# Analytic Plan: ISP Utilization

## Project Details

### Lead Investigator/s

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### Project Team Members

Carter Sevick, Kim Wiggins

### Research Objective(s)

Do PCMPs that participated in ISP have a improved outcomes for attributed members compared to members atttributed to PCMPs that did not participate in ISP?

### Time Period

July 1 2015 – June 30 2022

### Study Design

*Time Frame (e.g. cross-sectional, longitudinal, retrospective cohort, cohort):*

### Patient, Practice Cohorts/Subjects

#### Inclusion Criteria

Health First Colorado Members ages 0 - 64 a/o 07/01/SFY (18/19, 19/20, 20/21, and 21/22), having:

* at least one month of eligibility for Health First Colorado
* not continuously enrolled in a physical health managed care plan, where
  + continuously: if all months =0, exclude
  + if combination: use only months =0
* attributed to a PCMP in any of SFYs

Claims Data for members identified above:

* Time Range: 07/01/2015 - 06/30/2022
* Claims data 07/01/2015 - 06/30/2018 to be used to develop risk adjustments for model
* Claims data 07/01/2018 - 06/30/2022 to be used in analysis

#### Exclusion Criteria

Dental

#### Study Sites

ISP vs non-ISP, based on pcmp\_loc\_id matching

## Data Sources, References

Data

1. Bidm db

Reference Files

1. Analytic Plan[[1]](#footnote-1)
2. Data Specs, Measures[[2]](#footnote-2)

## OUTCOMES, Measures, Metrics

### Context

Attribution to PCMPs / Trends in Monthly Attribution, as measured by:

1. Number of Unique Individuals attributed at any time in FY
2. Number of Unique Individuals attributed 6mo or more in FY
3. Number of Unique Individuals attributed 6mo or more in all FY’s

Member Characteristics

1. Number of months eligible for Health First Colorado
2. Number of months eligible and enrolled in a physical health managed care plan

### HCPF Data Measure Outcomes

|  |  |  |  |
| --- | --- | --- | --- |
| **Level** | **Outcome** | **Measure** | **Metric** |
| **Primary** | **Cost** |  | **PMPM Total FFS cost of care (excluding Dental)** |
| **Primary** | **Util** | **Behav Health** | **# of other encounters in a quarter** |
| Secondary | Util | Primary care | # of PC visits in a quarter |
| Secondary | Util | Primary care | # of Telehealth Services in a quarter |
| Tertiary | Util | Primary care | # of STBH Services (CPT codes) in a quarter |
| Tertiary | Util | Primary care | # of SBIRT Services (CPT codes) in a quarter |
| Tertiary | Util | Primary care | Diagnosis codes of SBIRT Services (CPT codes) in a quarter |
| Secondary | Cost | Primary care | PMPM cost of PC |
| Secondary | Util | ED | Utilization of # of ED visits in a quarter |
| Tertiary | Cost | ED | PMPM cost of ED services |
| Tertiary | Util | Hospitalizations | Utilization # of hospital services in a quarter |
| Tertiary | Cost | Hospitalizations | PMPM cost of hospitalizations |
| Secondary | Cost | Pharmacy | PMPM cost of prescriptions |
| Secondary | Utilization | Behav Health | # of Capitated ED visits in a quarter |
| Tertiary | Utilization | Behav Health | # of capitated hospitalizations in a quarter |
|  |  |  |  |

## VARIABLES

data medlong1; set bhjt.medicaidlong\_bidm

data meddemog1; set bhjt.medicaiddemog\_bidm

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variable | role | lev | Description | type | notes, source |
| clnt\_id | match | pt | matching key for datasets |  | meddemog  medlong |
| month |  | pt | used to create SFY  *(SFY used to get age a/0 30Junexx)* |  |  |
| SFY |  |  | state fiscal year |  | admin |
| managedCare | context |  | **Context:** member characteristics – number of mo’s eligible and enrolled in a physical health managed care plan  **Analysis:** if all months = 1, then exclude. If mix of 0,1, just use the 0 months |  |  |
| pcmp\_loc\_type\_cd |  | pt | for pcmp\_orgTyp | cat |  |
| pcmp\_orgtyp | covariate | pr | source: medlong1  original variable: pcmp\_loc\_type\_cd  analysis: FQHC, RHC, Indian Health Service, SBHC, Other  Changed several to ‘other’ with format see appendex | cat | admin;  created from pcmp\_loc\_type\_cd |
| dob |  | pt | source: meddemog1 |  |  |
| age\_sfy1819  age\_sfy1920  age\_sfy2021  age\_sfy2122 | covariate | pt | source: meddemog1  age a/o 6/30 in each respective FY | continuous | created from dob |
| keep\_sfy1819  keep\_sfy1920  keep\_sfy2021  keep\_sfy2122 | filter | pt | if age\_sfy1819 OR age\_sfy1920… 0-64  if 0-64 a/o 6/30 sfy, sum from | binary / keep flag | admin |
| rethnic\_hcpf | covariate |  | source: meddemog1  Uses new HCPF categories | categorical, factor |  |
| enr\_cnty | covariate | pt | ~~source: meddemog1 OR~~  source: medlong1 – enr\_cnty  per MG use medlong1 only  if >1, Use county with majority of months elig HFColorado |  |  |
| county\_count | context | pt | for above |  |  |
| *RCCO/RAE* |  | pt | determined by County of residence  Jake email from 09/13 see file contents |  |  |
| Budget\_Group | covariate, filter |  | use rules budget group tables STBH\_table\_updated030622.xlsx  BUDGET\_Group NOT IN (16,17, 18, 19, 20, 21, 22,. 23, 24, 25, 26, 27, -1,); | cat |  |

## Step 01: Get members

Steps, Log notes: See Appendix

Folders & Files

|  |  |  |
| --- | --- | --- |
| Folder | Contents | File |
| 01 background | meeting notes | notes\_meetings\_emails.txt > August 28, 2022 |
| 02 code | -get variables needed to merge with medlong1 | 01\_getClients.sas |

Result:

## Context: Trends in Monthly Attribution to PCMPS

Steps

*ALSO:*

*Email from MG: One thing I would like to get a sense of is the distribution of the number of attributed members for each PCMP by ISP participation and FQHC status.  I am thinking Min, 5%, 10%, 25%, 50% 75%, 90%, 95% and Max for each of the 4 groups for SFYs 18-19, 19-20, 20-21 and 21-22.*

*The next step is to understand the stability of member attribution to PCMPs by these same 4 categories.  I am thinking % of ever attributed members to a PCMP attributed for all 4 years, 3 of the 4 years, 2 of the 4 years and 1 of the 4 years.*

Folders & Files

|  |  |  |
| --- | --- | --- |
| Folder | Contents | File |
| 01 background | meeting notes | notes\_meetings\_emails.txt > August 28, 2022 |
| 02 code | getData |  |

Results

## DATA ANALYSIS

|  |
| --- |
| DRAFT:  Notes from meeting Sept – to be Updated with the other analyses notes:   * jacknife resampling technique at CLINIC level, use clinic as fixed effect; cluster at person level |
| * time unit: quarter |
| * mean-preserving top coding: 95th or 99th percentile (send both to MG) |
| * Risk adjustments: adults (18+), Charlson Comorbidity Index; peds, PMCA (Medical Complexity) |
| * : obtain one composite variable (low, medium, high complexity) |
| * : then interaction between composite variable \* adult / ped |

**Analyses to address study questions/hypotheses.**

Some text here will help with writing later on. This would be a good place to mention specific analyses (e.g. multivariate linear regression, etc) and highlight pros and cons or issues that need to be addressed

H1.

The primary outcome for this analysis is XXX. (see draft for examples)

H2.

H3.

Table 1:

Table 2:

Table 3:

Next steps, meetings, assignment of responsibilities, etc:

# APPENDIX

## getClients log / notes

Code, steps, results (freq/s, etc)

|  |  |  |
| --- | --- | --- |
| 1 | from bhjt.medicaidlong\_bidm | NOTE: There were 55641948 observations read from the data set BHJT.MEDICAIDLONG\_BIDM.  WHERE (month>='01JUL2018'D and month<='30JUN2022'D) and (pcmp\_loc\_ID not = ' ') and  BUDGET\_GROUP not in (-1, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27);  NOTE: The data set WORK.MEDLONG1 has 55641948 observations and 11 variables.  **subset managedCare=1 for the context question –**  proc freq sfy:    medlong pcmp\_loc\_type\_cd copied to analysis\_specs.xlsx for questions re: other and dental –  *where managedCare = 0; since those’ll be analysis n’s*  PROV\_TYP\_CD  pcmp\_loc\_type\_cd Count Pct  Clinic - Practitioner 30,925,002 55.56  Federally Qualified Health Center 20,778,610 37.333  Rural Health Clinic 2,193,843 3.94  Non-Physician Practitioner - Group 1,345,622 2.42  Physician 344,260 0.62  Indian Health Services - FQHC 61,847 0.11  Hospital - General 4,232 0.0076  Clinic - Dental 3,450 0.006  Nurse Practitioner 9 0.00002 |
| 2 | Subset members:   * 0-64 a/o June 30 for each SFY 18/19, 19/20, 20/21, 21/22 | original meddemog = 2991591 obs;  data out.meddemog;  set meddemog3;  where keep\_sfy1819 = 1 OR keep\_sfy1920 = 1 OR keep\_sfy2021 = 1 OR keep\_sfy2122 = 1;  run;  NOTE: There were 2759362 observations read from the data set WORK.MEDDEMOG3.  WHERE (keep\_sfy1819=1) or (keep\_sfy1920=1) or (keep\_sfy2021=1) or (keep\_sfy2122=1);  NOTE: The data set OUT.MEDDEMOG has 2759362 observations and 13 variables. |
| 3 |  | proc contents out.meddemog:  # Variable Type Len Format Informat Label  1 clnt\_id Char 11 $255. $255. MCAID\_ID  6 county Char 7 $255. $255. RSDNC\_CNTY\_CD  2 dob Num 8 DATE9.  5 ethnic Char 3 $255. $255. ETHNC\_CD  3 gender Char 3 $255. $255. GNDR\_CD  4 race Char 7 $255. $255. RACE\_CD  7 rethnic\_hcpf Num 8  age\_sfy1819  age\_sfy1920  age\_sfy2021  age\_sfy2122  keep\_sfy1819  keep\_sfy1920  keep\_sfy2021  keep\_sfy2122; |
| 4 | * at least one month of eligibility for HealthFirst Colorado * not continuously enrolled in a physical health managed care plan |  |
|  |  |  |

1. S:/FHPC/DATA/HCPF\_Data\_files\_SECURE/Kim/isp/isp\_utilization/01 background/ [↑](#footnote-ref-1)
2. S:/FHPC/DATA/HCPF\_Data\_files\_SECURE/Kim/isp/isp\_utilization/01 background/Analysis\_Specifications [↑](#footnote-ref-2)