MA Center for Health Information & Analysis

Case Mix User Workgroup

August 28, 2018

Agenda

- **Announcements**
  - Updates on FY17 Case Mix Data Release
  - Updates to Prior Releases (FY2015-2017)
- **Additional Info on Summarized Data Reports**
- **User Questions:**
  - ✓ Patient Disposition in Outpatient Emergency Department (ED) Data
  - ✓ Changes in ICU Utilization
- **Website Updates**
- **Q&A**

Case Mix FY17 Release Calendar

CHIA.

CURRENT RELEASE TIMEFRAMES FOR EACH FILE:

- Inpatient (HIDD)

  JUNE [Completed]

- Emergency Department (ED)

  SEPTEMBER

- Outpatient Observation (OOD)

  OCTOBER

Case Mix FY17 Data Release

CHIA.

REPEAT APPLICANTS

- For those applicants with previously approved projects who indicated they would like to receive data annually, we began accepting **Certificates of Continued Need and Compliance** (Exhibit B of your DUA) starting on **May 1st**.

- After receiving this, we will send you an invoice for the FY17 data and release data to you once payment is received and the data is ready

- If you are making any changes to your project, you must go through the amendment process first

Case Mix FY17 Data Release

NEW APPLICANTS / NEW PROJECTS

- We will continue to accept new applications on a rolling basis.
- If you are requesting FY17 data, just click the box for "Subscription" on p. 3 of the application form:

1. Please indicate below whether this is a one-time request, or if the described Project will require a subscription.

☐ One-Time Request   **OR**   ☐ Subscription

2. Specify below the dataset(s) and year(s) of data requested for this Project, and your justification for requesting *each* dataset. Data prior to 2004 is not available.

☐ **Hospital Inpatient Discharge Data**												
☐2004	☐2005	☐2006	☐2007	☐2008	☐2009	☐2010	☐2011	☐2012	☐2013	☐2014	☐2015	☐ 2016

Describe how your research objectives require Inpatient Discharge data:

Updates to Prior Releases

- **FY2015** - One hospital has resubmitted data due to approximately 3400 missing birth discharges.

- **FY2016** – Two hospitals resubmitted data to include approximately 700 missing behavioral health inpatient discharges.

- **FY2017** – (A) One hospital had a data conversion issue, where Zip Code was reported as '00000' for approximately 5400 discharges. The data was resubmitted; (B) An anomaly was discovered in the Payer Source Code and Payer Type Code data where values were erroneously removed from the released data. This is being corrected.

Updates to Prior Releases

- Further details will be provided here as we update each Release.

- Changes will be documented in the Case Mix Release documentation (can be found on the Case Mix website)

- FY2017 will be updated first and is expected to be ready in September.

- We will likely reach out to affected users to see if they would like an updated data extract.

Summarized Data Reports

- CHIA has updated our [Data Release Regulations](#) to allow for **Summarized Data Reports**

- Will contain only aggregate data (data summaries) and De-identified Data, sourced from MA 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)

- Request form can be found on the MA APCD Application Documents page: http://www.chiamass.gov/application-documents

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 the new form – please provide as much information as you can, including mock-ups of what you expect the reports to look like
    - Data Use Agreement and Data Management Plan not required

- 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

What goes into creating a report?

Summarized Data Reports take, on average, **10 hours** of CHIA resource time to complete.

Steps include:

1) Initial review to determine feasibility and spot potential issues

2) Additional review and revisions with applicant to determine final

   specifications

3) Final review and Approval to proceed with the report request

4) Create documentation, including code, on steps to complete request

5) Independent code review and QA of results

6) Create documentation for the recipient

7) Produce final cut of data / report results

QUESTIONS?

Question: I have a question about <u>patient disposition</u> in the FY2016 Outpatient Emergency Department data. The value for code '6' (<u>eloped</u>) has a frequency of 2% which seems high; it is higher than code '4' (against medical advice). Can you confirm that this is expected or provide any insight?

Answer: The volume of patients who elope from the ED has always been been higher than the volume of patients who leave against medical advice (**See Table 1 below**). In evaluating year-to-year fluctuations in the frequency of patients who elope, 2% is not a wild variance from the 10-year median of 1.9% (**See Table 2 below**). Over the past 10 years, there have been three instances where the year-to-year percent increase in the frequency of elopes exceeded the percent increase seen from FY2015 to FY2016. The Joint Commission defines elopement as, "When a patient wanders away, walks away, runs away, escapes, or otherwise leaves the hospital unsupervised, unnoticed, and/or prior to their scheduled discharge". The FY2016 increase is mainly attributable to an increase in patients ages 20 to 30 with "unspecified pain" who elope.

Table 1: Ten-Year Comparison of Massachusetts Outpatient ED Visit Volume by Departure Status

Departure Status (Code)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Blank/Invalid	197	244	250	172	228	163	258	170	97	92
Died during ED Visit (0)	7,746	4,398	4,467	4,311	4,283	4,970	5,057	5,995	5,490	4,626
Routine (1)	2,295,575	2,315,335	2,340,666	2,329,370	2,314,423	2,355,704	2,331,584	2,276,715	2,283,450	2,316,438
Transferred to another facility (3)	89,116	96,554	96,955	100,025	103,304	106,757	112,882	116,532	108,612	108,601
Against Medical Advice (4)	25,155	26,067	24,514	22,670	22,635	24,122	24,865	27,018	24,553	23,918
Eloped (6)	46,864	52,266	47,320	47,534	48,974	42,027	44,919	42,689	49,694	52,735
Within Hospital Clinic Referral (8)	2,572	2,629	3,164	3,821	3,439	1,744	1,539	1,414	1,355	1,020
Dead on Arrival (9)	394	498	363	375	392	374	508	458	551	887
Met with Personal Physician(P)	1,676	2,078	2,934	1,410	1,308	2,922	258	204	152	97
TOTAL ED VISIT VOLUME	2,469,295	2,500,069	2,520,633	2,509,688	2,498,986	2,538,783	2,521,870	2,471,195	2,473,954	2,508,414

Table 2: Ten-Year Comparison of Massachusetts Outpatient ED Visit Frequency by Departure Status

Departure Status (Code)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Blank/Invalid	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.00%	0.00%
Died during ED Visit (0)	0.31%	0.18%	0.18%	0.17%	0.17%	0.20%	0.20%	0.24%	0.22%	0.18%
Routine (1)	92.96%	92.61%	92.86%	92.82%	92.61%	92.79%	92.45%	92.13%	92.30%	92.35%
Transferred to another facility (3)	3.61%	3.86%	3.85%	3.99%	4.13%	4.21%	4.48%	4.72%	4.39%	4.33%
Against Medical Advice (4)	1.02%	1.04%	0.97%	0.90%	0.91%	0.95%	0.99%	1.09%	0.99%	0.95%
Eloped (6)	1.90%	2.09%	1.88%	1.89%	1.96%	1.66%	1.78%	1.73%	2.01%	2.10%
Within Hospital Clinic Referral (8)	0.10%	0.11%	0.13%	0.15%	0.14%	0.07%	0.06%	0.06%	0.05%	0.04%
Dead on Arrival (9)	0.02%	0.02%	0.01%	0.01%	0.02%	0.01%	0.02%	0.02%	0.02%	0.04%
Met with Personal Physician(P)	0.07%	0.08%	0.12%	0.06%	0.05%	0.12%	0.01%	0.01%	0.01%	0.00%

Question: I am studying changes in ICU utilization and costs and see that, even though inpatient hospitalizations are trending downward, ICU utilization is trending upward. Can you confirm that this is true and provide any insight?

Answer: Yes, while inpatient discharges trended downward, patients requiring ICU services have incrementally been trending upward (*see Figures 1 and 2 below*). The increases are not across all types of ICU services but the days of services and number of patients requiring those services are higher for intermediate ICU and other intensive care (*See Table 3 below*).

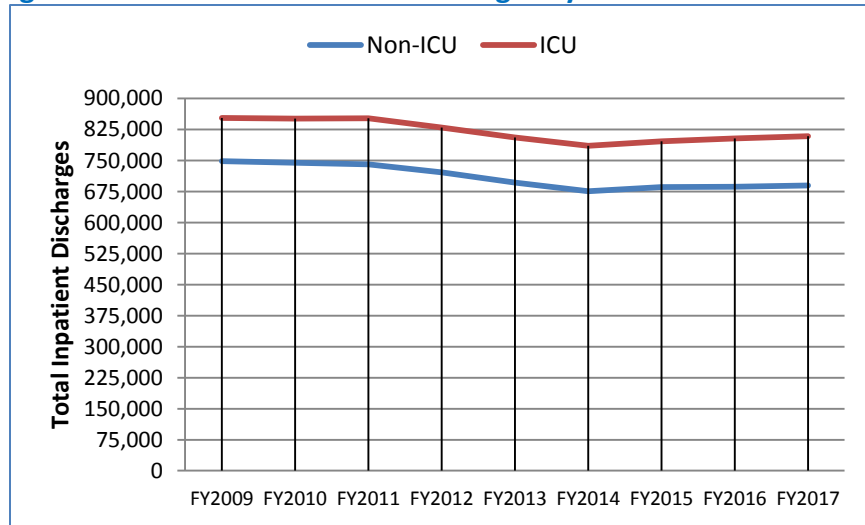**Fig 1. FY2009 to FY2017 Total Discharges by ICU and Non-ICU Use**

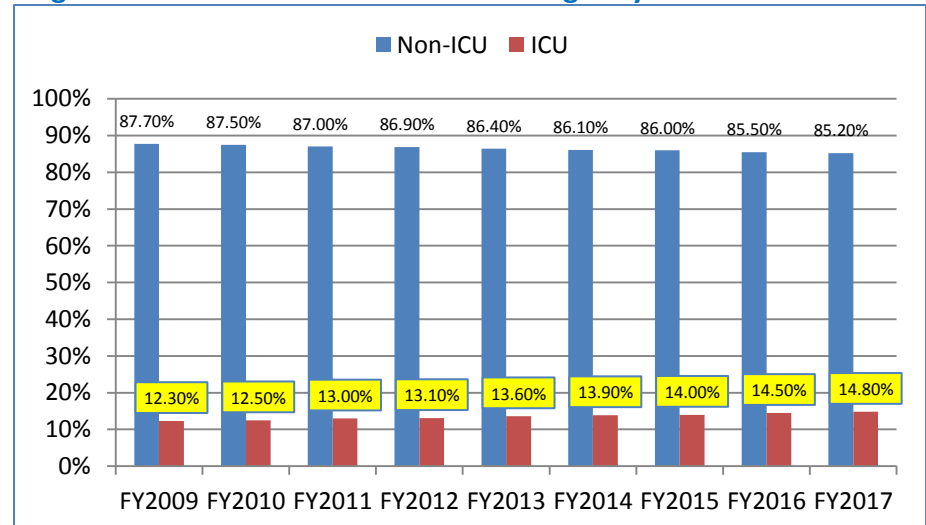**Fig 2. FY2009 to FY2017 Percent Discharges by ICU and Non-ICU Use**

Table 3. FY2009 to FY2017 ICU Days of Service by ICU Service Type (Note: Asterix (*) for cell suppression for number of days can be used to impute a patient volume less than 11)

Revenue Code	Description	2009	2010	2011	2012	2013	2014	2015	2016	2017
0200	INTENSIVE CARE UNIT-GENERAL CLASSIFICATION	293,097	290,031	286,971	278,458	289,256	290,043	283,360	278,851	280,534
0201	INTENSIVE CARE UNIT-SURGICAL	*	*	*	*	*	*	*	*	*
0202	INTENSIVE CARE UNIT-MEDICAL	*	*	*	*	276	260	*	*	*
0203	INTENSIVE CARE UNIT-PEDIATRIC	9,204	9,404	8,688	8,325	6,851	7,113	7,371	7,888	7,403
0204	INTENSIVE CARE UNIT-PSYCHIATRIC	3,980	4,133	3,885	4,118	4,023	3,710	3,832	4,073	3,793
0206	INTENSIVE CARE UNIT-INTERMEDIATE ICU	125,042	131,933	137,678	131,866	158,668	165,852	147,078	155,050	164,421
0207	INTENSIVE CARE UNIT-BURNCARE	4,233	3,576	4,645	4,442	5,001	3,962	4,100	3,911	3,154
0209	INTENSIVE CARE UNIT-OTHER INTENSIVE CARE	3,555	3,405	3,524	3,287	3,301	3,484	5,587	6,863	5,500

Question *(continued)*: I am studying changes in ICU utilization and costs and see that, even though inpatient hospitalizations are trending downward, ICU utilization is trending upward. Can you confirm that this is true and provide any insight?

Answer *(continued)*: Please keep in mind that, unlike the MA APCD, the only currency information contained in Case Mix data is charges not costs. However, in FY2015, the limit was lifted on the number of diagnosis codes that can be submitted in Case Mix, which allows the researcher to have a larger depth of data for comorbidity analysis on patients requiring ICU services. For example, in Table 4 below, you will see that the increase in patients requiring intermediate ICU services was paralleled by an increase in the number of recorded comorbid diagnosis.

Table 4. FY2009 to FY2017 Patient Volume by Type of ICU Services and Number of Diagnosis Codes

Revenue Code	Description	Number of Diagnosis Codes	2009	2010	2011	2012	2013	2014	2015	2016	2017
0200	INTENSIVE CARE UNIT - GENERAL CLASSIFICATION	less than 16	76814	76308	76466	75824	75670	74432	28407	29380	26244
0200	INTENSIVE CARE UNIT - GENERAL CLASSIFICATION	16 to 44							45357	44771	48404
0200	INTENSIVE CARE UNIT - GENERAL CLASSIFICATION	45 and greater							594	504	800
0201	INTENSIVE CARE UNIT - SURGICAL	less than 16	*	*	*	*	*	*	*	*	*
0202	INTENSIVE CARE UNIT - MEDICAL	less than 16	*	*	*	*	146	138	*	*	*
0203	INTENSIVE CARE UNIT - PEDIATRIC	less than 16	2634	2780	2720	2518	2345	2289	1922	1874	1798
0203	INTENSIVE CARE UNIT - PEDIATRIC	16 to 44							283	273	375
0204	INTENSIVE CARE UNIT - PSYCHIATRIC	less than 16	491	518	588	635	546	567	125	232	380
0204	INTENSIVE CARE UNIT - PSYCHIATRIC	16 to 44							452	400	240
0204	INTENSIVE CARE UNIT - PSYCHIATRIC	45 and greater							*	*	*
0206	INTENSIVE CARE UNIT - INTERMEDIATE ICU	less than 16	30175	32085	36902	35843	37408	38352	18503	22059	21839
0206	INTENSIVE CARE UNIT - INTERMEDIATE ICU	16 to 44							21365	23260	25537
0206	INTENSIVE CARE UNIT - INTERMEDIATE ICU	45 and greater							105	96	139
0207	INTENSIVE CARE UNIT - BURN CARE	less than 16	676	650	921	870	878	854	381	287	222
0207	INTENSIVE CARE UNIT - BURN CARE	16 to 44							419	461	498
0207	INTENSIVE CARE UNIT - BURN CARE	45 and greater							*	*	*
0209	INTENSIVE CARE UNIT - OTHER INTENSIVE CARE	less than 16	196	202	205	202	222	241	133	190	164
0209	INTENSIVE CARE UNIT - OTHER INTENSIVE CARE	16 to 44							170	181	86
0209	INTENSIVE CARE UNIT - OTHER INTENSIVE CARE	45 and greater							*	*	*

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	MA APCDWorkgroup Meeting Dates
NEXT MEETING Tuesday, March 28, 2017 3:00 PM - 4:00 p.m.	**NEXT MEETING** Tuesday, April 25, 2017 3:00 PM - 4:00 p.m.
Case Mix Workgroup Registration	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

NEW! Updates to the User Workgroup Webpage

User Support slides and tutorials are now available to view and download separately from the presentations.

We will continue to update this page as new presentations happen from month to month.

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

USER SUPPORT APCD SLIDES:

- Enrollment Volumes in APCD 6.0 Post Gobeille April 2017 (PDF) | PPT
- How to Distinguish Inpatient from Outpatient APCD Claims April 2017 (PDF) | PPT
- Member PCP ID vs Attributed PCP ID June 2017 (PDF) | PPT
- Volume of MA Residents Claims in Other New England States June 2017 (PDF) | PPT
- Between File Linkages in the MA APCD Aug 2017 (PDF) | PPT
- Pharmaceutical Data in MA APCD vs Case Mix Jan 2018 (PDF) | PPT
- Financial Data in MA APCD vs Case Mix Jan 2018 (PDF) | PPT
- Alternative Medicine Claims in the MA APCD March 2018 (PDF) | PPT
- Hospice Claims in the MA APCD March 2018 (PDF) | PPT
- New Linking Variables in MA APCD Release 6.0 March 2018 (PDF) | PPT
- Blank Enrollment Dates Explanation ME042 May 2018 (PDF) | PPT

USER SUPPORT CASE MIX SLIDES:

- 3 Digit vs 5 Digit Population Counts in MA May 2017 (PDF) | PPT
- Difference Between Primary and Secondary Payer Type and Source May 2017 (PDF) | PPT
- Differences in Completeness of UHIN Data July 2017 (PDF) | PPT
- ICD 9 to ICD 10 Changes Sept 2017 (PDF) | PPT
- 3 Digit Zip Code Volume and Geographic Distribution Nov 2017 (PDF) | PPT
- History of Changes to Case Mix Data Nov 2017 (PDF) | PPT
- Diagnosis and Procedure Code Volume Post-ICD10 Switch June 2018 (PDF) | PPT

TUTORIALS

- What DRG versions are available in CHIA Inpatient Case Mix Data? (PDF)
- Baby Delivery Records – Which DRG is Best? (PDF)
- How to Count Patients Admitted from the ED in the HDD File (PDF)
- How to Determine if a Patient Died Using Case Mix (PDF)

Updated Case Mix White Paper

CHIA.

Our white paper containing an updated overview of the Case Mix data base was posted last June.

Available on the Case Mix website or via this link: http://www.chiamass.gov/assets/Uploads/casemix/Case-Mix-Whitepaper.pdf

OVERVIEW OF THE MASSACHUSETTS
ACUTE HOSPITAL
CASE MIX
DATABASES

JUNE 2018

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

Call for Topics and Presenters

CHIA.

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.