What is Identity Resolution?
Tracking Members & Providers Across Time & Payers

Onpoint User Group Sessions
March 26, 2019

Looking Ahead to Upcoming Sessions

Making the Most of Final Claims & Their Value-Adds
May 28, 2019; 12:00pm - 1:00pm ET

How do you resolve repeatedly adjudicated claims to arrive at the final claim? Join us to walk through some of the approaches that we take to provide end users with a fully consolidated claim and to review best practices on selecting the right claim records (e.g., orphan claims, duplicate claims, etc.). Onpoint has worked with health plans across the nation to understand myriad approaches to claims consolidation along with using analytic value-adds. Our team is excited to share some of these solutions when working with complex plan submissions.

Exploring the Differences Between Commercial & Medicaid/Medicare Data Sources
July 30, 2019; 12:00pm - 1:00pm ET

While they may sound alike, Medicaid and Medicare are two very different programs, especially when compared to commercial payers. Understanding these differences is critical – not only when collecting and processing their claims – but also when analyzing their data. This webinar will offer an overview of these differences, providing insights into how best to interpret and make use of the claims data across payer types, including an exploration of Medicaid- and Medicare-specific data elements, billing rules for hospital-owned practices and FQHCs, CPT and HCPCS codes specific to Medicaid and Medicare, how these government payers work with commercial payers and with each other, dual-eligible members, Medicare as a secondary payer (MSP), and more.

- User group sessions now scheduled through September 2019
- Open to clients, stakeholders, and data users alike to increase use of APCD data
- Topics of interest and/or data showcase opportunities may be invited

Deciphering Member Enrollment by Using the Enhanced Member-Month Table
September 24, 2019; 12:00pm - 1:00pm ET

APCDs are invaluable resources to policymakers and researchers alike. Given the complexity of the data that these important resources contain, however, they also can require a certain level of skill to interpret and use appropriately. To make this job easier, Onpoint offers a range of enhancements for end users. One of these is our Member Month table, which summarizes each member's eligibility record for each month of reported coverage; identifies their fluctuating and overlapping changes in coverage across commercial, Medicaid, and Medicare data; and effectively designates a single type of coverage as primary per month based on industry-standard algorithms and tie-breaker logic. This webinar will train end users in how to best leverage the Member Month table, providing lessons learned along the way and exploring a range of use cases.

Raising Questions & Requesting Materials

- During the meeting
  - Send all general-interest questions via Zoom's comments panel
  - Get ready: There will be three pop quizzes and one poll during the session!
- After the meeting
  - Send client-specific and/or follow-up questions and requests for session materials to events@onpointhealthdata.org
  - Visit our Resources page for future event listings at www.onpointhealthdata.org/resources

Presenter Profile

Katherine Lydon, MPH
Senior Health Data Analyst

- More than 10 years' experience in healthcare data management and analytics and reporting

- Expertise in identity resolution (master member and provider indices), attribution methodologies (member and provider), and performance measurement and consumer reporting

Session Agenda

#	Topic	Onpoint Presenter	Time (ET)
1	Welcome to Onpoint's User Group!	Chad MacLeod, CPB *Product Manager*	12:00PM - 12:05
2	Identity Resolution • What is identity resolution? • How is identity resolution performed? • Where can you find the master member and provider indices? • How does Onpoint use the master member and provider indices? • How can you get the most value from the master member and provider indices?	Katherine Lydon, MPH *Senior Health Data Analyst*	12:05 - 12:45
3	Questions & Answers	All	12:45 - 12:55
4	Looking Ahead: User Group Session #3	Chad MacLeod	12:55 - 1:00

Identity Resolution
Definition from Techopedia*

"Identity resolution is a data management process through which an identity is searched and analyzed between disparate data sets and databases to find a match and/or resolve identities. Identity resolution enables an organization to analyze a particular individual's or entity's identity based on its available data records and attributes."

* *https://www.techopedia.com/definition/29011/identity-resolution*

Member Clustering

Provider Clustering Across Roles

PCP · Rendering · MPI · Billing · Attending · Prescribing

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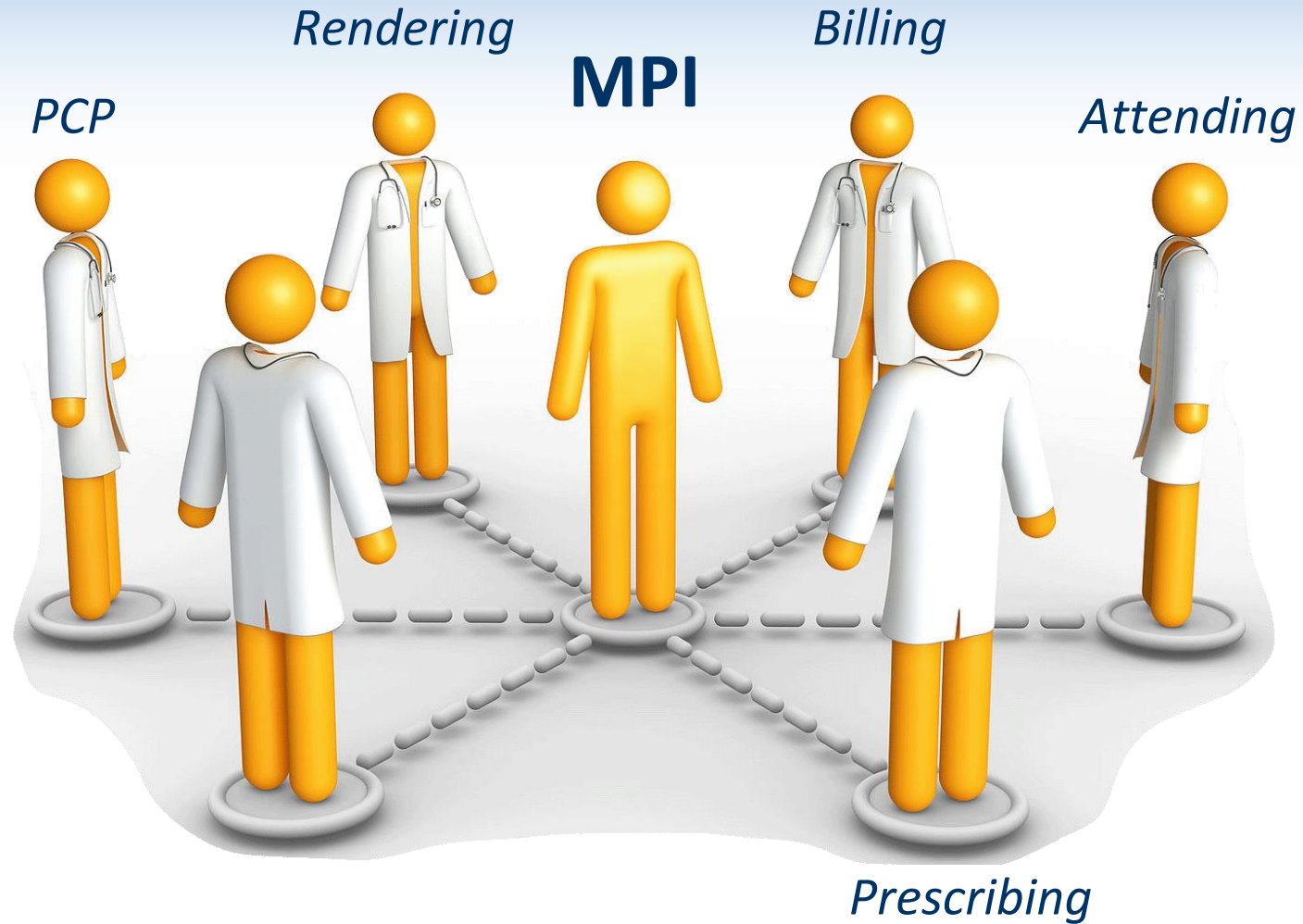
Clustering Across...

Submitter	Provider Role	Member Role
Product Type	Rendering	Member
File Type	Billing	Subscriber
	Prescribing	Contact
	Primary Care Provider	
	Attending	
	Etc.	Client

What is a Clustering Level?

A clustering level consists of a set of data elements that will be compared across two records and directions on whether the result of the comparison has identified a match.

- Member and provider clustering levels are defined separately
- Clustering levels are configurable by client
- Usually employ 5–10 member-clustering levels per client
- Usually employ 40–100 provider-clustering levels per client

Data Elements Used in Member Clustering

- The most commonly used elements include the following:
  - Last name
  - First name
  - DOB
  - SSN
  - Gender
  - ZIP
  - Submitter-supplied identifiers
  - Phone number
  - And more…
- Hashed and live identifiers

Member Clustering Example Data

MEMBER_ID	SUBMITTER_ID	LAST_NAME	FIRST_NAME	GENDER	SSN	SUBMITTER-SUPPLIED IDENTIFIER	BIRTH_DATE	ZIP
13333	1111	LYDON	KATHERINE	F	001234567	ZZ234		04101
14444	1111	LYDON	KATHERINE	F		ZZ234	1/1/1980	04101
15555	2222	LYDON	KATIE	F	001234567	BB890	1/1/1980	
16666	2222	LYDON	KATHERINE	F		BB890	1/1/1980	04101
17777	2222	LYDON	KATHRYN	F	001234567	BB890		
18888	2222	LYD	K	U	001234567	CC123	1/1/1980	
19999	2222		KATHERINE	F	001234567	BB890		04101

Clustering Level Types & Components

- Types
  - Fuzzy matching
  - Exact matching
- Components
  - Restriction component
  - Matching component
  - Threshold

Member Clustering Level
Example 1

- Restriction component
  - SSN is not null
  - GENDER_CODE ≠ U
  - LAST_NAME is not null
- Matching component
  - SSN||GENDER_CODE||LAST_NAME||FIRST_NAME
- Threshold
  - 95

Member Clustering Example
Applying Level 1

MEMBER_ID	SUBMITTER_ID	LAST_NAME	FIRST_NAME	GENDER	SSN	SUBMITTER-SUPPLIED IDENTIFIER	BIRTH_DATE	ZIP	INTERNAL MEMBER ID
13333	1111	LYDON	KATHERINE	F	001234567			04101	88887777
14444	1111	LYDON	KATHERINE	F		ZZ234	1/1/1980	04101	
15555	2222	LYDON	KATIE	F	001234567	BB890	1/1/1980		88887777
16666	2222	LYDON	KATHERINE	F		BB890	1/1/1980	04106	
17777	2222	LYDON	KATHRYN	F	001234567	BB890			88887777
18888	2222	LYD	K	U	001234567	CC123	1/1/1980		
19999	2222		KATHERINE	F	001234567	BB890		04101	

- Restriction Component: SSN is not null, GENDER_CODE ≠ U, LAST_NAME is not null

- Matching Component: SSN||GENDER_CODE||LAST_NAME||FIRST_NAME

- Threshold: 95

Member Clustering Example

Applying Level 1 (Results)

String	Jaro Winkler Score
001234567FLYDONKATHERINE	95
001234567FLYDONKATIE	

String	Jaro Winkler Score
001234567FLYDONKATHERINE	96
001234567FLYDONKATHRYN	

String	Jaro Winkler Score
001234567FLYDONKATIE	95
001234567FLYDONKATHRYN	

Member Clustering Level
Example 2

- Restriction component
  - SSN is null
  - GENDER_CODE ≠ U
  - LAST_NAME is not null
  - BIRTH_DT is not null
- Matching component
  - BIRTH_DT||GENDER_CODE||FIRST_NAME||LAST_NAME||ZIP
- Threshold
  - 95

Member Clustering Example
Applying Level 2

MEMBER_ID	SUBMITTER_ID	LAST_NAME	FIRST_NAME	GENDER	SSN	SUBMITTER-SUPPLIED IDENTIFIER	BIRTH_DATE	ZIP	INTERNAL MEMBER ID
13333	1111	LYDON	KATHERINE	F	001234567			04101	88887777
14444	1111	LYDON	KATHERINE	F		ZZ234	1/1/1980	04101	55556666
15555	2222	LYDON	KATIE	F	001234567	BB890	1/1/1980		88887777
16666	2222	LYDON	KATHERINE	F		BB890	1/1/1980	04101	55556666
17777	2222	LYDON	KATHRYN	F	001234567	BB890			88887777
18888	2222	LYD	K	U	001234567	CC123	1/1/1980		
19999	2222		KATHERINE	F	001234567	BB890		04101	

- Restriction Component: SSN is null, GENDER_CODE ≠ U, LAST_NAME is not null, BIRTH_DT is not null

- Matching Component: BIRTH_DT||GENDER_CODE||FIRST_NAME||LAST_NAME||ZIP

- Threshold: 95

Member Clustering Level
Example 3

- Restriction component
  - s1.SUBMITTER_ID = s2.SUBMITTER_ID
- Matching component
  - SUBMITTER_SUPPLIED_IDENTIFIER
- Threshold
  - 100

Member Clustering Example
Applying Level 3

MEMBER_ID	SUBMITTER_ID	LAST_NAME	FIRST_NAME	GENDER	SSN	SUBMITTER-SUPPLIED IDENTIFIER	BIRTH_DATE	ZIP	INTERNAL MEMBER ID
13333	1111	LYDON	KATHERINE	F	001234567			04101	88887777
14444	1111	LYDON	KATHERINE	F		ZZ234	1/1/1980	04101	55556666
15555	2222	LYDON	KATIE	F	001234567	BB890	1/1/1980		88887777
16666	2222	LYDON	KATHERINE	F		BB890	1/1/1980	04101	55556666
17777	2222	LYDON	KATHRYN	F	001234567	BB890			88887777
18888	2222	LYD	K	U	001234567	CC123	1/1/1980		
19999	2222		KATHERINE	F	001234567	BB890		04101	

- Restriction Component: s1.SUBMITTER_ID = s2.SUBMITTER_ID
- Matching Component: SUBMITTER_SUPPLIED_IDENTIFIER
- Threshold: 100

Member Clustering Example
Applying All Levels

MEMBER_ID	SUBMITTER_ID	LAST_NAME	FIRST_NAME	GENDER	SSN	SUBMITTER-SUPPLIED IDENTIFIER	BIRTH_DATE	ZIP	INTERNAL MEMBER ID
13333	1111	LYDON	KATHERINE	F	001234567			04101	55556666
14444	1111	LYDON	KATHERINE	F		ZZ234	1/1/1980	04101	55556666
15555	2222	LYDON	KATIE	F	001234567	BB890	1/1/1980		55556666
16666	2222	LYDON	KATHERINE	F		BB890	1/1/1980	04101	55556666
17777	2222	LYDON	KATHRYN	F	001234567	BB890			55556666
18888	2222	LYD	K	U	001234567	CC123	1/1/1980		
19999	2222		KATHERINE	F	001234567	BB890		04101	55556666

Data Elements Used in Provider Clustering

- Last name

- First name

- Organization name

- NPI

- DEA number

- State license number

- Submitter-supplied identifiers

- And more…

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Clustering Level Types, Components, & Matches

- Types
  - Fuzzy matching
  - Exact matching
- Components
  - Restriction component
  - Matching component
  - Threshold
- Matches
  - Between submitted records
  - To NPPES records

Provider Clustering Level
Example 1: Submitted Record Match

- Restriction component
  - DEA_NUMBER IS NOT NULL
  - LENGTH(LAST_NAME) > 2
- Matching component
  - LAST_NAME||FIRST_NAME||DEA_NUMBER
- Threshold
  - 95

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Provider Clustering Example
Applying Level 1

Submitted Records

PROVIDER ID	SUBMITTER ID	LAST NAME	FIRST NAME	ORGANIZATIO NAME	NPI	DEA NUMBER	SUBMITTER-SUPPLIED IDENTIFIER	INTERNAL PROVIDER ID
13333	1111	HIGGINS	LEIGHANN		3333444478	C91234567	ZZ234	5556666
14444	1111	HIGGINS	LEIGH			C91234567	ZZ234	5556666
15555	2222		HIGGINSL		3333444478	C91234567	BB890	

NPPES Record

NPI	LAST NAME	FIRST NAME	ORGANIZATION NAME	PRACTICE LOCATION ADDRESS	PHYSICAL LOCATION CITY	PHYSICAL LOCATION STATE	PHYSICAL LOCATION ZIP
3333444478	HIGGINS	LEIGHANN		123 MAINE STREET	PORTLAND	ME	04101

- Restriction Component - DEA_NUMBER IS NOT NULL AND LENGTH(LAST_NAME) > 2
- Matching Component - LAST_NAME||FIRST_NAME||DEA_NUMBER
- Threshold - 95

Provider Clustering Level
Example 2: NPPES Record Match

- Restriction component
  - NPI IS NOT NULL
  - LENGTH(LAST_NAME) > 2
- Matching component
  - LAST_NAME||NPI
- Threshold
  - 95

Provider Clustering Example
Applying Level 2

Submitted Records

PROVIDER ID	SUBMITTER ID	LAST NAME	FIRST NAME	ORGANIZATIO NAME	NPI	DEA NUMBER	SUBMITTER-SUPPLIED IDENTIFIER	INTERNAL PROVIDER ID
13333	1111	HIGGINS	LEIGHANN		3333444478	C91234567	ZZ234	5556666
14444	1111	HIGGINS	LEIGH			C91234567	ZZ234	5556666
15555	2222		HIGGINSL		3333444478	C91234567	BB890	

NPPES Record

NPI	LAST NAME	FIRST NAME	ORGANIZATION NAME	PRACTICE LOCATION ADDRESS	PHYSICAL LOCATION CITY	PHYSICAL LOCATION STATE	PHYSICAL LOCATION ZIP
3333444478	HIGGINS	LEIGHANN		123 MAINE STREET	PORTLAND	ME	04101

- Restriction Component - NPI IS NOT NULL AND LENGTH(LAST_NAME) > 2
- Matching Component - LAST_NAME||NPI
- Threshold - 95

Provider Clustering Example
Applying All Levels

Submitted Records

PROVIDER ID	SUBMITTER ID	LAST NAME	FIRST NAME	ORGANIZATIO NAME	NPI	DEA NUMBER	SUBMITTER-SUPPLIED IDENTIFIER	INTERNAL PROVIDER ID
13333	1111	HIGGINS	LEIGHANN		3333444478	C91234567	ZZ234	5556666
14444	1111	HIGGINS	LEIGH			C91234567	ZZ234	5556666
15555	2222		HIGGINSL		3333444478	C91234567	BB890	

NPPES Record

NPI	LAST NAME	FIRST NAME	ORGANIZATION NAME	PRACTICE LOCATION ADDRESS	PHYSICAL LOCATION CITY	PHYSICAL LOCATION STATE	PHYSICAL LOCATION ZIP
3333444478	HIGGINS	LEIGHANN		123 MAINE STREET	PORTLAND	ME	04101

Provider Clustering Example
Master Record

INTERNAL PROVIDER ID	LAST NAME	FIRST NAME	ORGANIZATION NAME	NPI	DEA NUMBER	PRACTICE LOCATION ADDRESS	PHYSICAL LOCATION CITY	PHYSICAL LOCATION STATE	PHYSICAL LOCATION ZIP
5556666	HIGGINS	LEIGHANN		3333444478	C91234567	123 MAINE STREET	PORTLAND	ME	04101

Detail & Master Identifiers

- Member
  - Member ID
  - Internal Member ID *
  - Subscriber Internal Member ID *
- Provider
  - Provider ID
  - Internal Provider ID *
  - Rendering Internal Provider ID *
  - Billing Internal Provider ID *
- Etc.

* Master indices

Tables that Include Mastered Identifiers

- Core tables
  - Member
  - Provider
  - Provider Master
  - Medical Claim
  - Pharmacy Claim
  - Eligibility
- Summarized tables
  - Inpatient Stay Summary
  - Medical Claim Header
  - Member Month
  - Member Year

Uses of Master Indices

- Consolidation
- Summarized tables
  - Member Month
  - Member Year
  - Inpatient Stay Summary
  - Medical Claim Header
- Attribution
- Measures
- Analytic products
  - PRP
  - Practice Profiles
- Linking to other data sources

Uses of Detail & Master Indices

- When would you **not want** to use the master indices?
  - View the as-reported member and provider data
    - » View where a service was rendered
    - » View as-reported specialty codes
    - » View as-reported member name/demographic information

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Uses of Detail & Master Indices

- When would you **want** to use the master indices?
    - Link across file types
    - Link to summarized tables
    - View all eligibility for a member
    - View standardized taxonomy codes for provider
    - Summarize data by member or provider

Questions & Answers

Next User Group Session

- **Topic:** Making the Most of Final Claims & Their Value-Adds
- **Date/Time:** Tuesday, May 28, 2019; 12PM - 1PM (ET)
- **Intended Audience:** Onpoint Data Users
- **Presenter:** Gina Robertson, Health Data Analyst
  - Ensures data quality and product integrity through systematic review of reports to ensure the accuracy and validity of presented information
  - Explores source data files, source data coding, program report code logic, algorithms, reference tables, and groupers to investigate reporting results

Visit www.onpointhealthdata.org/resources for more information and registration details

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