# COLORADO MEDICAID ENCOUNTERS:

## ENCOUNTER DATA VALIDATION STUDY

## LEGISLATIVE SUMMARY

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**By the Colorado Department**
**Of Health Care Policy and Financing**

Contractor: First Peer Review of Colorado

## Executive Summary

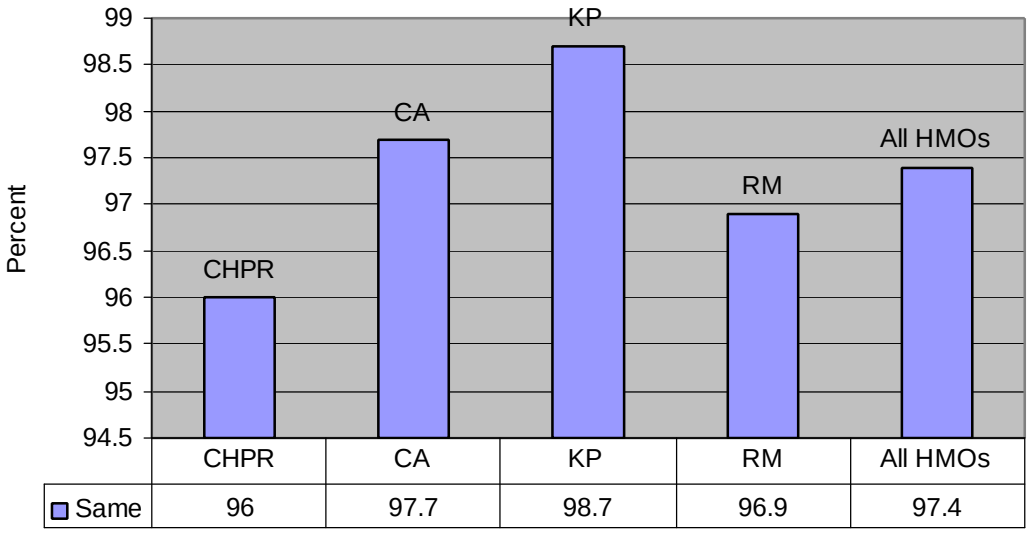
This report presents the findings of an encounter data validation study of Health Maintenance Organization (HMO) reported encounters within the Colorado Medicaid Program for the year of 1997. The accuracy of encounter data is of particular importance to the Colorado Medicaid program because this information was used, in part, to determine sample populations for three focused studies—Discharge Planning for People with Special Needs, Quality of Care for Adults with Diabetes and EPSDT (Early and Periodic Screening, Diagnostic and Treatment) Screening and Immunizations—that were conducted by First Peer Review of Colorado for the Colorado Department of Health Care Policy and Financing. In addition to the focused studies mentioned above, encounter data can also be used in a myriad of applications such as HEDIS indicators, performance measures, report cards, rate setting for diagnostic based risk adjustment as well as assess an array of quality of care issues. Given the extent of encounter data uses, the importance of quality data should be obvious.

The present study examined three aspects of encounter data: (1) ***discrepancies*** between reported encounters and their respective medical record; (2) ***missing encounter records*** or under-reporting and (3) ***missing medical records*** or over-reporting. For discrepancies between the reported encounter record and the medical record, 375 out of a sample of 422 reported encounters were compared to their respective medical record. Comparisons between the encounter and medical record were based upon thirteen data elements that are common to the encounter and medical records. The findings from (1) reveal that the reported encounter data was substantiated by the medical record 97 percent of the time. Further examination of the 97 percent agreement rate revealed that the smallest agreement rate was 96 percent for Community Health Plan of the Rockies (CHPR) and the largest agreement rate was 98.7 percent for Kaiser. Finally, a test of HMO significance was performed on the data to determine if there was a statistical relationship between an HMO and the level of agreement between encounters and the medical record. The test revealed that individual HMO agreement rates were statistically equivalent and none of the four HMOs, relative to each other, exerted a stronger influence on the overall agreement rate of 97 percent.

The total number of missing encounter records or under-reporting represented 1.9 percent of the total number of records reviewed (11,478). There were a total of 217 (1.9 percent) records that contained medical record documentation but did not have encounter record documentation. CHPR had the largest proportion (3 percent) of missing encounters. Colorado Access and Rocky Mountain accounted for 1.9 and 1.8 percent, respectively, of missing encounter records. Kaiser did not have any missing encounter records in the EDV sample.

Missing medical record entry, or over-reporting, accounted for 11 percent of the total number of records reviewed. There were 47 encounters out of 422 examined that did not have medical record entry documentation for the episode of care. Colorado Access had the largest proportion (14.9 percent) of missing entries. CHPR's missing medical record entry rate was 14.0 percent, Kaiser's was 9.3 percent and Rocky Mountain's rate was 6.7 percent.

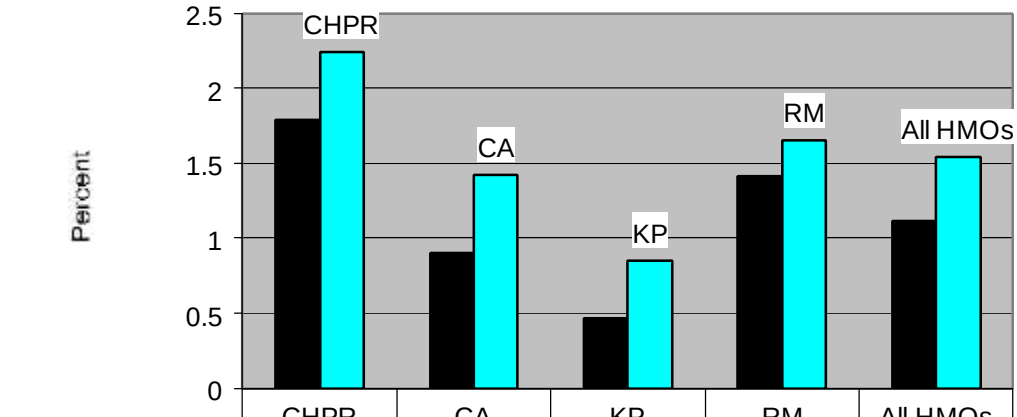
The validation analysis demonstrates, with respect to the first and second goals of this study, that HMO reported encounter data for the year of 1997 could be used with a high degree of confidence to examine or analyze various facets of the Colorado Medicaid program. With respect to the third goal of this study, the findings demonstrate that future research in this areas is warranted.




| | CHPR | CA | KP | RM | All HMOs |
|---|---|---|---|---|---|
| Same | 96 | 97.7 | 98.7 | 96.9 | 97.4 |

**Figure 1—Percentage of Data Elements that Coincided between the Reported Encounter and the Medical Record**

*Notes:* The sample consists of 375 records for which an encounter was documented in the medical record. CA, KP and RM represent Colorado Access, Kaiser and Rocky Mountain, respectively.
*Source:* First Peer Review of Colorado.




| | CHPR | CA | KP | RM | All HMOs |
|---|---|---|---|---|---|
| Not Documented | 1.79 | 0.9 | 0.47 | 1.41 | 1.11 |
| Different | 2.24 | 1.42 | 0.85 | 1.65 | 1.54 |

**Figure 2—Percentage of Data Elements that did not Coincide between the Reported Encounter and the Medical Record**

*Notes:* The sample consists of 375 records for which an encounter was documented in the medical record. CA, KP and RM represent Colorado Access, Kaiser and Rocky Mountain, respectively.
*Source:* First Peer Review of Colorado.

Discrepancies or instances where the reported encounter data element did not coincide with the medical record are presented in Figure 2. The two indicators for a discrepant outcome are Not Documented (the reported encounter data element was not documented in the associated medical record) and Different (the reported encounter data element was different from the information contained in the associated medical record). Examination of Figure 2 reveals that differences accounted for more discrepancies than non-documentation. The overall percentages for Different and Not Documented are reflected in the All HMOs category. Overall, the percent for Not Documented is 1.1 and the percent for Different is 1.5. Among the four HMOs, Kaiser had smallest discrepancy percent for both Different (0.85 percent) and Not Documented (0.47 percent). CHPR, on the other hand, had the largest discrepancy percent for both Different (2.24) and Not Documented (1.79).

The previous analysis was concerned with one of the three goals of the EDV study: identification of the thirteen data elements that were either contained in the encounter data but not in the medical record or discrepancies between medical record documentation and the encounter data file. The following analysis addresses the second objective of the study: missing encounter records—information contained in the medical record but not reported to HCPF via encounter data.

Missing encounter record findings are presented in Table 1. Out of the 422 records that comprised the EDV sample population, 14 percent (59 clients) contained medical record documentation for an episode of care but did not have an associated encounter record reported to HCPF.

Overall, there were a total of 217 (1.9 percent) episodes of care documented in the medical record that were not reported to HCPF. These 217 missing encounters represent 59 individual clients. Some of the 59 clients had several episodes of care for which medical record documentation existed but a corresponding encounter was not reported to HCPF. One client's medical record indicated that there were 12 episodes of care that were not reported to HCPF. Two clients each had 10 episodes of care that were not reported to HCPF via encounter data; there were 15 clients who each had one episode of care not reported to HCPF (not shown in Table 1).

**Table 1—Missing Encounter Records by HMO**

| | CHPR | Colorado Access | Kaiser | Rocky Mountain | Total |
|---|---|---|---|---|---|
| Total Encounters | 1,691 | 5,741 | 688 | 3,358 | 11,478 |
| Total Clients | 100 | 121 | 97 | 104 | 422 |
| Clients with Missing Encounters | 12 | 28 | 0 | 19 | 59 |
| Missing Encounters | 50 | 108 | 0 | 59 | 217 |
| Ratio, Missing Encounters/Clients | 4.17 | 3.86 | - | 3.11 | 3.68 |
| Percent Missing Encounters to Total Encounters | 3% | 1.9% | 0% | 1.8% | 1.9% |

*Source:* First Peer Review of Colorado.

CPHR had the largest fraction of missing encounter records (3%), followed by Colorado Access at 1.9% and Rocky Mountain at 1.8%. Additional analysis revealed that CHPR had the largest ratio of missing encounter records to clients at 4.2 which was followed by Colorado Access at 3.9 and Rocky Mountain at 3.1. Kaiser's clients from the EDV sample did not have any missing encounter records.

The previous two analyses examined discrepancies and missing encounter records or under-reporting. The following analysis examines the third objective of the study: missing medical records. Missing medical records should not be confused with the Not Documented outcome that was presented in the Discrepancies analysis. Not Documented focused on *encounter data elements* that were contained in a reported encounter but were not documented in the medical record whereas missing medical records concerns itself with an *encounter* that was reported to HCPF but the encounter was not documented in the client's medical record.

Missing medical record entry findings are presented in Figure 3 and they are also presented in tabular form in Table 2. It should be evident from the figure that Colorado Access has the largest proportion (4.3 percent) of missing medical records relative to the other HMOs. CHPR has the second largest proportion of 3.3 percent whereas Kaiser and Rocky Mountain account for 2.1 and 1.4 percent, respectively, of the total number of records reviewed (422). Additionally, the total number of missing medical records, 47, accounts for 11 percent of the sample.

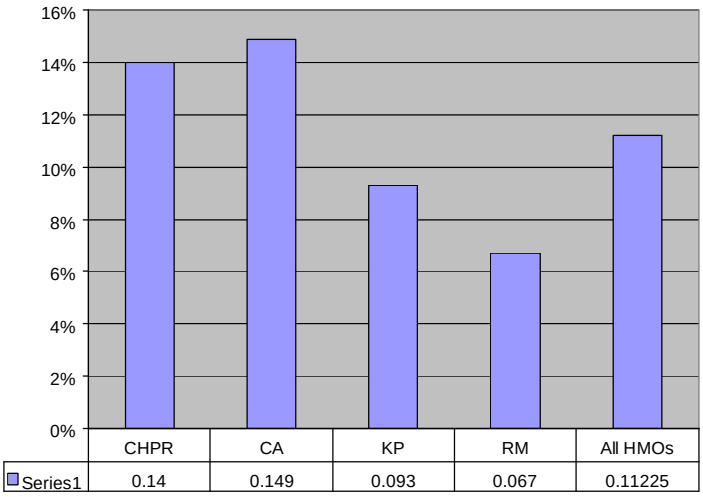



**Figure 3—Percent of Missing Medical Record Entries to Total Number of Records Reviewed**

*Notes:* The total number of records reviewed was 422. CA, KP and RM represent Colorado Access, Kaiser and Rocky Mountain, respectively.
*Source:* First Peer Review of Colorado.

**Table 2—Missing Medical Record Entries to Total Number of Records Reviewed**

| | CHPR | Colorado Access | Kaiser | Rocky Mountain | Total |
|---|---|---|---|---|---|
| Missing Medical Record Entries | 14 | 18 | 9 | 6 | 47 |
| Total Medical Records Reviewed | 100 | 121 | 97 | 104 | 422 |
| Percent of Missing Medical Record Entries to Total Medical Records Reviewed | 14.0% | 14.9% | 9.3% | 6.7% | 11.1% |

*Notes:* Total Records Reviewed represents the total number of records (422) that were reviewed by health care professionals.
*Source:* First Peer Review of Colorado.

## *RECOMMENDATIONS*

The following recommendations list possible actions that might be taken by HCPF and the HMOs in response to the study findings.

1. Broaden the validation process to include other data elements not restricted to medical record verification (e.g., provider specialty). A core set of elements has been identified and validated to be accurate 97 percent of the time. The thirteen elements that were validated are but a subset of the entire encounter information. Do not incorporate an element for the sake of inclusion, but only consider data elements that will illuminate aspects of the program that were previously unobservable. For example, discharge status could be identified via two data elements that appear on the UB-92 billing form: frequency and patient status. The incorporation of additional data elements will probably cause overall averages to decrease but if the decline in expectations is within acceptable limits and the additional information adds value to the encounter data set, then additional data elements should be added to the data set.

2. In order to obtain a clearer picture of up-coding and down-coding, monitor diagnoses and procedures. Since reported HMO data elements that are substantiated by the medical record appear to be reliable and up- and down- coding appears to exist, a variant of the data validation analysis presented in this study could be designed to measure the extent of such coding practices. A future data validation analysis where an objective is to gauge the extent of diagnostic up-coding could be used to substantiate the 7 percent incidence of up-coding that was presented in the *Colorado Medicaid Encounters: Diagnostic Coding Patterns Under a Risk Adjustment System* study that was conducted by FPRC for HCPF under a grant from the Health Care Financing Administration.

3. For the next validation study, provide a greater focus on under and over reporting of encounters. In the current study, these two reporting issues were each identified by only one question. A result of basing two study objectives on one question each severely limits the scope and findings of the objective. In order to provide a greater perspective on under and over reporting of encounters, include more follow-up questions that provide more information and relate the goals to each other to facilitate objective continuity as well as a means for each goal to validate or substantiate the other goals' findings.

4. Investigate the potential of " overreporting" of encounter data to HCPF. Although the estimated percentages of overreporting among plans were not found to be significantly different from one another, the reported percentages for the plans were significantly different from zero. Therefore, we encourage the plans to examine their procedures for monitoring and detection of overreporting in their claims systems.