ONPOINT Health Data

Methods Document

Primary Care Practice Member Attribution

Attribution of Commercial, Medicaid, & Medicare Members to Blueprint Practices Using VHCURES Claims Data

This document was prepared by Onpoint Health Data
May 2017

Overview of Attribution Data Sources & Methods

This methods document describes the process used by Onpoint Health Data to attribute members from Vermont's all-payer claims database, the Vermont Healthcare Claims Uniform Reporting and Evaluation System (VHCURES), to primary care practices participating in the Blueprint for Health initiative. Attribution was based on claims data from July 2008– June 2016 for Vermont residents from commercial payers, Vermont Medicaid, and Medicare. Commercial and Medicaid data were supplied from VHCURES, while Medicare data were provided separately through Blueprint's Multi-payer Advanced Primary Care Practice (MAPCP) program.

Previous analysis and reporting indicated that information supplied by payers to VHCURES on Blueprint attribution had significant gaps and was not based on a common algorithm. The attribution described in this document and performed by Onpoint corrected this issue, ensuring that a consistent method was used across all payers.

Attribution of members was made at the practice level based on claims data submitted to VHCURES, which includes information on individual practitioners but lacks practice-level identifiers. Blueprint supplied Onpoint with a roster of primary care physicians, physician assistants, and nurse practitioners for each Blueprint practice. Onpoint used this roster to develop a crosswalk to VHCURES provider identifiers through the use of National Provider Identifiers (NPIs).

A standard attribution method was used to assign each member in the VHCURES data to a primary care practice. This attribution was based on a 24-month look-back using VHCURES, Blueprint roster data, and Evaluation and Management (E&M) service codes defined by the U.S. Centers for Medicare & Medicaid Services (CMS) (see Table 1 for further detail). Members were assigned to a primary care practice based on the following logic:

- The most number of visits[2]
  - If the same visit count, the most recent visit
    - If the same visit date, the largest allowed amount[3] dollar value
      - » If the same visit date and same dollar value, then the lowest Blueprint practice number

Although Blue Cross Blue Shield (BCBS) of Vermont, Cigna, and MVP Health Care are the only commercial payers currently participating in Blueprint, all commercial payers flagged as primary in the broader VHCURES data were used in the attribution. Not all primary care practitioners (PCPs) used by Vermont residents were included in the Blueprint-supplied roster, which omits out-of-state PCPs used

[2] A visit is operationally defined as one or more claims for a member with the same start date of service with the same attending or rendering provider.

[3] Calculated allowed amount = paid amount + copay + prepay + coinsurance + deductible.

by Vermont residents and Vermont PCPs not participating in Blueprint. Members who had more visits to a non-Blueprint practitioner than to a Blueprint practice were attributed to a non-Blueprint comparison group.[4]

Blueprint Practice/Practitioner Roster

The practice roster provided by Blueprint contained information on each practice's name, affiliation type (e.g., independent, hospital owned, Federally Qualified Health Center [FQHC] owned), parent organization, each PCP rendering services at that practice, provider identifiers (both NPI and payer-specific), and the effective and termination dates of each practitioner at that practice. In the case of practitioners who provided care at more than one practice during a reporting period, practitioners were associated with practices based on where the practitioner's Full Time Equivalent (FTE) value was greatest. In cases where the FTEs for a practitioner were equal across practices, the association was made to the practice with the lowest practice ID.

Using this information, Onpoint performed a crosswalk to rendering provider identifiers available in the VHCURES data. Onpoint staff undertook manual investigation of practitioners who appeared in the Blueprint roster but could not be found in the VHCURES data. Successful matches were updated in the VHCURES provider tables to enhance the reliability of the attribution.

Table 1. Example Practice Roster Data with Linkage to VHCURES Rendering Provider ID*

Practitioner Name	NPI	Practitioner Effective Date	Practitioner Termination Date	Practice ID	Practice Name	Practice Affiliation	VHCURES Rendering Provider ID
Bill Jones	1234567890	06/30/1992		VT2	Main Street Primary Care	Central Health Care	9712345
Jill Jackson	1034567891	08/01/2005		VT2	Main Street Primary Care	Central Health Care	9712376
Teresa Smith	3456789012	10/01/2009	11/12/2011	VT2	Main Street Primary Care	Central Health Care	9823456
Jeff Cain	4632456789	05/12/2011		VT2	Main Street Primary Care	Central Health Care	5467890

* Note that these data are simulated; no actual member/provider identifiers appear in this document.

E&M Coding & Primary Care Specialties

A standard set of Evaluation and Management (E&M) Current Procedural Terminology (CPT) codes (specifically, CPT-4 codes, which are used to describe medical procedures and physician services), Healthcare Common Procedure Coding System (HCPCS) codes, and Uniform Billing (UB) revenue codes

[4] Attribution was performed for each unique combination of year and month of enrollment (i.e., 72 combinations consisting of each individual month from July 2007 to June 2016). The resulting attribution output was comprised of unique MemberIDs based on the 24-month look-back. Because VHCURES starts with calendar year 2007 data, members in 2007 through June 2008 lacked the standard 24-month look-back period; to overcome this obstacle, these members' MemberIDs were populated based on attribution results using an 18-month look-back from June 2008.

were used for attribution in Multi-payer Advanced Primary Care Practice (MAPCP) projects through the U.S. Centers for Medicare & Medicaid Services.

Onpoint identified primary care visits using these codes, supplementing the work with additional data investigation. Based on previous reporting, it was determined that FQHCs and Rural Health Clinics (RHCs) were billing with an additional HCPCS code of T1015 (i.e., clinic visit/encounter), so this value was added to the code list (see Table 2). In order to facilitate the accuracy of identifying E&M visits to primary care practitioners, Onpoint separated claims into professional and facility claim types. While most practices bill for primary care visits on professional claims, many remain billed on a facility claim type. These practices include Federally Qualified Health Centers (FQHCs), Rural Health Centers (RHCs), and Critical Access Hospitals (CAHs) (see Table 3). For Medicaid and Medicare primary care visits that were billed on a facility claim type, it was necessary to use the attending provider instead of the rendering provider.

To be included in the attribution process as a primary-care claim, a claim needed to meet one of the following four sets of criteria:

1. Professional claim, processed as a primary-payer claim, with a valid service-site type, AND with a primary care CPT/HCPC procedure code listed in Table 2.

OR

2. Facility claim, processed as a primary-payer claim, with a CAH bill type listed in Table 3, AND with a CAH revenue code listed in Table 3, AND with a primary care CPT/HCPC procedure code listed in Table 2.

OR

3. Facility claim, processed as a primary-payer claim, with an FQHC bill type listed in Table 3, AND with an FQHC revenue code listed in Table 3.

OR

4. Facility claim, processed as a primary-payer claim, with an FQHC bill type listed in Table 3, AND with a primary care CPT/HCPC procedure code listed in Table 2.

Table 2. E&M CPT/HCPC Procedure Codes Used to Identify Primary Care Visits from VHCURES*

Visit Type	Codes Used to Identify
CPT/HCPC Procedure Code Description Summary	
Evaluation and Management – Office or Other Outpatient Services	• New Patient: 99201-99205 • Established Patient: 99211-99215 • Clinic visit used by FQHC & RHC: T1015
Consultations – Office or Other Outpatient Consultations	New or Established Patient: 99241-99245
Nursing Facility Services	• E & M New/Established patient: 99304-99306 • Subsequent Nursing Facility Care: 99307-99310 • Nursing Facility Discharge: 99315-99316 • Annual Nursing Facility Assessment: 99318
Domiciliary, Rest Home (e.g., Boarding Home), or Custodial Care Service	• Domiciliary or Rest Home Visit New Patient: 99324-99328 • Domiciliary or Rest Home Visit Established Patient: 99334-99337 • Domiciliary or Rest Home Care Supervision: 99339-99340
Home Services	• New Patient: 99341-99345 • Established Patient: 99347-99350
Prolonged Services – Prolonged Physician Service With Direct (Face-to-Face) Patient Contact	99354 and 99355
Prolonged Services – Prolonged Physician Service Without Direct (Face-to-Face) Patient Contact	99358 and 99359
Preventive Medicine Services	• New Patient: 99381–99387 • Established Patient: 99391–99397
Medicare Covered Wellness Visits	• G0402 – Initial Preventive Physical Exam ("Welcome To Medicare" Visit) • G0438 – Annual Wellness Visit, First Visit • G0439 – Annual Wellness Visit, Subsequent Visit
Counseling Risk Factor Reduction and Behavior Change Intervention	• New or Established Patient Preventive Medicine, Individual Counseling: 99401–99404 • New or Established Patient Behavior Change Interventions, Individual: 99406-99409 • New or Established Patient Preventive Medicine, Group Counseling: 99411–99412
Other Preventive Medicine Services – Administration and Interpretation	99420
Other Preventive Medicine Services – Unlisted Preventive	99429
Newborn Care Services	• Initial and subsequent care for evaluation and management of normal newborn infant: 99460-99463 • Attendance at delivery (when requested by the delivering physician) and initial stabilization of newborn: 99464 • Delivery/birthing room resuscitation: 99465

Notes: (1) Professional claims in VHCURES were determined as those having a valid Service Site (Professional) (MC037) reported in the medical claims (i.e., SVC_SITE_TYPE ≠ -1 [payer supplied no value] or -2 [payer supplied an incorrect or invalid value]); (2) HCPCS code T1015 (i.e., clinic visit/encounter) was not included in the original attribution specifications for Blueprint but was determined to be widely used by some FQHCs and RHCs in the absence of other codes to identify visits; (3) primary care practitioner visits billed on facility claims were identified as those with a reported Type of Bill (Institutional) code of 71,73,77,85; (4) for facility claims with a reported Type of Bill (Institutional) code of 85, Revenue Codes for professional services (i.e., 0960–0989) were included; (5) for commercial, Medicaid, and Medicare data, the VHCURES field of rendering provider was used to identify the practitioner; (7) for Medicare facility claims, the VHCURES field of Attending Provider NPI was used; when the attending provider information was not provided, the rendering provider was used instead; (8) for Medicaid facility claims, when VHCURES attending provider information was not provided, rendering provider was used.

Table 3. Facility Claims: Included Bill Types and Revenue Codes

Facility Claim Types	Codes Used to Identify
Bill Type, Revenue Code, and Place of Service Description Summary	
Federally Qualified Health Center (FQHC) and Rural Health Centers (RHCs)	Bill Types: 71,73,77 Revenue Codes: • 0521 = Clinic visit by member to RHC/FQHC • 0522 = Home visit by RHC/FQHC practitioner • 0524 = Free Standing Family Clinic • 0525 = Nursing home visit by RHC/FQHC practitioner
Critical Access Hospitals (CAHs) Professional Services	Bill Type: 85 Revenue Codes: 0960-0989 Professional Services

Defining Primary Care Practitioner Specialty

Since E&M visit codes also are used by non-PCPs (e.g., gastroenterologists, orthopedic surgeons) to bill for office and other visits, E&M visits from the VHCURES claims were restricted to only those E&M visits for which the practitioner was identified as a primary care practitioner.

The roster provided by Blueprint included a wide range of medical professionals, including PCPs, pediatricians, family practitioners, internists, physician assistants, and nurse practitioners. A small number of these practitioners had a non-PCP specialty listed in the roster (e.g., obstetrician-gynecologist). All practitioners in the Blueprint roster were included in the attribution.

For practitioners who did not appear in the Blueprint roster (i.e., Vermont PCPs not participating in Blueprint and out-of-state primary care practitioners used by Vermont residents), Onpoint used provider taxonomy coding from the VHCURES claims provider information. Table 4 shows the taxonomy specialty codes used to define primary care practitioners.

Table 4. Taxonomy Codes Used to Identify Primary Care Practitioners Not in the Blueprint Roster

Taxonomy Code	Taxonomy Description
207Q00000X	Allopathic & Osteopathic Physicians/Family Medicine
207QA0000X	Allopathic & Osteopathic Physicians/Family Medicine, Adolescent Medicine
207QA0505X	Allopathic & Osteopathic Physicians/Family Medicine, Adult Medicine
207QG0300X	Allopathic & Osteopathic Physicians/Family Medicine, Geriatric Medicine
207QG0300X	Allopathic & Osteopathic Physicians/Family Medicine, Geriatric Medicine
207R00000X	Allopathic & Osteopathic Physicians/Internal Medicine
207RA0000X	Allopathic & Osteopathic Physicians/Internal Medicine, Adolescent Medicine
207RG0300X	Allopathic & Osteopathic Physicians/Internal Medicine, Geriatric Medicine
207RG0300X	Allopathic & Osteopathic Physicians/Internal Medicine, Geriatric Medicine
208000000X	Allopathic & Osteopathic Physicians/Pediatrics
2080A0000X	Allopathic & Osteopathic Physicians/Pediatrics, Adolescent Medicine
208D00000X	Allopathic & Osteopathic Physicians/General Practice
261QF0400X	Ambulatory Health Care Facilities/Federally Qualified Health Center (FQHC)
261QP2300X	Ambulatory/Clinic/Center/Primary Care
261QR1300X	Ambulatory Health Care Facilities/Clinic/Center, Rural Health
363A00000X	Physician Assistants & Advanced Practice Nursing Providers/Physician Assistant
363AM0700X	Physician Assistants & Advanced Practice Nursing Providers/Physician Assistant, Medical
363L00000X	Physician Assistants & Advanced Practice Nursing Providers/Nurse Practitioner
363LA2200X	Physician Assistants & Advanced Practice Nursing Providers/Nurse Practitioner, Adult Health
363LF0000X	Physician Assistants & Advanced Practice Nursing Providers/Nurse Practitioner, Family
363LP0200X	Physician Assistants & Advanced Practice Nursing Providers/Nurse Practitioner, Pediatrics
363LP2300X	Physician Assistants & Advanced Practice Nursing Providers/Nurse Practitioner, Primary Care
364SA2200X	Physician Assistants & Advanced Practice Nursing Providers/Clinical Nurse Specialist, Adult Health
364SF0001X	Physician Assistants & Advanced Practice Nursing Providers/Clinical Nurse Specialist, Family Health
364SP0200X	Physician Assistants & Advanced Practice Nursing Providers/Clinical Nurse Specialist, Pediatrics
363LG0600X	Physician Assistants & Advanced Practice Nursing Providers / Nurse Practitioner, Gerontology
364SG0600X	Physician Assistants & Advanced Practice Nursing Providers / Clinical Nurse Specialist, Gerontology

Practice Attribution Process

During the course of any 24-month look-back period, members may have visited multiple PCPs or multiple primary care practices. These may have included different Blueprint practices and PCPs as well as non-Blueprint practices and PCPs — both in Vermont as well as in bordering states.

Member-to-Practice Attribution

Attribution was performed for each unique combination of year and month of enrollment (i.e., 72 combinations consisting of each individual month for calendar years July 2008–June 2015). The resulting attribution output was comprised of a unique MemberID based on the 24-month look-back. The practice most recently visited by the member and the practice with the greatest dollar amount for that member's primary care visits also were identified for use in handling "ties" (member visits were associated with individual practitioners as an interim step of the attribution process, as shown in Tables 5 and 6 below).

Onpoint also used the effective and termination dates provided in the Blueprint roster for the attribution process. If a member's visits to a practitioner did not fall within the range of the effective and termination dates for that practitioner in that practice, those visits were not included. This ensured that members were not attributed to the wrong practitioner-practice combination.

In the case of practitioners who provided care at more than one practice during a reporting period, practitioners were associated with practices based on where the practitioner's Full Time Equivalent (FTE) value was greatest. In cases where the FTEs for a practitioner were equal across practices, the association was made to the practice with the lowest practice ID.

Practice mergers and conversions were handled as follows:

1. For those Blueprint practices that had merged, or converted into, or succeeded one another, their Blueprint practice IDs were merged (recoded) to all be the latest Blueprint practice ID for that practice lineage.

2. Blueprint practices (or merged Blueprint practice lineages) were dropped from annual profiles as a Blueprint practice when, and only when, the practice/lineage had been closed prior to the profile year (without a successor/child practice). That is, practice patient population outcomes were not to be generated for a measurement year in which the practice did not exist in any form with no successor.[5]

[5] For the Rolling-Year 2017 (7/1/16-6/30/17) and subsequent PCMH practice and HSA profiles, practice profiles will be created for not just practices that were active PCMHs at some point during the measurement year, but also for all the practices that were in existence during that measurement year and

From the member-to-practitioner attribution results, practice-level attribution was generated by assigning each VHCURES MemberID to the practice using the following algorithm for the 24-month look-back period:

- The most number of visits
  - If the same visit count, the most recent visit
    - If the same visit date, the largest allowed amount dollar value
      - » If the same visit date and same dollar value, then the lowest Blueprint practice number

Inputs

Claims data in the extract format and Blueprint Rosters, see below.

Provider Roster Requirement

- Provider NPI
- Provider Name
- Practice Identifier
- Start Date (when the provider belongs to the practice)
- End Date (when the provider belongs to the practice)
- Full Time Equivalent

Practice Roster Requirement

- Practice Identifier
- Practice NPI
- Practice Name
- Start Date (when the practice belongs to Blueprint)
- End Date (when the practice belongs to Blueprint)

Intermediate Result

A table that shows each internal_member_id with all their PCP-like visits, summarized by month and provider. This table is used in QA and potentially in analytics.

- Internal_Member_ID
- Mtime
- Internal_Provider_ID
- Practice Identifier
- Number of Visits
- Most Recent Visit (N/Y)
- Allowed Amount

---

eventually became Blueprint PCMH practices or Blueprint Frontloading practices (or after Oct. 2017, Blueprint Engaging practices) at any point after the measurement year. (Profiles will still not be produced, however, for practices that were not in existence during the measurement year.)

End Result

Each internal_member_id is attributed to a Blueprint practice for each month in the incurred period for the extract. The output is at minimum:

- Internal_Member_ID
- Practice Identifier
- Mtime

Example Member Attribution

Table 5 provides an example of attribution of a single member for December 2013 with a 24-month look-back. In this example, MemberID 123 visited three different primary care practitioners during the 24-month look-back period and had an equal number of two visits with each practitioner.

Table 5. Example Member-to-Practice Attribution, Intermediate Summary Level Results

MemberID	Provider ID	Blueprint Practice ID	Blueprint Practice Name	Practitioner Name	E&M Visits During 24-Month Look-Back	Most Recent Visit	Total Payments On E&M Visits
123	4321234	VT1	Southside Internal Medicine	John Smith	2	N	$135.80
123	9712345	VT2	Main Street Primary Care	Bill Jones	2	N	$120.34
123	9712376	VT2	Main Street Primary Care	Jill Jackson	2	Y	$61.77

Aggregating to the practice level, MemberID 123 had four visits at Main Street Primary Care and two visits at Southside Internal Medicine (Table 5, above). Therefore, at the practice level, MemberID 123 was attributed to Main Street Primary Care (Table 6).

Table 6. Example Member-to-Practice Attribution, Final Practice Selection

MemberID	Blueprint Practice ID	Blueprint Practice Name
123	VT2	Main Street Primary Care

MemberIDs who were assigned to a primary care practitioner not identified in Blueprint's roster, or who remained unattributed to a corresponding Blueprint roster practice, were assigned to a practice name of "Non-Blueprint Practice" and served as a comparison group.

Summary, Limitations, & Opportunities

MemberIDs were attributed to more than 180 Vermont primary care practices. The rate of attribution was similar across payers. Initial attribution results were reviewed with Blueprint and crosschecked against practice-specific counts that Blueprint acquired from the practices themselves. These practice-supplied counts, which were not based on an attribution algorithm but rather included any member that had visited the practice, were somewhat higher than the counts developed through attribution (which accounted for members who visited more than one practice within the 24-month look-back).

Improvements in provider attribution could be achieved through additions to the Blueprint roster, including the listing of practices used in bordering states, as well as by improvements in provider data submitted to VHCURES — something that has been discussed as part of the coming rule changes for VHCURES).

ONPOINT Health Data

Reliable data. Informed decisions. Strategic advantage.

254 Commercial Street
Suite 257
Portland, ME 04101

207 623-2555
207 622-7086 FAX

www.OnpointHealthData.org