

CENTER FOR HEALTH  
INFORMATION AND ANALYSIS

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# OVERVIEW OF THE MASSACHUSETTS ALL-PAYER CLAIMS DATABASE

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OCTOBER 2015



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## INTRODUCTION

The Center for Health Information and Analysis (CHIA) is a state agency charged with monitoring the Massachusetts health care system, which offers a variety of data and analytic products to support continual improvements in health care quality, affordability, access, and outcomes. The Massachusetts All-Payer Claims Database (MA APCD) is critical to this effort, enabling CHIA and its partners and customers to pursue a wide variety of projects, including complex research and analyses that support state agency operations and enhance the ability of payers and providers to deliver care.

This paper provides an overview of the MA APCD, describes its establishment, the contents of the dataset, and how CHIA manages and uses the database to promote the public interest.

*More information about all the topics addressed here can be found on the MA APCD website: [www.chiamass.gov/ma-apcd](http://www.chiamass.gov/ma-apcd).*

## HISTORY OF THE MASSACHUSETTS ALL-PAYER CLAIMS DATABASE

The beginning of the MA APCD can be traced back to 2006 and the creation of the Health Care Quality and Cost Council. The Council recognized the value of collecting data from Massachusetts health insurance carriers in support of quality improvement and cost containment. In 2009, the Division of Health Care Finance and Policy (the Division), CHIA's predecessor agency, began to collect detailed claims data from payers on behalf of the Council, following earlier preliminary efforts.

The September 2009 MA APCD project charter established the goal of administrative simplification: making the database a central resource for all state agencies needing claims level data to support their missions. This focus was important to secure the support of the insurance carriers who would be submitting data to the MA APCD. While implementation of the MA APCD would require significant resource investment by the carriers, it would also reduce the proliferating – and sometimes conflicting – requests for carriers to submit data to a number of different state agencies.

The charter also called for enhancing the data to facilitate analysis and making the database widely available: to the public to help inform policy; to consumers to support health care purchasing decisions; and to physicians to support care management and coordination.

In summer 2012, the Division released a “Preliminary Release,” the first MA APCD dataset based on private payer data from 2008-2010. That November, responsibility for the MA APCD was transferred to the newly-established CHIA. In 2015, CHIA made available MA APCD Release 4.0, which includes dates of service for 2010-2014.

### *Legal Authority*

Massachusetts General Laws Chapter 12C section 10 provides broad authority for CHIA to collect information from private and public health care payers, including third-party administrators. Section 12 outlines certain governance requirements and conditions for use and release of such data. CHIA's regulations governing carrier reporting requirements and the disclosure of certain carrier data are found at 114.5 CMR 21.00 (Health Care Claims Data Submission) and 957 CMR 5.00 (Health Care Claims Data Release), respectively. These regulations, associated administrative bulletins, other guidance, and forms are all available at the APCD website.

## ADMINISTRATIVE SIMPLIFICATION

In addition to CHIA, as many as ten state agencies use health care claims data in their research, regulatory activity, and operations. Because their needs are diverse, carriers have been faced with complex, overlapping, and sometimes contradictory requests for data submissions. As noted, a primary goal of the MA APCD is to promote administrative simplification that is beneficial to both the carriers and state agencies. When fully implemented, carriers will submit claims to the MA APCD under a single data submission specification. CHIA would be the sole agency responsible for maintaining data infrastructure and processes, and would serve the needs of any state agency that sought this kind of data from the carriers.

The Massachusetts Health Connector was CHIA's first state agency partner for an administrative simplification project. In 2012, the Connector used the MA APCD to develop a MA-specific risk adjustment model as part of the Commonwealth's implementation of the Affordable Care Act.

Since then, several additional state agencies have begun using the MA APCD, including the Health Policy Commission, the State Auditor's Office, the Division of Insurance, and the Department of Public Health. CHIA also uses the MA APCD for its reporting, including the Enrollment Trends Report series.

## DATA SOURCES, SCOPE, AND COVERED POPULATIONS AND SERVICES

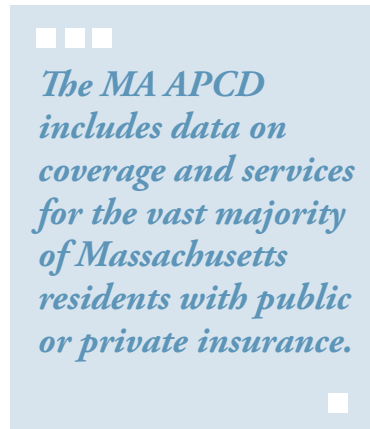
The bulk of the records in the MA APCD are medical, pharmacy, and dental claims submitted by commercial insurance carriers and public programs (Medicare and Medicaid/MassHealth).

These claims come both from medical carriers and from specialty carriers and administrators of "carved-out" services including pharmacy, mental health/chemical dependency, dental, and vision. The database also contains records about individual plan members (e.g., demographics and enrollment), providers, and insurance products (e.g., product type and coverage type).

The MA APCD includes data on coverage and services for the vast majority of Massachusetts residents with public or private insurance. It includes data from both health insurance carriers and third party administrators. Both self-insured and fully-insured plans are included. However, certain kinds of coverage are excluded:

- Workers' Compensation;
- TRICARE and the Veterans Health Administration; and
- Federal Employees Health Benefit Plan.

Information on uninsured individuals is only included to the extent that they enroll in the Commonwealth's Health Safety Net.



*The MA APCD includes data on coverage and services for the vast majority of Massachusetts residents with public or private insurance.*

### *The Sweet Sixteen*

Although more than 80 payers presently submit data to the MA APCD, MassHealth and the following 15 private payers represent about 95% of the non-Medicare data in the MA APCD: Blue Cross Blue Shield of MA, Tufts Health Plan, Harvard Pilgrim, WellPoint/UniCare, Boston Medical Center HealthNet, Neighborhood Health Plan, Fallon Community Health, Fallon Health and Life, Network Health, Aetna, CIGNA, Health New England, UnitedHealthCare, ConnectiCare of MA, and Celticare.

## DATA GOVERNANCE

Data governance rules and procedures are outlined in CHIA's statute, implementing regulations, and a variety of administrative bulletins, Submission Guides, and other materials.

State agencies using MA APCD may request new data elements to be added to the MA APCD to support their operations. Specifications are developed by CHIA and reviewed with the carriers prior to publication of updated Submission Guides.

All requests for MA APCD data are reviewed for compliance with CHIA's legal requirements. Non-government applications are reviewed by CHIA's **Data Privacy Committee (DPC)** according to CHIA's statute and regulations. CHIA's **Data Release Committee (DRC)**, composed of a variety of external experts representing carriers, providers, researchers and consumers, provides additional scrutiny to certain applications to ensure that data release is in the public interest as defined by CHIA regulations.

## DATA SUBMISSION

Data submission to the MA APCD is detailed in regulations, periodic administrative bulletins, and Submission Guides. Carriers submit seven files to CHIA – Medical Claims (MC), Pharmacy Claims (PC), Dental Claims (DC), Member Eligibility (ME), Provider (PR), Product (PD), and the Benefit Plan Control Total File (BP). Carriers submit files monthly, except for the Product File, which is submitted quarterly, following detailed data submission specifications.

Each data element in the Submission Guides is characterized by its importance to CHIA and MA APCD data users. CHIA assigns an "A" level to data elements that are the most important and "B, C, and Z" levels to less important elements. "A" level data elements are the focus of data intake edits and CHIA quality assurance efforts.

For each data element – regardless of level – **thresholds** are set for compliance. For example, each provider record in the Provider File needs to have Plan Provider ID 100% of the time, but Middle Initial only 1% of the time. Thresholds are published in the [MA APCD Documentation Guides](#). Carriers may ask for temporary or permanent variance from the standard thresholds. For example, their system might not have a particular data element. CHIA staff grants variances on a case-by-case basis. Some variances are time-limited so that over time carrier data may become more complete.

Files submitted by the carriers are subjected to more than 1,000 **programmed edits**.

There are multiple kinds of edits:

- Diagnosis, procedure and other billing codes are checked for validity against national standards.
- Other logic edits are made, including checks to assure that inpatient facility claims have a discharge diagnosis code.
- Inter-file edits are made to check cross-references between files.

Edits may identify failures in submissions that require resubmission or may generate alerts to the carriers that certain fields are not in complete compliance with submission guides without rejecting the files.

CHIA supports carriers in their submission work. Biweekly calls are held with each of the largest carriers to address data quality issues as observed by CHIA analysts and MA APCD users. CHIA works collaboratively with carriers to define new data elements through regular **Technical Advisory Group (TAG)** meetings.

Generally, carriers are in compliance with present MA APCD data submission guidelines, which may be modified by CHIA on a case-by-case basis through the variance process. This compliance is the result of close collaboration between CHIA and the carriers. CHIA enjoys and appreciates a high level of support from the carriers, which have committed significant staff and technology resources to the MA APCD.

### *Data Standardization*

Presently, MA APCD data is standardized as follows:

- Application of numerous external source codes for Place of Service, Type of Service, Provider Type, and ICD-9 CM Procedure and Diagnosis Codes.
- Application of the National Provider Index to verify that National Provider Identification codes on the claims are valid.
- Standardization of member and provider addresses and assignment of counties.
- Suppression of possible Social Security Identifiers through pattern analysis.

### DATA PROFILING AND VALIDATION

CHIA works collaboratively with carriers on an ongoing basis to improve the quality of submissions. Field-level quality that is documented for internal use is summarized in periodic individual Quality Profiles that are shared with carriers. Portions of the **Quality Profiles** are posted on the CHIA website to assist users and applicants. In addition, CHIA staff extensively profile data and reach out to carriers as anomalies are identified.

*Additional data enhancements will be included in future releases.*

Data **validation** is done incrementally, often in concert with state agencies as they begin to use the MA APCD to replace other data streams. The goal of data validation is to ensure that aggregated and derivative reporting makes sense relative to data previously reported by the carriers to state agencies and/or to industry norms. Carriers have been closely involved in each data validation project and the result has been continued improvement in the quality and completeness of data submissions.

### *Data Enhancement*

Currently, MA APCD data submissions are enhanced with the following:

- **Master Patient Index:** The Master Patient Index allows individual member utilization to be tracked across multiple plans as the member's insurance coverage changes over time. The Master Patient Index provides a way to identify a member using a unique identifier that is not personally identifiable.
- **Highest Version Indicator:** MA APCD submissions are at the claim line level. Typically, each time a claim is adjudicated a line is created. As a result, each claim may have multiple lines. Identifying the highest version of the claim allows analysts to determine total charges, discounts, payments, etc. Highest version flags, based on carrier-specific logic, are available for the ten largest carriers for Medical Claims and the top four carriers for Pharmacy Claims.
- **Geo-coding:** Addresses of members and providers are standardized and further enhanced with the assignment of census tracts.

## DATA RELEASE

In order to realize the highest value of the MA APCD, CHIA releases extracts to state agencies, payers, providers, provider organizations, and researchers. When reviewing data requests, CHIA evaluates who is requesting the data, the purpose of the request, and the type of data requested. Requests to use CHIA data are considered through a multi-layer process that considers research or project objectives, whether the data requested is the minimum amount necessary, potential risks to patient privacy, and the public interest. Data are released through extracts that are prepared based on specifications developed with each applicant.

*Release of APCD data is governed by 957 CMR 5.00.*

Data elements in the MA APCD are classified into two levels (Level 2 and Level 3), based on their relative risk to patient privacy. Level 2 data elements include limited patient-level information. Level 3 data elements are comprised of more sensitive information, including direct patient identifiers (such as name, social security number, and date of birth) that may uniquely identify an individual. For these reasons, release of Level 2 and Level 3 data elements are subject to specific rules and protections, and release may not be approved in all cases.



All applications to use the MA APCD – including those from CHIA analysts and other Massachusetts state agencies – are reviewed for compliance with CHIA’s legal requirements. The CHIA DPC reviews non-government applications and considers whether the data requested are the minimum necessary to achieve the proposed objectives, and whether the risk of re-identification of individual patients has been minimized and appropriately balanced with project needs in compliance with state and federal law. The DPC is chaired by CHIA’s Chief Privacy Officer.

Certain non-governmental applications, including any applications from researchers and consultants for Level 2 data, are further reviewed by the DRC, a group of experts representing carriers, providers, researchers, and consumers. The DRC builds on the work of the DPC by considering whether approving the request is in the public interest as defined by CHIA regulations. These applications are posted to the CHIA website to promote transparency.

The final decision for release is made by CHIA’s Executive Director based on the nonbinding recommendations of these committees. Before receiving the data, applicants are required to sign CHIA’s Data Use Agreement which imposes requirements to maintain data security and protect patient privacy.

### MA APCD DATA RELEASE FACTORS

MA APCD data may be released for a wide variety of purposes. However, the specific policies and procedures relevant to an application depend on factors such as:

<p><b>1</b></p> <p><b>Who is requesting the data?</b></p> <ul style="list-style-type: none"> <li>Government Agencies</li> <li>Payers, Providers, or Researchers</li> <li>Other Applicants</li> </ul>		<p><b>2</b></p> <p><b>How will the data be used?</b></p> <ul style="list-style-type: none"> <li>Research</li> <li>Benchmarking</li> <li>Care Coordination or treatment</li> <li>Other purposes in the public interest</li> </ul>		<p><b>3</b></p> <p><b>What data is needed?</b></p> <ul style="list-style-type: none"> <li>Potentially Identifiable Data (Level 2)</li> <li>Direct Patient Identifiers (Level 3)</li> <li>Medicare Data</li> <li>Medicaid Data</li> </ul>
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Detailed materials describing the release rules and process (including definitions for these terms) are available on the MA APCD website.



***Note on access to data from public programs***

Applications for Massachusetts Medicaid data, including data from the Health Safety Net and Medicaid Managed Care programs, must be approved by MassHealth. Pursuant to federal law, MassHealth restricts the use of individually identifiable data of Medicaid recipients to uses that are directly connected with the administration of the Medicaid program.

CHIA receives Medicare data from the Centers for Medicare & Medicaid services under a Data Use Agreement. Under terms of that agreement, CHIA can only provide Medicare data to state agencies.

***Documentation and Support***

CHIA’s website hosts a wealth of documentation about APCD releases. The MA APCD Data Guides provide details at the data element level as well as information about intake edits and standardization.

Additionally, some users avail themselves of the Data Submission Guides that are found on CHIA’s website. While these guides are intended for the payers that submit data to the MA APCD, they include information useful to users including file layouts and details on which claims are required for submission and which are not required.

CHIA offers a monthly User Group webinar where users share their experiences using the MA APCD and CHIA staff are available to answer user questions.

**THE FUTURE OF MA APCD**

There are nearly limitless ways the MA APCD might be used to improve the Massachusetts health care system. In addition to future data enhancements and administrative simplification work, CHIA is actively exploring partnerships with payers and providers to use MA APCD in ways that will improve the coordination and delivery of patient care.

CHIA continues to invest in infrastructure and analytic expertise in order to use MA APCD effectively in pursuit of its mission of delivering meaningful analysis of the Commonwealth’s health care market and the experience of Massachusetts residents. MA APCD is the data foundation for an ambitious agenda of analytic products in the years to come.

To learn more about MA APCD and to stay up-to-date on new developments, please visit our [website](#) in order to subscribe to the MA APCD Email List or to join one of our workgroups.



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*Publication Number: 15-303-CHIA-01*