Oregon All Payer All Claims Database (APAC)

Data User Guide
2011-2016 Dates of Service
Release APAC 2018.2

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Version Log

Version	Description	Author	Date
2018.2	Update of all sections	Mary Ann Evans	11-27-2018

Table of Contents

Websites referenced throughout this document

References to additional information or resources including links to websites occur throughout this document. Links are provided below for data users accessing the APAC Data User Guide offline.

General information on the All Payer All Claims Program including statutes, rules, appendices and submission schedule
https://www.oregon.gov/oha/HPA/ANALYTICS/Pages/All-Payer-All-Claims.aspx

All Payer All Claims Data Request page including Issue log, data dictionary, frequently asked questions and other resources for data users
https://www.oregon.gov/oha/HPA/ANALYTICS/Pages/APAC-Data-Requests.aspx

Gobeille vs. Liberty Mutual
https://www.supremecourt.gov/opinions/15pdf/14-181_5426.pdf

Oregon House Bill 2009 establishing the Oregon Health Authority and All Payers All Claims program
https://olis.leg.state.or.us/liz/2009R1/Downloads/MeasureDocument/HB2009/Enrolled

Data Review Committee
https://www.oregon.gov/oha/HPA/ANALYTICS/Pages/Data-Review-Committee.aspx

All Payer All Claims (APAC) Data User Guide Highlights

APAC data currently available for request and external use include data with dates of service between January 1, 2011 and December 31, 2016. The 2011 to 2016 APAC database has medical and pharmacy claims, demographics, monthly eligibility data, billed premiums and provider data reported by commercial insurers, Medicaid and Medicare for 5,378,896 people or 3.4 to 3.9 million people annually. About 1% of the people in APAC are not Oregon residents, but are included because they were insured by the Oregon Public Employee or Educator Benefit Board (PEBB or OEBB). APAC contains data for most Oregonians (87% to 98% of the Oregon population annually) and about 80% of the people in APAC had a health care claim. Most of the people in APAC had medical coverage, but 7%-11% had only pharmacy coverage. There are about 683 million claims in APAC—with 23% growth by 2016.

Medicaid data in APAC is only for Oregonians and some years exclude people with a limited benefit package or who are not legal residents in the country. Medicare data, submitted by the Centers for Medicaid and Medicare Services (CMS), is for Oregonians only and claims are limited to those paid fee-for-service. Medicare Advantage and Medicare Part D data are not reported by CMS, but by other payers. Due to the U.S. Supreme Court decision in *Gobeille v. Liberty Mutual Insurance Company*, payers are not required to submit data for some self-insured plans, but some voluntarily provide it.

Enrollment trends in APAC varied by insurance type. By 2016, people with commercial insurance declined 26% to about half of the people in APAC; people with Medicaid grew nearly 50% to about a third of the people in APAC; and people with Medicare were less than a quarter of the people in APAC. People in self-insured plans declined nearly 50% by 2016.

Year-over-year trends showed that most people were in APAC the prior year (75%-81%), but it varied by insurance type. People with Medicare had the highest percent in APAC the prior year (87%-92%) followed by people with commercial insurance (80%-89%) and people with Medicaid (60%-87%).

Annually, from 9% to 16% of the people in APAC had more than one insurance type and from 27% to 44% were in more than one plan. By 2016, people with only commercial insurance declined 22%, people with only Medicaid more than doubled, and people with only Medicare grew 20%.

Commercial insurers covered half or more of the people in APAC but paid less than 40% of claims. Medicaid covered about a third or less of the people and

paid a third or less of the claims. Medicare covered less than a quarter of the people in APAC but paid a third or more of the claims. By 2016, claims paid fee-for-service declined 18% and managed care claims grew from 4% to 25% or more than 600%.

OHA publishes quarterly Release Notes meant to give data users an overview of the latest APAC data available—including, but not limited to, years/types of data in the latest release, updates on data reporters, changes in OHA data release policy, and changes to the data collection layout. Release Notes can be found on the APAC Data Requesters website and are updated with each quarterly data release.

All Payers All Claims (APAC) Background

APAC purpose and administration. The Oregon All Payer All Claims Database (APAC) is a large database that houses administrative health care data for Oregon's insured populations. APAC includes medical and pharmacy claims, member enrollment data, billed premium information, and provider information for Oregonians who receive coverage through commercial insurers as well as through public payers such as Medicaid and Medicare. Alternative payment method (APM) data are collected annually from selected APAC data reporters but are not available for request[1]. APM data includes capitation and other non-claims payments made to providers.

The Oregon State Legislature established APAC in 2009 through House Bill 2009, which authorized the formation of a health care data reporting program to measure the quality, quantity, and value of health care in Oregon. This legislation was codified into the Oregon Revised Statutes for Health Care Data Reporting. Administrative Rules provide the guidelines for APAC's data collection, use, and release, and are periodically updated as needed. The database is operated by the Oregon Health Authority (OHA) and is an integral component of the state's ongoing health care improvement efforts and provides access to timely and reliable data that are essential to improving health care quality, reducing costs, and promoting transparency.

Data collection. APAC collects health care claims and other administrative data from commercial insurers and public payers. Data submitters include commercial

[1] Payment information for health care services not billed on a claim and/or not reimbursed on a fee-for-service basis.

health plans and third-party administrators (TPAs) with 5,000 or more covered lives in Oregon, all pharmacy benefit managers (PBMs) in Oregon, all coordinated care organizations (CCOs) in Oregon, all payers with a dual eligible special needs plans (SNPs) in Oregon, all payers that participate in Oregon's health insurance exchange, and all insurers providing group health insurance plans to PEBB and OEBB members. In addition, OHA provides data from Medicaid fee-for-service plans and coordinated care organizations (CCOs) and the Centers for Medicare and Medicaid Services (CMS) provides Medicare Parts A and B data. All data submitters follow an established method for reporting data to APAC, including a set of required data elements and file formats that are detailed in the Data Submission Instruction Memo. Data collection for APAC began in March 2011 and takes place quarterly.

Data management. OHA maintains oversight and management of APAC, and contracts with a data vendor to collect and process the data. A critical part of the APAC data vendor's role is ensuring that APAC data are reliable and of good quality at all stages—from data submission and inclusion in the database to data release via public reports and user data sets. To ensure reliability and validity, the data vendor performs three levels of data quality tests on data submitted to APAC—once upon submission, once after the files are accepted but not yet processed, and once on an annual basis to assess overall trends and accuracy in the data. After each level of data quality testing, the data vendor communicates its findings to each data submitter and works to resolve any data issues identified. When necessary, the payer re-submits the files. After the three levels of validation are complete, OHA implements two additional data quality tests. These include comparing APAC data to other state data sources to flag any large data discrepancies and promoting the use of APAC data to the user community.

Data privacy and security. Because APAC contains protected health information (PHI), OHA and the APAC data vendor have built several layers of protections to ensure the privacy and security of the data from intake to release. All data are encrypted during transmission and storage and are housed on secure servers within a secure data center. Access to the data is limited to a select number of authorized and qualified staff. Furthermore, public reports and user data sets are subject to the privacy standards and regulations of the Health Insurance Portability and Accountability Act of 1996 (HIPAA), which protects the privacy and security of individuals' personal health information. Individuals

interested in using APAC data must complete a multi-step vetting process through which OHA determines whether they will use the data appropriately, have requested only the minimum necessary data, and will maintain data privacy and security.

Brief website orientation. The APAC team encourages potential data users to familiarize themselves with the APAC website and the available information to support APAC data requests. The website is organized into sections: overview, data requesters, data submitters, reports, and additional resources. The data requesters section has data request forms, the APAC data dictionary, the Data Review Committee link and other resources and information to support APAC data requests.

APAC summary data

APAC data from 2011 through 2016 is summarized in Table 1. APAC eligibility data are summarized by commercial, Medicare, and Medicaid insurance types and includes self-insured, commercial Medicare, and CMS Medicare plans. Some people are enrolled in multiple types of insurance and plans simultaneously.

APAC medical and pharmacy claims include paid claims, managed or coordinated care encounters, denied claims and orphan claims. The percent of substance abuse claims are listed by year. Substance abuse claims data are never released and access to Medicare CMS claims and eligibility data are restricted.

Some of the 3% to 12% of Oregonians not in APAC have medical or pharmacy insurance and some are uninsured. Some insured people are not in APAC because they are covered by commercial insurers or third-party administrators with fewer than 5,000 Oregon lives; are insured by payers that are not required to submit data to APAC; are covered by self-insured plans that do not submit data to APAC; are Medicaid recipients but data is not submitted to APAC; are Medicare recipients, but not from Oregon and data is not provided by CMS; or are insured by a payer granted a waiver from reporting data to APAC because they cover few Oregon lives.

Table 1. APAC Summary Data 2011-2016

	2011	2012	2013	2014	2015	2016
Oregon population*	3,857,625	3,883,735	3,919,020	3,962,710	4,013,845	4,076,350
Eligibility						
APAC unique person count	3,382,069	3,533,549	3,530,793	3,774,122	3,941,694	3,832,349
% of Oregon residents in APAC	87%	90%	89%	95%	98%	93%
Not Oregon residents in APAC	1%	1%	1%	1%	1%	1%
% Only pharmacy coverage	8%	11%	11%	7%	8%	8%
% Prior year in APAC	77%	79%	80%	75%	81%	80%
% Commercial coverage	69%	70%	64%	56%	58%	51%
% Medicaid coverage	24%	23%	23%	33%	32%	35%
% Medicare coverage	22%	23%	23%	21%	21%	23%
% Medicare (commercial)	11%	13%	14%	13%	14%	16%
% Medicare (CMS)*	21%	21%	22%	20%	20%	22%
% Self-Insured	17%	16%	17%	17%	17%	9%
% APAC more than one type coverage	14%	16%	11%	9%	11%	9%
% APAC more than one plan	33%	44%	36%	29%	31%	27%
% APAC only commercial	58%	57%	57%	50%	49%	44%
% APAC only Medicaid	13%	12%	17%	26%	24%	29%
% APAC only Medicare	15%	15%	16%	16%	16%	18%
% APAC only Medicare (commercial)	8%	8%	9%	9%	11%	12%
% APAC only Medicare (CMS)	7%	6%	6%	6%	5%	6%
% Commercial only commercial	83%	81%	88%	89%	85%	86%
% Medicaid only Medicaid	56%	52%	73%	79%	75%	82%
% Medicare only Medicare	69%	66%	67%	74%	77%	78%
% Commercial current and prior year	67%	84%	89%	84%	80%	83%
% Medicaid current and prior year	81%	85%	87%	60%	84%	82%
% Medicare current and prior year	92%	87%	92%	91%	91%	90%
Claims						
% of people in APAC with a claim	80%	80%	80%	81%	81%	79%
Total claims	78,090,903	82,263,068	82,565,637	88,275,702	95,863,314	96,030,446
Total Medical claims	53%	53%	53%	53%	53%	52%
Total Pharmacy claims	47%	47%	47%	47%	47%	48%
% Claims paid FFS	89%	89%	90%	78%	74%	73%
% Claims paid MCO/CCO	4%	5%	4%	20%	23%	25%
% Denied claims	8%	8%	7%	4%	5%	5%
% Orphan claims	0.1%	0.1%	0.1%	0.1%	0.1%	0.03%
% Commercial claims	39%	39%	37%	36%	35%	31%
% Medicaid claims	26%	25%	25%	26%	28%	30%
% Medicare claims	35%	36%	38%	37%	37%	39%
% Medicare CMS claims	12%	12%	12%	11%	10%	11%
% Self-Insured claims	11%	10%	11%	11%	10%	6%
% Substance abuse claims*	0.2%	0.3%	1%	2%	2%	2%

- APAC data query 2018Q1
- Oregon population data from Portland State University population research center (Census Bureau partner)
- Centers for Medicaid and Medicare Services (CMS) data only for Oregonians and access is restricted
- Substance abuse claims data in APAC are never released

What APAC is and what APAC is not

What APAC is:

- Medical claims data (paid, managed or coordinated care encounters, denied)
- Pharmacy claims data (paid, managed or coordinated care encounters, denied)
- Payments from mandatory reporters and other payers
- Expected payments from members
- Monthly member eligibility data
- Member demographics (gender, date of birth, date of death, race, ethnicity, primary language and address are static data elements based on the latest quarterly data submitted; age is not static and is based on first day of the month for eligibility and claims)
- Provider data (attending, pharmacy and billing)
- Billed premiums (not paid premiums)
- A “live” database refreshed quarterly (1 new and 3 updated quarters of data each submission)
- About 160 million rows of claims data per year
- About 1 billion rows of enrollment data total (125 million rows per year)
- Data submitted from the following mandatory reporters:
  - Commercial insurers with 5,000 or more covered lives in Oregon
  - Third party administrators (TPA) with 5,000 or more covered lives in Oregon
  - Pharmacy benefit managers (PBM)
  - Dual special need plans (DSNP)
  - Oregon Health Exchange plans
  - Medicare part D plans
  - Medicare Advantage plans
  - Public Employees Benefit Board (PEBB) plans
  - Oregon Educators Benefit Board (OEBB) plans
  - Medicaid Managed or Coordinated Care Organizations
- Data submitted from other reporters including:
  - Medicaid (not all people or claims)
  - Medicare (not all people or claims)

What APAC is not:

- Not clinical or electronic health record data (EHR)
- Not prescribed pharmaceuticals (only dispensed and paid)
- Not cost of medical services (only paid and expected paid)

- Not cost of pharmaceuticals (only paid and expected paid)
- Pharmaceutical rebates are not reported
- Member payments to providers including coinsurance, copayment and deductible are expected, but not actual payments
- Billed premium data are expected, but not actual paid premiums. Billed premium data were not submitted to APAC until January 1, 2015. Unpaid premiums are not identified or removed from APAC.
- APAC does not capture all payments made to providers. Non-claims or alternative payments to health care providers i.e., capitation, sub-capitation, pay-for-performance, shared savings/risk, episode-based, health information technology and other infrastructure payments are not currently available
- Reporters who pay providers through capitation or sub-capitation may report zero dollars, less than a dollar or a few dollars paid for claims or may impute payment based on national or another data source
- Data is not submitted to APAC from the following payers[2]:
    Commercial insurers with fewer than 5,000 covered lives in Oregon
    Third party administrators (TPA) with fewer than 5,000 covered lives in Oregon
    Self-Insured plans exempt from APAC (some reporters voluntarily submit data, but mandatory and voluntarily reported self-insured data are not distinguishable)
    Stop Loss plans
    Student health plans
    Federal Employee Health Benefit plans
    Indian Health Service
    Military Health
    Tricare
    Veteran Affairs
    Corrections (Federal, state, county or city)
    Oregon State Hospital
    Worker compensation
    Dental plans
    Vision plans
    Accident plans
    Disability plans

[2] This list is not exhaustive.

Hospital indemnity plans
Disease specific plans
Long term care plans
Oregon Reproductive Health Client Program services
Oregon Cover All Kids plan
Oregon Substance Use and Mental Health Block Grant services
Medicare supplement plans
Medicaid (not all people or claims)
Medicare (not all people or claims)

APAC data submission

Payers who reported health care administrative data to APAC are listed in Table 2 by year.

Table 2. APAC Data Reporters

Name	2010	2011	2012	2013	2014	2015	2016
A & I Benefit Plan Administrators							
Aetna							
AllCare Health Plans							
Argus Health Systems							
Atrio Health Plans							
CareOregon							
Catamaran Pharmacy Benefit Management of Maryland							
Center for Medicaid & Medicare Services (Medicare data)							
Connecticut General Life Insurance Company							
CVS Caremark							
Cypress Benefit Administrators							
Employee Benefit Management Services							
Envision Pharmaceutical Services							
Envolve Pharmacy Solutions							
Express Scripts							
FamilyCare							
First Health Life & Health Insurance Company							
Name	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Great-West Life & Annuity Insurance Company							
Harrington Health Services							
Health Net							
Healthcare Management Administrators							
Humana							
Kaiser Foundation Health Plan of the Northwest							

LDI Integrated Pharmacy Services							
Lifewise Health Plan of Oregon Inc.							
Magellan Health							
Maxor Plus							
Medco Health Solutions							
Moda Health Plan							
Navitus							
Oregon Health Authority (Medicaid data)							
PacificSource Health Plans							
Pennsylvania Life Insurance Company							
Prime Therapeutics							
Procare Pharmacy Benefit Manager							
Providence Health Plan							
National Pharmaceutical Services							
Regence Blue Cross Blue Shield of Oregon							
RxAmerica							
RxSense Prescription Management							
Samaritan Health Plans							
Shasta Administrative Services							
Time Insurance Company							
Trillium Community Health Plan							
UnitedHealthCare							
WellCare							

Data submission schedule. Mandatory and other reporters submit twelve months of data on a quarterly basis to APAC. Submissions occur one month after the close of each calendar quarter. Claims data submissions are based on the date a medical service incurred while billed premium and enrollment data submission are based on the effective date of enrollment. CMS reports claims data based on the paid date. See Appendix A-G for detailed information regarding data currently submitted by reporters and the APAC data dictionary for historical data submission information.

OHA uses a “rolling submission” schedule where quarterly submissions include data for the most recent calendar quarter and updated data for the prior three quarters is refreshed. Data are updated for a variety of reasons including: new claims are submitted; denied claims are corrected, resubmitted and then paid; claims are adjudicated and paid a different amount; people who were disenrolled because their premium was not paid or they did not meet eligibility criteria; or errors are corrected. Updates include data that was not previously available or changed. Updates replace data that changed for the same claim identifier

submitted by the payer, but do not replace data that did not change or when the payer reported a different claim identifier for the same service.

To ensure reliability and validity, APAC data are not considered complete—and thus not released—until a year after the last quarter of claims for the year is submitted. For example, claims for calendar year 2016 were released in early 2018. This lag time helps ensure that the data are as complete and reliable as possible.

Claims, claim lines and visits. Claims may include one or more lines or rows of data in APAC depending on how the provider submits the claims and how the payer processes it. Claims are specific to a person by payer and are assigned a unique identifier by the payer. When multiple payers make a payment for the same person, for the same service on the same date, there are unique claim identifiers and claim lines for each payer. The data user must aggregate data across claim lines by payer and person, as well as across payers by person to count unique visits and calculate the total paid for a visit.

Denied claims. Payers report all processed claims including denied claims to APAC. Claims are denied for different reasons, including: the member was not covered by the payer at the time the service was rendered, there was an error in the claim, or the payer did not cover the rendered service. Updated claims submitted quarterly can generate duplicate claim lines—some with a denied status and some with a paid status. The reason for denial is not provided in APAC. A claim that is denied and resubmitted with different or corrected information will not replace the denied claim in APAC unless the payer assigns the same claim identifier to both claims. If the payer does not assign the same claim identifier, then both the original denied claim and the subsequent paid claim will be in APAC.

Submission of zero dollar paid claims. Payers report all processed claims including claims where the payer paid zero dollars, less than a dollar, or a few dollars. Zero or low dollar paid claims occur for both fee-for-service and managed care payment arrangements (capitation or sub-capitation). Payers are not required to report the amount paid for services delivered in managed care arrangements. Some reporters who pay providers through managed care arrangements impute a national average as the amount paid for the claim. Payers do not make a payment for every paid fee-for-service claim reported to APAC. Some paid fee-for-service claims are only paid by the member

(deductible, copayment, or coinsurance) and the payer does not make a payment for the claim. In these instances, paid claims will have a zero-dollar amount reported for the payer.

APAC data vendor processing and validation of reported data

The APAC data vendor processes and validates quarterly APAC data submissions to ensure quality. The vendor compares each payer's current submission to their previously submitted quarterly and annual data. The vendor communicates with payers and OHA about significant variation from prior submissions to resolve any issues. There are three levels of data quality checks and validation.

Level 1 data validation occurs within 24 hours of quarterly data submission and identifies basic errors to ensure that minimum data quality standards are met. Level 1 validates that files are submitted in the correct format; data elements have valid names, values, and lengths; data meets the threshold requirements for allowable errors or blanks; counts and totals match the summary data provided by the reporter; and files match across common data elements and are logical in relationship to each other. If the data quality does not meet the required standards, data submitters are required to correct the data and resubmit.

Level 2 data validation occurs within 15 days of submissions that pass Level 1 validation and ensures data consistency over time. The current submission is compared to up to 24 months of prior data. Variances are identified for medical and pharmacy enrollment and member months, financial reporting and claims. Data reporters receive a validation summary and are notified about issues that require a response.

Level 3 validation is annual and occurs 60 days after a full calendar year of data is submitted. It provides a snapshot of the data submitted by payer over the past year, year-over-year trends and comparison with APAC benchmarks. Reporters have 30 days to validate the level 3 summary information.

Unique person identifier. The vendor creates a unique person identifier across payers and years of data as part of each quarterly data submission. The unique person identifier is assigned for each person, so that a person's enrollment, claims and billed premiums can be analyzed longitudinally across payers and data years. The unique identifier is truly unique across payers and years for the quarterly submission. However, the unique identifier from the most recent quarterly update is not necessarily the same as the unique identifier for

previously created APAC data sets shared with data requesters. About 3%-5% of prior APAC members are assigned a new unique identifier each quarter or about 12%-20% annually.

The unique person identifier is derived from payer reported unique member identifiers, names, dates of birth and gender across payers and years of data. The probability of two people with the same date of birth, first and last name is very small. However, a person may divorce, marry, get adopted, and for other reasons change their names or provide different names to payers over time. Sometimes names are misspelled. Name changes and errors contribute to error in creating unique person identifiers.

The APAC data vendor applies a multiple step methodology for assigning a unique person identifier with the following assumptions about the data reported by each payer:

- The member identifier assigned to a person by each payer is truly unique to a person and is never assigned to another person. A person can have multiple member identifiers from different payers, but no member identifier is ever assigned to more than one person for that payer

- The most recent name, birth date and gender for a person with a member identifier reported by a payer is assumed correct

Methodology

- The APAC data vendor creates a member table for the current quarterly data submission with names, date of birth, address, gender, race, ethnicity, language and unique member identifier for each person reported by each payer. The vendor compares the current quarterly member table with the member table created in the prior quarter. No longitudinal historical member table exists.
    - The vendor recodes first and last names from the current data submission by payer to remove punctuation, spaces and standardize formatting
    - The vendor transforms commonly abbreviated names to the full name version (i.e., Bob is transformed to Robert)
    - The most recent name, birth date, race, ethnicity, address and gender for a person by payer is assumed correct

- The vendor links people in the current quarterly member table to the last quarterly member table by name, date of birth and gender and payer unique member identifiers and assigns a person unique identifier
    - Unique person identifiers can change at each quarterly data submission. People with a unique person identifier assigned in a previous quarterly data submission are assigned a new unique person identifier when a new member identifier is reported by a payer that did not previously report a member identifier for them or the person has a change in name, date of birth or gender.
    - Unique person identifiers are never reused. From 3% to 5% of people with a prior existing unique person identifier are assigned a new unique person identifier at each quarterly refresh
    - Unique person identifiers do not change at each quarterly data submission when a person has the same member identifiers reported by the same payers in the previous quarterly update and the person had no change to their name, date of birth or gender
    - New people identified for the first time in the current quarterly data submission are assigned a unique person identifier. About 1% of people are new to APAC at each quarterly refresh
- The assigned unique person identifier is an integer value that links all associated member identifiers across payers for that person
- All claims and enrollment data for the person are assigned the current quarter unique person identifier
- The process is repeated for each quarterly data submission

Unique Provider Identifier. The unique provider identifier methodology follows the same steps as the unique person identifier method with additional matching data elements. The national provider identifier (NPI), drug enforcement agency identifier (DEA), state license number, tax identification number (TIN) and address are used in the assignment of a unique provider identifier when reported by the payer. However, not all payers report NPI, DEA, state license number or TIN.

Unlike unique person identifiers, some payers do not submit unique provider identifiers. For these cases, the APAC data vendor creates a payer specific provider identifier from provider name, date of birth, NPI, DEA, state license number and TIN for payers that do not submit unique provider identifiers.

The vendor links providers across payers based on name, date of birth, NPI, DEA, state license number, TIN and address and scores potential matches. A score of 15 points is the threshold for a potential match. Unlike the unique person identifier, the next step is the calculation of total paid by payer. Adjustments are made to ensure that the unique provider identifier assigned maps to the payer with the highest paid amount. A provider with multiple NPIs will be assigned multiple unique provider identifiers.

Like the unique person identifier, the unique provider identifier can change at each quarterly data submission. Providers with a unique provider identifier assigned in a previous quarterly data submission will be assigned a new unique provider identifier when a new identifier is reported by a payer that did not previously report a provider identifier for them or the person has a change in name, date of birth or gender. Unique provider identifiers are never reused.

Orphan claims. The vendor links medical and pharmacy claims with monthly enrollment data using the claims service date, eligibility month and plan specific unique member identifier. Claims without a linked eligibility month are linked to the closest eligibility month within a year for the plan specific unique member identifier (gap fill process). Claims without a linked eligibility month within a year are considered “orphan claims”. Orphan claims include paid and denied claims. Orphan claims occur when submitted eligibility data is missing, replaced or removed in a subsequent quarterly data submission. Eligibility data is removed by the reporter for failure to pay the premium, error or disenrollment for another reason. From 3,000 to 28,000 people have from 28,000 to 121,000 orphan claims in APAC annually.

Vendor generated data elements. The vendor uses the data submitted by reporters to calculate additional data elements including line of business (LOB), Heath Cost Guideline® MR Line code (HCG), the Medical Episode Grouper (MEG), Metropolitan statistical area (MSA), Urban, MedInsight Medicare Severity Diagnostic Related Group Code (MS DRG), and RX class. Other vendor created data elements are listed in the APAC data dictionary. Brief descriptions of LOB, MEG, MSA, Urban, MS DRG and RX class are described below.

LOB is assigned based on the APAC product code reported by payers in the monthly member eligibility data—not on the APAC product code reported in claims. Payer-reported product codes are grouped together into three categories: Commercial, Medicare and Medicaid. Payer-reported product codes PPO, POS, HMO, self-insured and pharmacy only, missing and unknown are mapped to

commercial; Medicaid FFS, dual Medicaid and Medicare, disabled, low income, and Children's Health Insurance Program are mapped to Medicaid; and Medicare PPO, Part D, Advantage and Dual Special Need Program are mapped to Medicare. Orphan claims are assigned a null LOB. The gap fill process used by the vendor to link claims with eligibility data can result in the incorrect assignment of LOB because it ignores the payer-reported product code for claims.

HCG and MEG are vendor proprietary grouping algorithms. The HCG system groups services into five settings: inpatient, outpatient, professional, prescription drug and ancillary. The lowest level of the HCG system groups services into one of 107 categories. MEG creates episodes of care for a patient's complete course of care for a single illness or condition over a specified time and incorporates medical and pharmacy claims.

MSA is derived from reported zip code and the flag indicates that the member resides in a metropolitan area defined by the federal Office of Management and Budget. Urban is a flag that identifies if a member's zip code is associated with a list of Oregon urban ZIP codes provided by OHA.

MS DRG is a Medicare derived grouping system used by the vendor to classify inpatient hospital services into one of approximately 750 groups. RX class is a grouping of pharmaceuticals with the same therapeutic properties as defined by Medi-Span.

APAC Data structure

APAC data is structured in relational data tables that can be linked by shared or common primary keys. There about 100 reference tables that populate the primary tables. The primary tables include:

- Claims (pharmacy & medical by person by payer)
- Eligibility (monthly by person by payer)
- Demographics (by person by payer)
- Provider (attending, pharmacy and billing; demographics by provider by payer)
- Billed premiums (monthly by person by payer)

Many-to-many data relationship. The APAC data structure is many-to-many for claims, eligibility, demographics, providers and billed premiums.

People in APAC may be enrolled in more than one plan at one time or over time. Claims for a person enrolled in more than one plan at a time are generated by each plan with different claim numbers, payments and other data elements for the same medical visit or pharmaceutical dispensed. A person enrolled in a single plan at a time will have claims for only that plan. Primary keys for claims include unique person identifier, unique member identifier by plan, product key, and dates.

A person has up to 12 monthly eligibility segments per year per plan. For each eligibility segment by plan and person there are four rows of data: one for medical member month, pharmacy member month, behavioral health member month and vision member month. APAC payers do not provide claims data for vision plans, so the member month rows are null. Behavioral health member month are created only for people in specified Medicaid plans and is null for the remainder. A person enrolled in a single plan for the year will have 48 rows of eligibility data for that year. A person enrolled in two different plans for the year will have 96 rows of data for that year. Primary keys for monthly enrollment and eligibility include unique person identifier, unique member identifier by plan, product key, eligibility units and dates.

Member demographic variables are submitted by each payer each quarter. Previous demographic data reported by a payer is replaced with the demographic data reported by the payer in the current quarter when the current quarter data differs. A person has a row of demographic data for each of their plans. A person enrolled in a single plan over the APAC years will have one row of demographic data. A person enrolled in two plans over the APAC years will have two rows of demographic data. Primary keys for member demographics include unique person identifier and unique member identifier by plan.

Attending, pharmacy and billing provider demographic variables are submitted by each payer each quarter. Previous demographic data reported by a payer is replaced with the demographic data reported by the payer in the current quarter if the current quarter data differs. Providers appear multiple times in the provider table because they receive payment from multiple payers over time and each payer assigns a unique provider identifier. Primary keys for provider data include unique provider identifier and unique provider identifier by plan.

A person has up to 12 monthly billed premium segments per year per plan. A person enrolled in a single plan for the year will have 12 rows of data for that year. A person enrolled in two different plans for the year will have 24 rows of data for that year. Primary keys for billed premiums include unique person identifier and unique member identifier by plan.

Data users can request claims data joined to eligibility, demographics, provider and billed premiums or request separate tables. Joined claims data will duplicate data requested from other tables for every claim line.

APAC Data Limitations

APAC is a robust source of administrative health care data but has limitations. APAC does not contain claims or eligibility data for between 3% to 13% of the Oregon population because some people are not insured and because APAC does not have data from all payers for all claims, as described previously in the What APAC is Not section of this guide.

The APAC Issue Log provides information about pending and resolved APAC data issues. The APAC Issue log is 'live' and updated as issues are discovered and resolved. Requesters are encouraged to check the APAC Issue Log regularly.

Medicaid data reported data to APAC. Medicaid data in APAC is based on Oregon's Medicaid Management Information System data (MMIS), however not all Medicaid recipients or claims within MMIS are reported to APAC. Some recipients with limited health benefits and their claims are included in APAC from 2011 to 2013 and excluded from 2014 to 2016. Additionally, recipients who are not legal residents in the country and their claims are included in APAC from 2011 to 2013 and 2016 but are excluded from 2014 to 2015.

MMIS Medicaid eligibility data is modified for APAC data reporting. Unlike other payers, Medicaid eligibility is not restricted to the first day of the month, to a single eligibility category, to a single benefit program or limited to either fee-for-service or managed care. Medicaid recipients can move from one eligibility category or one benefit program to another during the same month. Medicaid recipients can also change CCOs or move from a CCO to fee-for-service (FFS)—or vice versa—during the same month. Medicaid recipients enrolled in a CCO can receive services paid on a FFS basis simultaneously during the same month. Some medical services and pharmaceuticals are 'carved out' of all CCO

coverage and paid FFS; and some services are ‘carved out’ of some CCOs and paid FFS.

MMIS Medicaid eligibility data reported to APAC is assigned by OHA based on the last day of the month. Any recipient eligible on the last day of the month in MMIS is reported to APAC as a full month of eligibility. Recipients are assigned the CCO they are enrolled in on the last day of the month. If a recipient is not enrolled in a CCO on the last day of the month they are assigned FFS.

Unlike eligibility data submitted to APAC, Medicaid claims are not assigned based on the last day of the month. MMIS claims are submitted to APAC with the actual CCO identifier responsible for the claim or FFS.

The APAC data vendor assigns all Medicaid claims in APAC to the CCO or FFS identified in the eligibility data regardless of actual payment arrangement (FFS or CCO) or enrollment with a different CCO during the month. Vendor assignment can result in error (i.e., claims paid FFS are assigned in error to the CCO identified in eligibility and vice versa).

Medicaid recipient eligibility data reported to APAC was based on the MMIS member month table through 2015. Starting in 2016, recipient eligibility was based on the MMIS eligibility table. The MMIS member month table is created quarterly but is not updated and does not capture changes that occurred after the quarter. The MMIS eligibility table is continuously updated and captures all eligibility changes. The change eliminated most orphan claims for Medicaid members in APAC for 2016, but not prior. The change improved demographic reporting because more data was available from the MMIS eligibility table.

Medicaid does not require CCOs with sub-capitation payment arrangements to report the amount paid to a provider. These claims are frequently reported by CCOs to Medicaid as zero or less than a dollar paid and subsequently Medicaid reports these no or low dollar claim payments to APAC. Medicaid policy regarding reporting the amount paid to providers has varied over time. Data users may want to consider analyzing FFS and paid Medicaid claims separately and may consider imputing paid amounts for zero or low dollar CCO claims based on national, regional or other available estimates.

Caution is warranted for data users regarding Medicaid data in APAC. Data for Medicaid claims and eligibility differs from MMIS. Data users may consider

contacting the APAC team for consultation regarding analyses of Medicaid data in APAC.[3]

Pharmacy Benefit Manager Plans (PBM). Most PBMs report either pharmacy benefits only or Medicare Part D as the product code for member eligibility and claims because most PBMs do not have access to member medical plan data. PBM members may have other coverage and those payers report eligibility and claims data for members independent of PBMs. Requesters may need to deduplicate monthly eligibility for PBM member simultaneously in a medical plan to avoid counting them twice.

Medicare Part D is the only stand-alone type pharmacy plan allowed in Oregon. APAC members who are not covered by Medicare and who are reported to APAC by a PBM are covered for medical services by another entity. The other entity may have reported member eligibility data, but the member was not linked to the PBM reported data. Some reported PBM members may be covered by Medicare, but their Medicare data is not reported to APAC because CMS identifies their residency in a state other than Oregon.

People with no medical or pharmacy monthly eligibility. Annually, about 1% of the people in APAC have no medical or pharmacy monthly eligibility. Most are CMS Medicare except in 2014 when most are Medicaid covered. These are errors in the data given that all people with Medicare have medical coverage and all Medicaid recipients reported to APAC in 2014 have medical coverage. Data users may consider imputing medical eligibility or excluding data for people in APAC with no medical or pharmacy monthly eligibility.

Self-insured plans. Prior to March 2016, mandatory reporters were required to submit data for all self-insured plans. However, due to the Supreme Court decision in *Gobeille v. Liberty Mutual Insurance Company*, this requirement was removed. Now, mandatory reporters are required to submit only data for self-insured plans not exempt due to the court decision. Some reporters voluntarily provide all self-insured plan data. The limitation in APAC is that there is no way to identify or distinguish between mandatory and voluntary reporting of self-insured data. Data users may consider excluding self-insured data from their data request or filter self-insured data by the product codes reported by payers. PEBB and OEBB are self-insured plans, but member and claims data are not

[3] Requesters are not permitted to request only Medicaid data from APAC. Requesters interested in only Medicaid data must request data directly from the Medicaid program at OHA.HealthAnalyticsRequest@state.or.us.

always reported to APAC as self-insured product codes. More than half of PEBB and OEBB members are reported as commercial HMO or commercial PPO product codes. Data users may consider recoding APAC data for PEBB and OEBB members and claims to reflect self-insured plan type.

Race, Ethnicity and Language data. While mandatory and other payers are required to submit race, ethnicity and language data, there is no threshold requirement for the data submitted. Reporters are not required to correct, update, or resubmit quarterly data when race, ethnicity, and language data are mostly missing or unknown. For example, race data is reported missing or unknown for 59% of the people in APAC; ethnicity data is missing or unknown for 72%; and primary spoken language is missing or unknown for 50%. Only 25% of APAC data submitters provided any race or ethnicity data other than unknown and only half provided primary language data.

Person and provider unique identifiers. The APAC data vendor's unique identifier methodology for members and providers has limitations. Some members or providers may receive more than one unique identifier, and some may share the same unique identifier in error. The error is likely attributable to name and date of birth differences across payers and data years, and because probabilistic data linking algorithm and software are not used by the vendor. Unique identifiers are specific to each quarterly data refresh but are not unique for APAC data sets abstracted before the most current quarterly data refresh. For example, data users who received an APAC data set and request an additional year of data or additional data elements will need to create a crosswalk using plan specific unique identifiers or may contact the APAC team for assistance.

Paid claims. In many cases, both payers and members pay a portion of each claim. Data users interested in calculating the amount paid for claims should aggregate payer and member payments to calculate the total paid for each claim.

Zero dollar paid claims. Data users interested in summarizing paid amounts should consider analyzing managed care and fee-for-service claims separately; consider analyzing zero dollar and near zero dollar claims for managed care encounters separately to avoid artificially low estimates; and consider imputation or other mathematical adjustment for zero and near zero dollar paid managed care claims.

Expected member payments. Member coinsurance, copayment and deductible are expected and not actual payments to providers. Some payers report expected member coinsurance, copayment and deductible payments separately

and some report a single member payment. Data users should analyze separate and single measures of expected member payments to assess the amount members are expected to pay.

Inpatient Hospital Claims. Data users should consider deduplicating or aggregating inpatient hospitalization data. People can be discharged from one unit and admitted to another unit in the same hospital without any break in time between discharge from the first unit and admission to the second unit. Failure to aggregate will result in one hospital visit counting as two visits and the second visit may incorrectly be counted as a rehospitalization.

Complexity of Data. Each APAC data submitter collects and stores its data using varying data systems, collection methods, and definitions. While OHA adopted rules and a standardized APAC data submission process, there is no uniform method for the original data collected by APAC data submitters. There are exceptions, anomalies, and error in APAC due the breadth and complexity of APAC data submitters' internal data systems and the differences in the original data they collect.

Data Dictionary

The data dictionary lists the data elements in the APAC database and provides brief descriptions and values for each. Data elements reported by payers and those calculated by the vendor are marked in the corresponding columns. The threshold level that reporters must meet with their quarterly data submission by data element are listed in the corresponding column. Blank threshold values indicate that there is no threshold level requirement.

The data dictionary is organized by the APAC data structure. Data elements available for pharmacy and medical claims are listed first and followed by: unique data elements for medical claims; unique data elements for pharmacy claims; demographics; monthly eligibility; provider data and billed premiums. Data elements that require additional detailed justification and data security plans are listed after the above categories. Restricted data elements that are never shared or nearly never shared are listed last and require greater justification, data security plans and are subject to greater DRC scrutiny and likely DOJ review.

Specific data elements are recommended for requests because they are the minimum necessary to properly query and interpret duplicate claim lines.

Minimum necessary data elements depend on the nature of the data request. For example:

- Minimum necessary data elements for claims requests include: claim identifier, claim line, claim status, unique person identifier, from date of service (fill date) and payment date.
- Minimum necessary data elements for requests that intend to compare insurance types or plans must include plan specific member identifiers in addition to the above listed elements.

Additional minimum necessary data elements depend on the project purpose.

- Additional minimum necessary data elements for medical claims may include: diagnosis, revenue, procedure and modifier codes.
- Additional minimum necessary data elements for pharmacy claims request may include: National Drug Code, strength and quantity dispensed.

Specific data elements are recommended for requests because they are the minimum necessary to properly query and interpret duplicate monthly eligibility data. However, as stated above, minimum necessary data elements depend on the nature of the data request. For example:

- Minimum necessary data elements for monthly eligibility requests include: Product type key, medical member month units, pharmacy member month units, unique person identifier and plan specific member identifier.

- Minimum necessary data elements for provider data include unique provider identifier and plan specific identifier. Additional recommended data elements include: name, date of birth, NPI, DEA, TIN and taxonomy.

- Minimum necessary data elements for billed premium include unique person identifier, plan specific member identifier and dates.

Data users can request claims data joined to enrollment and eligibility, to demographics and billed premiums or request separate tables. Joined claims data will duplicate enrollment, demographics and billed premiums for every claim line by payer. Data users can specify whether they want joined claims or separate tables in their data request.

APAC data request options to consider

Requests for APAC data are subject to the standards and regulations of the Health Insurance Portability and Accountability Act of 1996 (HIPAA) to protect the privacy and security of members and their health information. Multiple data

protection processes ensure the privacy and security of data from submission to release. APAC data is encrypted during transmission and stored in a secure data center. Data access is limited to authorized OHA staff and the vendor. Individuals and organizations that want access to APAC data must complete the data request process. OHA ensures that data requests comply with HIPAA, protect the privacy of members and their health information, are justified and that OHA shares only the minimum necessary data.

APAC Data Types

Three types of APAC data are available by request: Public Use, limited and custom.

Public Use data. There are three different annual Public Use data files (PUF) available by request: medical claims, pharmacy claims and episodes of care which includes both medical and pharmacy claims. PUFs are created using specific inclusion and exclusion criteria. Denied claims, orphan claims and substance abuse claims are excluded from all PUFs. Type of bill is used to identify medical and pharmacy claims. CMS fee-for-service claims are included in PUFs. Users receive all data elements for each requested PUF. PUFs are limited to the primary diagnosis and procedure code. Monthly eligibility and detailed provider data is not available. An urban/rural flag is provided, but county and zip code data elements are not available in PUFs to ensure compliance with HIPPA. PUFs exclude data that identify members and PUF data may not be linked to external data. PUF requests require approval of only the APAC-2, because member identifiers are excluded and health information is protected in compliance with HIPPA.

Limited and custom data. Limited and custom data sets offer a higher level of detail than PUF data and contain protected health information (PHI). Limited data include data elements identified by OHA, while custom data may include any of the data elements that APAC collects.[4] Both limited and custom data can may be linked to external data only with written approval by OHA.

Although in rule as two separate file types, limited and custom data requests follow the same review process—beginning with the submission and approval of the APAC-2 and followed by the APAC-3 form. To ensure compliance with HIPAA, APAC limited, and custom data requesters must provide justification for

[4] Direct identifiers such as patient name or address are only released under special circumstances that comply with HIPAA requirements, and may require specific approvals in addition to OHA review.

each data element and years of data requested. Only the minimum necessary data elements and data years will be approved and provided. For example, all pharmacy claims data will not be provided if the plan is to conduct analysis of a specific pharmaceutical only. Enrollment data for all people in APAC will not be provided if the plan is to conduct limited population analyses such as well-child or prenatal care claims. Multiple years of data will not be provided if there is no plan to conduct longitudinal or year to year analyses.

Limited and custom data requests require approval from the Data Review Committee (DRC) and may require approval from an Institutional Review Board (IRB) and the Department of Justice (DOJ). Detailed information about the DRC schedule and approval process is located on the DRC website.

Limited and custom data may be used to inform activities related to health care operations, treatment, payment, public health, or research—with each permitted use defined in HIPAA.[5] Research requests, as defined in HIPAA, generally require IRB approval prior to submitting an APAC data request if identifiable data is being requested. Requests for direct identifiers such as date of birth and zip code require detailed justification and security procedures that are subject to greater scrutiny by the DRC. Some data elements such as names and addresses are not available except in special arranged circumstances. These data elements require a higher level of justification, security procedures and approval by the DRC and DOJ. Requesters interested in person identifiable data elements should contact the APAC team and discuss options and alternatives prior to submitting the data request.

APAC Data Request Guidance

- **Consultation with the APAC team prior to request is highly recommended.**

[5] Refer to the following sections of the Code of Federal Regulations (CFR) for definitions of permitted uses:

- 45 CFR 164.501 for the definition of health care operations;
- 45 CFR 164.506 (c)(2) for definition of treatment of patient by health care provider;
- 45 CFR 164.506 (c)(3) for definition of payment activities performed by covered entity or health care provider;
- 45 CFR 164.512(b) for definition of health care activities; and
- 45 CFR 164.501 for definition of research.

- Determine the APAC data type to request: public use or limited and custom
    - Public use data is limited to the first diagnosis code
    - Denied and orphan claims are not available in public use data
    - Monthly eligibility data is only available by limited and custom data request
    - Billed premium data is only available by limited and custom data request
    - Provider demographic data is only available by limited and custom data request
    - County and zip code data is only available by limited and custom data request
    - Month of birth is only available by limited and custom data request
    - Month of death is only available by limited and custom data request

- Linking APAC data with any other dataset requires a limited and custom data request. Requesters are strongly encouraged to consult with Health Analytics about linking APAC data with other data prior to submitting a data request

- Data requesters who plan to link APAC data with another data source using personal identifiers such as name, date of birth or address should contact the APAC team for a discussion about options. OHA prefers to conduct APAC data linking in-house and share only encrypted identifiers with data requesters

- Review APAC data structure and dictionary to determine which data elements to request

- Consider APAC data limitations in request for data elements

- Consider minimum necessary APAC data required for project and justification

- Consider APAC data storage capacity, security, software and analytic skills

- All requesters must first complete the APAC-2 form and submit it to OHA for review
  Public use data requests require only the APAC-2 form
  Public use data requests do not require DRC review and approval

- Limited and custom data requests require submission of the APAC-3 form and data elements workbook after approval of the APAC-2 request

- Limited and custom data requests require Date Review Committee (DRC) review and approval
  - DRC ensures compliance with HIPAA
  - DRC ensures minimum necessary data elements and data years
  - DRC reviews justification for data elements and data years
  - DRC ensures data security and data destruction plan

- After a data request is approved, requesters must execute a Data Use Agreement (DUA) with OHA

- APAC data is transmitted to an approved data requester through a secure file transfer protocol established to ensure data security and adherence to HIPPA

- Data requesters are not allowed to make any copies of APAC data

- Only people who signed the DUA can access the APAC data provided

- People can be added or removed from the DUA through an approved amendment

- A principal investigator can be added or removed from the DUA through an approved amendment

- APAC data can only be used for the approved project specified in the signed DUA and may not be used for exploratory, descriptive or any other purpose

- APAC data must be removed and destroyed by the DUA end date

- Data users must possess a valid and up-to-date IRB approval for research projects. Data users are required to provide valid and up-to-date IRB approval for research throughout the approved project. Data users are not permitted to use or retain APAC data without a valid and up-to-date IRB approval for research projects

Issues and Tips to Consider for APAC Data Requests

Claims Tips:

- Claims data include only people who had a medical visit or pharmacy dispensed (numerator). Monthly eligibility data includes people by plan whether or not they received a medical or pharmacy service (denominator).

- Requesters need to decide whether they want:
  - Claims for out-of-state residents included or excluded
  - Denied claims included or excluded
  - Orphan claims included or excluded
  - Self-insured claims included or excluded
  - PEBB and OEBB claims included or excluded

- Allowed amount is considered a trade secret and is a restricted data element that is never or nearly never available for request. Requesters need to decide if they want to:
  - Request all claims regardless of allowed amount
  - Limit claims to allowed amount greater than zero
  - Limit claims to allowed amount greater than or equal to zero

- Pharmacy claims do not have diagnosis, procedure or modifier codes associated with the claim. Requesters can link pharmacy claims to medical claims using unique person identifier, unique member identifier and dates of service or may opt to use vendor provided Medical Episode Grouper (MEG) data elements.

- A claim can have multiple claim rows or lines. The number of claim rows or lines does not equal the number of claims. Some claims lines may be paid and some denied. The analyst must deduplicate claim rows or select only the first row of the claim by payer to count claims. The

analyst should exclude denied claims and denied claim lines before aggregating to calculate paid claim amount.

- Claims are not visits. Data users interested in counting visits or pharmaceuticals dispensed need to aggregate across claims, across payers, and by person. If a person is enrolled in only one plan and the claim has only one claim line, then the claim equals a visit or a pharmaceutical. A person enrolled in more than one plan at a time may have claims from each payer for the same visit or pharmaceutical. Claims from each payer will have different claim identifiers for the same visit or pharmaceutical. Analysts need to aggregate across lines for each payer and across payers to count visits or pharmaceuticals by person and to sum the amount paid.

- Denied claims should be handled with caution. No reason is provided for denied claims. Paid claims for the same service either from the same or other payers may exist in the database. Denied claims should be excluded from financial analyses because they were not paid.

- Data users need to decide if they want claims joined with other tables or separate tables. Joined claims data will duplicate enrollment, demographics and billed premiums for every claim line by payer.

- CMS reported Medicare claims and monthly eligibility data are included in APAC but are not available for data request except for projects by OHA. Medicare data reported by commercial insurers is available for request.

- Substance abuse claims are included in APAC but are not available for data request. These claims are identified by an algorithm that identifies substance abuse treatment facilities, providers, diagnoses, revenue codes and procedure codes. The algorithm used to identify substance abuse claims is available in the APAC data dictionary. Requesters need to decide if APAC is appropriate for their project given that substance abuse treatment claims data are not available for request. The substance abuse claims exclusion algorithm stopped excluding pharmaceuticals in 2015 and are retroactively included in APAC 2011 to current. Data users that received APAC data prior to 2015 did not receive substance abuse treatment pharmaceuticals.

Demographic Tips:

- Demographics are static by payer except for age. Payers submit demographic data for members each quarter that replaces previously reported data by payer. There is no history of demographics in APAC, except age. For example, a person who lived in Clackamas county in 2012 and moved to Multnomah county in 2016 will have only Multnomah county for all years in APAC for that payer. Data users can query demographics by unique person identifier and use demographic data reported across payers.

- There are multiple options for age data in APAC. Data users may request age variables based on eligibility or claims. Age is available by date of service in claims and by the month of eligibility. Different age groups are available by the month of the date of service or the month of eligibility.

- Race, ethnicity and language data are missing for most people in APAC. Data users can query race, ethnicity and language by unique person identifier (across payers) and obtain the small amount of data available from each plan.

- Month of birth and month of death require a higher level of justification for DRC review. The DRC will not approve data requests without a specific need and justification for this data.

- Date of birth and date of death are never or rarely shared and require the highest level of justification from DRC and DOJ.

Payer Information Tips:

- Payer-specific identifiers are never shared.

- Payer line of business (LOB), payer type and payer product code are the most specific payer-related data available for request in APAC. Payer type and payer product code are reported by payers in claims and independently in monthly eligibility data. LOB is vendor generated with limitations. Data users may consider using payer type and product code to create line of business categories and determine if they want payer type and product code from claims, eligibility or both.

- Requesters can limit their data request to a specific line of business, payer types or product codes.

- Data users may consider excluding self-insured data from request and/or analyses given that self-insured data reported to APAC declined by 50% when reporters were no longer required to report all self-insured data. For example, self-insured members declined from about 659,000 to 327,000 in 2016 and claims declined from 9.4 million to 5.6 million in 2016. Self-insured data are categorized as commercial line of business by the vendor. PEBB and OEBB are self-insured plans, but not all members or claims are reported as self-insured. Data users may consider including or excluding PEBB and OEBB data.

Provider Data Tips:

- Provider data includes demographics and other detailed data for billing, pharmacy and attending providers. Not all providers are individuals. Some providers are clinics or facilities. Caution is warranted regarding the vendor generated unique provider identifier. Data users may consider creating their own unique provider identifier based on the detailed provider data in APAC.

Monthly Eligibility Data Tips:

- Requesters need to decide whether they want:
  Eligibility data for out-of-state residents included or excluded
  Eligibility data for people in self-insured plans included or excluded
  Eligibility data for PEBB and OEBB members included or excluded

- CMS reported Medicare monthly eligibility data is not available for limited and custom data requests except for OHA agency data requests

- Monthly eligibility data from CMS is limited to Oregon residents. Out-of-state residents in Medicare may not have monthly eligibility data in APAC

- Some Oregon residents who are enrolled in a commercial Medicare Advantage or stand-alone Medicare Part D plan do not have medical monthly and eligibility data in APAC. Data users may consider imputing monthly medical eligibility data for Oregon residents or consider excluding them from analyses

- Medicaid monthly eligibility is not available for all Medicaid members. Data users should contact the APAC team to discuss options

Medicaid Data Tips:

- Medicaid data in APAC does not include all Medicaid recipients or claims and varies over time. Medicaid recipients with limited health benefits and recipients who are not legal residents are sometimes included or excluded from APAC. Monthly eligibility data in MMIS Medicaid data differs from data reported to APAC.

- Data users may consider limiting or flagging Medicaid data to create equitable Medicaid populations in APAC across time. Data users interested in limiting or flagging Medicaid data should contact the APAC team prior to request.

- Requesters are not permitted to request only Medicaid data from APAC. Requesters interested in only Medicaid data must request data directly from the Medicaid program at OHA.HealthAnalyticsRequest@state.or.us.

APAC Comparison with Other State of Oregon Data Sources

APAC was compared with data from other State of Oregon data sources to provide context and inform users about common and unique features. A brief summary of results is provided, and more detailed information is available upon request. APAC was compared with the following:

- Medicaid data from Medicaid Management Information System (MMIS)
- Hospital Discharge Data (HDD)
- Public Employee Benefit Board Data (PEBB)
- Oregon Educators Benefit Board Data (OEBB)
- Birth Certificate Data from the Oregon Center for Health Statistics
- Death Certificate Data from the Oregon Center for Health Statistics
- Date of death reported from CMS for Oregon residents
- Quarterly Health Enrollment data from Department of Consumer & Business Services (DCBS)
- Oregon State Cancer Registry (OSCaR)
- Oregon Prescription Drug Monitoring Program (PDMP)

Medicaid data. The Medicaid Management Information System (MMIS) has data for all Medicaid recipients, claims, encounters, enrollment, provider data and other data elements. MMIS is used for claims submission and payment, federal reporting, auditing, fraud detection, actuarially established capitation rates, health care utilization evaluation and to support health policy, research and innovations. Approximately 1% to 9% of Medicaid recipients and their claims in MMIS are not submitted to APAC.

Table 3. APAC and Medicaid Comparison

Unique Person Count	2011	2012	2013	2014	2015	2016
MMIS Medicaid	804,367	828,962	833,068	1,234,245	1,386,869	1,410,329
APAC Medicaid	798,544	821,982	815,860	1,228,026	1,267,392	1,354,354
Difference	-5,823	-6,980	-17,208	-6,219	-119,477	-55,975
% Difference	-1%	-1%	-2%	-1%	-9%	-4%

Hospital Discharge data. OHA contracts with the Oregon Hospital Association to provide hospital discharge data (HDD). HDD captures information about all hospital discharges from all Oregon hospitals regardless of payer or uninsured status. HDD includes Oregon residents and out-of-state residents who were hospitalized in an Oregon hospital. HDD includes reported charges but does not contain actual payment data from payers. The source of expected payment is reported at the time of discharge; however, the actual payer may differ from the expected payer. While HDD does not include any outpatient, emergency department or professional services data, it does include hospital discharge data for the uninsured, self-insured, Veterans Affairs, Tribal Health and other payers that do not submit data to APAC.

HDD data was limited to Oregon residents and APAC data was limited to Oregon residents discharged from Oregon hospitals for comparison. APAC has from 16% to 29% fewer Oregonians discharged from Oregon hospitals and from 11% to 25% fewer Oregon hospital visits for Oregonians compared to HDD. APAC has from 9% to 22% fewer Oregonians discharged from Oregon hospitals and from 4% to 18% fewer Oregon hospital visits for Oregonians compared to HDD after excluding uninsured and not insured by commercial, Medicaid or Medicare from HDD.

Table 4. APAC and HDD Comparison

	2011	2012	2013	2014	2015	2016
All APAC people with a hospital visit	216,200	213,155	213,544	246,269	249,199	245,401
All HDD people	285,723	279,164	275,969	282,308	287,487	286,831
All APAC hospital visits	437,803	436,496	418,343	473,481	488,428	483,154
All HDD hospital visits	372,359	362,161	357,254	365,675	376,326	370,227
APAC Oregonians with an Oregon hospital visit	189,867	186,951	183,317	222,419	224,453	217,419
HDD Oregonians with an Oregon hospital visit	268,184	261,539	258,164	265,162	269,950	268,778
APAC Oregon hospital visits for Oregonians	262,400	258,279	254,812	307,854	311,888	298,862
HDD Oregon hospital visits for Oregonians	350,198	340,157	335,220	344,266	354,857	348,239
% Difference Oregonians with an Oregon hospital visit	-29%	-29%	-29%	-16%	-17%	-19%
% Difference Oregon hospital visits for Oregonians	-25%	-24%	-24%	-11%	-12%	-14%
HDD Oregonians with an Oregon hospital visit exclude other/uninsured	163,943	159,855	140,689	201,244	206,492	198,795
HDD Oregon hospital visits for Oregonians exclude other/uninsured	236,528	228,941	207,302	241,380	249,191	247,349
% HDD Oregonians with an Oregon hospital visit exclude other/uninsured	-22%	-20%	-15%	-9%	-11%	-13%
% HDD Oregon hospital visits for Oregonians exclude other/uninsured	-18%	-16%	-10%	-4%	-7%	-9%

Public Employee Benefit Board (PEBB) Data. People who work for a PEBB eligible public employer are enrolled in PEBB health plans regardless of Oregon residency. PEBB enrollment data is collected by the PEBB program. APAC has about 1% fewer PEBB enrollees compared to PEBB program data.

Oregon Educators Benefit Board (OEBB) Data. People who work for an OEBB eligible public employer are enrolled in OEBB health plans regardless of Oregon residency. OEBB enrollment data is collected by the OEBB program. APAC has from 1% to 7% more OEBB enrollees compared to OEBB program data. The difference is likely attributable to how years are tracked—OEBB database that tracks people by school year and APAC does so by calendar year.

Table 5. APAC, PEBB, and OEBB Comparison

	2011	2012	2013	2014	2015	2016
PEBB in APAC	137,956	134,562	137,285	139,771	141,267	149,534
OEBB in APAC	144,041	138,235	140,463	140,771	142,440	143,511
PEBB	139,286	135,713	138,277	140,732	141,990	143,791
OEBB FY	140,659	133,689	137,943	138,712	133,669	134,660
% Difference APAC-PEBB	-1%	-1%	-1%	-1%	-1%	4%
% Difference APAC-OEBB FY	2%	3%	2%	1%	7%	7%

Birth Certificate Data. Oregon birth certificate data is collected by the Oregon Center for Health Statistics. There are from 45,000 to 46,000 Oregon births annually from 2011 to 2016. About 96% of births occur in a hospital. From 9% to 11% of Oregon births are not in APAC based on an analysis of selected diagnosis and procedure codes. However, the selected codes may not identify some births.

Death Data. Oregon death certificate data is also collected by the Center for Health Statistics. There are from 33,000 to 36,000 Oregon resident deaths annually from 2011 to 2016 and about a quarter occurred in a hospital. CMS reported from 27,000 to 30,000 deaths to APAC annually. From 8,000 to 9,000 deaths annually were identified from APAC hospital discharge claims data. Hospital discharge claims and CMS reported deaths in combination identified from 31,000 to 33,000 deaths annually in APAC or from 89% to 96% of Oregon resident deaths. Hospital discharge claims alone identified from 85% to 97% of Oregon resident deaths that occurred in a hospital.

Table 6. APAC and Death Data Comparison

	2011	2012	2013	2014	2015	2016
Oregon Resident Death Certificates (DC)	32,731	32,475	33,931	34,160	35,709	35,799
Oregon Resident Deaths that occurred in a hospital DC	7,903	7,481	7,864	8,030	8,559	8,502
CMS date of death (DOD) in APAC	26,964	27,399	29,114	27,813	29,196	29,713
APAC Oregonian hospital discharge deaths	6,903	6,553	6,701	7,376	7,963	8,217
Both CMS DOD and APAC discharge death	3,274	3,192	3,491	4,725	5,408	5,380
CMS only death (not APAC discharge death)	23,792	24,310	25,727	23,122	23,940	24,401
APAC discharge death only (not CMS)	3,731	3,464	3,314	2,685	2,707	2,905
CMS or APAC hospital discharge death	30,797	30,966	32,532	30,532	32,055	32,686

% deaths that occurred in a hospital (DC)	24%	23%	23%	24%	24%	24%
% Both CMS DOD and APAC discharge death	10%	10%	10%	14%	15%	15%
% CMS only death (not APAC discharge death)	73%	75%	76%	68%	67%	68%
% APAC discharge only (not CMS)	11%	11%	10%	8%	8%	8%
% CMS or APAC hospital discharge deaths in APAC	94%	95%	96%	89%	90%	91%

Department of Consumer and Business Services (DCBS) Quarterly Health Enrollment data. DCBS collects mandatory quarterly health enrollment data from insurers and third-party administrators. According to DCBS data, from 2.5 to 2.9 million people in Oregon are commercially insured including Medicare Advantage and Medicare Part D. Medicaid and Medicare (CMS) FFS covered lives are not reported to DCBS. Some self-insured plans report covered lives to DCBS and some do not. DCBS covered lives represent from 71% to 78% of the people in APAC.

Table 7. APAC and DCBS Data Comparison

	2011	2012	2013	2014	2015	2016
APAC unique Oregonians	3,337,473	3,490,242	3,489,477	3,744,971	3,913,610	3,795,248
DCBS mean covered lives	2,482,539	2,653,995	2,716,847	2,681,760	2,779,377	2,858,765
DCBS % of Oregon population	64%	68%	69%	68%	69%	70%
DCBS % of APAC	74%	76%	78%	72%	71%	75%

Oregon State Cancer Registry (OSCaR) data. OSCaR is a statewide, population-based registry that collects and analyzes detailed information about Oregon cancer patients and the treatments they receive. In general, only malignant cancers and benign tumors of the central nervous system and pineal and pituitary glands are reportable, although there are exceptions. For each reportable cancer site (part of the body where a cancer occurs), the date of first diagnosis and first course of treatment are collected. This makes OSCaR an incidence (newly diagnosed) based data system. The ability to identify who is diagnosed statewide and their treatment is important in describing the burden of cancer in Oregon, tracking the effectiveness of cancer interventions like colorectal cancer screenings and linking Oregon cancer patients with researchers to improve the quality of cancer treatment. Unlike OSCaR, APAC is an all payers all claims database and collects information about the diagnosis

and treatment of cancer regardless of when or where the cancer was first diagnosed (prevalence).

For comparison purposes OSCaR and APAC cancer cases were limited to Oregon residents. Depending on the type of cancer, there were up to 16 times more cancer cases identified in APAC. Limiting APAC cancer cases to the first year of diagnosis found in APAC reduced the difference by nearly half. Limiting APAC cancer cases to those diagnosed in hospitals produced mixed results.

Table 8. APAC and OSCaR Data Comparison

APAC Cancer Cases							
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**Total unique people**
Unique people	96,844	98,100	99,586	104,473	108,072	105,790	249,006
lipOralPharynx	2,486	2,585	2,715	3,246	3,223	3,196	9,455
Esophagus	972	975	1,040	1,119	1,181	1,161	3,754
Stomach	861	871	911	980	951	922	3,614
ColonRectumAnus	8,277	8,192	8,355	8,604	8,712	8,594	24,109
LiverBile	1,419	1,531	1,658	1,807	2,002	2,070	7,126
Pancreas	1,353	1,371	1,344	1,494	1,629	1,566	5,942
Larynx	710	688	709	758	741	752	2,149
Lung	7,530	7,599	7,726	7,920	8,079	8,147	26,400
Skin	5,848	5,909	6,004	6,615	6,613	5,086	24,352
breast	23,861	24,186	24,523	25,171	25,748	24,716	55,921
cervix	1,060	1,090	1,083	1,216	1,266	1,144	4,259
uterus	2,741	2,869	2,936	3,302	3,499	3,614	9,004
ovary	2,150	2,118	2,091	2,187	1,905	2,087	6,255
prostate	24,478	24,317	24,533	24,682	25,470	25,162	49,931
Kidney	3,306	3,491	3,721	4,113	4,172	3,843	10,569
Bladder	6,348	6,525	6,650	6,934	7,127	7,135	16,195
Brain	370	376	356	399	407	453	1,717
Hodgkins	1,077	1,066	1,026	1,167	1,174	1,001	3,171
NonHodgkins	6,122	6,415	6,468	6,917	7,353	7,359	16,660
Lukemia	5,056	5,171	5,313	5,599	6,347	6,717	13,954
myeloma	1,764	1,886	1,947	1,966	2,531	3,025	5,977
lymphoid	262	229	207	242	305	434	1,421
APAC Oregon Residents Cancer Cases							
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**Total unique people**
Unique people	95,569	96,704	98,115	103,462	107,123	104,516	245,680

lipOralPharynx	2,453	2,549	2,674	3,217	3,192	3,165	9,348
Esophagus	964	954	1,022	1,111	1,170	1,148	3,709
Stomach	852	855	900	972	946	909	3,566
ColonRectumAnus	8,159	8,064	8,213	8,520	8,644	8,502	23,781
LiverBile	1,401	1,512	1,623	1,788	1,981	2,041	7,026
Pancreas	1,338	1,349	1,318	1,478	1,618	1,552	5,865
Larynx	702	680	699	751	733	743	2,131
Lung	7,430	7,478	7,596	7,853	8,017	8,056	26,075
Skin	5,775	5,840	5,921	6,544	6,562	5,031	24,070
breast	23,556	23,858	24,165	24,925	25,518	24,409	55,150
cervix	1,042	1,074	1,066	1,206	1,252	1,133	4,203
uterus	2,701	2,825	2,892	3,272	3,466	3,572	8,883
ovary	2,123	2,093	2,060	2,172	2,172	2,065	6,178
prostate	24,155	23,982	24,168	24,432	25,221	24,842	49,213
Kidney	3,259	3,449	3,667	4,067	4,130	3,802	10,437
Bladder	6,273	6,444	6,561	6,868	7,074	7,056	15,999
Brain	367	373	348	395	405	451	1,701
Hodgkins	1,062	1,056	1,010	1,160	1,161	987	3,129
NonHodgkins	6,040	6,312	6,372	6,861	7,288	7,267	16,414
Leukemia	4,991	5,093	5,246	5,540	6,283	6,631	13,763
myeloma	1,734	1,851	1,913	1,943	2,505	2,985	5,893
lymphoid	259	227	205	241	305	429	1,411

OSCaR Oregon Residents Cancer Cases

	2011	**2012**	**2013**	**2014**	**2015**	**2016***	**Total unique people**
lipOralPharynx	564	596	637	559	611	530	3,497
Esophagus	214	258	260	249	234	222	1,437
Stomach	250	248	295	256	269	199	1,517
ColonRectumAnus	1,898	1,908	2,008	1,940	1,911	1,652	11,317
LiverBile	392	457	442	487	475	325	2,578
Pancreas	560	563	622	667	646	487	3,545
Larynx	115	133	137	127	126	90	728
Lung	2,791	2,706	2,766	2,742	2,512	2,083	15,600
Skin	2,058	2,222	2,485	2,511	2,306	1,296	12,878
breast	3,728	3,849	3,896	3,720	3,595	3,131	21,919
cervix	133	129	142	151	150	114	819
uterus	656	730	657	714	718	749	4,224
ovary	290	301	307	298	301	247	1,744
prostate	2,821	2,142	2,226	2,091	2,239	1,632	13,151
Kidney	691	721	768	808	747	671	4,406

Bladder	1,019	1,049	1,030	1,042	1,016	759	5,915
Brain	359	358	384	361	325	307	2,094
Hodgkins	106	103	83	110	95	68	565
NonHodgkins	861	849	922	925	795	722	5,074
Leukemia	552	564	621	584	540	514	3,375
myeloma	261	248	272	270	230	181	1,462
First Year Cancer Diagnosed in APAC							
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**Total unique people**
Unique people	96,844	39,139	34,613	36,081	34,948	32,550	249,006
lipOralPharynx	2,486	1,313	1,282	1,606	1,408	1,360	9,455
Esophagus	972	522	545	556	609	550	3,754
Stomach	861	539	566	575	559	514	3,614
ColonRectumAnus	8,277	3,463	3,134	3,292	3,039	2,904	24,109
LiverBile	1,419	1,020	1,047	1,176	1,228	1,236	7,126
Pancreas	1,353	900	845	926	982	936	5,942
Larynx	710	316	291	310	270	252	2,149
Lung	7,530	3,849	3,717	3,852	3,781	3,671	26,400
Skin	5,848	4,093	3,844	4,140	3,771	2,656	24,352
breast	23,861	7,972	6,518	6,254	5,841	5,475	55,921
cervix	1,060	688	578	693	664	576	4,259
uterus	2,741	1,267	1,109	1,312	1,246	1,329	9,004
ovary	2,150	873	804	837	810	781	6,255
prostate	24,478	6,324	5,201	4,782	4,712	4,434	49,931
Kidney	3,306	1,512	1,406	1,587	1,443	1,315	10,569
Bladder	6,348	2,270	1,920	2,018	1,857	1,782	16,195
Brain	370	270	236	261	266	314	1,717
Hodgkins	1,077	480	378	496	422	318	3,171
NonHodgkins	6,122	2,319	1,984	2,218	2,061	1,956	16,660
Leukemia	5,056	1,751	1,626	1,702	1,912	1,907	13,954
myeloma	1,764	714	675	653	1,044	1,127	5,977
lymphoid	262	181	173	201	259	345	1,421
APAC Inpatient Hospital Cancer Diagnosis							
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**Total unique people**
Unique people	11,448	11,267	11,396	13,698	13,917	14,347	64,073
lipOralPharynx	249	257	313	378	418	444	1,843
Esophagus	167	208	203	235	224	272	1,138
Stomach	178	184	209	234	220	215	1,124

ColonRectumAnus	1,412	1,423	1,427	1,700	1,698	1,775	8,340
LiverBile	267	330	312	443	439	551	2,027
Pancreas	422	437	425	543	568	562	2,597
Larynx	51	52	76	94	90	83	389
Lung	1,750	1,721	1,725	2,154	2,135	2,284	10,337
Skin	120	121	151	187	181	190	852
breast	1,085	1,101	1,094	1,190	1,146	1,106	5,979
cervix	83	98	76	122	94	95	508
uterus	433	440	352	388	360	325	2,141
ovary	347	340	389	399	434	416	1,937
prostate	1,815	1,495	1,505	1,888	2,041	2,018	9,872
Kidney	541	555	592	762	747	711	3,573
Bladder	456	466	501	559	587	620	2,778
Brain	35	45	40	41	32	55	218
Hodgkins	120	116	112	170	154	104	634
NonHodgkins	862	891	875	1,078	1,092	1,103	4,651
Leukemia	1,040	1,021	1,035	1,215	1,351	1,452	4,988
myeloma	463	474	481	568	574	698	2,226
lymphoid	13	7	4	9	12	26	69

Oregon Prescription Drug Monitoring Program (PDMP) data. The Prescription Drug Monitoring Program (PDMP) is a tool to help healthcare providers and pharmacists provide patients better care in managing their prescriptions. It contains information provided by Oregon-licensed retail pharmacies. Pharmacies submit prescription data to the PDMP for all Schedules II, III and IV controlled substances dispensed to Oregon residents. The PDMP contains prescription data for uninsured people and insured people not reported to APAC. The PDMP does not contain information about insurance coverage, payment data or prescriptions dispensed out of Oregon. PDMP has prescriptions data for about a million Oregonians annually or from 28% to 43% more Oregonians than APAC. PDMP has roughly six million prescriptions fills annually for Oregonians or from 26% to 40% more than Oregonians in APAC. APAC does not include from about one hundred thousand to over four hundred thousand Oregon residents annually.

Table 9. APAC and PDMP Data Comparison

	2012	2013	2014	2015	2016
PDMP Total People	1,177,782	1,166,057	1,202,418	1,233,257	1,198,504
PDMP Oregonians	1,099,621	1,100,858	1,134,965	1,165,310	1,124,011

PDMP Total pharmacy fills	6,519,414	6,612,387	6,601,806	6,751,735	6,476,207
PDMP Total pharmacy fills Oregonians	6,289,091	6,395,931	6,388,339	6,531,973	6,226,774
APAC Total People with a pharmacy fill	648,300	632,865	758,629	824,508	814,996
APAC Oregonians with a pharmacy fill	643,182	628,615	745,239	817,033	808,729
APAC Total pharmacy fills	3,871,156	3,873,806	4,489,437	4,741,119	4,604,331
APAC Total pharmacy fills Oregonians	3,845,898	3,850,538	4,452,221	4,715,313	4,577,567
Difference Total People	-529,482	-533,192	-443,789	-408,749	-383,508
Difference Oregonians	-456,439	-472,243	-389,726	-348,277	-315,282
Difference Total pharmacy fills	-2,648,258	-2,738,581	-2,112,369	-2,010,616	-1,871,876
Difference Total pharmacy fills Oregonians	-2,443,193	-2,545,393	-1,936,118	-1,816,660	-1,649,207
% Difference Total People	-45%	-46%	-37%	-33%	-32%
% Difference Oregonians	-42%	-43%	-34%	-30%	-28%
% Difference Total pharmacy fills	-41%	-41%	-32%	-30%	-29%
% Difference Total pharmacy fills Oregonians	-39%	-40%	-30%	-28%	-26%
Oregon residents not in APAC	391,363	428,264	217,829	99,418	286,477

Additional Planned Comparisons. OHA plans to compare APAC with data from additional state data sources to provide context and inform users about common and unique features. One additional state data source identified for future comparison is the Emergency department data (EDHI data).

Sample Questions Using APAC Data

Sample questions using claims and demographic data

How many people received a diagnosis or group of diagnoses, pharmaceutical or class of pharmaceuticals annually? By line of business? By county? By age, gender, race or ethnicity?

What was the amount paid for a pharmaceutical or class of pharmaceuticals annually? By line of business? By county? By age, gender, race or ethnicity?

What was the average amount of coinsurance, copayment and deductible people were expected to pay annually? By line of business? By county? By age, gender, race or ethnicity?

How many children received age specific recommended well-child visits annually? By line of business? By county? By age, gender, race or ethnicity?

How many people who received an emergency room (ER) visit were later admitted for inpatient hospital care within 30 days of the ER visit? By line of business? By county? By age, gender, race or ethnicity?

Sample questions using eligibility and demographic data

How many people present in APAC during a year were no longer in APAC the next year? By line of business? By county? By age, gender, race or ethnicity?

How many people were continuously present in APAC year to year? By line of business? By county? By age, gender, race or ethnicity?

Sample question using premium billed and demographic data

What was the average amount billed premium per month? Per year? By line of business? By county? By age, gender, race or ethnicity?

APAC Use Case Examples

A list of APAC data uses is available in the APAC Use Case document. There are about 30 state agency and 60 external organization projects. Examples include:

Primary care spending
Evidence Base quality measures
Median hospital payments
Prescription drug trends
Antibiotic prescribing
Chronic disease surveillance
Health care expenditures
Health Risks and Effects on Emergency Department and Inpatient Utilization
Quality of Contraceptive Care in Oregon
Health Effects of Wildfire Smoke on Oregonians
Health Care Claims for Neurocysticercosis

For more information about APAC, including data request documents and FAQs, please visit APAC's website: http://www.oregon.gov/oha/HPA/ANALYTICS/Pages/All-Payer-All-Claims.aspx