



MA Center for Health Information & Analysis

Case Mix User Workgroup

November 28, 2017

Agenda



- Announcements
 - Expected timeframes for FY17
 - Updates on MA APCD Release 6.0
- Summarized Data Reports
- Application Reminders
- User Questions
- Q&A

Case Mix FY16 Release Calendar



CURRENT RELEASE TIMEFRAMES FOR EACH FILE:

- Inpatient (HIDD)
READY NOW
- Emergency Department (ED)
READY NOW
- Outpatient Observation (OOD)
READY NOW

Case Mix FY17 Release Calendar



CURRENT RELEASE TIMEFRAMES FOR EACH FILE:

- Inpatient (HIDD)
JUNE
- Emergency Department (ED)
AUGUST
- Outpatient Observation (OOD)
SEPTEMBER

Case Mix Application Process



Recap of Changes for 2017:

- Now charge **per year** of data requested
- Can now request **future years of data**
 - Future years require no DRC review, absent major changes to the project or data being requested
- Can request to use data for one project for a **subsequent project**
- Comprehensive DUAs for each organization (will cover all projects instead of multiple DUAs for each specific project)
- Not expecting any major changes in 2018

MA APCD Release 6.0



- Will encompass data from January 2012 – December 2016 with six months of claim runout
- Target release timeframe is still late Fall 2017
- Application form has been updated

Available here: <http://www.chiamass.gov/application-documents>

- Make sure you're signed up for CHIA's email list to receive important announcements:

[Sign Up Here](#)

MA APCD Release 6.0 Highlights



Additional Pharmacy Claims versioning

- 4 carriers added to the Pharmacy versioning:
 - (P1) 301 - Health New England
 - (P2) 12226 - Minuteman Health
 - (P3) 10632 - Anthem
 - (P4) 302 - Health Plans Inc.

MA APCD Release 6.0 Highlights



New and improved Member Enterprise ID (MEID)

- Master Data Management (MDM) approach updated to work with hashed patient information
- Added Nickname processing for first names (Joe, Joseph)
- Added NYSIIS phonetic processing for last names (Smith, Smyth)
- Removed the Pharmacy Benefit Manager data from the MDM process to decrease the duplication of member data by upwards of 40%

CHIA is testing the newly created MEIDs and finding significant improvement in the match rates and removal of 'orphan' records

Summarized Data Reports



- CHIA is proposing to revise our [Data Release Regulations](#) to allow for **Summarized Data Reports**

Notice of Public Hearing:

<http://www.chiamass.gov/regulations/#publiccomments>

[Proposed effective 12/29 – comments due 12/8]

- Will contain only aggregate data (data summaries) and De-identified Data, sourced from APCD and Case Mix data
 - Examples of Summarized Data Reports include: counts; totals; rates per thousand; index values; and other standardized metrics.
 - Will be subject to CHIA's cell suppression policy (no cell less than 11 will be displayed)

Summarized Data Reports



- In determining whether to compile such a report, CHIA will consider the **public interest served**, the **availability of its resources**, the **complexity** of the request, and **privacy concerns** (i.e. that there is no more than a minimal risk to individual privacy in the public release of the report)
- Submit the request via a new form (to be published after the revised regulation goes into effect)
- The Executive Director (or his/her designee) will approve or deny such requests. Such approval/denial is final and not subject to further review or appeal.
- A support/production fee of \$140/hour will be charged

Application Reminders



- Financial Hardship Fee Waiver Requests – We expect applicants to have made an attempt to find some kind of institutional or grant funding. 100% fee waiver requests are *extremely* unlikely to be granted.
- If your project requires IRB approval, please ensure you have approval **BEFORE** submitting your data request to CHIA



QUESTIONS?

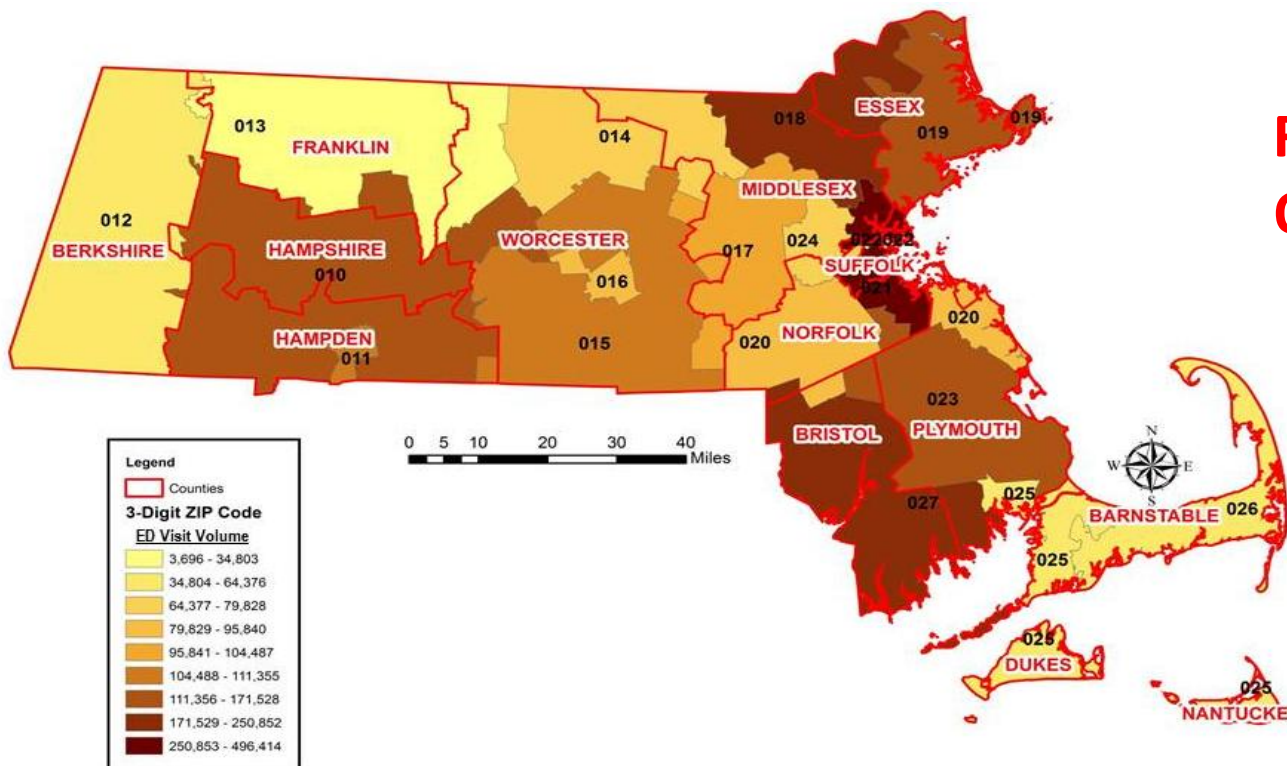
Question: Section VII of the CHIA application form has the option of requesting 3-digit ZIP Code, but what volume distribution and geographic distribution can we expect when using 3-digit ZIP Code boundaries?

Answer: Massachusetts has approximately six hundred and eighty-five 5-digit ZIP codes assigned by the United States Postal Service for mail delivery. These ZIP codes are subject to change and can overlap. The **first 3-digits** of the 5-digits are a larger grouping with **the first digit** representing a National Area ranging from zero (for states in far Northeast) to nine (for states in the far West), the **second and third digits** representing local central post office coverage area, and the remaining digits are for mail service delivery routes. When the data are aggregated at the 3-digit ZIP code level, approximately six hundred and eighty-five 5-digit Massachusetts ZIP codes are reduced **eighteen 3-digit ZIP codes**.



Question: Section VII of the CHIA application form has the option of requesting 3-digit ZIP Code, but what volume distribution and geographic distribution can we expect when using 3-digit ZIP Code boundaries? *(continued)*

Answer: The map below shows the FY2016 Massachusetts ED Visit volume by 3-digit ZIP Code and County. **The eighteen 3-digit ZIP Code boundaries represent a smaller aggregation than the 12 Massachusetts Counties.** Geographic coverage in larger less urban 3-digit ZIP Code areas of the Cape, Berkshire and part of Franklin County have lower ED Visit volume. Several small counties on the Cape share the same 3-digit ZIP Code. The Suffolk County 3-digit ZIP Code areas have the highest ED Visit volume.

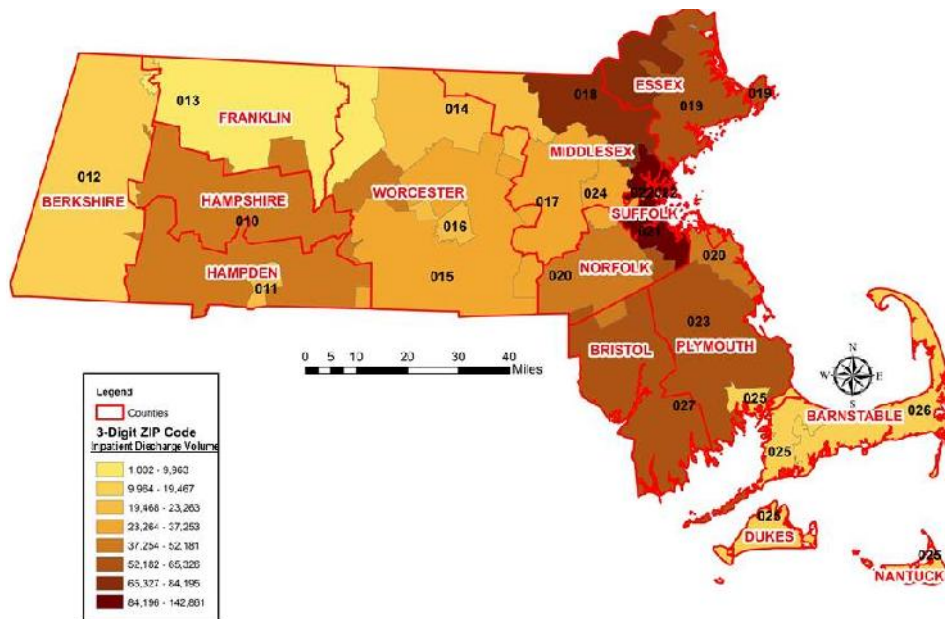


**FY2016 Massachusetts
Outpatient Emergency
Department
Visit Volume by
3-digit ZIP Code and
County**

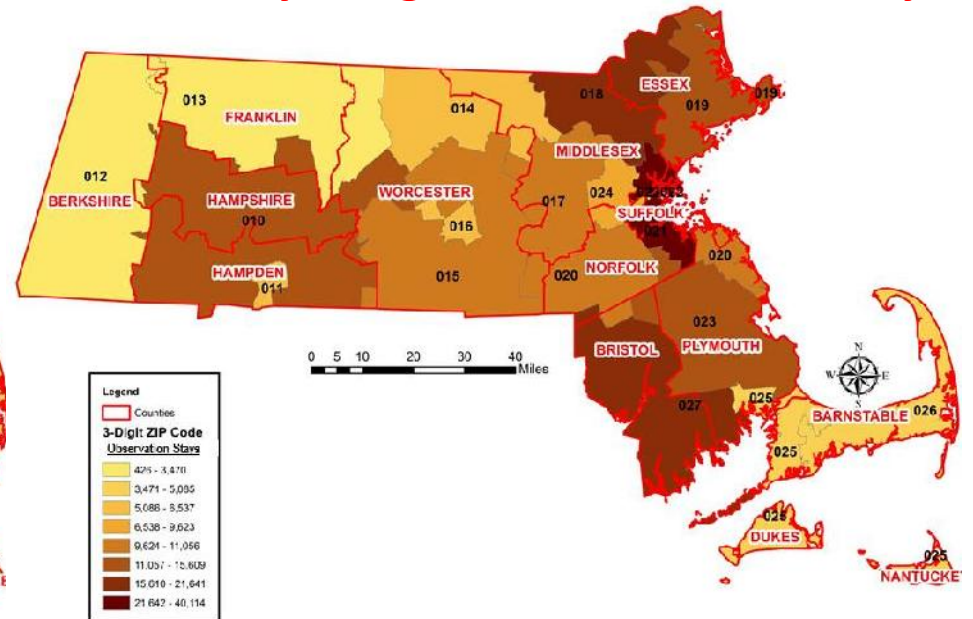
Question: Section VII of the CHIA application form has the option of requesting 3-digit ZIP Code, but what volume distribution and geographic distribution can we expect when using 3-digit ZIP Code boundaries? *(continued)*

Answer: Both FY2016 Hospital Inpatient Discharge Volume and FY2016 Observation Stay 3-digit ZIP volume mirror a geographic distribution of the FY2016 ED Visit data with less volume from the Cape, Berkshire and a part of Franklin County. When using 3-digit ZIP codes, it is important to keep in mind, while they roughly align some political boundaries, you will see more shared overlapping between ZIP code boundaries and political boundaries. Compare county and ZIP code boundaries in maps below.

FY2016 Inpatient Hospital Discharge Volume by 3-digit ZIP Code and County

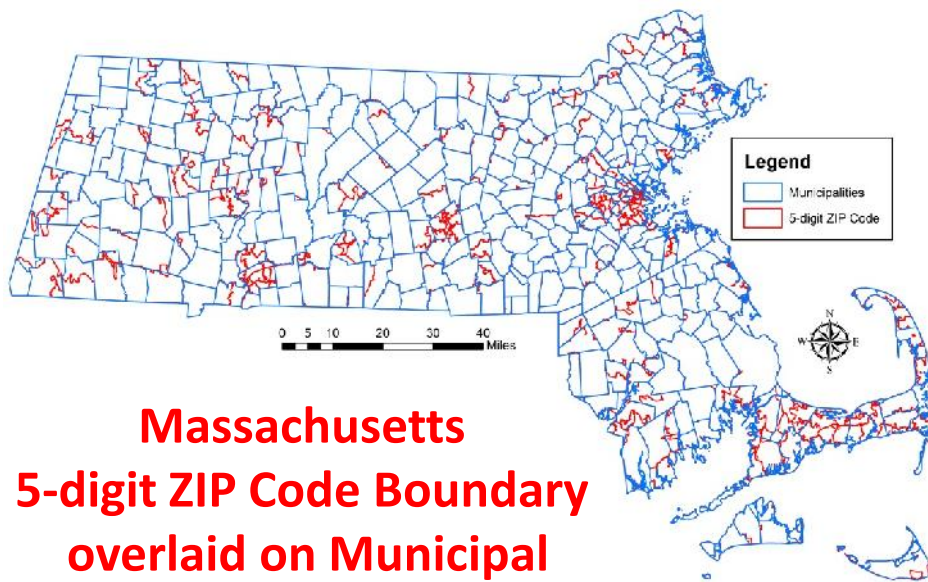


FY2016 Outpatient Observation Stay Volume by 3-digit ZIP Code and County

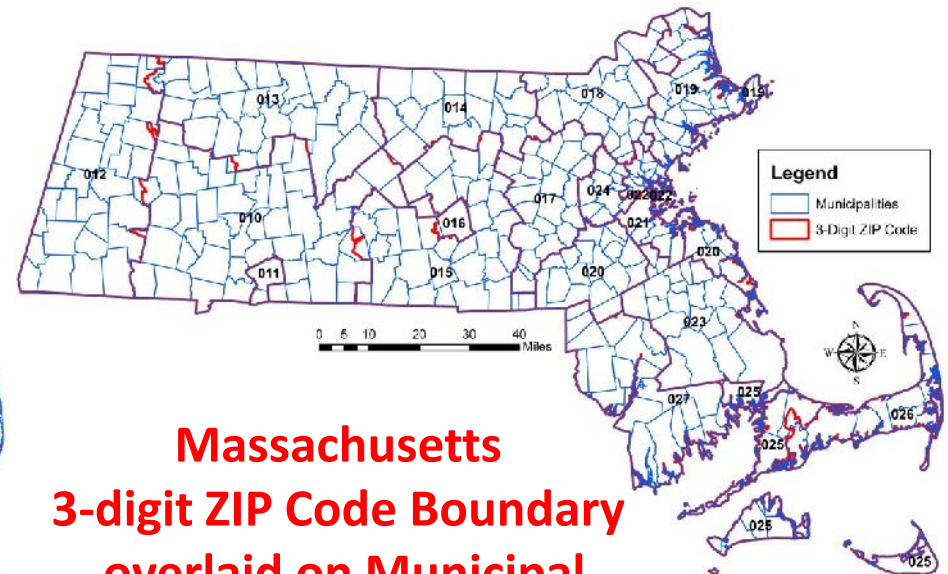


Question: Section VII of the CHIA application form has the option of requesting 3-digit ZIP Code, but what volume distribution and geographic distribution can we expect when using 3-digit ZIP Code boundaries? *(continued)*

Answer: As with 3-digit ZIP Codes, 5-digit ZIP Codes cut across multiple political boundaries. ZIP Codes generally do not show any respect for state, municipal, county, or census statistical area boundaries. They are administrative units for mail carrier routes that intertwine across political geographic boundaries like spaghetti, and are subject to continuous alteration or elimination based on mail volume. In the 5-digit ZIP code map below, the visible red lines indicate 5-digit ZIP code boundaries which cross Municipal and are shared. In the 3-digit ZIP Code map, there is a closer alignment with Municipal boundaries but sharing still visible in Western Massachusetts, Central Massachusetts and on the Cape.



**Massachusetts
5-digit ZIP Code Boundary
overlaid on Municipal
Boundaries**



**Massachusetts
3-digit ZIP Code Boundary
overlaid on Municipal
Boundaries**

Question: Now that the ICD-10-CM external cause codes are no longer limited to injuries (S00-T88), what types of non-injury diagnoses are accompanied by cause codes in the FY2016 data?

Answer: In the FY2016 outpatient ED data, approximately 12% of ED visits with an ICD-10-CM external cause code (V00-Y99) are non-injury principal diagnosis. The top ranking diagnoses include pains, follow-up examinations, alcohol abuse and depression. Some of the cause codes includes new information not previously available in ICD-9-CM such as blood alcohol test level results.

Top 15 non-Injury Diagnosis with External Cause Codes

Rank	ICD-10-CM	Full Description
1	M545	Low back pain
2	M542	Cervicalgia
3	F10129	Alcohol abuse with intoxication, unspecified
4	R55	Syncope and collapse
5	R51	Headache
6	Z041	Encounter for examination and observation following transport accident
7	Z043	Encounter for examination and observation following other accident
8	R0789	Other chest pain
9	M549	Dorsalgia, unspecified
10	F10120	Alcohol abuse with intoxication, uncomplicated
11	M25511	Pain in right shoulder
12	M25561	Pain in right knee
13	M25512	Pain in left shoulder
14	F329	Major depressive disorder, single episode, unspecified
15	M546	Pain in thoracic spine

ICD-10-CM Blood Alcohol Levels

Code	Description
Y900	less than 20 mg/100 ml
Y901	20-39 mg/100 ml
Y902	40-59 mg/100 ml
Y903	60-79 mg/100 ml
Y904	80-99 mg/100 ml
Y905	100-119 mg/100 ml
Y906	120-199 mg/100 ml
Y907	200-239 mg/100 ml
Y908	240 mg/100 ml or more

Question: The largest increase in ICD-10-CM codes are for injury diagnoses. What are the specific changes and enhancements to ICD-10-CM injury data?

ICD-9-CM	ICD-10-CM
Code range 800-959	“S” and “T” codes
Primary axis is nature of injury	Primary axis is body region
No character to indicate laterality	Characters to indicate left, right, bilateral, unspecified
Limited detail on type of fracture	Detailed info on type of fracture
Lacerations only	Lacerations with and without foreign body
Limited information superficial injuries	Detailed information on superficial injuries
Poisoning & adverse drug effect codes	Poisoning, adverse effects & drug underdosing codes
Poisoning: Both diagnosis code and external cause code	Poisoning: diagnosis code only (T code) with character to specify intent
Asphyxiation: 994.7	40 diagnosis codes for asphyxiation/ strangulation by different mechanisms & intent
Child/adult abuse	New codes to distinguish between suspected vs confirmed abuse
No designation of initial vs subsequent encounter	Most codes have 7 th character indicating initial vs subsequent encounter
Limited late effect codes	Most codes have 7 th character indicating sequelae (late effects)

Source: CDC National Center for Health Statistics

Question: I plan on applying for multiple years of Case Mix data dating back to 2004. Are there specific changes in the data I should pay attention to?

Answer: Prior to 2007 the following data elements were not collected:

- Ethnicity1
- Ethnicity2
- Other Ethnicity
- Hispanic Indicator
- Race 2
- Other Race
- Permanent and Temporary City
- Permanent and Temporary State
- Temporary ZIP Code
- Country
- Condition Present on Admission Codes

Hispanic origin was c as a race. ZIP code data was collected without indication of whether it was temporary or permanent.

After 2007, with the increase in geographic data elements, there was a large increase in the completeness of data on Massachusetts residency.

Change in Massachusetts Inpatient Hospitals Discharges by Age and Diagnosis from FY2005 to FY2007

	2,005	2,006	2,007	2005 to 2007 Percent Increase
Total Discharges	836,811	843,167	849,290	1.49%
Massachusetts Residents	789,523	795,962	803,337	1.75%
Non-Massachusetts Residents	42,291	42,901	42,715	1.00%
Residency Unknown	4,997	4,304	752	-84.91%
Total Discharges by Age				
0-17 years	122,726	123,470	124,560	1.49%
18-24 years	38,805	40,482	41,282	6.38%
25-34 years	81,824	81,144	81,693	-0.16%
35-44 years	85,392	84,239	82,298	-3.62%
45-64 years	186,132	191,574	197,276	5.99%
65 years and older	321,932	322,258	322,181	0.08%
Births				
Single Births	73,682	74,300	74,419	1.00%
Twin Births	3,347	3,282	3,232	-3.44%
Multiple Births	205	160	122	-40.49%
Total Fiscal Year Inpatient Charges	\$ 15,375,483,473	\$ 16,359,408,778	\$17,377,587,963	13.02%
Increases in Selected Inpatient Services				
Semi-Private 2-Bed Detoxification Services	\$ 2,056,363	\$ 4,613,100	\$ 8,486,951	312.72%
Transitional Care Unit Services	\$ 9,081,169	\$ 18,890,764	\$ 24,146,910	165.90%
Pharmacy: Other	\$ 2,353,752	\$ 8,737,928	\$ 21,197,540	800.59%
Organ Acquisition	\$ 25,033,565	\$ 29,734,122	\$ 35,050,354	40.01%
Organ Acquisition: Cadaver Donor	\$ 1,593,494	\$ 2,513,272	\$ 2,256,350	41.60%
Organ Acquisition: Unknown Donor	\$ 496,628	\$ 1,104,418	\$ 1,416,732	185.27%
Professional Fees	\$ 16,342,722	\$ 18,327,224	\$ 31,092,177	90.25%

Questions?



- Questions related to APCD :
(apcd.data@state.ma.us)
- Questions related to Case Mix:
(casemix.data@state.ma.us)

REMINDER: Please include your **IRBNet ID#**, if you currently have a project using CHIA data

Coming Soon



Next Case Mix User Workgroup – February 27

- Presentation by Urbano Franca from Children’s Hospital on Pediatric Hospital Care
- No APCD Workgroup in December – next one will be in January

Gallery of Publications Using CHIA Data

- Web page should go live within the next few weeks
- Send us your publications (or at least your citations) to make sure you are included!

Where can I find old User Workgroup presentations?



<http://www.chiamass.gov/ma-apcd-and-case-mix-user-workgroup-information/>

[CHIA Data](#) » [MA APCD](#) » [MA APCD and Case Mix User Workgroup Information](#)

MA APCD and Case Mix User Workgroup Information

These webinar workgroups bring together users of CHIA's APCD and Case Mix data with CHIA's in-house experts to discuss analytical techniques, issues with the data, and quality of the data. CHIA also uses these webinars to make announcements regarding new data releases, enhancements, and features. Each meeting features a segment where CHIA staff answer common questions from data users and field live questions from webinar participants.

Please register for one or both of these separate registration links. All meetings take place on Tuesday afternoons at 3:00 p.m.

Case Mix Workgroup Meeting Dates
NEXT MEETING Tuesday, March 23, 2017 3:00 PM - 4:00 p.m.
Case Mix Workgroup Registration

MA APCD Workgroup Meeting Dates
NEXT MEETING Tuesday, April 25, 2017 3:00 PM - 4:00 p.m.
MA APCD Workgroup Registration

Previous MA APCD / Case Mix Meeting Materials

MA APCD Tuesday, February 28, 2017

- [Presentation \(PDF\) | PPT](#)

Case Mix Tuesday, January 24, 2017

- [Presentation \(PDF\) | PPT](#)

Call for Topics and Presenters



If there is a **TOPIC** that you would like to see discussed at an MA APCD or Case Mix workgroup, contact Adam Tapply [adam.tapply@state.ma.us]

If you are interested in **PRESENTING** at an MA APCD or Case Mix workgroup, contact Adam Tapply [adam.tapply@state.ma.us]

You can present remotely from your own office, or in-person at CHIA.