

**CENTER FOR HEALTH  
INFORMATION AND ANALYSIS**

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# **OVERVIEW OF THE MASSACHUSETTS ALL-PAYER CLAIMS DATABASE**

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## INTRODUCTION

The Center for Health Information and Analysis (CHIA), a state agency charged with monitoring the Massachusetts health care system, offers a variety of data and analytic products to support continual improvement 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, beginning with a history, then covering what is included in the database as well as 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.mass.gov/chia/apcd](http://www.mass.gov/chia/apcd).*

## HISTORY OF THE MASSACHUSETTS ALL-PAYER CLAIMS DATABASE

The MA APCD's roots 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 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 (see below). This focus was important to secure the support of the insurance carriers who would be submitting data. While implementation of the MA APCD would require significant resource investment by the carriers, they saw the promise of reducing the proliferating – and sometimes conflicting – requests from a number of different agencies.

The charter also called for enhancing the data 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 datasets based on private payer data from 2008-2010. That November, the Center for Health Information and Analysis (CHIA) assumed responsibility for the MA APCD. Release 1.0, which CHIA made available in June 2013, included data for 2009-2011 dates of service from both private and public payers. CHIA finalized Release 2.0, which included data for 2009-2012, in January 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 implementing regulations are found at 114.5 CMR 21.00 and 957 CMR 5.00 (Health Care Claims Data Release). These regulations, associated administrative bulletins, other guidance, and forms are available at the MA APCD website.

## ADMINISTRATIVE SIMPLIFICATION

As many as eight 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. A primary goal of the MA APCD is to promote administrative simplification that benefits carriers as well as 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. Massachusetts is the only state in the nation that will be using a state-specific risk adjustment model in 2014.

In 2013, several additional state agencies began using the MA APCD including the Health Policy Commission and the Department of Public Health. In 2014, CHIA will be working with the Division of Insurance, the Massachusetts Group Insurance Commission, and MassHealth towards the shared vision of increasing the use of the MA APCD rather than relying on direct submissions from carriers.

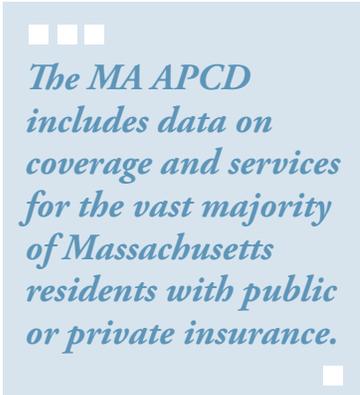
## DATA SOURCES, SCOPE, AND COVERED POPULATIONS AND SERVICES

The bulk of the records in the MA APCD are medical, pharmacy, and dental claims submitted by commercial insurance carriers, third party administrators, 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. However, certain kinds of coverage are excluded:

- Workers' Compensation
- TRICARE and the Veterans Health Administration
- Federal Employees Health Benefit Plan
- Private insurers with under 1,000 lives

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 100 payers presently submit data to the MA APCD, MassHealth and the following 15 private payers represent 99.1% of the data in the MA APCD for 2010-2012: Blue Cross Blue Shield of MA, Tufts, Harvard Pilgrim, WellPoint, Boston Medical Center HealthNet Plan, Neighborhood Health Plan, Fallon, Network Health, Aetna, Connecticut General/CIGNA, Health New England, United, Health Plans Inc, Celticare, and ConnectiCare of MA.

## DATA GOVERNANCE

Data governance rules and procedures are outlined in statute, implementing regulations, and a variety of administrative bulletins, submission guides, and other materials. CHIA's Deputy Executive Director for Health Information is the executive responsible for MA APCD policy and operations. The intake and release of MA APCD data is further governed by three standing CHIA committees, and several workgroups.

In 2013, after the first state agencies began using the MA APCD, CHIA convened the **Data Intake Governance Committee**. It is composed of state agencies using or intending to use the MA APCD and representatives from payers. The Committee, which meets quarterly, has the following responsibilities:

- Consider requests for new/modified data elements.
- Consider requests for data resubmission.
- Seek consensus on definitions of data elements common across state agencies.
- Review drafts of Administrative Bulletins and Data Submission Guidelines.
- Receive periodic reports on compliance and data validation.
- Review requests from carriers for waivers from the data submission requirements and recommend approval/disapproval to CHIA staff.

Any release of MA APCD data is screened by CHIA's **Data Privacy Committee**, which includes subject matter experts, CHIA's Chief Privacy Officer and Chief Information Security Officer. The Committee reviews requests for compliance with state and federal data privacy and security laws and regulations.

CHIA's **Data Release Committee**, 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.

CHIA works collaboratively with carriers on data definitions and submission standards through regular **Technical Advisory Groups** ("TAGs"). CHIA also convenes **user groups** and other forums to discuss MA APCD governance issues when appropriate.

The first Administrative Bulletin and set of Submission Guides were issued in October 2010 for submissions beginning February 2011. The latest Administrative Bulletin was issued in May 2013 and includes data elements geared for specific agency needs including the Group Insurance Commission, Total Medical Expense calculations, and the risk adjustment program being implemented by the Connector under the Affordable Care Act. This latest set of data specifications – "Version 3" – became effective with November 1, 2013 submissions.

## DATA SUBMISSION

Data submission to the MA APCD is detailed in regulations, periodic Administration Bulletins, and Submission Guides. Carriers submit seven files to CHIA: Medical Claims, Pharmacy Claims, Dental Claims, Member Eligibility, Provider, Product, and the Benefit Plan Control Total File. Carriers submit files monthly, with the exception of the Product file, which is submitted quarterly, following detailed data submission specifications.

CHIA characterizes each data element in the Submission Guides based on its importance to 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 files 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 Data 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 include checks to assure, for example, that inpatient facility claims have a discharge diagnosis code.
- Inter-file edits, for example checking cross-references between files, will be deployed Q1 2014.

Edits may result in a failure that requires resubmission or may generate warning flags alerting the carriers that certain fields look questionable without rejecting the files. Generally, carriers are in compliance with present MA APCD data submission guidelines as amended through the variance process. This is the result of close collaboration between CHIA and the carriers. CHIA enjoys and appreciates a high level of support from the carriers, who have committed significant staff and technology resources to the MA APCD project since 2008.

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### *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 is documented for internal use in Data Dictionary pages and is summarized in periodic individual Quality Profiles that are shared with carriers. In addition, CHIA staff extensively profile data and reach out to carriers as anomalies are identified.

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. The first data validation exercise was conducted in summer 2013 with the Connector as part of the risk adjustment program for the Affordable Care Act. Analysts compared MA APCD totals to industry norms and worked closely with carriers on a case-by-case basis to document or correct identified inconsistencies. More recently, the Health Policy Commission (HPC) used APCD data for its annual Cost Trends report. As one of the early users, the HPC invested significant resources in data validation that CHIA will leverage for future APCD analysis and enhancement. Future validation exercises will include Division of Insurance filings and CHIA Case Mix submissions from acute hospitals as well as work with MassHealth and the Group Insurance Commission.

### *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 link disparate information about a single person using a unique identifier that is not personally identifiable. The Index will be available for use through the release process in 2014.
- **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, is available for seven large commercial carriers in Release 2.0.
- **Payment Calculation.** On a given claim line there can be up to eight different fields containing information about financial characteristics of the service. To determine final payment, some carriers use as few as three and others use various combinations of the eight fields based on the type of claim or the internal adjudication engine used. Carrier-specific calculation of total paid amount will be available in 2014.

Additional data enhancements will be included in future releases.

**DATA RELEASE**

In order to realize the highest value of the MA APCD, CHIA is committed to releasing extracts to a wide variety of users. Requests to use CHIA data are considered through a multi-layer process that considers risks to patient privacy, research or project objectives, and the public interest. Data are released through custom extracts that are prepared based on specifications developed with each applicant.

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

Release is determined by *who* is requesting the data, what their *purpose* is, and *what kind* of data is sought. Data elements in the MA APCD are classified into three levels that determine if they can be released and to whom they may be released. Level 1 is de-identified data as defined by federal privacy law. Level 2 includes data elements that pose a risk of re-identification of an individual patient. Level 3 data elements include direct patient identifiers, such as name, social security number and date of birth that uniquely identifies an individual. Release of Level 2 and Level 3 data elements are subject to additional rules and protections, and in some cases may not be released at all.

**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>Patient de-identified data (Level 1)</li> <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. MassHealth restricts use of protected health information of Medicaid recipients to uses that benefit the administration of the Medicaid program pursuant to Federal Medicaid rules.

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.

All applications to use the MA APCD – including those from CHIA analysts and other Massachusetts state agencies – are reviewed by the CHIA **Data Privacy Committee**. The Committee reviews each application for compliance with state and federal privacy laws, including establishing that the data sought is the minimum amount necessary to achieve a specific public purpose. The Committee is chaired by CHIA's Chief Privacy Officer and staffed by the Chief Information Security Officer and other data specialists.

Certain non-governmental applications, including any applications from researchers and consultants for Level 2 data, are further reviewed by the **Data Release Committee**, a group of experts representing carriers, providers, researchers, and consumers. This Committee builds on the work of the Data Privacy Committee by considering whether 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 recommendations of these committees. Before receiving the data, applicants are required to sign CHIA's Data Use Agreement which imposes requirements for maintaining data security and protecting patient privacy.

### *Documentation*

CHIA's website ([www.mass.gov/chia/apcd](http://www.mass.gov/chia/apcd)) hosts a wealth of documentation about MA APCD releases. Release documentation provides details at the data element level as well as information about intake edits and standardization.

Some users also 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.

## THE FUTURE OF THE 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 the MA APCD in ways that will improve the coordination and delivery of patient care.

CHIA also is investing in infrastructure and analytic expertise to use the MA APCD effectively to advance its own mission: to deliver meaningful analysis in pursuit of improved health care quality, affordability, access, and outcomes. The 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 to subscribe to the MA APCD email list or to join one of our workgroups.



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