



Monthly MA APCD / Case Mix User Workgroup Webinar

May 26, 2015

Agenda



- I. Announcement
- II. Common Application Issues
- III. Guest Presentation: Dr. Michael Barnett
- IV. Q&A

Announcement

MA APCD Application Processing



CHIA will only be accepting applications for MA APCD from Massachusetts payers and providers that submit APCD and Case Mix data, as well as Massachusetts-based students and researchers.

- Applications from all others will not be accepted until November 1, 2015
- Applications submitted prior to May 13, 2015 will be processed
- Case Mix is not impacted



Common Application Issues and Questions

Application Fees



Application Fee Remittance Form for non-government MA APCD and Case Mix requests:

<http://chiamass.gov/assets/Uploads/apcd-3-0/application-materials/Non-Government-APCD/1.-Fee-Remittance-or-Fee-Waiver-Request-Form.pdf>

- Reminders:

1. Submit this form with your check
2. Note CHIA's address has changed to 501 Boylston
3. Online payment is not currently an option.

Application Revisions



- Please remember to “lock” your application on IRBNet after you’ve finished making revisions to your application
- Locking the application will send an automatic notification to CHIA staff letting them know that your revisions are complete and uploaded



Michael L. Barnett, M.D.
Fellow in General Internal Medicine and Primary Care
Harvard Medical School/Brigham and Women's Hospital

Master Patient and Provider Identifiers in the APCD

Michael Barnett, MD

Harvard Medical School & Brigham and Women's Hospital

Overview

- ▶ **The Master Patient Index – Using the Enterprise ID**
- ▶ Using the Provider (PV) file for physician-level analysis

The Problem: Disparate Data Sources

- ▶ **APCD submitters have disparate identifiers for individuals**
 - ▶ Full ME file for 2009-2012 has 37.2 million distinct ID combinations from submitters
 - ▶ Versus ~6.6 million residents in MA in 2010 Census
- ▶ **Why is this?**
 - ▶ Submitters have their own unique system for identifying individuals
 - ▶ Not everyone has/can share more universal identifiers like SSN
 - ▶ Individuals move, change names, have erroneous data entry so can be hard to link individuals over time across plans

A Solution: The Master Patient Index

- ▶ Master Patient Index (Derived-MEI2, “Enterprise ID” or MEID) introduced in APCD v2.1
 - ▶ Present for ME and MC files for 2011-2012
 - ▶ See APCD User Workgroup from April, 2014 for detailed overview of creation of MEID
- ▶ Uses probabilistic matching algorithm using available patient data to link people over time and across plans
 - ▶ Matching Confidence Level (Derived MEI3, MCL):
 - ▶ 2 = High Confidence Level
 - ▶ 1 = Low Confidence Level
 - ▶ 0 = Singleton, MEID only in one file type (= not useful for research)

MEID Validation by Geography

Census for MA Compared to Enterprise IDs in Member Elig File				
Note: Excludes Age Unknown				
3 Digit Zip	US Census Estimates for 2012		APCD/ 2012 Census Estimate	
	Total	Percent	All	Under 65
021xx	1,290,378	19.7%	0.97	0.98
018xx	714,744	10.9%	0.98	0.99
027xx	526,927	8.0%	0.91	0.92
019xx	478,051	7.3%	0.97	0.97
010xx	470,242	7.2%	0.91	0.90
023xx	441,700	6.7%	0.96	0.96
024xx	408,494	6.2%	0.97	0.98
020xx	401,255	6.1%	0.97	0.97
017xx	380,720	5.8%	0.97	0.98
015xx	373,327	5.7%	0.99	0.98
014xx	212,623	3.2%	0.95	0.95
016xx	189,019	2.9%	0.99	1.00
011xx	169,081	2.6%	1.07	1.08
026xx	148,466	2.3%	0.96	0.97
012xx	130,447	2.0%	0.94	0.94
025xx	116,149	1.8%	0.96	0.98
013xx	83,344	1.3%	0.94	0.95
022xx	25,624	0.4%	0.71	0.69

Table from slide 14 in APCD User Workgroup Meeting 4-2014



Analysis: Persistence of MEID

Table 1: Assembling a cohort from APCD ME file

Step	Exclusion Applied	Unique Hash MemberIDs	Unique MEIDs	Benchmark estimate: 2010 MA census
1	Raw member eligibility file	37,237,926	11,636,953	
2	Any eligibility segment present in 2011 or after, excluding zero-confidence IDs	16,046,880	7,548,024	
3	Has a Massachusetts zipcode for address	14,667,091	6,433,084	6,547,629
4	Limiting to ages 21-64	9,516,665	4,007,340	
5	Limit to insurance with medical coverage	4,657,858	3,424,888	3,530,263
6	Has any coverage in 2011	3,875,246	3,202,902	
7	Limit to at least 9 months of coverage with any insurer in 2011	2,640,025	2,480,848	

- ▶ Major question: how long can we follow MEIDs over time?
 - ▶ Given universal health care in MA, at least 90% if not more residents should be continuously insured during the year
- ▶ Moving from steps 5-7, lose 28% of MEIDs

Analysis: Persistence of MEID

Table 2: Number of insurers and coverage persistent for cohort from step 6 in Table 1

	# unique MEIDs	Percentage
Number of insurers, 2011-2012*		
1	2,437,156	71%
2	746,830	22%
3+	240,902	7%
Months of insurance coverage, 2011**		
1-4	192,177	6%
5-8	356,561	11%
9-12	2,654,164	83%
Months of insurance coverage, 2012**		
0	527,084	16%
1-4	153,913	5%
5-8	336,244	10%
9-12	2,185,661	68%
*Based on any MA resident with insurance coverage from 2011-2012		
**Based on any MA resident with any months of coverage in 2011		

Analysis: Persistence of MEID

- ▶ Despite lack of persistent with MEID, remaining cohort appears to reflect general non-elderly MA population
 - ▶ Population skews away from those most likely to change insurance
 - ▶ Fewer:
 - ▶ Young people
 - ▶ Healthier people (not shown)
 - ▶ MassHealth MCO

Table 3: Demographics for cohort from step 7 in Table 1

	9 months of coverage in 2011 - # unique MEIDs		Benchmark Comparison
	n	%	n or %
	2,480,848		3,530,263
Gender			
Female	1,346,622	54	53
Male	1,134,207	46	47
Age			
21-29	474,922	19	21
30-39	538,394	22	21
40-49	624,549	25	25
50-59	584,740	24	24
60-64	258,243	10	9
OrgID			
291	849,828	34	33
296	61,833	2	3
300	285,751	12	15
3156	434,299	18	18
8647	161,267	7	10
Other	687,870	28	

Overview

- ▶ The Master Patient Index – Using the Enterprise ID
- ▶ Using the Provider (PV) file for physician-level analysis

Using the Provider File: Master Provider Index

- ▶ **PV file: 42.2 million rows!**
 - ▶ Enormous amounts of duplication, providers listed many times even within the same OrgID
 - ▶ Contains identifiers for all types of providers
 - ▶ Also has providers from across the country for some OrgIDs
- ▶ **A Master Provider Identifier exists: the NPI**
- ▶ **But - many entries in PV file missing associated NPI**
 - ▶ Difficult to do provider-level analysis without consistent NPI

Creating a Provider File Crosswalk

- ▶ My strategy for creating a master provider index with NPI:
- ▶ Step 1: Collect every OrgID plan provider ID (PV002, “submitter ID”) and NPI (PV039) combination
 - ▶ Take every combination in service (MC024, MC026) or billing provider (MC076, MC077) fields in entire MC file
 - ▶ Stack with all submitter IDs (PV002) and NPI (PV039) combinations in PV file
 - ▶ Ignoring second NPI field (PV040) for now
 - ▶ Keep unique combinations for complete crosswalk

Creating a Provider File Crosswalk

- ▶ **Step 2: Restrict crosswalk to providers in MA**
 - ▶ Use PV file entries from largest OrgIDs (291, 300, 8647, 3156)
 - ▶ Use carrier specific lookup tables to keep only entities of interest using ProviderTypeCode (PV029, e.g. “MD” for physicians for one OrgID)
 - ▶ Restrict only to providers in “MA” using State Code (PV019) or Zipcode (PV021)
 - ▶ Can perform linkage to crosswalk from step 1 using submitter ID (PV002) or NPI depending on application
- ▶ **Step 3: Merge crosswalk to list of all submitter IDs providing any services in a single year**
 - ▶ This step depends on your analytic question

Master Provider Index Validation

Physicians/100,000 Population			
	APCD:	441.15	
	MMS:	421.54	
	Total	Percentage	MMS Benchmark
Primary Care	8688	30%	29%
Pediatrics	2655	9%	10%
Other Specialist	17542	61%	61%
	Total	Percentage	MMS Benchmark
Anesth	1661	8.4%	7.6%
Diagnostic Rads	1437	7.3%	4.4%
EM	1782	9.0%	6.0%
Fam Medicine	2772	14.1%	7.5%
GenSurg	1045	5.3%	4.6%
IM	5916	30.0%	34.1%
ObGYN	1174	6.0%	5.1%
Ortho	893	4.5%	3.8%
Peds	2603	13.2%	14.6%
Psychiatry	432	2.2%	12.3%



Master Provider Index Validation

- ▶ Merging this master provider index to all professional medical claim lines with an E&M code:
 - ▶ 13.0 million unique E&M service lines for 1.5 million continuously enrolled MA residents in 2011-2012
 - ▶ 11.0 million (85%) could be merged to a physician NPI in my master provider index
 - ▶ National benchmark: ~15% of office visits with PA/NP only

Thank you!

- ▶ **Michael Barnett**

- ▶ mlb748@mail.harvard.edu
- ▶ <http://scholar.harvard.edu/mbarnett>
- ▶ @ml_barnett

Questions?



- General questions about the APCD:
(CHIA-APCD@state.ma.us)
- Questions related to APCD applications:
(apcd.data@state.ma.us)
- Questions related to Casemix:
(casemix.data@state.ma.us)

Calendar



- April 30 – April Data Release Committee Meeting
- May 26 – May APCD / Case Mix User Workgroup
- May 28 – May Data Release Committee Meeting