through December 31, 2019) for non-emergency transportation and dental encounters.

Table 2-2—Encounter Data Overview

Plan	Average Number of Enrollees per Month[1]	Total Number of Encounters[2]	Total Encounters per 1,000 MM[3]
LCS	49,330	124,386	229
MTM	71,627	61,380	78
All CNET Plans	**120,957**	**185,766**	**140**
DQT	1,588,239	1,277,100	73
LIB	1,071,591	788,794	67
MCA	590,164	417,678	64
All Dental Plans	**3,249,993**	**2,483,572**	**69**

[1] The average number of enrollees was calculated by dividing the total number of MM by 12, in order to align with the number of months in the encounter data for the review period of January 1, 2019, through December 31, 2019.

[2] An encounter was defined by a unique combination of plan, enrollee ID, provider number/NPI, and date of service in the encounter data for the review period of January 1, 2019, through December 31, 2019.

[3] The total encounters per 1,000 MM rate was calculated by dividing the total number of encounters by the total MM for the same review period and multiplying the results by 1,000.

Key Findings: Table 2-2

- For non-emergency transportation encounters, more than 185,000 encounters occurred during the study period, averaging 140 non-emergency transportation encounters per 1,000 MM. The encounters per 1,000 MM for LCS were nearly three times more compared to MTM.

- For dental encounters, nearly 2.5 million encounters occurred during the study period, averaging 69 dental encounters per 1,000 MM. The encounters per 1,000 MM range from 64 encounters (MCA) to 73 encounters (DQT).

Monthly Variations of Encounters for Dates of Service

This section highlights the overall encounter volume trends over time by plan-submitted and the Agency-submitted files for each encounter type (i.e., non-emergency transportation and dental).

Examination of the volume of encounters submitted each month provided additional insight into potential problems with data completeness observed in greater context in the comparative analysis and transportation/dental record review portions of this assessment. The monthly assessment of encounter volume included only those encounters documented within the plans' systems and submitted to the Agency with a date of service during the study period. Figure 2-1 and Figure 2-2 illustrate the overall encounter data volume trends over time by the Agency and the plans. A unique combination of key data elements consisting of plan, enrollee ID, provider number/NPI, and date of service was used to uniquely define an encounter.
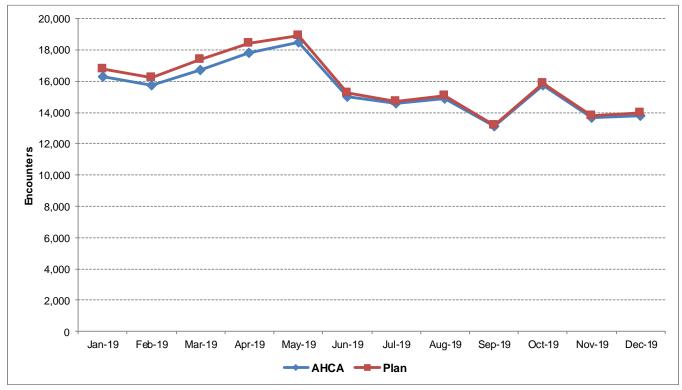
Figure 2-1—Monthly Variations in Non-Emergency Transportation Encounters for the Agency and the Plans

Key Findings: Figure 2-1

- The encounter data volume trend by month for non-emergency transportation encounters was similar for both the Agency-submitted encounters compared to the plan-submitted encounters, with both data sources showing similar patterns of monthly fluctuations.
- Based on both data sources (i.e., the Agency-submitted and plan-submitted encounters), the non-emergency transportation services were rendered more frequently during the first half of 2019. Overall, both sources showed monthly non-emergency transportation encounter volume decreased from more than 18,000 (May 2019) to approximately 15,000 (June 2019).
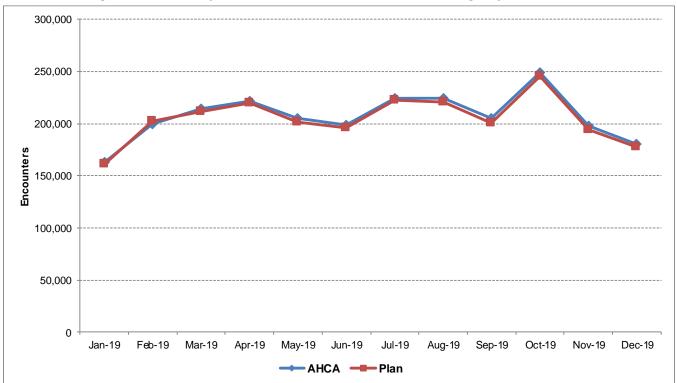
Figure 2-2—Monthly Variations in Dental Encounters for the Agency and the Plans

Key Findings: Figure 2-2

- Similar to the non-emergency transportation encounters, the encounter data volume trend by month for dental encounters was similar for both the Agency-submitted encounters compared to the plan-submitted encounters, with both data sources showing similar patterns of monthly fluctuations.

- Overall, both sources showed notable monthly fluctuations during the month of January to February and September through December. The dental encounter volume increased from 160,000 (January 2019) to approximately 200,000 (February 2019). Similarly, the dental encounter volume increased from 200,000 (September 2019) to nearly 250,000 (October 2019), then decreased to approximately 180,000 (December 2019).

Encounter Data Element Completeness and Reasonableness

To determine the completeness and reasonableness of the Agency's and the plans' electronic claims/encounter data, HSAG examined the percentage of key data elements (e.g., *Provider NPI* and *Procedure Code*) that contained data and were populated with expected values. As discussed in the "Encounter Data Validation Methodology" section, the study was restricted to specific criteria with the assumption that encounters received from both sources were in their final status as requested in the data submission requirements document. Key data elements with values not populated were evaluated for completeness but did not contribute to the calculations for accuracy (i.e., percent not populated and percent valid). Accuracy rates were assessed based on whether submitted values were in the correct format and

the data elements contained expected values (percent valid). For example, a record wherein the *Billing Provider NPI* was populated with a value of "000000000" would be considered to have a value present but not as having a valid value.

To determine the completeness and reasonableness of the Agency- and plan-submitted encounter data, HSAG evaluated each key data element based on the following metrics.

- Percent Not Populated: The required data elements were not present on the submitted file or, if data elements were present on the file, values were not populated in those data elements.

- Percent With Valid Values: The data elements have values present, which are the expected values.

Table 2-3 shows the key data elements and the associated criteria for validity for each of the encounter types included in this study.

Table 2-3—Key Encounter Data Elements

Key Data Element	Non-Emergency Transportation	Dental	Criteria for Validity
Enrollee ID	√	√	In enrollment file supplied by the Agency
Diagnosis Code 1	√		In International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) diagnosis code set
CDT/CPT/HCPCS Procedure Code	√	√	In national CDT, CPT or HCPCS procedure code sets
Billing Provider NPI	√	√	In provider file supplied by the Agency
Rendering Provider NPI	√	√	In provider file supplied by the Agency
Referring Provider NPI	√	√	In provider file supplied by the Agency

Table 2-4 shows the percent not populated and valid rates for key data elements associated with the non-emergency transportation encounters for data extracted from the Agency and the plans' claims/encounter systems. Plan-specific, fully detailed tables are provided in Appendix B.

Table 2-4—Element Completeness (Percent Not Populated) and Accuracy (Percent Valid): Non-Emergency Transportation Encounters

Data Element	Agency-Submitted Data		Plan-Submitted Data	
	Percent Not Populated	Percent Valid	Percent Not Populated	Percent Valid
Enrollee ID	0.1%	88.3%	0.0%	87.8%
Billing Provider NPI	0.0%	100%	0.0%	100%
Rendering Provider NPI[A]	0.0%	100%	95.0%	93.0%
Referring Provider NPI[A]	100%	NA	100%	NA

	Agency-Submitted Data		Plan-Submitted Data	
Data Element	Percent Not Populated	Percent Valid	Percent Not Populated	Percent Valid
CPT/HCPCS Procedure Code	0.0%	100%	0.0%	100%
Primary Diagnosis Code	0.0%	100%	0.0%	100%

[A] The *Rendering Provider NPI* and *Referring Provider NPI* fields are situational (i.e., not required for every non-emergency transportation transaction).
"NA" denotes no records had values populated for this data element; therefore, validity could not be assessed.

Key Findings: Table 2-4

- Data elements with values not populated within the Agency-submitted non-emergency transportation encounters were relatively comparable to the plan-submitted non-emergency transportation encounters, except for the *Rendering Provider NPI* data element.

- The Agency-submitted encounters had the *Rendering Provider NPI* data element fully populated, while the plan-submitted encounters had this data element not populated for 95 percent of the encounters. However, it is important to note that the *Rendering Provider NPI* values in the Agency-submitted encounters were populated with the same values as the *Billing Provider NPI* data element.

- Percent valid values for all evaluated data elements except *Enrollee ID* were high for both the Agency- and plan-submitted encounters. Since both the Agency- and plan-submitted encounters had similar percent valid values for the *Enrollee ID* field, it appears that the enrollment file supplied by the Agency may not have included all enrollees in a CNET plan.

Table 2-5—Element Completeness (Percent Not Populated) and Accuracy (Percent Valid): Dental Encounters

	Agency-Submitted Data		Plan-Submitted Data	
Data Element	Percent Not Populated	Percent Valid	Percent Not Populated	Percent Valid
Enrollee ID	<0.1%	>99.9%	<0.1%	99.9%
Billing Provider NPI	1.1%	95.3%	0.0%	94.3%
Rendering Provider NPI[A]	0.1%	96.8%	8.9%	99.0%
Referring Provider NPI[A]	100%	NA	100%	NA
CDT/CPT/HCPCS Procedure Code	<0.1%	>99.9%	0.0%	>99.9%

[A] The *Rendering Provider NPI* and *Referring Provider NPI* fields are situational (i.e., not required for every dental transaction).
"NA" denotes no records had values populated for this data element; therefore, validity could not be assessed.

Key Findings: Table 2-5

- Data elements with values not populated within the Agency-submitted dental encounters were relatively comparable to the plan-submitted dental encounters for all data elements evaluated.

- Similarly, the percentage of valid values for all evaluated data elements from both sources were relatively equivalent.

Background

This section presents findings from the results of the comparative analysis of the non-emergency transportation and dental encounter data maintained by the Agency and the plans. The analysis examined the extent to which encounters submitted by the plans and maintained in the Agency's data warehouse (and the data subsequently extracted by the Agency to HSAG for the study) were accurate and complete when compared to data stored in the plans' data systems (and subsequently submitted by the plans to HSAG). Clarifications regarding defining "accurate" and "complete" are included in Appendix A. To compare the Agency's submitted data and the plans' submitted data, HSAG developed a comparable match key between the two data sources. Data fields used in developing the match keys generally include the *ICN* and the associated detail line sequence number. These data elements were concatenated to create a unique match key, which became the unique identifier for each encounter detail line in the Agency's and each plan's data. For the plans' data without reasonable match rates when using the *ICN* to create the match key, HSAG used the *TCN* to develop the match key. Additionally, if using only the *ICN* or *TCN* and the detail line sequence number generated a low match rate, HSAG selected other data elements (e.g., *Procedure Code*) to develop the match key.

Record Completeness

As described in the "Encounter Data Validation Methodology" section, two aspects of record completeness are used for each encounter data type—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., the plan) responsible for sending data to another organization (e.g., the Agency). The data acquired by the receiving organization is referred to as the secondary data source. By comparing these two data sources (i.e., primary and secondary), the analysis yields the percentage of records contained in one source and not the other, and vice versa. As such, encounter record omission refers to the percentage of encounters reported in the primary data source but missing from the secondary data source. For this analysis, the omission rate identifies the percentage of encounters reported by a plan but missing from the Agency's data. Similarly, the encounter record surplus refers to the percentage of encounters reported in the secondary data source (the Agency) but missing from the primary data source (the plan).

Encounter Data Record Omission and Surplus

Table 3-1 displays the percentage of records present in plan-submitted files that were not found in the Agency's files (record omission), and the percentage of records present in the Agency's files but not present in plan-submitted files (record surplus). **Lower rates indicate better performance for both record omission and record surplus.** Plan-specific, fully detailed tables are provided in Appendix C.

Table 3-1—Record Omission and Surplus Rates: By Plan

Plan	Record Omission (Missing in Agency Files)	Record Surplus (Missing in Plan Files)
LCS	2.1%	1.5%
MTM	0.8%	0.0%
All CNET Plans	**1.6%**	**0.9%**
DQT	0.9%	0.1%
LIB	2.9%	0.5%
MCA	18.9%	10.5%
All Dental Plans	**4.6%**	**1.8%**

Key Findings: Table 3-1

- The overall non-emergency transportation encounter omission rate was very low at 1.6 percent, indicating that at the statewide level, nearly all of the non-emergency transportation encounters in the plan-submitted files were also present in the Agency-submitted file.
  - Both LCS and MTM reported omission rates of less than 2.5 percent. These low rates suggest that at least 97.5 percent of the encounters in these plan-submitted files were present in the Agency-submitted files.
- The overall non-emergency transportation encounter surplus rate was also very low at 0.9 percent, suggesting that nearly all of the non-transportation encounters in the Agency-submitted file were corroborated in the plan-submitted encounter files.
  - Both LCS and MTM reported surplus rates of 1.5 percent or less. These low rates suggest at least 98.5 percent of the non-emergency transportation encounters associated with these plans in the Agency-submitted files were corroborated in the plan-submitted files.
- The overall dental encounter omission rate was relatively low at 4.6 percent, with plan rates ranging from 0.9 percent (DQT) to 18.9 percent (MCA).
  - Both DQT and LIB reported omission rates of less than 3.0 percent. These low rates suggest that at least 97.0 percent of the encounters in these plan-submitted files were present in the Agency-submitted files.
  - MCA, however, reported a very high omission rate of 18.9 percent. HSAG conducted a two-stage matching process, in which the *ICN* field was used as part of the match key when conducting the first stage and, for the remaining records that did not match, HSAG used the *TCN*

field as part of the match key. In most cases, while *ICN*s/*TCN*s were found in both sources, some of the detail lines appeared to be duplicated in the plan-submitted file (omission).

- The overall dental encounter surplus rate was very low at 1.8 percent, with plans rate ranging from 0.1 percent (DQT) to 10.5 percent (MCA).
  - Both DQT and LIB reported surplus rates of less than 1.0 percent, suggesting at least 99.0 percent of dental encounters associated with these plans in the Agency-submitted files were corroborated in the plan-submitted files.
  - MCA, however, reported a high surplus rate of 10.5 percent. During the preliminary review process of the data submitted by MCA, HSAG provided documentation noting record count comparison as well as the number of unique *ICN*/*TCN* when compared to the Agency-submitted file. HSAG also provided example records associated with discrepant *ICN*s/*TCN*s for MCA to investigate and/or resubmit the data. MCA provided a response indicating there were *ICN*s missing from its initial submission and it would need to submit a supplemental dataset for which may have contributed to the high surplus rate. However, MCA did not submit the supplemental dataset with its response to the file review document.

Data Element Completeness

Data element completeness measures were based on the number of records that matched in both the Agency and plan 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 plan-submitted data files but not in the Agency-submitted data files. Similarly, the element surplus rate reports the percentage of records with values present in the Agency-submitted data files but not in the plan-submitted data files. The data elements are considered relatively complete when they have low element omission and surplus rates. Generally, based on HSAG's experience with other states, less than 5 percent would be considered low at the element level, and 10 percent or less would be considered low at the record level.

This section also presents the data accuracy results by key data element and evaluates accuracy based on the percentage of records with values present in both data sources that contain the same values. Records with values missing in both data sources were not included in the denominator. The numerator is the number of records with the same non-missing values for a given data element. Higher data element accuracy rates indicate that the values populated for a data element in the Agency-submitted encounter data are more accurate.

Element Omission and Surplus

Table 3-2 displays the element omission and element surplus results for each key data element from the non-emergency transportation encounters. **For both element omission and element surplus, lower rates indicate better performance**, and rates less than 5.0 percent are generally considered low. Plan-specific, fully detailed tables are provided in Appendix C.

Table 3-2—Element Omission and Element Surplus: Non-Emergency Transportation Encounters

Key Data Element	Element Omission			Element Surplus		
	Overall	LCS	MTM	Overall	LCS	MTM
Enrollee ID	**0.1%**	<0.1%	0.2%	**0.0%**	0.0%	0.0%
Detail Service From Date	**0.0%**	0.0%	0.0%	**0.0%**	0.0%	0.0%
Detail Service To Date	**0.0%**	0.0%	0.0%	**0.0%**	0.0%	0.0%
Billing Provider NPI	**0.0%**	0.0%	0.0%	**0.0%**	0.0%	0.0%
Rendering Provider NPI	**0.0%**	0.0%	0.0%	**95.0%**	100%	87.9%
Referring Provider NPI	**0.0%**	0.0%	0.0%	**0.0%**	0.0%	0.0%
CPT/HCPCS Procedure Code	**0.0%**	0.0%	0.0%	**0.0%**	0.0%	0.0%
Units of Service	**0.0%**	0.0%	0.0%	**58.8%**	100%	0.0%
Procedure Code Modifier 1	**0.0%**	0.0%	0.0%	**0.0%**	0.0%	0.0%
Primary Diagnosis Code	**0.0%**	0.0%	0.0%	**0.0%**	0.0%	0.0%
Detail Paid Amount	**0.0%**	0.0%	0.0%	**0.0%**	0.0%	0.0%

Key Findings: Table 3-2 and Table 3-3

- Overall, the element omission rates were very low (generally, less than 4.0 percent would be considered "very low") for the non-emergency transportation encounters for all evaluated key data elements, with omission rates of 0.1 percent or 0.0 percent for all key data elements.

- Overall, the element surplus rates were very low for the non-emergency transportation encounters for all evaluated key data elements except for the *Rendering Provider NPI* and *Units of Service* data elements, with surplus rates of 95.0 percent and 58.8 percent, respectively.

  – The high overall surplus rate of 95.0 percent for the *Rendering Provider NPI* data element was attributed to the high surplus rate from both LCS and MTM. Among the *Rendering Provider NPI* encounters that were only found in the Agency-submitted file, the values were populated with the same values as the *Billing Provider NPI* encounters, while the plan-submitted files had no values for this field (element omission).

  – LCS' surplus rate for the *Units of Service* data element (i.e., 100 percent) contributed to the high overall surplus rate for this data element. During the preliminary review process of the data submitted by LCS, HSAG provided documentation noting that the *Units of Service* data element was populated in the Agency-submitted files but not populated in the plan-submitted file, and LCS should consider investigating and resubmitting its data extract, if appropriate, to improve the quality of the data. HSAG did not receive a resubmission from LCS; as such, the original data submission file was used for the analysis.

Table 3-3 displays the element omission and element surplus results for each key data element from the dental encounters. **For both indicators (i.e., element omission and element surplus), lower rates indicate better performance**. Plan-specific, fully detailed tables are provided in Appendix C.

Table 3-3—Element Omission and Element Surplus: Dental Encounters

Key Data Element	Element Omission				Element Surplus			
	Overall	DQT	LIB	MCA	Overall	DQT	LIB	MCA
Enrollee ID	**<0.1%**	<0.1%	<0.1%	0.0%	**<0.1%**	0.0%	0.0%	<0.1%
Detail Service From Date	**0.0%**	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%
Detail Service To Date	**0.0%**	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%
Billing Provider NPI	**0.6%**	0.9%	0.4%	0.0%	**0.0%**	0.0%	0.0%	0.0%
Rendering Provider NPI	**<0.1%**	<0.1%	0.1%	0.0%	**9.2%**	17.9%	0.0%	0.0%
CDT/CPT/HCPCS Procedure Code	**<0.1%**	<0.1%	<0.1%	0.0%	**0.0%**	0.0%	0.0%	0.0%
Units of Service	**0.0%**	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%
Tooth Number	**0.2%**	0.2%	0.0%	0.8%	**<0.1%**	<0.1%	<0.1%	0.0%
Mouth Quadrant	**<0.1%**	0.0%	0.1%	<0.1%	**0.3%**	0.4%	0.0%	0.1%
Tooth Surface 1	**3.5%**	2.7%	3.9%	5.0%	**1.5%**	2.9%	0.0%	<0.1%
Tooth Surface 2	**2.6%**	2.7%	2.3%	2.9%	**<0.1%**	<0.1%	0.0%	<0.1%
Tooth Surface 3	**0.7%**	0.8%	0.7%	0.9%	**0.2%**	0.2%	0.2%	0.2%
Tooth Surface 4	**0.1%**	0.1%	0.1%	0.1%	**0.2%**	0.2%	0.2%	0.2%
Tooth Surface 5	**<0.1%**	<0.1%	<0.1%	<0.1%	**0.5%**	0.5%	0.4%	0.5%
Tooth Surface 6	**<0.1%**	0.0%	<0.1%	0.0%	**0.5%**	0.6%	0.3%	0.4%
Detail Paid Amount	**0.0%**	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%

Key Findings: Table 3-3

- Overall, the data element omission rates were very low for dental encounters for all evaluated key data elements, with overall omission rates ranging from 0.0 percent (*Detail Service From Date*, *Detail Service To Date*, *Units of Service*, and *Detail Paid Amount*) to 3.5 percent (*Tooth Surface 1*).

- Similarly, the overall element surplus rates were also very low for dental encounters for all evaluated key data elements except *Rendering Provider NPI*, with an overall surplus rate of 9.2 percent.
  - The high overall surplus rate of 9.2 percent for the *Rendering Provider NPI* data element was attributed to the high surplus rate from DQT. Among the *Rendering Provider NPI* values that were only found in the Agency-submitted file, the values were populated with the same values as the *Billing Provider NPI*, while the plan-submitted files had no values for this field (element omission).

Element Accuracy

Table 3-4 displays the percentage of records with the same values in plan- and the Agency-submitted files for each key data element associated with the non-emergency transportation encounters. **For this indicator, higher rates indicate better performance**, and rates greater than 95.0 percent are considered high. Fully detailed tables are provided in Appendix C.

Table 3-4—Element Accuracy: Non-Emergency Transportation Encounters

Key Data Element	Element Accuracy		
	Overall	**LCS**	**MTM**
Enrollee ID	**>99.9%**	>99.9%	100%
Detail Service From Date	**100%**	100%	100%
Detail Service To Date	**100%**	100%	100%
Billing Provider NPI	**100%**	100%	100%
Rendering Provider NPI	**0.0%**	NA	0.0%
Referring Provider NPI	**NA**	NA	NA
CDT/CPT/HCPCS Procedure Code	**100%**	100%	100%
Units of Service	**100%**	NA	100%
Procedure Code Modifier 1	**>99.9%**	>99.9%	100%
Primary Diagnosis Code	**100%**	100%	100%
Detail Paid Amount	**>99.9%**	>99.9%	100%

"NA" denotes that there are no records with values present in both data sources.

Key Findings: Table 3-4

- The overall element accuracy rates among all evaluated data elements from non-emergency transportation encounters were high except *Rendering Provider NPI* (0.0 percent).

- The low overall accuracy rate for the *Rendering Provider NPI* data element was attributed to the low accuracy rate reported by MTM (0.0 percent). Among values that did not match, the Agency-submitted data had this data element populated with the same values as the *Billing Provider NPI* data element. However, the MTM-submitted data had 83 percent of values populated with NPI associated with "Med-One Shuttle, Inc.," while in the Agency-submitted data the values were populated with MTM's NPI.

Table 3-5 displays the percentage of records with the same values in plan- and the Agency-submitted files for each key data element associated with the dental encounters. **For this indicator, higher rates indicate better performance**. Fully detailed tables are provided in Appendix C.

Table 3-5—Element Accuracy: Dental Encounters

Key Data Element	Element Accuracy			
	Overall	**DQT**	**LIB**	**MCA**
Enrollee ID	**>99.9%**	>99.9%	>99.9%	99.9%
Detail Service From Date	**>99.9%**	>99.9%	>99.9%	>99.9%
Detail Service To Date	**99.8%**	100%	99.7%	99.7%
Billing Provider NPI	**89.0%**	93.9%	80.2%	92.8%
Rendering Provider NPI	**94.6%**	94.3%	94.8%	94.9%
CDT/CPT/HCPCS Procedure Code	**>99.9%**	>99.9%	>99.9%	100%
Units of Service	**>99.9%**	>99.9%	99.9%	100%
Tooth Number	**98.7%**	>99.9%	>99.9%	92.0%
Mouth Quadrant	**98.2%**	NA	99.6%	91.3%
Tooth Surface 1	**99.8%**	100%	100%	99.0%
Tooth Surface 2	**99.9%**	99.9%	99.9%	99.7%
Tooth Surface 3	**91.6%**	91.0%	92.3%	92.1%
Tooth Surface 4	**84.1%**	83.7%	85.3%	83.0%
Tooth Surface 5	**78.7%**	77.2%	81.4%	78.0%
Tooth Surface 6	**NA**	NA	NA	NA
Detail Paid Amount	**>99.9%**	99.9%	100%	100%

"NA" denotes that there are no records with values present in both data sources.

Key Findings: Table 3-5

- The overall element accuracy rates among all evaluated data elements from dental encounters were high except the *Billing Provider NPI* (89.0 percent), *Tooth Surface 4* (84.1 percent), and *Tooth Surface 5* (78.7 percent) data elements.
- The low accuracy rate for *Billing Provider NPI* was attributed to the low accuracy rate reported by LIB (80.2 percent).
- The low accuracy rates for tooth surface-related data elements should be interpreted with caution, as each data source (i.e., the Agency- and plan-submitted) may not have populated these data elements according to the same position order.

Background

Trip logs associated with the transportation services that were provided and the dental records are considered the "gold standard" for documenting Medicaid enrollees' access to and quality of services. The comparative analysis component of the study seeks to determine the completeness and accuracy of the Agency's encounter data as well as their comparability to the plans' data on which they are based. The transportation/dental record review further assesses data quality through investigating the completeness and accuracy of the Agency's encounters compared to the information documented in the corresponding transportation/dental records for Medicaid enrollees.

Enrollees' transportation/dental record information was matched across data sources (the Agency's encounters and provider-submitted transportation/dental records) using unique identifiers assigned by HSAG. This section presents findings from the transportation/dental record review results to examine the extent to which services documented in the transportation/dental records were not present in the encounter data (encounter data omission), as well as the extent to which services documented in the encounter data were not present in the enrollees' corresponding transportation/dental records (transportation/dental record omission).

This section also presents findings from the evaluation of accuracy of diagnosis codes (transportation only), procedure codes, procedure code modifiers (transportation only), units (transportation only) submitted by the plans' contracted providers to the plans and consequently submitted to the Agency based on documentation contained in the enrollees' transportation/dental records.

Transportation/Dental Record Submission

As noted in the "Encounter Data Validation Methodology" section of this report, HSAG maintained a total of 1,415 transportation/dental records (i.e., 283 transportation or dental records for each of the two CNET plans and the three dental plans, respectively) to be reviewed for the transportation/dental record review component of the study. These 283 transportation/dental records per plan were to be comprised of transportation/dental records from the sampled dates of service and/or transportation/dental records from the second dates of service, if available. Based on this approach, to ensure sufficient cases were available to be reviewed, an additional 25 percent oversample (or 71 cases per plan) were sampled to replace records not procured. As such, plans with an adequate number of cases eligible for the study were responsible for procuring a minimum of 354 total sampled enrollees' transportation/dental records per plan (i.e., 283 sample and 71 oversample) from their contracted providers for services rendered during the study period.

Table 4-1 highlights the transportation/dental record procurement status percentage for each plan.

Table 4-1—Transportation/Dental Record Procurement Status

Plan Type	Plan	Number of Records Requested	Number of Records Submitted	Percentage of Records Submitted[1]	Percentage of Late Submission[2]
CNET	LCS	354	232	65.5%	34.5%
	MTM	301	294	97.7%	0.0%
Dental	DQT	354	344	97.2%	0.0%
	LIB	354	336	94.9%	0.0%
	MCA	354	273	77.1%	0.0%
CNET and Dental	**All Plans**	**1,717**	**1,479**	**86.1%**	**7.1%**

[1] The Agency approved LCS to provide the requested documentation no later than April 12, 2021. The percentage of records submitted for LCS reflects LCS' submission up to and including April 12, 2021.

[2] The percentage of late submission for LCS reflects LCS' submission of the requested documentation after April 12, 2021.

Key Findings: Table 4-1

- While all plans completed and submitted all tracking sheets associated with the requested cases, more than 10 percent either included no transportation/dental record documentation associated with the requested cases or submitted the requested documentation late.

- Overall, the transportation/dental record submission rate was 86.1 percent, with the plans' rates ranging from 65.5 percent (LCS) to 97.7 percent (MTM).

- While LCS' submission of requested records was low at 65.5 percent, it submitted all of the remaining records after the approved extension date of April 12, 2021. LCS noted that it only maintained three months of records on-site, while all other records after 90 days were kept off-site. As such, while the Agency approved LCS to submit the requested records through April 12, 2021, LCS was unable to meet the Agency-approved date extension and submitted the remaining records beyond April 12, 2021.

Table 4-2 highlights the key reasons transportation/dental record documentation was not submitted by each plan. Fully detailed tables are provided in Appendix D.

Table 4-2—Reason Transportation/Dental Records Not Submitted for Date of Service by Plan

Reason	All Plans Percent (N)	LCS Percent (N)	MTM Percent (N)	DQT Percent (N)	LIB Percent (N)	MCA Percent (N)
Non-responsive provider or provider did not respond in a timely manner.	57.8% (67)	NA (0)	0.0% (0)	10.0% (1)	5.6% (1)	80.2% (65)
Enrollee was a patient of the practice; however, no documentation was available for requested dates of service.	17.2% (20)	NA (0)	85.7% (6)	0.0% (0)	33.3% (6)	9.9% (8)

Reason	All Plans Percent (N)	LCS Percent (N)	MTM Percent (N)	DQT Percent (N)	LIB Percent (N)	MCA Percent (N)
Other.	12.1% (14)	NA (0)	14.3% (1)	40.0% (4)	50.0% (9)	0.0% (0)
Enrollee was not a patient of the facility.	8.6% (10)	NA (0)	0.0% (0)	40.0% (4)	0.0% (0)	7.4% (6)
Records were not located at this facility.	2.6% (3)	NA (0)	0.0% (0)	10.0% (1)	11.1% (2)	0.0% (0)
Closed facility.	1.7% (2)	NA (0)	0.0% (0)	0.0% (0)	0.0% (0)	2.5% (2)
Total	**100% (116)**	**NA (0)**	**100% (7)**	**100% (10)**	**100% (18)**	**100% (81)**

Key Findings: Table 4-2

- Of the requested 1,717 sample enrollees, 116 transportation/dental records were not submitted for various reasons.
- Overall, the top two reasons for missing transportation/dental records were "Non-responsive provider or provider did not respond in a timely manner" (57.8 percent) and "Enrollee was a patient of the practice; however, no documentation was available for requested dates of service" (17.2 percent).
- MCA reported nearly all instances of the "Non-responsive provider or provider did not respond in a timely manner" reason for non-submission.
- Three plans (MTM, LIB, and MCA) collectively reported "Enrollee was a patient of the practice; however, no documentation was available for requested dates of service" as one of the non-submission reasons.
- While LCS submitted the requested documentation beyond the Agency-approved date, it submitted all the requested data.

Table 4-3 highlights the percentage of transportation/dental records submitted by each plan for the second date of service.

Table 4-3—Transportation/Dental Record Submission Status for Second Date of Service

Plan Type	Plan	Number of Records Submitted	Number of Records With One Additional Date of Service	Percent
CNET	LCS	232	189	81.5%
	MTM	294	246	83.7%
Dental	DQT	344	22	6.4%
	LIB	336	184	54.8%
	MCA	273	152	55.7%
CNET and Dental	**All Plans**	**1,479**	**793**	**53.6%**

Key Findings: Table 4-3

- Among the 1,479 records received with dates of service from the original sample cases, 793 records (53.6 percent) had a second date of service submitted to HSAG according to the tracking sheet.
- The individual plan submission rates ranged from 6.4 percent (DQT) to 83.7 percent (MTM).
- A 100 percent submission rate is not expected for the second date of service because the enrollee may not have had a second date of service within the review period.

Encounter Data Completeness

HSAG evaluated encounter data completeness by identifying differences between the electronic encounter data and the enrollees' transportation/dental records. Transportation/dental record omission and encounter data omission represent two aspects of encounter data completeness. A transportation/dental record omission occurs when an encounter data element (e.g., *Date of Service* or *Procedure Code*) is not supported by documentation in an enrollee's transportation/dental record or the transportation/dental record could not be found. Transportation/dental record omissions suggest opportunities for improvement within the provider's internal processes, such as billing and record documentation.

An encounter data omission occurs when an encounter data element (e.g., *Date of Service* or *Procedure Code*) is found in an enrollee's transportation/dental record but is not present in the electronic encounter data. Encounter data omissions suggest opportunities for improvement in the submission of claims and encounters or processing routes among the providers, plans, and the Agency.

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

Date of Service Completeness

Table 4-4 presents the overall and plan-level transportation/dental record omission and encounter data omission rates for the *Date of Service* data element. HSAG conducted the analyses at the date of service level. Fully detailed tables are provided in Appendix D.

Table 4-4—Transportation/Dental Record Omission and Encounter Data Omission for Date of Service

Plan Type	Plan	Transportation/Dental Record Omission		Encounter Data Omission	
		Date of Service Identified in the Encounter Data	**Percent Not Supported by Enrollees' Transportation/ Dental Records***	**Date of Service Identified in Enrollees' Transportation/ Dental Records**	**Percent Not Found in the Encounter Data***
CNET	LCS	285	0.0%	285	0.0%
	MTM	283	1.1%	283	1.1%
Dental	DQT	275	0.7%	287	4.9%
	LIB	272	1.8%	284	6.0%
	MCA	275	0.0%	283	2.8%
CNET and Dental	**All Plans**	**1,390**	**0.7%**	**1,422**	**3.0%**

* Lower rates indicate better performance.

Key Findings: Table 4-4

- Overall, 0.7 percent of the dates of service in the electronic encounter data were not supported by the enrollees' transportation/dental records (i.e., transportation/dental record omission).

- The transportation/dental record omission rates ranged from 0.0 percent (LCS and MCA) to 1.8 percent (LIB).

- Overall, 3.0 percent of the dates of service in the transportation/dental records were not found in the Agency's encounter data (i.e., encounter data omission).

- Compared to the transportation/dental record omission, the encounter data omission rate was higher. The denominator for encounter data omission is the number of dates of service identified in the transportation/dental records, and the numerator is the number of dates of service with no evidence of submission in the encounter data. If no second date of service was available in the transportation/dental records, then no date of service was contributed to the numerator.

- The encounter data omission rates for dates of service ranged from 0.0 percent (LCS) to 6.0 percent (LIB).

Diagnosis Code Completeness—Transportation Only

Table 4-5 presents the percentage of diagnosis codes identified in the encounter data that had no supporting documentation in the enrollees' transportation records (i.e., transportation record omission) and the percentage of diagnosis codes from enrollees' transportation records that were not found in the encounter data (i.e., encounter data omission). HSAG conducted the analysis at the diagnosis code level. Fully detailed tables are provided in Appendix D.

Table 4-5—Transportation Record Omission and Encounter Data Omission for Diagnosis Code

Plan	Transportation Record Omission		Encounter Data Omission	
	Number of Diagnosis Codes Identified in Encounter Data	Percent Not Supported by Enrollees' Transportation Records*	Number of Diagnosis Codes Identified in Enrollees' Transportation Records	Percent Not Found in the Encounter Data*
LCS	285	3.5%	275	0.0%
MTM	283	23.0%	221	1.4%
All CNET Plans	**568**	**13.2%**	**496**	**0.6%**

* Lower rates indicate better performance.

Key Findings: Table 4-5

- Overall, 13.2 percent of the diagnosis codes in the electronic encounter data had no supporting documentation in the enrollees' transportation records (i.e., transportation record omission).
  - LCS and MTM had a substantial difference in the rate of transportation record omission for diagnosis codes. LCS had a significantly lower percentage of diagnosis codes in the encounter data with no supporting documentation in the enrollees' transportation records compared to MTM (i.e., 3.5 percent and 23.0 percent, respectively).
  - The high transportation record omission rate for MTM was due to MTM's insufficient documentation (i.e., no trip log available for verification, only screen shots of billing or coding summary were submitted, or no enrollee signature was documented in the trip log).
- Overall, 0.6 percent of the diagnosis codes identified in the transportation records were not found in the electronic encounter data (i.e., encounter data omission).
  - MTM had a slightly higher percentage of diagnosis codes identified in the transportation records that were not found in the encounter data compared to LCS (i.e., 1.4 percent and 0.0 percent, respectively).

Procedure Code Completeness

Table 4-6 presents the percentage of procedure codes identified in the encounter data that had no supporting documentation in the enrollees' transportation/dental records (i.e., transportation/dental record omission) and the percentage of procedure codes identified from the enrollees' transportation/dental records that were not found in the encounter data (i.e., encounter data omission). HSAG conducted the analysis at the procedure code level. Fully detailed tables are provided in Appendix D.

Table 4-6—Transportation/Dental Record Omission and Encounter Data Omission for Procedure Code

Plan Type	Plan	Transportation/Dental Record Omission		Encounter Data Omission	
		Number of Procedure Codes Identified in Encounter Data	Percent Not Supported by Enrollees' Transportation/ Dental Records*	Number of Procedure Codes Identified in Enrollees' Transportation/ Dental Records	Percent Not Found in the Encounter Data*
CNET	LCS	368	4.1%	353	0.0%
	MTM	528	24.8%	400	0.8%
Dental	DQT	1,449	7.9%	1,440	7.4%
	LIB	1,414	14.1%	1,329	8.6%
	MCA	1,372	8.6%	1,407	10.9%
CNET and Dental	All Plans	5,131	11.3%	4,929	7.6%

* Lower rates indicate better performance.

Key Findings: Table 4-6

- Overall, 11.3 percent of the procedure codes identified in the electronic encounter data were not supported by the enrollees' transportation/dental records (i.e., transportation/dental record omission).
  - In the analysis, for cases identified as a transportation/dental record omission for dates of service, all procedure codes associated with those cases were also treated as transportation/dental record omission.
  - Among CNET plans, the transportation record omission rates ranged from 4.1 percent (LCS) to 24.8 percent (MTM). Similar to diagnosis code record omission, the high procedure code record omission rate for MTM was due to MTM's insufficient documentation (i.e., no trip log available for verification, only screen shots of billing or coding summary were submitted, or no enrollee signature was documented in the trip log).
  - Among dental plans, the dental record omission rates ranged from 7.9 percent (DQT) to 14.1 percent (LIB). Procedure codes that were frequently omitted from the submitted dental records included:
    - D0220: Intraoral—periapical first radiograph image
    - D0230: Intraoral—periapical each additional radiograph image
    - D1330: Oral hygiene instructions
    - D1208: Topical application of fluoride
    - D2391: Resin compos—first surface posterior
- Overall, 7.6 percent of the procedure codes identified in the transportation/dental records were not found in the encounter data (i.e., encounter data omission).

– Among CNET plans, the encounter data omission rates were low, where LCS had a rate of 0.0 percent and MTM had a rate of 0.8 percent.

– Among dental plans, DQT had the lowest percentage of records identified in the dental records that were not found in the encounter data (i.e., 7.4 percent), while MCA had the encounter data omission rate of 10.9 percent. The high omission of dates of service from the encounter data was one factor contributing to procedure code encounter data omissions. Other potential contributors of procedure code encounter data omissions included:

  o Provider made a coding error or did not submit the procedure code, despite performing the services.

  o Lag occurred between the provider providing the service and the submission of the encounter to the plans and/or the Agency.

Procedure Code Modifier Completeness—Transportation Only

Table 4-7 presents the percentage of procedure code modifiers identified in the encounter data that had no supporting documentation in the enrollees' transportation records (i.e., transportation record omission) and the percentage of procedure code modifiers from the enrollees' transportation records that were not found in the encounter data (i.e., encounter data omission). HSAG conducted the analysis at the modifier level. Fully detailed tables are provided in Appendix D.

Table 4-7—Transportation Record Omission and Encounter Data Omission for Procedure Code Modifier

Plan	Transportation Record Omission		Encounter Data Omission	
	Number of Procedure Code Modifiers Identified in Encounter Data	**Percent Not Supported by Enrollees' Transportation Records***	**Number of Procedure Code Modifiers Identified in Enrollees' Transportation Records**	**Percent Not Found in the Encounter Data***
LCS	401	4.5%	400	4.3%
MTM	553	28.2%	404	1.7%
All CNET Plans	**954**	**18.2%**	**804**	**3.0%**

* Lower rates indicate better performance.

Key Findings: Table 4-7

- Overall, 18.2 percent of the procedure code modifiers identified in the encounter data were not supported by the enrollees' transportation records.

  – LCS and MTM had a substantial difference in the rate of transportation record omission for procedure code modifiers. LCS had a significantly lower percentage of procedure code modifiers in the encounter data with no supporting documentation in the enrollees' transportation records compared to MTM (i.e., 4.5 percent and 28.2 percent, respectively). Similar to diagnosis code and procedure code record omissions, the high procedure code modifier record omission rate for

MTM was due to MTM's insufficient documentation (i.e., no trip log available for verification, only screen shots of billing or coding summary were submitted, or no enrollee signature was documented in the trip log).

- Overall, 3.0 percent of the procedure code modifiers in the transportation records were not present in the Agency's encounter data.
    - LCS had a slightly higher percentage of procedure code modifiers identified in the enrollees' transportation records that were not found in the encounter data compared to MTM (i.e., 4.3 percent and 1.7 percent, respectively).
    - Potential contributors for the procedure code modifier encounter data omissions included the following:
        - o Dates of service were omitted from the encounter data; therefore, all procedure code modifiers associated with those dates of service were treated as encounter data omissions.
        - o Procedure codes were omitted from the encounter data; therefore, all procedure code modifiers corresponding to those procedure codes were treated as encounter data omissions.
        - o The provider/plan made a coding error or did not submit the procedure code modifiers despite performing the specific services.

Units Completeness—Transportation Only

Table 4-8 presents the percentage of units identified in the encounter data that had no supporting documentation in the enrollees' transportation records (i.e., transportation record omission) and the percentage of units from the enrollees' transportation records that were not found in the encounter data (i.e., encounter data omission). HSAG conducted the analyses at the units level. Fully detailed tables are provided in Appendix D.

Table 4-8—Transportation Record Omission and Encounter Data Omission for Units

Plan	Transportation Record Omission		Encounter Data Omission	
	Number of Units Identified in Encounter Data	**Percent Not Supported by Enrollees' Transportation Records***	**Number of Units Identified in Enrollees' Transportation Records**	**Percent Not Found in the Encounter Data***
LCS	368	6.3%	345	0.0%
MTM	528	24.8%	400	0.8%
All CNET Plans	**896**	**17.2%**	**745**	**0.4%**

* Lower rates indicate better performance.

Key Findings: Table 4-8

- Overall, 17.2 percent of the units identified in the encounter data were not supported by the enrollees' transportation records.

– LCS and MTM had a substantial difference in the rate of transportation record omission for units. LCS had a significantly lower percentage of units in the encounter data with no supporting documentation in the enrollees' transportation records compared to MTM (i.e., 6.3 percent and 24.8 percent, respectively). Similar to diagnosis code, procedure code, and procedure code modifier record omissions, the high units omission rate for MTM was due to MTM's insufficient documentation (i.e., no trip log available for verification, only screen shots of billing or coding summary were submitted, or no enrollee signature was documented in the trip log).

- Overall, 0.4 percent of the units in the transportation records were not present in the Agency's encounter data.

  – MTM had a slightly higher percentage of units identified in the enrollees' transportation records that were not found in the encounter data compared to LCS (i.e., 0.8 percent and 0.0 percent, respectively).

Encounter Data Accuracy

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

Diagnosis Code, Procedure Code, Procedure Code Modifier, and Units Accuracy

Table 4-9 presents the percentage of diagnosis codes, procedure codes, procedure code modifiers, and units associated with validated dates of service from the encounter data that were correctly coded based on the enrollees' transportation/dental records. Fully detailed tables are provided in Appendix D.

Table 4-9—Accuracy Results for Diagnosis Code, Procedure Code, Procedure Code Modifier, and Units

Plan Type	Plan	Diagnosis Code		Procedure Code		Procedure Code Modifier		Units	
		Number of Diagnoses Present in Both Sources	Rate	Number of Procedure Codes Present in Both Sources	Rate	Number of Procedure Code Modifiers Present in Both Sources	Rate	Number of Units Present in Both Sources	Rate
CNET	LCS	275	100%	353	100%	383	95.8%	345	46.4%
	MTM	218	100%	397	100%	397	71.8%	397	99.2%

Plan Type	Plan	Diagnosis Code		Procedure Code		Procedure Code Modifier		Units	
		Number of Diagnoses Present in Both Sources	Rate	Number of Procedure Codes Present in Both Sources	Rate	Number of Procedure Code Modifiers Present in Both Sources	Rate	Number of Units Present in Both Sources	Rate
Dental	DQT	NA	NA	1,333	91.8%	NA	NA	NA	NA
	LIB	NA	NA	1,215	94.1%	NA	NA	NA	NA
	MCA	NA	NA	1,254	93.7%	NA	NA	NA	NA
CNET and Dental	**All Plans**	**493**	**100%**	**4,552**	**94.3%**	**780**	**83.6%**	**742**	**74.7%**

Key Findings: Table 4-9

- Diagnosis code: Overall, 100 percent of the diagnosis codes were accurate when the diagnosis codes were present in both the encounter data and the transportation records.

- Procedure code: Overall, 94.3 percent of the procedure codes were accurate when the procedure codes were present in both the encounter data and the transportation/dental records.
  - Among the CNET plans, both LCS and MTM had 100 percent accuracy rates for procedure codes.
  - Among the dental plans, LIB and MCA had similar accuracy rates (i.e., 94.1 percent and 93.7 percent, respectively), while DQT had a slightly lower accuracy rate of 91.8 percent compared to LIB and MCA.
    - Among the top two inaccurate dental procedure codes were D0220 (Intraoral—periapical first radiograph image) and D0230 (Intraoral—periapical each additional radiograph image).

- Procedure code modifier: Overall, 83.6 percent of the procedure code modifiers were accurate when the procedure code modifiers were present in both the encounter data and the transportation records.
  - LCS had a significantly higher procedure code modifier accuracy rate (i.e., 95.8 percent) compared to MTM (i.e., 71.8 percent). Among the modifiers that were inaccurate were modifiers "RP" that should have been "RD," "PR" which should have been "DR," and "PP" which should have been "PR."

- Units: Overall, 74.7 percent of the units were accurate when the unit values were present in both the encounter data and the transportation records.
  - MTM had a significantly higher units accuracy rate (i.e., 99.2 percent) compared to LCS (i.e., 46.4 percent). Nearly all of LCS' units that were inaccurate were units reported as two units that should have been reported as one unit, since trip log documentation included only one leg of the trip and not two legs.

All-Element Accuracy

Table 4-10 displays the overall and plan-level all-element accuracy rates, which describe the percentage of dates of service present in both the Agency's encounter data and in the transportation/dental records with exactly the same values for **all** key data elements listed in Table A-2. The denominator is the total number of dates of service that matched in both data sources. The numerator is the total number of dates of service with the same values for all key data elements. Higher all-element accuracy rates indicate that the values populated in the Agency's encounter data were more accurate and complete for all key data elements when compared to transportation/dental records. Fully detailed tables are provided in Appendix D.

Table 4-10—All-Element Accuracy

Plan Type	Plan	Number of Dates of Service Present in Both Sources	Accuracy Rate
CNET	LCS	285	20.4%
	MTM	280	51.8%
Dental	DQT	273	52.0%
	LIB	267	48.7%
	MCA	275	55.6%
CNET and Dental	**All Plans**	**1,380**	**45.5%**

Key Findings: Table 4-10

- Overall, 45.5 percent of the dates of service present in both sources contained accurate values for either all four key data elements (i.e., *Diagnosis Code*, *Procedure Code*, *Procedure Code Modifier*, and *Units*) for the CNET plans, or one key data element (i.e., *Procedure Code*) for the dental plans.

- The low overall all-element accuracy rates were caused by the transportation/dental record omission, encounter data omission, and element inaccuracy from all evaluated key data elements.

Accurate and complete encounter data are critical to the success of any managed care program. State Medicaid agencies rely on the quality of the 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. The completeness and accuracy of these data are essential to the success of the state's overall management and oversight of its Medicaid managed care program and in demonstrating its responsibility and stewardship.

Methodology

In alignment with the CMS EQR *Protocol 5. Validation of Encounter Data Reported by the Medicaid and CHIP Managed Care Plan: An Optional EQR-Related Activity*, October 2019,[A-1] HSAG conducted the following core evaluation activities for the EDV activity:

- Comparative analysis—Analysis of the Agency's electronic encounter data completeness and accuracy through a comparative analysis between the Agency's electronic encounter data and the data extracted from the plans' data systems.
- Transportation/dental record review—Analysis of the Agency's electronic encounter data completeness and accuracy by comparing the Agency's electronic encounter data to the information documented in the corresponding enrollees' transportation/dental records.

Comparative Analysis

The goal of the comparative analysis is to evaluate the extent to which encounters submitted to the Agency by the plans are complete and accurate based on corresponding information stored in the plans' data systems. The encounter data are considered complete if the data provide a record of all services rendered to the enrollees, and all data in the plan's data set have been successfully transferred into the state's data system. For encounter data to be considered accurate, the data that the plans maintain represent the actual services rendered; when they were rendered (the service date); to whom they were rendered (the enrollee); by whom they were rendered (the provider); and, if a payment was rendered in connection to the service, how much was paid. Plans should also successfully map this information between themselves and the state to ensure that the data stored in the state's system match the data stored in the plan's system. This step corresponds to a validation activity described in Activity 3: Analyze Electronic Encounter Data in CMS' *Protocol 5*. The comparative data analysis was performed on encounters submitted by the plans with a

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[A-1] Department of Health and Human Services, Centers for Medicare & Medicaid Services. *Protocol 5. Validation of Encounter Data Reported by the Medicaid and CHIP Managed Care Plan: An Optional EQR-Related Activity*, October 2019. Available at: https://www.medicaid.gov/medicaid/quality-of-care/downloads/2019-eqr-protocols.pdf. Accessed on: June 22, 2021.

date of service between January 1, 2019, and December 31, 2019. The transportation and dental encounter data from the CNET plans and the dental plans, respectively, were included in the study. The comparative analysis component involved three key steps:

- Development of data submission requirements documents outlining encounter data submission requirements for the Agency and the plans, including technical assistance sessions.
- Conducting a file review of submitted encounter data from the Agency and the plans.
- Conducting a comparative analysis of the encounter data.

Development of Data Submission Requirements and Technical Assistance

Following the Agency's approval of the scope of work, HSAG prepared and submitted data submission requirements documents to the Agency and the plans. These documents included a brief description of the SFY 2020–2021 EDV study, a description of the review period, requested encounter data types, required data fields, and the procedures for submitting the requested data files to HSAG. The requested encounter data fields included key data elements to be evaluated in the EDV study. The Agency and the plans were requested to submit all encounter data records with dates of service between January 1, 2019, and December 31, 2019, and submitted to the Agency on or before July 31, 2020. This anchor date allowed enough time for CY 2019 encounters to be submitted, processed, and available for evaluation in the Agency's data warehouse. The requested data were limited to encounters in their final status and excluded encounters associated with interim adjustment history.

HSAG conducted a technical assistance session with the plans to facilitate the accurate and timely submission of data. The technical assistance session was conducted approximately one week after distributing the data submission requirements documents, thereby allowing the plans time to review and prepare their questions for the session. During this technical assistance session, HSAG's EDV team introduced the SFY 2020–2021 EDV study, reviewed the data submission requirements document, and addressed all questions related to data preparation and extraction. Both the Agency and the plans were given approximately one month to extract and prepare the requested files for submission to HSAG.

Preliminary File Review

Following receipt of the Agency's and the plans' encounter data submissions, HSAG conducted a preliminary file review to determine if any data issues existed in the data files that would warrant a resubmission. The preliminary file review included the following checks:

- Data extraction—Extracted based on the data requirements document.
- Percent present—Required data fields are present on the file and have values in those fields.
- Percentage of valid values—The values are the expected values; e.g., valid ICD-10 codes in the diagnosis field.
- Evaluation of matching claim numbers—The percentage of claim numbers matching between the data extracted from the Agency's data warehouse and the plans' data submitted to HSAG.

Based on the results of the preliminary file review, HSAG generated plan-specific reports that highlighted any major discrepancies, anomalies, or issues identified in the encounter data submissions. Either the Agency or the plans were subsequently required to resubmit data, when necessary.

Conduct the Comparative Data Analyses

Once HSAG received and processed the final set of data from the Agency and the plans, HSAG conducted a series of 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 files submitted by the plans that were not found in the files submitted by the Agency (***record omission***).
- The number and percentage of records present in the files submitted by the Agency but not found in the files submitted by the plans (***record surplus***).

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

Table A-1—Key Data Elements for Comparative Analysis

Key Data Element	Transportation	Dental
Enrollee ID	√	√
Detail Service From Date	√	√
Detail Service To Date	√	√
Billing Provider NPI	√	√
Rendering Provider NPI	√	√
Referring Provider NPI	√	√
Primary Diagnosis Code	√	
Procedure Code (CPT/HCPCS/CDT)	√	√
Procedure Code Modifier	√	
Units of Service	√	√
Tooth Number		√
Mouth Quadrant		√
Tooth Surface (1 through 6)		√
Detail Paid Amount	√	√

Element-level completeness focused on an element-level comparison between both sources of data and addressed the following metrics:

- The number and percentage of records with values present in the files submitted by the plans but not present in the files submitted by the Agency (*element omission*).
- The number and percentage of records with values present in the files submitted by the Agency but not present in the files submitted by the plans (*element surplus*).

Element-level accuracy was limited to those records with values present in both the Agency's and the plans' submitted files. For a particular data element, HSAG determined:

- The number and percentage of records with exactly the same values in both the Agency's and the plans' submitted files (*element accuracy*).
- The number and percentage of records present in both data sources with exactly the same values for select data elements relevant to each encounter data type (*all-element accuracy*).

Transportation/Dental Record Review

As outlined in the CMS' *Protocol 5*, record review is a complex and resource-intensive process. The trip logs associated with the transportation services that were provided and the dental records are considered the "gold standard" for documenting Medicaid enrollees' access to and the quality of healthcare services. The second component of the EDV study assessed the completeness and accuracy of the Agency encounters via a review of transportation/dental records for services rendered between January 1, 2019, and December 31, 2019. This component of the study answered the following question:

Are the data elements in Table A-2 found on the transportation/dental encounters complete and accurate when compared to information contained within the transportation/dental records?

Table A-2—Key Data Elements for Transportation/Dental Record Review

Transportation	Dental
Date of Service	Date of Service
Diagnosis Code	Procedure Code/Tooth Information
Procedure Code	
Procedure Code Modifier	
Units Billed	

To answer the study question, HSAG conducted the following key steps:

- Identified the eligible population and generated samples from data submitted by the Agency for the study.
- Assisted plans to procure trip log documentation (associated with the transportation services) and dental records from CNET and dental providers, respectively, as appropriate.

- Reviewed transportation/dental records against the Agency's encounter data.
- Calculated study indicators based on the reviewed/abstracted data.
- Drafted report based on study results.

Study Population

To be eligible for the transportation/dental record review, an enrollee had to be continuously enrolled in the same plan during the study period (i.e., between January 1, 2019, and December 31, 2019), and had to have had at least one transportation/dental service during the study period. For plans that did not have enrollees enrolled with the same plan continuously during the study period, HSAG adjusted the continuous enrollment accordingly. In addition, enrollees with Medicare or other insurance coverage were excluded from the eligible population since the Agency does not have complete encounter data for all services they received. In this study, HSAG refers to non-emergency transportation and dental services as the services that met all criteria in Table A-3. In addition, after reviewing the encounter data from the Agency's data warehouse, HSAG discussed additional changes to these criteria with the Agency, as needed.

Table A-3—Criteria for Non-Emergency Transportation and Dental Services Included in the Study

Data Element	Criteria
Non-Emergency Transportation Services	
Claim Type	Claim Type Code = M
Provider Type	40–Ambulance 41–Non-Emergency Transport 43–Taxicab Company 44–Government/Municipal Transport 45–Private Transportation 46–Non-Profit Transportation 47–Multi-Load Private Transport
Procedure Code	Procedure codes for transportation services shall include but not be limited to: • A0080–Non-emergency transportation, per mile—vehicle provided by volunteer (individual or organization), with no vested interest • A0090–Non-emergency transportation, per mile—vehicle provided by individual (family member, self, neighbor) with vested interest • A0100–Non-emergency transportation; taxi • A0110–Non-emergency transportation and bus, intra- or inter-state carrier • A0120–Non-emergency transportation: mini-bus, mountain area transports, or other transportation systems • A0130–Non-emergency transportation: wheelchair van

Data Element	Criteria
	• A0140–Non-emergency transportation and air travel (private or commercial) intra- or inter-state
	• A0160–Non-emergency transportation: per mile—case worker or social worker
	• A0170–Transportation ancillary: parking fees, tolls, other
	• A0180–Non-emergency transportation: ancillary: lodging-recipient
	• A0190–Non-emergency transportation: ancillary: meals-recipient
	• A0200–Non-emergency transportation: ancillary: lodging-escort
	• A0210–Non-emergency transportation: ancillary: meals-escort
	• A0426–Ambulance service, advanced life support, non-emergency transport, Level 1 (ALS1)
	• A0428–Ambulance service, basic life support, non-emergency transport (bls)
	• T2001–Non-emergency transportation; patient attendant/escort
	• T2002–Non-emergency transportation; per diem
	• T2003–Non-emergency transportation; encounter/trip
	• T2004–Non-emergency transportation; commercial carrier, multi-pass
	• T2005–Non-emergency transportation; stretcher van
	• T2007–Non-emergency transport wait time
	• T2049–Non-emergency transportation; stretcher van, mileage; per mile
	• S0215–Non-emergency transportation; mileage, per mile
	• S9960–Ambulance service, conventional air service, non-emergency transport, one way (fixed wing)
	• S9961–Ambulance service, conventional air service, non-emergency transport, one way (rotary wing)
Dental Services	
Claim Type	Claim Type Code = D
Provider Type	35–Dentist 37–Registered Dental Hygienist 77–County Health Department 68–Federally Qualified Health Center

Sampling Strategy

HSAG used a two-stage sampling technique to select samples based on the enrollment and encounter data received from the Agency. HSAG first identified all enrollees who met the study population eligibility criteria. HSAG then randomly selected the enrollees by plan based on the required sample size. Then, for

each selected sample enrollee, HSAG used the SURVEYSELECT procedure in SAS[®],[A-2] to randomly select one transportation/dental visit[A-3] that occurred in the study period (i.e., January 1, 2019, through December 31, 2019). Additionally, to evaluate whether any of the dates of service were omitted from the Agency's data, HSAG reviewed a second date of service rendered by the same provider during the review period. The providers will select the second date of service that was closest to the selected date of service from the transportation/dental records for each sampled enrollee. If a sampled enrollee did not have a second visit with the same provider during the review period, HSAG evaluated only one date of service for that enrollee.

Based on the scope of work, HSAG maintained a total of 1,415 transportation/dental records (i.e., 283 transportation or dental records for each of the two CNET plans and the three dental plans, respectively) reviewed for the transportation/dental record review component of the study. These 283 transportation/dental records per plan consisted of transportation/dental records from the sampled dates of service and/or transportation/dental records from the second dates of service, if available. For example, a dental plan may have had 200 dental records from the sampled dates of service and 83 dental records from the second dates of service for a total of 283 dental records to be reviewed. Additionally, if a plan had less than 283 cases that were eligible for the study, all of the eligible cases were included and the number of cases for the remaining plans were adjusted accordingly to ensure the 1,415 total cases reviewed. Based on this approach, HSAG first randomly selected a sample of 283 cases per plan. An additional 25 percent oversample (or 71 cases per plan) were sampled to replace records not procured. As such, plans with an adequate number of cases eligible for the study were responsible for procuring a minimum of 354 total sampled enrollees' transportation/dental records per plan (i.e., 283 sample and 71 oversample) from their contracted providers for services that occurred during the study period.

Transportation/Dental Record Procurement

Upon receiving the final sample list from HSAG, the plans were responsible for procuring the sampled enrollees' transportation/dental records from their contracted providers for services that occurred during the study period. In addition, the plans were responsible for submitting the documentation to HSAG. To improve the procurement rate, HSAG conducted a one-hour technical assistance call with the plans to review the EDV project and the procurement protocols after distributing the sample list. The plans were instructed to submit the transportation/dental records electronically via a Secure Access File Exchange (SAFE) to ensure the protection of personal health information. During the procurement process, HSAG worked with the plans to answer questions and monitor the number of transportation/dental records submitted. For example, HSAG provided an initial submission update when 40 percent of the records were expected to be submitted and a final submission status update following completion of the procurement period.

[A-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.

[A-3] To ensure that the transportation/dental record review included all services provided on the same date of service, encounters with the same date of service and same rendering provider were consolidated into one visit for sampling purposes.

All electronic transportation/dental records HSAG received were maintained on a SAFE site, which allowed HSAG's trained reviewers to validate the cases from a centralized location under supervision and oversight. As with all record reviews and research activities, HSAG had implemented a thorough Health Insurance Portability and Accountability Act of 1996 (HIPAA) compliance and protection program in accordance with federal regulations that included recurring training as well as policies and procedures that addressed physical security, electronic security, and day-to-day operations.

Review of Transportation/Dental Records

Concurrent with record procurement activities, HSAG developed detailed training documents for the record review activity and trained its review staff members on specific study protocols and conducted interrater reliability (IRR) and rate-to-standard testing. All reviewers had to achieve a 95 percent accuracy rate prior to reviewing transportation/dental records and collecting data for the study.

During the transportation/dental record review activity, HSAG's trained reviewers collected and documented findings in an HSAG-designed electronic data collection tool. IRR among reviewers, as well as reviewer accuracy, was evaluated regularly throughout the study. Questions raised and decisions made during this evaluation process were documented and communicated to all reviewers in a timely manner. In addition, HSAG analysts periodically reviewed the export files from the abstraction tool to ensure the abstraction results were complete, accurate, and consistent.

The validation process via transportation/dental records incorporated a unique two-way approach in which encounters were chosen from both the electronic encounter data and from transportation/dental records and were subsequently compared with one another. Claims/encounters selected from data received from the Agency were compared against the transportation/dental service records and the transportation/dental records were compared against the Agency's encounter data. This process allowed the study to identify encounters present in the Agency's data but not documented in the enrollees' transportation/dental records (i.e., *record/document omission*), as well as to identify services documented in the enrollees' transportation/dental records that were missing from the Agency's encounter data (i.e., *encounter data omission*). For services in both data sources, an analysis of coding accuracy was completed. Information that existed in both data sources but whose values did not match were considered discrepant.

Transportation/Dental Record Review Indicators

Once the record review was completed, HSAG analysts exported information collected from the electronic tool, reviewed the data, and conducted the analysis. HSAG used four study indicators to report the record review results:

- *Record/documentation omission rate*: The percentage of dates of service identified in the electronic encounter data that were not found in the enrollees' transportation/dental records. HSAG also calculated this rate for the other key data elements in Table A-2.

- *Encounter data omission rate*: The percentage of dates of service from enrollees' transportation/dental records that were not found in the electronic encounter data. HSAG also calculated this rate for the other key data elements in Table A-2.

- *Accuracy rate of coding*: The percentage of diagnosis codes, procedure codes, and procedure code modifiers associated with validated dates of service from the electronic encounter data that were correctly coded based on the enrollees' transportation/dental records.
- *Overall accuracy rate*: The percentage of dates of service with all data elements coded correctly among all validated dates of service from the electronic encounter data.

Study Limitations

When evaluating the findings presented in this report, it is important to understand the following limitations associated with this study:

- The administrative review results presented in this study are dependent on the quality of encounter data submitted by the Agency and the plans. Any substantial and systematic errors in the extraction and transmission of the encounter data may bias the results and compromise the validity and reliability of the study findings.
- The primary focus of the administrative review component of the EDV study is to assess the extent and magnitude of record and data element discrepancies between the Agency- and plan-submitted encounter data. When possible, HSAG conducted supplemental analyses into the characteristics of the omitted/surplus records when discrepancies were identified. However, these secondary investigations were limited and should be used for information only.
- The number and nature of data fields used to identify omitted claims may have affected the reported omission rates. HSAG evaluated data completeness by matching encounters from the Agency's file with claims from the plans' files. To maximize the number of matched encounters, a limited number of critical data fields were used in the matching algorithm. HSAG selected data fields such as the *ICN*, *TCN*, procedure code, and payment amount to match records from the two data sources. As expected from such a process, in some instances the files submitted from the Agency and the plans contained duplicate service lines, some of which had identical procedures and payment amounts. To avoid a many-to-many match under these circumstances, a unique sequence number was developed by sorting records according to a selected data element (e.g., paid date). As a result, line items with the same *ICN*, date of service, and procedure code may have presented payment discrepancy results based on the matched records at the procedure code and sequence level.
- When evaluating the results from the transportation/dental component of the study, it is important to understand the following limitations:
  - Successful evaluation of enrollees' transportation/dental records depends on the ability to locate and collect complete and accurate transportation/dental records. Therefore, validation results could have been affected by transportation/dental records that were not located (e.g., provider refusal) or that were incomplete (e.g., submission of a billing summary instead of the complete transportation/dental record).
  - Study findings of the transportation/dental record review relied solely on the documentation contained in enrollees' transportation/dental records; therefore, results are dependent on the overall quality of the transportation/dental records. For example, a dentist may have performed a

service but may not have documented it in the enrollee's dental record. As such, HSAG would have counted this occurrence as a negative finding. This study was unable to differentiate cases in which a service was not performed versus a service that was performed but not documented in the transportation/dental record.

– The findings from the comparative analysis and transportation/dental record review were associated with encounters with dates of service between January 1, 2019, and December 31, 2019. As such, results may not reflect the current quality of the Agency's encounter data or changes implemented since December 2019.

This appendix contains detailed encounter data file review results for each plan.

Table B-1—Element Completeness (Percent Not Populated) and Accuracy (Percent Valid) for Non-Emergency Transportation Encounters: LCS

	Agency-Submitted Data				Plan-Submitted Data			
	Percent Not Populated		Percent Valid		Percent Not Populated		Percent Valid	
Data Element	Denominator	Percent	Denominator	Percent Valid	Denominator	Percent	Denominator	Percent Valid
Enrollee ID	167,500	<0.1%	167,461	89.8%	168,554	0.0%	168,554	89.0%
Billing Provider NPI	167,500	0.0%	167,500	100%	168,554	0.0%	168,554	100%
Rendering Provider NPI	167,500	0.0%	167,500	100%	168,554	100%	0	NA
Referring Provider NPI	167,500	100%	0	NA	168,554	100%	0	NA
CPT/HCPCS Procedure Code	167,500	0.0%	167,500	100%	168,554	0.0%	168,554	100%
Primary Diagnosis Code	167,500	0.0%	167,500	100%	168,554	0.0%	168,554	100%

Table B-2—Element Completeness (Percent Not Populated) and Accuracy (Percent Valid) for Non-Emergency Transportation Encounters: MTM

	Agency-Submitted Data				Plan-Submitted Data			
	Percent Not Populated		Percent Valid		Percent Not Populated		Percent Valid	
Data Element	Denominator	Percent	Denominator	Percent Valid	Denominator	Percent	Denominator	Percent Valid
Enrollee ID	115,703	0.2%	115,485	86.2%	116,612	0.0%	116,612	86.1%
Billing Provider NPI	115,703	0.0%	115,703	100%	116,612	0.0%	116,612	100%
Rendering Provider NPI	115,703	0.0%	115,703	100%	116,612	87.7%	14,367	3.0%
Referring Provider NPI	115,703	100%	0	NA	116,612	100%	0	NA
CPT/HCPCS Procedure Code	115,703	0.0%	115,703	100%	116,612	0.0%	116,612	100%
Primary Diagnosis Code	115,703	0.0%	115,703	100%	116,612	0.0%	116,612	100%

Table B-3—Element Completeness (Percent Not Populated) and Accuracy (Percent Valid) for Dental Encounters: DQT

Data Element	Agency-Submitted Data				Plan-Submitted Data			
	Percent Not Populated		Percent Valid		Percent Not Populated		Percent Valid	
	Denominator	Percent	Denominator	Percent Valid	Denominator	Percent	Denominator	Percent Valid
Enrollee ID	5,753,408	<0.1%	5,753,381	>99.9%	5,803,746	0.0%	5,803,746	>99.9%
Billing Provider NPI	5,753,408	0.9%	5,698,798	95.1%	5,803,746	0.0%	5,803,746	94.9%
Rendering Provider NPI	5,753,408	0.1%	5,750,020	96.7%	5,803,746	17.9%	4,763,901	99.1%
Referring Provider NPI	5,753,408	100%	0	NA	5,803,746	100%	0	NA
CDT/CPT/HCPCS Procedure Code	5,753,408	<0.1%	5,752,039	>99.9%	5,803,746	0.0%	5,803,746	>99.9%

Table B-4—Element Completeness (Percent Not Populated) and Accuracy (Percent Valid) for Dental Encounters: LIB

Data Element	Agency-Submitted Data				Plan-Submitted Data			
	Percent Not Populated		Percent Valid		Percent Not Populated		Percent Valid	
	Denominator	Percent	Denominator	Percent Valid	Denominator	Percent	Denominator	Percent Valid
Enrollee ID	3,873,677	<0.1%	3,873,583	>99.9%	3,968,919	0.0%	3,968,919	99.9%
Billing Provider NPI	3,873,677	0.4%	3,858,796	95.5%	3,968,919	0.0%	3,968,919	92.0%
Rendering Provider NPI	3,873,677	0.1%	3,870,470	96.8%	3,968,919	0.0%	3,968,919	98.7%
Referring Provider NPI	3,873,677	100%	0	NA	3,968,919	100%	0	NA
CDT/CPT/HCPCS Procedure Code	3,873,677	<0.1%	3,873,665	>99.9%	3,968,919	0.0%	3,968,919	>99.9%

Table B-5—Element Completeness (Percent Not Populated) and Accuracy (Percent Valid) for Dental Encounters: MCA

Data Element	Agency-Submitted Data				Plan-Submitted Data			
	Percent Not Populated		Percent Valid		Percent Not Populated		Percent Valid	
	Denominator	Percent	Denominator	Percent Valid	Denominator	Percent	Denominator	Percent Valid
Enrollee ID	1,751,671	0.0%	1,751,671	>99.9%	1,933,321	<0.1%	1,933,297	99.9%
Billing Provider NPI	1,751,671	3.1%	1,697,086	95.5%	1,933,321	0.0%	1,933,321	97.1%
Rendering Provider NPI	1,751,671	0.1%	1,749,777	96.8%	1,933,321	0.0%	1,933,321	99.5%
Referring Provider NPI	1,751,671	100%	0	NA	1,933,321	100%	0	NA
CDT/CPT/HCPCS Procedure Code	1,751,671	0.0%	1,751,671	>99.9%	1,933,321	0.0%	1,933,321	>99.9%

This appendix contains detailed comparative analysis results for each plan.

Table C-1—Record Omission and Surplus—Non-Emergency Transportation Encounters: LCS

	Record Omission			Record Surplus		
Encounter Data Type	**Denominator**	**Numerator**	**Rate**	**Denominator**	**Numerator**	**Rate**
Non-Emergency Transportation	168,554	3,588	2.1%	167,500	2,534	1.5%

Table C-2—Element Omission, Surplus, and Accuracy—Non-Emergency Transportation Encounters: LCS

		Element Omission		Element Surplus		Element Accuracy		
Key Data Element	**Number of Matched Records**	**Number of Records With Values Not in Agency's Data**	**Rate**	**Number of Records With Values Not in Plan's Data**	**Rate**	**Number of Records With Values Present in Both Data Sources**	**Number of Records With Same Values in Both Data Sources**	**Rate**
Enrollee ID	164,966	39	<0.1%	0	0.0%	164,927	164,899	>99.9%
Detail Service From Date	164,966	0	0.0%	0	0.0%	164,966	164,966	100%
Detail Service To Date	164,966	0	0.0%	0	0.0%	164,966	164,966	100%
Billing Provider NPI	164,966	0	0.0%	0	0.0%	164,966	164,966	100%
Rendering Provider NPI	164,966	0	0.0%	164,966	100%	0	0	NA
Referring Provider NPI	164,966	0	0.0%	0	0.0%	0	0	NA
CDT/CPT/HCPCS Procedure Code	164,966	0	0.0%	0	0.0%	164,966	164,966	100%
Units of Service	164,966	0	0.0%	164,966	100%	0	0	NA
Procedure Code Modifier 1	164,966	0	0.0%	0	0.0%	164,966	164,964	>99.9%
Primary Diagnosis Code	164,966	0	0.0%	0	0.0%	164,966	164,966	100%
Detail Paid Amount	164,966	0	0.0%	0	0.0%	164,966	164,960	>99.9%

Table C-3—Record Omission and Surplus—Non-Emergency Transportation Encounters: MTM

Encounter Data Type	Record Omission			Record Surplus		
	Denominator	Numerator	Rate	Denominator	Numerator	Rate
Non-Emergency Transportation	116,612	909	0.8%	115,703	0	0.0%

Table C-4—Element Omission, Surplus, and Accuracy—Non-Emergency Transportation Encounters: MTM

Key Data Element	Number of Matched Records	Element Omission		Element Surplus		Element Accuracy		
		Number of Records With Values Not in Agency's Data	Rate	Number of Records With Values Not in Plan's Data	Rate	Number of Records With Values Present in Both Data Sources	Number of Records With Same Values in Both Data Sources	Rate
Enrollee ID	115,703	218	0.2%	0	0.0%	115,485	115,485	100%
Detail Service From Date	115,703	0	0.0%	0	0.0%	115,703	115,703	100%
Detail Service To Date	115,703	0	0.0%	0	0.0%	115,703	115,703	100%
Billing Provider NPI	115,703	0	0.0%	0	0.0%	115,703	115,703	100%
Rendering Provider NPI	115,703	0	0.0%	101,646	87.9%	14,057	0	0.0%
Referring Provider NPI	115,703	0	0.0%	0	0.0%	0	0	NA
CDT/CPT/HCPCS Procedure Code	115,703	0	0.0%	0	0.0%	115,703	115,703	100%
Units of Service	115,703	0	0.0%	0	0.0%	115,703	115,703	100%
Procedure Code Modifier 1	115,703	0	0.0%	0	0.0%	115,703	115,703	100%
Primary Diagnosis Code	115,703	0	0.0%	0	0.0%	115,703	115,703	100%
Detail Paid Amount	115,703	0	0.0%	0	0.0%	115,703	115,703	100%

Table C-5—Record Omission and Surplus—Dental Encounters: DQT

	Record Omission			Record Surplus		
Encounter Data Type	Denominator	Numerator	Rate	Denominator	Numerator	Rate
Dental	5,803,746	53,520	0.9%	5,753,408	3,182	0.1%

Table C-6—Element Omission, Surplus, and Accuracy—Dental Encounters: DQT

Key Data Element	Number of Matched Records	Element Omission		Element Surplus		Element Accuracy		
		Number of Records With Values Not in Agency's Data	Rate	Number of Records With Values Not in Plan's Data	Rate	Number of Records With Values Present in Both Data Sources	Number of Records With Same Values in Both Data Sources	Rate
Enrollee ID	5,750,226	27	<0.1%	0	0.0%	5,750,199	5,750,090	>99.9%
Detail Service From Date	5,750,226	0	0.0%	0	0.0%	5,750,226	5,749,594	>99.9%
Detail Service To Date	5,750,226	0	0.0%	0	0.0%	5,750,226	5,750,226	100%
Billing Provider NPI	5,750,226	54,492	0.9%	0	0.0%	5,695,734	5,348,028	93.9%
Rendering Provider NPI	5,750,226	1,504	<0.1%	1,030,371	17.9%	4,716,467	4,447,566	94.3%
CDT/CPT/HCPCS Procedure Code	5,750,226	1,369	<0.1%	0	0.0%	5,748,857	5,748,547	>99.9%
Units of Service	5,750,226	0	0.0%	0	0.0%	5,750,226	5,750,196	>99.9%
Tooth Number	5,750,226	9,101	0.2%	64	<0.1%	1,157,759	1,157,676	>99.9%
Mouth Quadrant	5,750,226	0	0.0%	25,596	0.4%	0	0	NA
Tooth Surface 1	5,750,226	157,285	2.7%	167,091	2.9%	138,877	138,877	100%
Tooth Surface 2	5,750,226	157,185	2.7%	8	<0.1%	138,977	138,876	99.9%
Tooth Surface 3	5,750,226	43,289	0.8%	12,820	0.2%	39,745	36,154	91.0%
Tooth Surface 4	5,750,226	8,323	0.1%	10,487	0.2%	9,643	8,067	83.7%
Tooth Surface 5	5,750,226	1,854	<0.1%	29,550	0.5%	1,934	1,494	77.2%
Tooth Surface 6	5,750,226	0	0.0%	34,953	0.6%	0	0	NA
Detail Paid Amount	5,750,226	0	0.0%	0	0.0%	5,750,226	5,745,156	99.9%

Table C-7—Record Omission and Surplus—Dental Encounters: LIB

	Record Omission			Record Surplus		
Encounter Data Type	Denominator	Numerator	Rate	Denominator	Numerator	Rate
Dental	3,968,919	113,787	2.9%	3,873,677	18,545	0.5%

Table C-8—Element Omission, Surplus, and Accuracy—Dental Encounters: LIB

Key Data Element	Number of Matched Records	Element Omission		Element Surplus		Element Accuracy		
		Number of Records With Values Not in Agency's Data	Rate	Number of Records With Values Not in Plan's Data	Rate	Number of Records With Values Present in Both Data Sources	Number of Records With Same Values in Both Data Sources	Rate
Enrollee ID	3,855,132	45	<0.1%	0	0.0%	3,855,087	3,853,770	>99.9%
Detail Service From Date	3,855,132	0	0.0%	0	0.0%	3,855,132	3,854,781	>99.9%
Detail Service To Date	3,855,132	0	0.0%	0	0.0%	3,855,132	3,841,839	99.7%
Billing Provider NPI	3,855,132	14,881	0.4%	0	0.0%	3,840,251	3,079,751	80.2%
Rendering Provider NPI	3,855,132	3,207	0.1%	0	0.0%	3,851,925	3,651,702	94.8%
CDT/CPT/HCPCS Procedure Code	3,855,132	11	<0.1%	0	0.0%	3,855,121	3,854,300	>99.9%
Units of Service	3,855,132	0	0.0%	0	0.0%	3,855,132	3,850,955	99.9%
Tooth Number	3,855,132	0	0.0%	1	<0.1%	1,137,600	1,137,597	>99.9%
Mouth Quadrant	3,855,132	4,535	0.1%	0	0.0%	47,024	46,816	99.6%
Tooth Surface 1	3,855,132	150,955	3.9%	0	0.0%	156,491	156,491	100%
Tooth Surface 2	3,855,132	87,302	2.3%	0	0.0%	93,235	93,187	99.9%
Tooth Surface 3	3,855,132	25,406	0.7%	6,902	0.2%	24,924	23,015	92.3%
Tooth Surface 4	3,855,132	4,941	0.1%	6,453	0.2%	5,590	4,770	85.3%
Tooth Surface 5	3,855,132	1,028	<0.1%	16,322	0.4%	1,161	945	81.4%
Tooth Surface 6	3,855,132	1	<0.1%	12,738	0.3%	0	0	NA
Detail Paid Amount	3,855,132	0	0.0%	0	0.0%	3,855,132	3,855,132	100%

Table C-9—Record Omission and Surplus—Dental Encounters: MCA

Encounter Data Type	Record Omission			Record Surplus		
	Denominator	Numerator	Rate	Denominator	Numerator	Rate
Dental	1,933,321	365,692	18.9%	1,751,671	184,042	10.5%

Table C-10—Element Omission, Surplus, and Accuracy—Dental Encounters: MCA

Key Data Element	Number of Matched Records	Element Omission		Element Surplus		Element Accuracy		
		Number of Records With Values Not in Agency's Data	Rate	Number of Records With Values Not in Plan's Data	Rate	Number of Records With Values Present in Both Data Sources	Number of Records With Same Values in Both Data Sources	Rate
Enrollee ID	1,567,629	0	0.0%	19	<0.1%	1,567,610	1,566,233	99.9%
Detail Service From Date	1,567,629	0	0.0%	0	0.0%	1,567,629	1,567,249	>99.9%
Detail Service To Date	1,567,629	0	0.0%	0	0.0%	1,567,629	1,562,935	99.7%
Billing Provider NPI	1,567,629	0	0.0%	0	0.0%	1,567,629	1,454,443	92.8%
Rendering Provider NPI	1,567,629	0	0.0%	0	0.0%	1,567,629	1,488,026	94.9%
CDT/CPT/HCPCS Procedure Code	1,567,629	0	0.0%	0	0.0%	1,567,629	1,567,629	100%
Units of Service	1,567,629	0	0.0%	0	0.0%	1,567,629	1,567,629	100%
Tooth Number	1,567,629	12,002	0.8%	0	0.0%	441,372	406,189	92.0%
Mouth Quadrant	1,567,629	32	<0.1%	2,346	0.1%	9,632	8,792	91.3%
Tooth Surface 1	1,567,629	79,015	5.0%	5	<0.1%	68,010	67,312	99.0%
Tooth Surface 2	1,567,629	45,503	2.9%	8	<0.1%	42,001	41,885	99.7%
Tooth Surface 3	1,567,629	14,770	0.9%	3,178	0.2%	12,174	11,207	92.1%
Tooth Surface 4	1,567,629	2,031	0.1%	3,800	0.2%	2,254	1,871	83.0%
Tooth Surface 5	1,567,629	516	<0.1%	8,152	0.5%	501	391	78.0%
Tooth Surface 6	1,567,629	0	0.0%	6,861	0.4%	0	0	NA
Detail Paid Amount	1,567,629	0	0.0%	0	0.0%	1,567,629	1,567,629	100%

This section contains detailed transportation/dental record review results for each plan.

Table D-1—Medical Record Procurement Status: LCS

Plan	Number of Records Requested	Number of Records Submitted	Percentage of Records Submitted	Number of Late Submission Records	Percentage of Late Submission
LCS	354	232	65.5%	122	34.5%
All Plans	**1,717**	**1,479**	**86.1%**	**122**	**7.1%**

Table D-2—Reasons for Not Populated Medical Records: LCS

Reason	Count	Percent
Non-responsive provider or provider did not respond in a timely manner.	0	NA (0)
Enrollee was a patient of the practice; however, no documentation was available for requested dates of service.	0	NA (0)
Other.	0	NA (0)
Enrollee was not a patient of the facility.	0	NA (0)
Records were not located at this facility.	0	NA (0)
Closed facility.	0	NA (0)
Total	**0**	**NA (0)**

Table D-3—Encounter Data Completeness Summary: LCS

Data Element	Medical Record Omission*			Encounter Data Omission*		
	Denominator	Numerator	Rate	Denominator	Numerator	Rate
Date of Service	285	0	0.0%	285	0	0.0%
Diagnosis Code	285	10	3.5%	275	0	0.0%
Procedure Code	368	15	4.1%	353	0	0.0%
Procedure Code Modifier	401	18	4.5%	400	17	4.3%
Units	368	23	6.3%	345	0	0.0%

* Lower rates indicate better performance.

Table D-4—Encounter Data Accuracy Summary: LCS

Data Element	Denominator	Numerator	Rate
Diagnosis Code	275	275	100%
Procedure Code	353	353	100%
Procedure Code Modifier	383	367	95.8%
Units	345	160	46.4%
All-Element Accuracy	285	58	20.4%

Table D-5—Medical Record Procurement Status: MTM

Plan	Number of Records Requested	Number of Records Submitted	Percentage of Records Submitted	Number of Late Submission Records	Percentage of Late Submission
MTM	301	294	97.7%	0	0.0%
All Plans	**1,717**	**1,479**	**86.1%**	**122**	**7.1%**

Table D-6—Reasons for Not Populated Medical Records: MTM

Reason	Count	Percent
Enrollee was a patient of the practice; however, no documentation was available for requested dates of service.	6	85.7% (6)
Other.	1	14.3% (1)
Non-responsive provider or provider did not respond in a timely manner.	0	0.0% (0)
Enrollee was not a patient of the facility.	0	0.0% (0)
Records were not located at this facility.	0	0.0% (0)
Closed facility.	0	0.0% (0)
Total	**7**	**100% (7)**

Table D-7—Encounter Data Completeness Summary: MTM

Data Element	Medical Record Omission*			Encounter Data Omission*		
	Denominator	Numerator	Rate	Denominator	Numerator	Rate
Date of Service	283	3	1.1%	283	3	1.1%
Diagnosis Code	283	65	23.0%	221	3	1.4%
Procedure Code	528	131	24.8%	400	3	0.8%
Procedure Code Modifier	553	156	28.2%	404	7	1.7%
Units	528	131	24.8%	400	3	0.8%

* Lower rates indicate better performance.

Table D-8—Encounter Data Accuracy Summary: MTM

Data Element	Denominator	Numerator	Rate
Diagnosis Code	218	218	100%
Procedure Code	397	397	100%
Procedure Code Modifier	397	285	71.8%
Units	397	394	99.2%
All-Element Accuracy	280	145	51.8%

Table D-9—Medical Record Procurement Status: DQT

Plan	Number of Records Requested	Number of Records Submitted	Percentage of Records Submitted	Number of Late Submission Records	Percentage of Late Submission
DQT	354	344	97.2%	0	0.0%
All Plans	**1,717**	**1,479**	**86.1%**	**122**	**7.1%**

Table D-10—Reasons for Not Populated Medical Records: DQT

Reason	Count	Percent
Other.	4	40.0% (4)
Enrollee was not a patient of the facility.	4	40.0% (4)
Non-responsive provider or provider did not respond in a timely manner.	1	10.0% (1)
Records were not located at this facility.	1	10.0% (1)
Enrollee was a patient of the practice; however, no documentation was available for requested dates of service.	0	0.0% (0)
Closed facility.	0	0.0% (0)
Total	**10**	**100% (10)**

Table D-11—Encounter Data Completeness Summary: DQT

	Medical Record Omission*			Encounter Data Omission*		
Data Element	Denominator	Numerator	Rate	Denominator	Numerator	Rate
Date of Service	275	2	0.7%	287	14	4.9%
Procedure Code	1,449	115	7.9%	1,440	106	7.4%

* Lower rates indicate better performance.

Table D-12—Encounter Data Accuracy Summary: DQT

Data Element	Denominator	Numerator	Rate
Procedure Code	1,333	1,224	91.8%
All-Element Accuracy	273	142	52.0%

Table D-13—Medical Record Procurement Status: LIB

Plan	Number of Records Requested	Number of Records Submitted	Percentage of Records Submitted	Number of Late Submission Records	Percentage of Late Submission
LIB	354	336	94.9%	0	0.0%
All Plans	**1,717**	**1,479**	**86.1%**	**122**	**7.1%**

Table D-14—Reasons for Not Populated Medical Records: LIB

Reason	Count	Percent
Other.	9	50.0% (9)
Enrollee was a patient of the practice; however, no documentation was available for requested dates of service.	6	33.3% (6)
Records were not located at this facility.	2	11.1% (2)
Non-responsive provider or provider did not respond in a timely manner.	1	5.6% (1)
Enrollee was not a patient of the facility.	0	0.0% (0)
Closed facility.	0	0.0% (0)
Total	**18**	**100% (18)**

Table D-15—Encounter Data Completeness Summary: LIB

Data Element	Medical Record Omission*			Encounter Data Omission*		
	Denominator	Numerator	Rate	Denominator	Numerator	Rate
Date of Service	272	5	1.8%	284	17	6.0%
Procedure Code	1,414	199	14.1%	1,329	114	8.6%

* Lower rates indicate better performance.

Table D-16—Encounter Data Accuracy Summary: LIB

Data Element	Denominator	Numerator	Rate
Procedure Code	1,215	1,143	94.1%
All-Element Accuracy	267	130	48.7%

Table D-17—Medical Record Procurement Status: MCA

Plan	Number of Records Requested	Number of Records Submitted	Percentage of Records Submitted	Number of Late Submission Records	Percentage of Late Submission
MCA	354	273	77.1%	0	0.0%
All Plans	**1,717**	**1,479**	**86.1%**	**122**	**7.1%**

Table D-18—Reasons for Not Populated Medical Records: MCA

Reason	Count	Percent
Non-responsive provider or provider did not respond in a timely manner.	65	80.2% (65)
Enrollee was a patient of the practice; however, no documentation was available for requested dates of service.	8	9.9% (8)
Enrollee was not a patient of the facility.	6	7.4% (6)
Closed facility.	2	2.5% (2)
Other.	0	0.0% (0)
Records were not located at this facility.	0	0.0% (0)
Total	**81**	**100% (81)**

Table D-19—Encounter Data Completeness Summary: MCA

Data Element	Medical Record Omission*			Encounter Data Omission*		
	Denominator	Numerator	Rate	Denominator	Numerator	Rate
Date of Service	275	0	0.0%	283	8	2.8%
Procedure Code	1,372	118	8.6%	1,407	153	10.9%

* Lower rates indicate better performance.

Table D-20—Encounter Data Accuracy Summary: MCA

Data Element	Denominator	Numerator	Rate
Procedure Code	1,254	1,175	93.7%
All-Element Accuracy	275	153	55.6%