

CHIA Data User Workgroup

Donald Kirkwood, Manager of Data Release and Procurement

Anne Medinus, Senior Research Account Specialist

Sylvia Hobbs, Associate Director of Data Strategy and User Support

September 24, 2024

Agenda

- **Announcements:**
 - FY2023 Case Mix Release Update
 - Case Mix Documentation and Release Notes
 - MA APCD Releases CY2021 and CY2022
 - ZIP Code Data in MA APCD Application

- **Website Updates**
 - Check the Status of Releases
 - Data Applications Received and Commenting

- **Data User Support Questions**
 - Consolidation Strategies for Insurance Type Product Codes across Medical, Pharmacy, and Dental Claims
 - Analyzing Colonoscopy Care Settings in Case Mix and MA APCD
 - Grouping Outpatient Hospital Claims
 - Breast Reconstruction Surgery using MA APCD

- **Q&A**

Announcements

All Case Mix FY2023 Releases Now Available

***NEW* RELEASE AVAILABLE FOR THE FOLLOWING FILE:**

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



FY2023 Now Available for Request

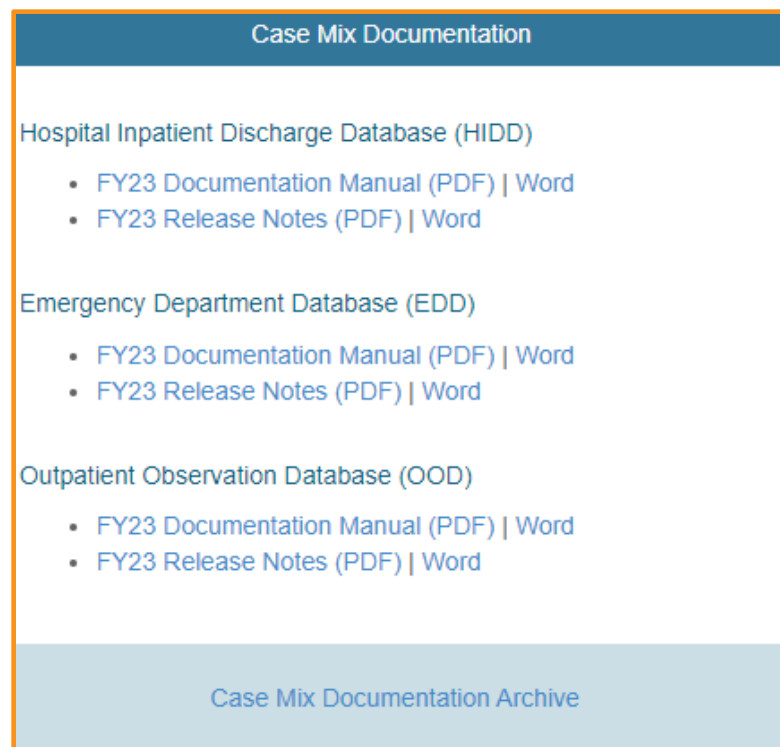
- Applicants with *approved projects* using previous years data that require newly available year 2023 case mix data should submit to CHIA a completed Exhibit B (*Certificate of Continued Need and Compliance*) of the Data Use Agreement. After submitting a completed Exhibit B you will receive an invoice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

<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.



MA APCD CY2021 and CY2022 Releases



CY2021 and CY2022 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. In addition to claims data, the releases contain relevant reference files including member eligibility, providers, products, and benefit plans. This data encompasses public and private payers as well as fully-insured and self-insured plans. Keep in mind that due to the Supreme Court decision, *Gobeille v. Liberty Mutual*, the self-insured plans are severely reduced starting in 2016. The releases also includes MassHealth Medicaid data.
- 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.
- The new CY 2022 MA APCD Documentation Guide and Release Notes are available on CHIA's website for your review before using the data. The CY2021 MA APCD Documentation are available online in the documentation archive.

<https://www.chiamass.gov/ma-apcd/>

MA APCD Calendar Year 2022 Documentation

- MA APCD CY 2022 Documentation Guide
- MA APCD CY 2022 Release Notes
- MA APCD Government Data Specifications Workbook
- MA APCD Non-Gvnt. Data Specifications Workbook (Limited Data Set-LDS)
- MA APCD CY 2022 MPI Data Exclusion Overview
- MA APCD Master Patient Index

MA APCD Documentation Archive

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.

<input type="checkbox"/> 3-Digit Zip Codes (standard)	<input type="checkbox"/> 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.](#)



Website Updates

Check the Status of Release Website (Updated 9/12/2024)

You can visit the CHIA website <http://www.chiamass.gov/status-of-data-requests/> to check the status of data extracts and releases, and sign-up to receive updates of MA APCD and case mix data requests and data release information.

Status of Data Requests

This page was updated on: 9/12/2024

This page provides the status of data file extract requests and CHIA's APCD and Case Mix annual releases. CHIA updates this page when there are significant changes to either the releases or the request queue. You may also [sign up](#) to receive email updates for information on both data requests and annual releases.

Please note that it can take from five to seven days to create each extract file and that some customer requests require multiple extracts. Priority is given to state agencies followed by data submitters and then to independent researchers.

Please Note: For additional information regarding the MA APCD, please see the [MA APCD documentation archive](#) and the [MA APCD data submission guides](#).

For more information regarding Case Mix data, please see the [Case Mix data documentation archive](#) and the [Hospital Case Mix data specification manuals](#).


STATUS OF DATA EXTRACTS AND RELEASES

- Data Extract Requests and Delivery Totals
- File Extract Requests in Process
- Annual Release Status
- Sign Up for CHIA Data Updates

Data Extract Requests and Delivery Totals

This information was updated on: 9/12/2024

Calendar Year	File Extracts	MA APCD	Case Mix	Total
CY 2024 (As of September 12, 2024)	Requests Delivered	27	157	184
	Requests in the Queue	3	49	52
	Total Requests	30	206	236
CY 2023	Requests Delivered	43	216	259
CY 2022	Requests Delivered	44	297	341
CY 2021	Requests Delivered	18	247	265
CY 2020	Requests Delivered	39	89	128



Sign up for Updates to the Status of MA APCD and Case Mix Data Requests and Data Release Information

Please fill out the form below to receive occasional updates regarding the status of CHIA's annual MA APCD and Case Mix data releases.

* Email

First Name

Last Name

Data Applications Received and Commenting

You can visit the CHIA website <https://www.chiamass.gov/apcd-application-received-and-commenting/> to check non-government applications received, awaiting public comments, and approved.

Massachusetts All Payer Claims Database (MA APCD) Applications Received and Commenting

Applications Open for Comment

Primary Investigator	Organization	Project Title	Date Posted	Comment
-	-	-	-	-

Recent MAAPCD Applications

Applicant	Organization	Project Title	Close Date	Status
Leemore Dafny, Bruce V. Rauner Professor of Business Administration	President and Fellows of Harvard College (through Harvard Business School)	Health Insurance Benefit Design and Health Care Markets	Sept. 16, 2024	Pending
Wesley Greenblatt, MD, PhD, Staff physician, Boston Children's Hospital Instructor, Harvard Medical School	Boston Children's Hospital	Impact of physician innovation on clinical care	Sept. 16, 2024	Pending
Thaochau Phan, Data Scientist	Medical Professional Mutual Insurance Company ("Coverys")	Measuring Risk, Predictors, and Impact of Medical Errors and Malpractice Over Time	Sept. 16, 2024	Pending
Jessica Cohen, Bruce A. Beal, Robert L. Beal and Alexander S. Beal Associate Professor of Global Health	Harvard TH Chan School of Public Health	Provider Behavior after Stillbirth and Other Adverse Pregnancy Outcomes	July 12, 2024	Approved
Ashwini Ranade, Clinical Associate Professor	Trustees of Boston University	Access to Oral Healthcare in Massachusetts	July 12, 2024	Approved

Data User Support Questions

Question: We are trying to classify every claim by insurance type in broad classes Commercial, Medicaid, Medicare, and Other. However, a significant number of dental claims (57%) are associated with Medicare. This seems like too many for dental claims. What is the expected distribution of dental claims products types?



Answer: In MA APCD CY2021 and CY2022 releases, Medicare is less than 1% of the annual dental claim line volume. The highest proportion of insurance type products in the dental claims are Medicaid, followed by Preferred Provider Organization (See Table 1 below).

Table 1. MA APCD Dental Claim Line Volume by Insurance Type Code Product

Insurance Type Code Product	Definition	Dental Claims CY2021 Release			Dental Claims CY2022 Release		
		2019	2020	2021	2020	2021	2022
MC	Medicaid	40.070%	35.998%	39.374%	43.899%	40.198%	36.506%
12	Preferred Provider Organization (PPO)	38.831%	43.944%	39.616%	35.949%	38.877%	40.333%
15	Indemnity Insurance	15.500%	15.528%	14.705%	15.501%	14.604%	13.803%
ZZ	Other	3.969%	2.860%	2.328%	2.853%	2.307%	2.261%
17	Dental Maintenance Organization (DMO)	1.204%	1.231%	3.543%	1.361%	3.585%	6.488%
HM	Health Maintenance Organization (HMO)	0.210%	0.213%	0.193%	0.213%	0.191%	0.161%
13	Point of Service (POS)	0.083%	0.101%	0.092%	0.100%	0.091%	0.106%
-	Blank	0.067%	0.061%	0.052%	0.061%	0.052%	0.044%
IC	Integrated Care Organization (ICO)	0.057%	0.057%	0.058%	0.057%	0.058%	0.057%
14	Exclusive Provider Organization (EPO)	0.005%	0.006%	0.004%	0.005%	0.004%	0.006%
16	HMO Medicare Advantage	0.004%	0.001%	0.033%	0.001%	0.033%	0.056%
20	Medicare Advantage PPO	-	-	0.000%	0	-	0.000%
30	MassHealth ACO	-	0.000%	-	-	0.000%	0
HN	HMO Medicare Risk/Medicare Part C	-	-	0.000%	-	0	0.029%

continued

Answer (continued): The **Insurance Type Code Product** field is in the member eligibility file (ME003) that defines the type of insurance under which the member's eligibility is maintained. The medical claims (MC003), dental claims (DC003), and pharmacy claims (PC003) code is the type of insurance under which this patient's claim line was processed. The product line of business (PR004) is the line of business that the product follows. **Data users should review the look-up values in the submission guide.** The values differ by file type. For example, the dental claims field (DC003) contains the value 17 (Dental Maintenance Organization) not present in the medical claims look-up values. See below.



Dental Claims Insurance Type Code Product Lookup Values

<i>ode</i>	<i>Description</i>	<i>Code</i>	<i>Description</i>
9	Self-pay	HN	HMO Medicare Risk/Medicare Part C
10	Central Certification	IC	Integrated Care Organization
11	Other Non-Federal Programs	LI	Liability
12	Preferred Provider Organization (PPO)	LM	Liability Medical
13	Point of Service (POS)	MA	Medicare Part A
14	Exclusive Provider Organization (EPO)	MB	Medicare Part B
15	Indemnity Insurance	MC	Medicaid
16	Health Maintenance Organization (HMO) Medicare Advantage	MD	Medicare Part D
17	Dental Maintenance Organization (DMO)	MO	Medicaid Managed Care Organization
20	Medicare Advantage PPO	MP	Medicare Primary
21	Medicare Advantage Private Fee for Service	MS	Medicare Secondary Plan
30	Accountable Care Organization (ACO) - MassHealth	OF	Other Federal Program (e.g. Black Lung)
AM	Automobile Medical	QM	Qualified Medicare Beneficiary
3L	Blue Cross / Blue Shield	SC	Senior Care Option
3C	Commonwealth Care	SP	Supplemental Policy
3E	Commonwealth Choice	TF	HSN Trust Fund
3H	Champus	TV	Title V
CI	Commercial Insurance	VA	Veterans Administration Plan
3S	Disability	WC	Workers' Compensation
4M	Health Maintenance Organization	ZZ	Other

Code 17 is unique to Dental Claims

continued

Answer (continued): The submission guide look-up values for the **Insurance Type Code Products** can be found at the following link: <https://www.chiamass.gov/apcd-data-submission-guides/>. The literature shows the most common aggregations are Commercial (Private), Public, and Other (see Table 1 below). Within these common aggregations, there have been sub-category stratifications, for example, metal level (ME121) benefits in member’s eligibility file used in risk assessment, with Bronze plans having the lowest premiums but highest out-of-pocket costs and Platinum plans offering the highest premiums with the lowest out-of-pocket costs (see Table 2 below) and products line of business in the eligibility file (ME055, See Table 3 below).

Table 1. Common Aggregations of Insurance Type Code Products

1. Commercial (Private) Insurance:

- Preferred Provider Organization (PPO)
- Health Maintenance Organization (HMO)
- Exclusive Provider Organization (EPO)
- Point of Service (POS)
- Indemnity Insurance
- Other High-Deductible Health Plans
- Blue Cross / Blue Shield

2. Public Insurance:

- Medicare (Part A, Part B, Part C/Medicare Advantage, Part D)
- Medicaid (including Medicaid Managed Care Organizations)
- Veterans Health Administration (VA) and TRICARE/CHAMPUS
- State-specific programs like Commonwealth Care, Senior Care Options, etc.
- Dual-eligibility for Medicare and Medicaid

3. Other / Uninsured / Miscellaneous:

- Workers' Compensation
- Automobile Medical (Medical Pay in auto insurance)
- Disability Insurance
- Other Federal Programs (e.g., Black Lung)
- Other Non-Federal Programs
- Supplemental Insurance (Medigap, for example)
- Uninsured or Self-Pay

Table 2. Metal Level Sub-Category Aggregation

- Bronze**
- Silver**
- Gold**
- Platinum**
- Catastrophic**
- Unknown / Not Applicable**

Table 3. Line of Business Sub-Category Aggregation

- Risk Holder**
- TPA - Third Party Administrator**
- DBA - Delegated Business Administrator**
- PBM - Pharmacy Benefit Manger**
- DBM - Dental Benefit Manager**
- CSO - Computer Service Organization**
- Other**
- Unknown / Not Applicable**

New Guide to Grouping Outpatient Hospital Claims for Spending Analyses

<https://www.milbank.org/wp-content/uploads/2024/03/Grouping-Outpatient-Hospital-Claims-for-Utilization-and-Spending-Trend-Analyses.pdf>

A new guide authored by Manatt Health provides a comprehensive framework for using APCDs in conjunction with the Centers for Medicare & Medicaid Services' (CMS) restructured Berenson-Eggers Type of Service (BETOS) Classification System. This grouping schema facilitates organizing claims into distinct service categories enhancing the interpretability of hospital outpatient claims analyses. The BETOS classification categories are standardized and meticulously maintained by CMS to ensure their consistency. The guide is noteworthy because it incorporates use cases from the **Massachusetts Health Policy Commission's 2023 Annual Health Care Cost Trends Report** (see Figure 1 below).

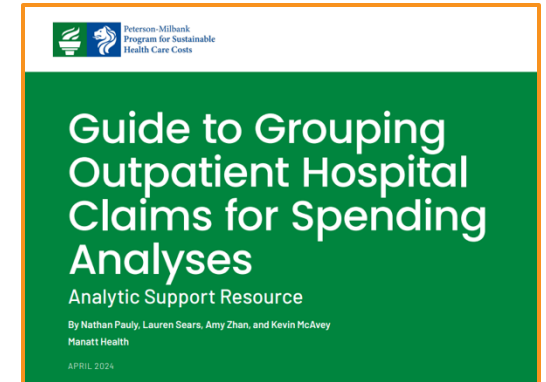
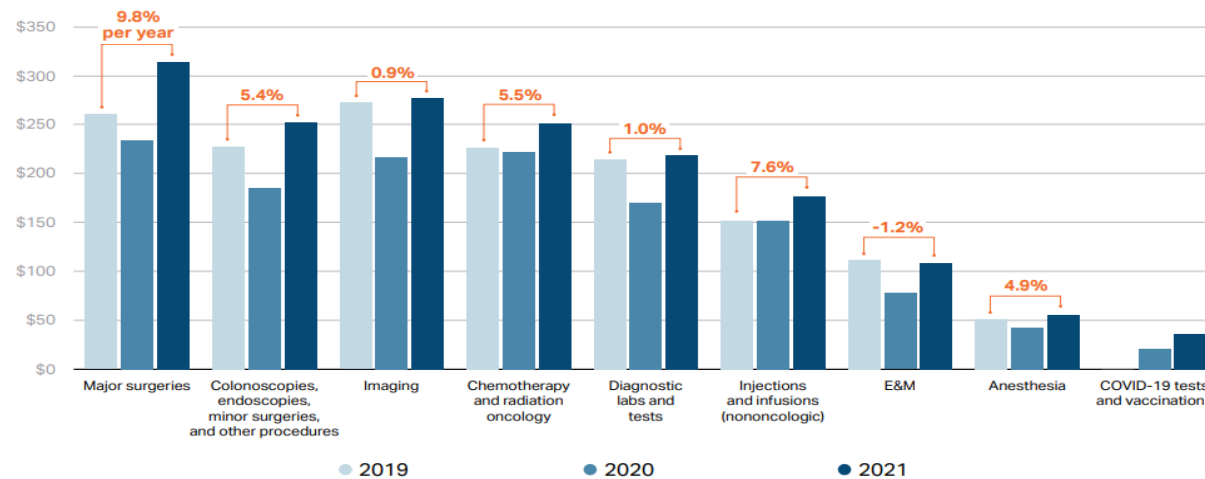


FIGURE 1. HPC 2023 Cost Trends Report, Commercial Spending per Member per Year for HOPD Services, 2019–2021



Notes: Includes spending from Massachusetts acute hospitals only. Service categories adapted from Restructured BETOS Classification System 2022 and Agency for Health Care Research and Quality Surgery Flags Software. Categories are mutually exclusive, e.g., diagnostic labs and tests category does not include COVID-19 tests. Categories with small spending amounts are omitted (e.g., DME and physical therapy).

Sources: HPC analysis of Center for Health Information and Analysis Massachusetts All-Payer Claims Database, 2019-2021, V2021

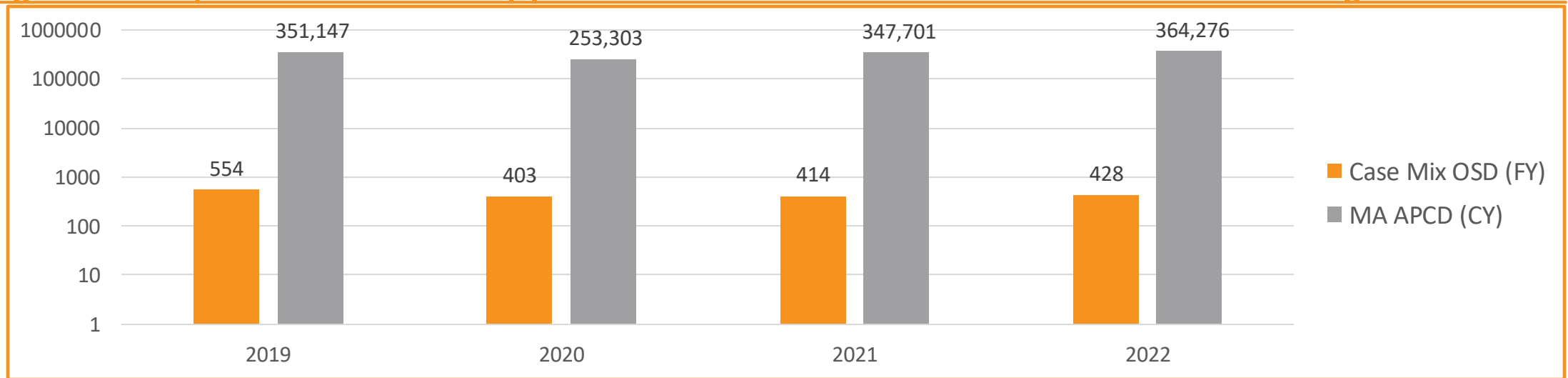
The Massachusetts Health Policy Commission's stratification of commercial spending per member per year for hospital outpatient department services demonstrates the use of a modified BETOS approach assigning BETOS service categories for some HCPCS codes that were not classified by BETOS, as well as several other modifications implemented to make results easier to interpret. For more information, see the Technical Appendix to the Health Policy Commission 2023 Annual Health Care Cost Trends Report which can be downloaded from the following link: <https://www.mass.gov/doc/2-trends-in-spending-and-care-delivery-2023-ctr/download>

Question: I am seeking to study access to outpatient colonoscopy procedures. How does the volume of available data vary between case mix outpatient data and all-payer claims data across different care settings, and which data source offers greater feasibility for conducting such a study?



Answer: Access to outpatient colonoscopies is critical in public health efforts to prevent and early-detect colorectal cancer, ultimately reducing morbidity and healthcare costs associated with advanced-stage diagnoses. The MA APCD contains an exceptionally high volume of colonoscopy procedures, reporting over 300,000 in 2022, compared to fewer than 500 found in the case mix outpatient observation stay (OSD). The MA APCD primary sites of service for colonoscopies include community health centers, outpatient hospital clinics, ambulatory surgery centers, physicians' offices, and assisted living facilities. While the MA APCD offers expansive data, keep in mind that also incorporating case mix OSD procedures would enrich the dataset by including Medicare and other payer types not captured in the publicly available MA APCD. A drop in procedures in all care settings can be seen at the height of the 2020 pandemic.

Figure 1. Comparison of Colonoscopy Procedures Volume in Case Mix OSD vs all care settings in MA APCD



Yang AZ, Hyland CJ, Thomas C, Miller AS, Malek AJ, Broyles JM. Geographic Disparities and Payment Variation for Immediate Lymphatic Reconstruction in Massachusetts. *Annals of Plastic Surgery*. 2024 Jul 1;93(1):79-84.

Geographic Disparities and Payment Variation for Immediate Lymphatic Reconstruction in Massachusetts

Yang, Alan Z. MSc²; Hyland, Colby J. MD²; Thomas, Charlotte BS²; Miller, Amitai S. BA²; Malek, Andrew J. BS²; Broyles, Justin M. MD, MPH²

Author Information ©

Annals of Plastic Surgery 93(1):p 79-84, July 2024. | DOI: 10.1097/SAP.0000000000003920

BUY

SDC

Metrics

Abstract

Background

Little is known about practice patterns and payments for immediate lymphatic reconstruction (ILR). This study aims to evaluate trends in ILR delivery and billing practices.

Methods

We queried the Massachusetts All-Payer Claims Database between 2016 and 2020 for patients who underwent lumpectomy or mastectomy with axillary lymph node dissection for oncologic indications. We further identified patients who underwent lymphovenous bypass on the same date as tumor resection. We used ZIP code data to analyze the geographic distribution of ILR procedures and calculated physician payments for these procedures, adjusting for inflation. We used multivariable logistic regression to identify variables, which predicted receipt of ILR.

Results

In total, 2862 patients underwent axillary lymph node dissection over the study period. Of these, 53 patients underwent ILR. Patients who underwent ILR were younger (55.1 vs 59.3 years, $P = 0.023$). There were no significant differences in obesity, diabetes, or smoking history between the two groups. A greater percentage of patients who underwent ILR had radiation (83% vs 67%, $P = 0.027$). In multivariable regression, patients residing in a county neighboring Boston had 3.32-fold higher odds of undergoing ILR (95% confidence interval: 1.76–6.25; $P < 0.001$), while obesity, radiation therapy, and taxane-based chemotherapy were not significant predictors. Payments for ILR varied widely.

Conclusions

In Massachusetts, patients were more likely to undergo ILR if they resided near Boston. Thus, many patients with the highest known risk for breast cancer-related lymphedema may face barriers accessing ILR. Greater awareness about referring high-risk patients to plastic surgeons is needed.

Yang AZ, Hyland CJ, Miller AS, Killelea BK, Starr BF, Broyles JM. Local practice variations and payer differences underlie state-wide disparities in oncoplastic breast surgery. *Journal of Surgical Oncology*. 2024 Aug;130(2):210-21.

Local practice variations and payer differences underlie state-wide disparities in oncoplastic breast surgery

Alan Z. Yang MSc, Colby J. Hyland MD, Amitai S. Miller BA, Brigid K. Killelea MD, MPH, Bryce F. Starr BS, Justin M. Broyles MD, MPH

First published: 28 June 2024 | <https://doi.org/10.1002/jso.27755>

Read the full text >

PDF TOOLS SHARE

Abstract

Background

Little is known about disparities in oncoplastic breast surgery delivery.

Methods

The Massachusetts All-Payer Claims Database was queried for patients who received lumpectomy for a diagnosis of breast cancer. Oncoplastic surgery was defined as adjacent tissue transfer, complex trunk repair, reduction mammoplasty, mastopexy, flap-based reconstruction, prosthesis insertion, or unspecified breast reconstruction after lumpectomy.

Results

We identified 18 748 patients who underwent lumpectomy between 2016 and 2020. Among those, 3140 patients underwent immediate oncoplastic surgery and 436 patients underwent delayed oncoplastic surgery. Eighty-one percent of patients who underwent oncoplastic surgery did so in the same county as they underwent a lumpectomy. However, the relative frequency of oncoplastic surgery varied significantly among counties. In multivariable regression, public insurance status (odds ratio: 0.87, 95% confidence interval: 0.80–0.95, $p = 0.002$) was associated with lower odds of undergoing oncoplastic surgery, even after adjusting for macromastia, other comorbidities, and county of lumpectomy. Average payments for lumpectomy with oncoplastic surgery were more than twice as high from private insurers (\$840 vs. \$1942, $p < 0.001$).

Conclusion

Disparities in the receipt of oncoplastic surgery were related to differences in local practice patterns and the type of insurance patients held. Expanding services across counties and considering billing reform may help reduce these disparities.

New Study Alerts using the MA APCD



Two new studies have been published by Dr. Justin Broyles research team at Brigham & Women's hospital focusing on **Geographic Disparities and Payment Variation for Immediate Lymphatic Reconstruction in Massachusetts** (July 2024) and **Local Practice Variations and Payer Differences underlie Statewide Disparities in Oncoplastic Breast Surgery** (August 2024). The goals of their use of the MA APCD are to 1) elucidate trends in practice variation and procedural differences to better characterize medically underserved areas in Massachusetts needing future intervention; 2) identify gaps in certain services as a crucial first step for healthcare initiative promoting equity; and 3) better understand drivers of practice variation, such as reimbursement differences, which may help providers and hospitals better understand disparities in receipt of certain procedures

When is the next Data User Group meeting?

- The next User Group will meet Tuesday, October 22, 2024.
- <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.