# Finder File
# Matching Process
CO APCD User Group Meeting
February 6, 2020

CIVHC

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**VALUE** IN HEALTH CARE

# Discussion Overview

- Review finder file user experience from previous CO APCD Users Group meeting, December 5, 2019

- CIVHC finder file requirements and matching process

- Analysis of finder file match results reported by users at December meeting

- Gaps in current matching process

- Next steps

# What is a Finder File?

- Contains identifying information about a cohort (e.g. name, date of birth, SSN, Medicaid ID, etc.) for which a researcher is seeking CO APCD data

- Researcher sends file and CIVHC matches individuals listed in the cohort to individuals from the CO APCD, as closely as possible

- Then, CIVHC releases the matched eligibility and claims information back to the researcher

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# Finder File User Example 1. HDC

- Health Data Compass - receives a CO APCD data set with limited identifying information from CIVHC that includes medical and pharmacy claims plus provider and eligibility data

- Health Data Compass provides CIVHC with finder file of patients from UC Health and Children's Hospital with demographic information and medical record numbers

- CIVHC sends back medical and pharmacy claims data for commercial, Medicaid and Medicare Advantage payers for the matching patients from 2012 through August 2019

# Finder File User Experience - HDC

- Matching the MRN from Health Data Compass systems to the member composite id from the CO APCD.
  - Ideally, should be a 1:1 match
  - Sometimes one MRN equals two or more member composite IDs (13%)
  - Sometimes one member composite ID equals two MRNs
- In the last file, over 3.8 million medical record numbers were sent and the match rate was 70%.
- Match of MRN to medical claims header was 54%.

# Finder File User Example 2. CU

- University of Colorado – Study impact of patient navigation on advanced care planning and palliative care outcomes in Latinos with advanced illness

- Use CO APCD to perform a cost analysis of patient navigation compared to usual care

- Submitted finder file for small test run of a portion of population with the bare minimum of identifiers

- The identifying information was challenging to supply; much of the population is undocumented.

# Finder File User Experience - CU

- The process to upload the finder file was difficult with numerous passwords and a bit cumbersome as a new user

- The two separate data request applications are confusing

# CIVHC Finder File Process

- Person identifiers required in finder file:

| Field | Description |
|---|---|
| Unique Identifier (required) | Client-specified unique identifier |
| SSN | Social Security Number (nine digits, no dashes or spaces) |
| Medicaid ID | Medicaid ID (one letter then 7 numerical digits) |
| First Name | First Name (no punctuation) |
| Last Name | Last Name (no punctuation) |
| Date of Birth | Date of Birth (MM-DD-YYYY) |

# CIVHC Finder File Process (continued)

- CIVHC employs the following steps when performing client matching from a finder file:
  a. Medicaid ID and Date of Birth; if no match, then
  b. Medicaid ID and Name (First Initial, Last Name); if no match, then
  c. SSN and Date of Birth; if no match, then
  d. Cleansed Name (Cleansed First Name, Cleansed Last Name i.e., remove prefix, suffix, etc. ) and Date of Birth

- Once a match is made on any of the above steps, subsequent matching steps are bypassed and the client match is recorded.

# Analysis of HDC Finder File Matching

- Match MRN to more than one member composite ID
  - Examined sample; most involved Medicaid members with eligibility record in Medicaid FFS and Medicaid managed care
  - Same name and DOB but different addresses and different member composite ID
- 70% member match; percentage match by rule

| Rule | Count of Unique IDs Matched | Unique IDs as % of Total |
|---|---|---|
| a. Medicaid ID and Date of Birth; if no match | 308,347 | 10.52% |
| b. Medicaid ID and Name (First Initial, Last Name) | 884 | 0.03% |
| c. SSN and Date of Birth | 1,055,778 | 36.01% |
| d. Cleansed Name (Cleansed First Name and Last Name) and Date of Birth | 1,566,857 | 53.44% |
| Total | 2,931,866 | 100% |

# Analysis of HDC Finder File Matching

- Most member matches occur with application of last (fourth) rule, which may produce some errors (false positive matches)

- 70% member match; matched vs. unmatched members

|  | Matched Members N = 2.9M | Unmatched Members N = 1.2M |
|---|---|---|
| Pct. with a 'valid' SSN | 51% | 46% |
| Pct. with a 'valid' MCD ID | 34% | 22% |
| Pct. with a DOB submitted | 100% | 100% |
| Pct. CO residents | 98% | 70% |

- Unmatched members have fewer identifiers available to match on and are more likely to live outside of Colorado

# Analysis of HDC Finder File Matching

- 70% match includes members with dental and Medicare supplemental benefits eligibility, which should be excluded

- 54% member to medical claims match
  - Actually, closer to 89% if based on matched, not total number of members
  - Not 100% in part because members included those with dental and Medicare supplemental benefits eligibility but without corresponding medical claims

# Analysis of HDC Finder File Matching

- Two MRNs identify same individual (i.e., two MRNs match one member composite ID)
    - Initial examination found single member composite ID matched two different MRNs from the finder file
    - Same person but with two different unique MRNs. One that started with "CHCO" and the other "UCHealth"; both had the same Medicaid ID, DOB, and name
    - Appears to occur when a patient is identified in the pediatric hospital with one MRN and then, later, in the adult hospital with a different MRN

# Gaps in Current Matching Process

- Instructions for uploading finder file confusing
  - Instructions updated and improved with enhanced step-by-step details and illustrations
- Two data request applications
  - Being addressed as part of application process redesign
- No formal pre-assessment of finder file to evaluate completeness and standardize format of identifiers
- More than one member composite ID, mostly for Medicaid members

# Gaps in Current Matching Process (cont'd)

- Possible false positive matches with fourth matching rule, which uses combination of DOB and name

- Unintentional inclusion of dental and Medicare supplemental benefits eligibility in match

- Few person identifiers used in matching; additional identifiers could be beneficial

- No ability to conduct "fuzzy match" on names and addresses with current tools (e.g., matching names with different spellings, Katherine vs. Catherine)

# Next Steps

- Establish formal pre-assessment of finder file to identify problems for resolution
  - Verify record counts
  - Check for uniqueness of client member ID
  - Check for missing identifiers
  - Check format of each identifier (e.g., DOB) and standardize
  - Communicate results to client
- Examine Medicaid eligibility data to determine if new rules can be established to combine member composite ID

# Next Steps (continued)

- Exclude dental and Medicare supplemental benefits eligibility when not relevant

- Began working with researcher in linking health care data sets from CU Denver
  - Initial assessment of match rate for Health Data Compass was deemed favorable
  - Improvements possible by introducing probabilistic matching