CHIA Data User Workgroup

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Agenda

- **Announcements:**
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  - Case Mix Documentation and Release Notes
  - MA APCD Releases CY2021 and CY2022
  - ZIP Code Data in MA APCD Application
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Announcements

All Case Mix FY2023 Releases Now Available

ALL RELEASES AVAILABLE FOR THE FOLLOWING FILE:

- Hospital Inpatient Discharge Data FY2023 (HIDD)
- Outpatient Emergency Department Visit Data FY2023 (EDD)
- Outpatient Observation Stay Data FY2023(OSD)

- Applicants with *approved projects* using previous years data that require newly available year 2023 case mix data should submit to CHIA a completed Exhibit B (*Certificate of Continued Need and Compliance*) of the Data Use Agreement. After submitting a completed Exhibit B you will receive an invoice (if applicable) for the requested data. Upon payment of the invoice the order for the data will be placed.

Case Mix Release Documentation

Review Documentation and Release Notes

Data users are advised to review CHIA's comprehensive case mix documentation manuals and release notes which provide information on data quality issues connected with certain data elements and includes background on the database's development and the DRG Groupers. The release notes also contains hospital-reported discrepancies received in response to the data verification process. Also, twenty-four years of historical documentation are available online on the documentation archive website

https://www.chiamass.gov/case-mix-data/

Case Mix Documentation

Hospital Inpatient Discharge Database (HIDD)

- FY23 Documentation Manual (PDF) | Word
- FY23 Release Notes (PDF) | Word

Emergency Department Database (EDD)

- FY23 Documentation Manual (PDF) | Word
- FY23 Release Notes (PDF) | Word

Outpatient Observation Database (OOD)

- FY23 Documentation Manual (PDF) | Word
- FY23 Release Notes (PDF) | Word

Case Mix Documentation Archive

Link to Archive

https://www.chiamass.gov/case-mix-data-documentation-archive/

The documentation archive contains outpatient emergency department, outpatient observation stay, and hospital inpatient discharges documents dating back to fiscal year 2000.

Alert: New Open Access Publication Using Case Mix ED Data

Research

A Section 508–conformant HTML version of this article is available at https://doi.org/10.1289/EHP14213.

Association between Combined Sewer Overflow Events and Gastrointestinal Illness in Massachusetts Municipalities with and without River-Sourced Drinking Water, 2014–2019

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Background: Combined sewer overflow (CSO) events release untreated wastewater into surface waterbodies during heavy precipitation and snowmelt. Combined sewer systems serve ~40 million people in the United States, primarily in urban and suburban municipalities in the Midwest and Northeast. Predicted increases in heavy precipitation events driven by climate change underscore the importance of quantifying potential health risks associated with CSO events.

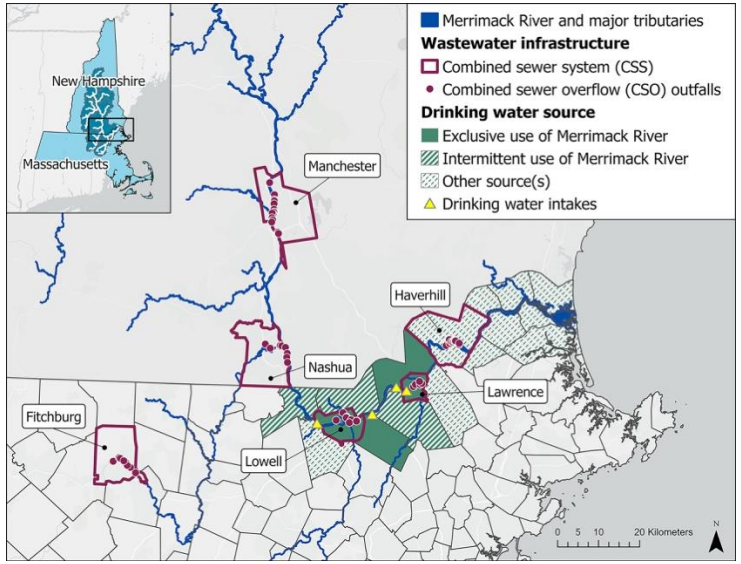
Objectives: The aims of this study were to *a*) estimate the association between CSO events (2014–2019) and emergency department (ED) visits for acute gastrointestinal illness (AGI) among Massachusetts municipalities that border a CSO-impacted river, and *b*) determine whether associations differ by municipal drinking water source.

Methods: A case time-series design was used to estimate the association between daily cumulative upstream CSO discharge and ED visits for AGI over lag periods of 4, 7, and 14 days, adjusting for temporal trends, temperature, and precipitation. Associations between CSO events and AGI were also compared by municipal drinking water source (CSO-impacted river vs. other sources).

Results: Extreme upstream CSO discharge events (>95th percentile by cumulative volume) were associated with a cumulative risk ratio (CRR) of AGI of 1.22 [95% confidence interval (CI): 1.05, 1.42] over the next 4 days for all municipalities, and the association was robust after adjusting for precipitation [1.17 (95% CI: 0.98, 1.39)], although the CI includes the null. In municipalities with CSO-impacted drinking water sources, the adjusted association was somewhat less pronounced following 95th percentile CSO events [CRR = 1.05 (95% CI: 0.82, 1.33)]. The adjusted CRR of AGI was 1.62 in all municipalities following 99th percentile CSO events (95% CI: 1.04, 2.51) and not statistically different when stratified by drinking water source.

Discussion: In municipalities bordering a CSO-impacted river in Massachusetts, extreme CSO events are associated with higher risk of AGI within 4 days. The largest CSO events are associated with increased risk of AGI regardless of drinking water source. https://doi.org/10.1289/EHP14213

Map of study area in the lower reaches of the Merrimack River



Source: *Haley BM, Sun Y, Jagai JS, Leibler JH, Fulweiler R, Ashmore J, Wellenius GA, Heiger-Bernays W. Association between combined sewer overflow events and gastrointestinal illness in Massachusetts municipalities with and without river-sourced drinking water, 2014–2019. Environmental Health Perspectives. 2024 May 22;132(5):057008.*

MA APCD CY2021 and CY2022 Releases

CY2021 and CY2022 Now Available for Request

- **CY 2021 Data** which includes medical, pharmacy, and dental claims incurred between **January 1, 2017, and December 31, 2021, and it includes six (6) months of run-out (paid claims through June 30, 2022)** and the new **CY 2022 Data** which includes claims incurred from **January 1, 2018, through December 31, 2022, and includes six (6) months of run-out (paid claims through June 30, 2023)** are available for request**.** Applicants with *approved projects* that require updated MA APCD data (CY 2021 Data or CY2022) should submit to CHIA a completed Exhibit B (*Certificate of Continued Need and Compliance*) of the Data Use Agreement. After submitting a completed Exhibit B, you will receive an invoice (if applicable) for the requested data. Upon payment of the invoice the order for the data will be placed. Before accessing the data remember to review documentation on the releases available at: https://www.chiamass.gov/ma-apcd/

New MA APCD CY2023 Release will be Available for Request in January 2025

ZIP Code Data in the MA APCD Application

The December 2023 revision to MA APCD application specifies that the member ZIP code geographic data is now only released at the level of one ZIP code per person per year based on the member's ZIP code reported in the member's earliest submission year month.

See application excerpt below.

a. Geographic Subdivisions

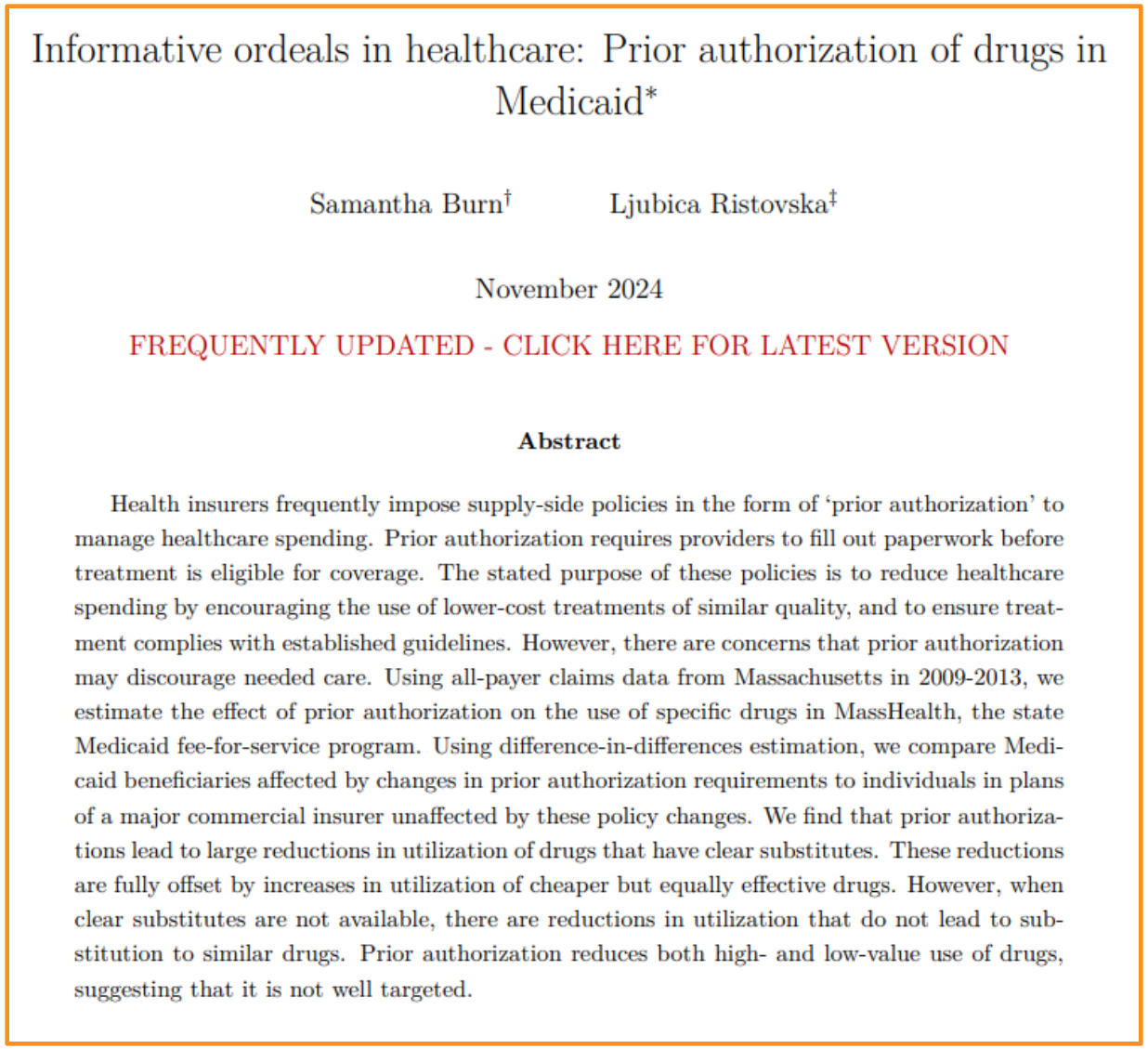
ZIP code and state geographic subdivisions are available for Massachusetts residents and providers only. Small population ZIP codes are combined with larger population ZIP codes. One ZIP Code per person (MEID) per year has been assigned based on the ZIP code/state reported in the member eligibility record's earliest submission year month. If the record does not have an MEID, assignment is based on distinct OrgID/Carrier Specific Unique Member ID.

Non-Massachusetts ZIP codes and state codes except for CT, MA, ME, NH, NY, RI, and VT are suppressed.

Select *one* of the following options.

☐ 3-Digit Zip Codes (standard)	☐ 5-Digit Zip Codes***
***If requested, provide justification for requesting 5-Digit Zip Code. Refer to specifics in your methodology: Click here to enter text.	

Alert: New Publicly Available White Paper Using MA APCD



Informative ordeals in healthcare: Prior authorization of drugs in Medicaid*

Samantha Burn† Ljubica Ristovska‡

November 2024

FREQUENTLY UPDATED - CLICK HERE FOR LATEST VERSION

Abstract

Health insurers frequently impose supply-side policies in the form of 'prior authorization' to manage healthcare spending. Prior authorization requires providers to fill out paperwork before treatment is eligible for coverage. The stated purpose of these policies is to reduce healthcare spending by encouraging the use of lower-cost treatments of similar quality, and to ensure treatment complies with established guidelines. However, there are concerns that prior authorization may discourage needed care. Using all-payer claims data from Massachusetts in 2009-2013, we estimate the effect of prior authorization on the use of specific drugs in MassHealth, the state Medicaid fee-for-service program. Using difference-in-differences estimation, we compare Medicaid beneficiaries affected by changes in prior authorization requirements to individuals in plans of a major commercial insurer unaffected by these policy changes. We find that prior authorizations lead to large reductions in utilization of drugs that have clear substitutes. These reductions are fully offset by increases in utilization of cheaper but equally effective drugs. However, when clear substitutes are not available, there are reductions in utilization that do not lead to substitution to similar drugs. Prior authorization reduces both high- and low-value use of drugs, suggesting that it is not well targeted.

Burn S, Ristovska L. Informative ordeals in healthcare: Prior authorization of drugs in Medicaid.

Please note: This is a **living white paper** using the MA APCD designed to be continuously revised and expanded as new information, data, or insights become available, ensuring that it remains current and relevant over time.

The latest version is available at the following link:
https://ljristovska.com/assets/docs/masshealth_pa_paper.pdf

Website Updates

Instructions for Linking One ZIP Table to Claims

Researchers and data users are advised that ZIP code-level information is stored in a distinct table, which is included on the Massachusetts All-Payer Claims Database (MA APCD) hard drive provided upon distribution. Access to the 'Member Eligibility One ZIP' table is available as an additional purchase (buy-up) for data applicants specifically requesting member-level ZIP code data. This specialized dataset comprises six key variables: 'orgid' (organization identifier), 'chiacarrierspecificuniqueid' (carrier-specific unique member identifier), 'calendaryear' (year of eligibility), 'submissionyearmonth' (the month and year of data submission), 'zipcode' (member's ZIP code), and 'state' (member's state of residence). These variables are available upon request for approved users.

Instructions for linking the data are available on the CHIA website at: https://www.chiamass.gov/chia-data-user-workgroup-information/

Data User Support Questions

Question: I previously utilized outpatient emergency department case mix data to conduct a geographic analysis, stratified by county, on the prevalence of animal-related bites, injuries, and diseases. I am now exploring the potential application of the Massachusetts All Payer Claims Data (MA APCD) to investigate the spectrum of animal-related conditions managed across healthcare settings beyond the emergency department. Does the MA APCD contain a sufficiently robust volume of claims pertaining to animal-related medical conditions treated in other care settings beyond the emergency to warrant applying for the data to conduct further analysis?

Zoonotic Injuries and Diseases

Answer: While the outpatient emergency department data within the case mix dataset captures an average of approximately 30,000 episodes of care for zoonotic injuries annually, the MA APCD encompasses a broader scope, averaging over 100,000 episodes of care per year across 24 distinct care settings. Among these, the physician's office consistently ranks as the predominant care setting (See Table 1).

Additionally, the MA APCD documents an average of 15,000 episodes of care annually for zoonotic diseases, with the physician's office again serving as the primary site of care. Notably, independent laboratories—critical for providing diagnostic services essential to the identification and monitoring of zoonotic diseases—also rank among the top care settings within this dataset (See Table 2).

Table 1. Top 5 Service Sites for Zoonotic Injuries
Physician's Office
Urgent Care Facility
Emergency Room Hospital
Outpatient Hospital
Inpatient Hospital

Table 2. Top 5 Service Sites for Zoonotic Diseases
Physician's Office
Inpatient Hospital
Independent Laboratory
Outpatient Hospital
Home Health Care Provider

MassHealth Claim Type

Question: The MA APCD medical claims table has a field called MassHealth Claim Type. Do you have any insight into how reliable that field might be?

Answer: The field has been reliably populated without any extraordinary outliers in all releases of the MA APCD. In looking at MA **APCD Release 10, Release 2021, 2022, and Release 2023** for the use of MassHealth Claim by OrgID 3156 (MassHealth), the frequency trends by claim type appear consistent from 2016 through 2024.

MA APCD Release 10

Claim Type Code	Definition	Total Claim Lines	2016	2017	2018	2019	2020	2021
A	Inpatient Part A Crossover UB92	1.32%	1.35%	1.28%	1.28%	1.26%	1.51%	1.25%
B	Professional Part B Crossover	10.60%	11.07%	10.50%	10.40%	10.25%	11.04%	10.08%
C	Outpatient Part B Crossover UB-04	11.23%	13.24%	11.40%	10.78%	10.54%	10.49%	9.74%
H	Dental	7.43%	10.47%	8.31%	6.79%	5.57%	6.20%	5.64%
I	Hospital Inpatient	1.23%	1.08%	1.12%	1.30%	1.26%	1.40%	1.29%
L	Longterm Care	0.44%	0.46%	0.47%	0.46%	0.45%	0.41%	0.30%
M	Physician Claim	55.34%	51.14%	55.45%	56.75%	57.52%	55.79%	56.35%
O	Outpatient Claim	12.40%	11.20%	11.48%	12.23%	13.16%	13.15%	15.36%
Total		100%	100%	100%	100%	100%	100%	100%

MA APCD Release 2021

Claim Type Code	Definition	Total Claim Lines	2019	2020	2021	2022
A	Inpatient Part A Crossover UB92	1.29%	1.22%	1.47%	1.28%	1.15%
B	Professional Part B Crossover	10.33%	9.94%	10.72%	10.65%	9.71%
C	Outpatient Part B Crossover UB-04	10.23%	10.76%	10.59%	9.87%	8.79%
H	Dental	5.65%	5.37%	6.03%	5.93%	4.82%
I	Hospital Inpatient	1.31%	1.27%	1.44%	1.35%	1.06%
L	Longterm Care	0.39%	0.43%	0.42%	0.34%	0.32%
M	Physician Claim	56.88%	57.66%	56.02%	55.90%	59.14%
O	Outpatient Claim	13.92%	13.36%	13.31%	14.69%	15.00%
Total		100%	100%	100%	100%	100%

continued

MassHealth Claim Type

Answer *(continued)*: There are also two noteworthy trends.

1. Increase in Physician Claims (Code M):

Physician claims consistently dominate the dataset, with a general upward trend in their proportion.
Notable increases include:
Release 2021: from 56.02% (2021) to 59.14% (2022).
Release 2022: from 56.39% (2022) to 61.69% (2023).
Release 2023: from 61.89% (2023) to 64.53% (2024).

2. Decline in Dental Claims (Code H):

A consistent drop in the share of dental claims over time:
From 10.47% (2017, Release 10) to 4.05% (2024, Release 2023).
This reduction might indicate changes in seeking dental care outside the dental care setting where, for example, a patient might appear in the emergency department.

MA APCD Release 2022

Claim Type Code	Definition	Total Claim Lines	2020	2021	2022	2023
A	Inpatient Part A Crossover UB92	1.27%	1.44%	1.26%	1.20%	1.07%
B	Professional Part B Crossover	10.18%	10.53%	10.46%	9.84%	9.57%
C	Outpatient Part B Crossover UB-04	9.48%	10.44%	9.74%	8.92%	8.03%
H	Dental	5.22%	5.92%	5.84%	4.40%	4.12%
I	Hospital Inpatient	1.31%	1.44%	1.38%	1.27%	0.97%
L	Longterm Care	0.37%	0.42%	0.35%	0.37%	0.29%
M	Physician Claim	57.99%	56.66%	56.39%	59.31%	61.69%
O	Outpatient Claim	14.18%	13.15%	14.58%	14.69%	14.27%
Total		100%	100%	100%	100%	100%

MA APCD Release 2023

Claim Type Code	Definition	Total Claim Lines	2021	2022	2023	2024
A	Inpatient Part A Crossover UB92	1.18%	1.25%	1.19%	1.15%	1.04%
B	Professional Part B Crossover	9.88%	10.40%	9.70%	9.76%	9.25%
C	Outpatient Part B Crossover UB-04	8.83%	9.68%	8.81%	8.41%	7.62%
H	Dental	4.70%	5.80%	4.36%	4.15%	4.05%
I	Hospital Inpatient	1.27%	1.40%	1.31%	1.18%	1.00%
L	Longterm Care	0.40%	0.35%	0.37%	0.42%	0.62%
M	Physician Claim	59.72%	56.56%	59.14%	61.89%	64.53%
O	Outpatient Claims	14.01%	14.55%	15.12%	13.02%	11.89%
Total		100%	100%	100%	100%	100%

Question: The medical claims, dental claims, and pharmacy claims contain an OrgID field, and three fields called LINKORGIDME, LINKORGIDPV, and LINKORGIDPR. What is the difference between the OrgID field and the latter three fields? Also, I see lots of fields in the MA APCD with the words "Linkage ID" as part of their name and am confused about which fields should used for between file linkage?

Answer: The three fields LINKORGIDME, LINKORGIDPV, and LINKORGIDPR were added to the claims files to facilitate between-file linkage of claims in instances where specific ORGIDs share eligibility data submitted under only one ORGID. This standardization not only ensures that the claims data will be automatically linked to an ORGID's correct eligibility, provider or product reference file data, but ensures correct linkage for any point in time – no matter how carrier filing relationships have changed over time.

LINKORGIDME – Links to the ORGID field of the relevant Member Eligibility data in the ME file
LINKORGIDPV – Links to the ORGID field of the relevant Provider data in the PV file
LINKORGIDPR – Links to the ORGID field of the relevant Product data in the PR file

continued

Answer *(continued)*: The **linkage field** names in the medical claims, dental claims, pharmacy claims, and member eligibility tables are intended to link to the **linking field names in** provider and product tables according to the diagram listed below.

MEDICAL CLAIMS

Medical Claims (MC) →		Provider (PV), Product (PR)
MC		**PV**
SERVICEPROVIDERNUMBER_LINKAGE_ID		LINKINGPROVIDERID
BILLINGPROVIDERNUMBER_LINKAGE_ID		
REFERRINGPROVIDERID_LINKAGE_ID		
ATTENDINGPROVIDER_LINKAGE_ID		
PLANRENDERINGPROVIDERIDENTIFIER_LINKAGE_ID		
MC		**PR**
PRODUCTIDNUMBER_LINKAGE_ID		LINKINGPRODUCTID

DENTAL CLAIMS

Dental Claims (DC) →		Provider (PV), Product (PR)
DC		**PV**
SERVICEPROVIDERNUMBER_LINKAGE_ID		LINKINGPROVIDERID
DC		**PR**
PRODUCTIDNUMBER_LINKAGE_ID		LINKINGPRODUCTID

PHARMACY CLAIMS

Pharmacy Claims (PC) →		Provider (PV), Product (PR)
PC		**PV**
PRESCRIBINGPROVIDERID_LINKAGE_ID		LINKINGPROVIDERID
RECIPIENTPCPID_LINKAGE_ID		
PC		**PR**
PRODUCTIDNUMBER_LINKAGE_ID		LINKINGPRODUCTID

MEMBER ELIGIBILITY

Member Eligibility (ME) →		Provider (PV), Product (PR)
ME		**PV**
HEALTHCAREHOMENUMBER_LINKAGE_ID		LINKINGPROVIDERID
MEMBERPCPID_LINKAGE_ID		
ATTRIBUTEDPCPPROVIDERID_LINKAGE_ID		
ME		**PR**
PRODUCTIDNUMBER_LINKAGE_ID		LINKINGPRODUCTID

Derived Fields

The linking OrgIDs are derived fields created by CHIA. Other derived fields are listed below and described in documentation and release notes.

Derived	Submission Month
Derived	Submission Year
Derived	County of Member
Derived	County of Service Provider
Derived	Medical Claim ID
Derived	Submission Control ID
Derived	CHIA Incurred Full Date
Derived	Highest Version Paid Flag
Derived	Highest Version Denied
Derived	Highest Version Indicator
Derived	Substance Abuse Indicator
Derived	Medicaid/HSN Indicator
Derived	Fully Denied Claim
Derived	Member Link EID
Derived	Member Age At Service
Derived	Linking OrgID Member Eligibility
Derived	Linking OrgID Provider
Derived	Linking OrgID Product

When is the next Data User Group meeting?

- The next User Group will meet Tuesday, January 28, 2025.
- http://www.chiamass.gov/ma-apcd-and-case-mix-user-workgroup-information/

Questions?

- Questions related to MA APCD email:

  apcd.data@chiamass.gov
- Questions related to Case Mix email:

  casemix.data@chiamass.gov

REMINDER

CHIA still receives a high volume of email from data users who do not include their IRBNet ID. If you are in the process of or have already submitted a data application to CHIA through IRBNet https://www.irbnet.org/release/home.html, due to the volume of email CHIA receives, please remember to always include your IRBNET ID# in the subject line of your email. Doing so facilitates tracking your application and expediting responses to any questions.