TAF Technical Documentation: Annual Managed Care Plan (APL) File

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I. Introduction

States administer the Medicaid program and share the responsibility for funding and program administration with the federal government.[1] Each state compiles standardized data on Medicaid and CHIP enrollment, service utilization, payment, providers, managed care plans, and other information from its own eligibility and claims data systems into the federal Transformed Medicaid Statistical Information System (T-MSIS). The Centers for Medicare and Medicaid Services (CMS) administers T-MSIS to improve quality of care and program integrity and to meet stakeholders' needs. Although states submit a wide variety of information to T-MSIS, the system is not optimized for conducting analyses. To meet this need, CMS constructs a research-optimized version of T-MSIS data called the T-MSIS Analytic Files (TAF).[2,3] Information on the completeness and quality of key TAF data elements in each year can be accessed through *DQ Atlas*, available at https://www.medicaid.gov/dq-atlas. Specific topics relevant to each section of this technical documentation are noted in the footnotes.

The TAF are released as TAF Research Identifiable Files (RIF).[4] The TAF RIF include monthly claims files containing Medicaid and CHIP service use and payment records, as well as annual files containing demographic and eligibility data for all Medicaid- and CHIP-eligible beneficiaries and information on all Medicaid- and CHIP-enrolled providers and managed care plans. The Annual Managed Care Plan (APL) file, which is also available as a TAF RIF, is the focus of this technical user document.

II. Structure and contents of the APL file

A. Overview

The APL is a new file that CMS is making available publicly. Based on data submitted to CMS from states through the T-MSIS process, The APL provides TAF users with detailed information about each managed care entity authorized to enroll Medicaid or CHIP beneficiaries, including the plan's business characteristics (such as profit status), its contract with the state (such as type of reimbursement arrangement and operating authority), and the location and type of beneficiaries the plan is allowed to enroll.

The APL includes a wide variety of managed care entities that serve beneficiaries. In addition to Medicaid managed care plans that cover comprehensive medical benefits, the APL includes managed care plans

1 For more information about the Medicaid and CHIP programs, see the CMS website: http://www.medicaid.gov.

2 For more information about TAF, see the T-MSIS Analytic Files website at: https://www.medicaid.gov/medicaid/data-systems/macbis/medicaid-chip-research-files/transformed-medicaid-statistical-information-system-t-msis-analytic-files-taf/index.html

3 More information on TAF production is available at: https://www.medicaid.gov/dq-atlas/downloads/supplemental/9010_Production_of_TAF_RIF.pdf

4 During the transformation into a RIF, some TAF data elements are suppressed, changed, or renamed. For more details on the difference between the pre-RIF and RIF versions of the TAF data, including a crosswalk of variable names, see "Production of the TAF Research Identifiable Files (RIFs)," available in the Resources section of *DQ Atlas*.

that cover only a narrow range of benefits such as dental, transportation, pharmacy, behavioral health services, and long-term care services and supports. It also includes managed care entities that coordinate or provide care on a limited-risk or nonrisk basis, such as primary care case management and disease management programs.[5]

B. Structure

The APL includes information on the characteristics, locations, enrolled populations, and service areas of every health plan and managed care entity that a state reports as having been active for at least one day during the calendar year. The TAF APL consists of a base file and four supplemental files that can be linked to the base file (Table 1).

The APL base file includes one record per managed care entity reported by the state. Each entity has a unique plan ID assigned by the state. States vary in how they choose to report plans owned and operated by a single business entity that serve multiple populations or areas of the state. Some states might use a single plan ID, represented by one record in the base file and multiple records in the service area and/or population enrolled supplemental files. Other states might assign a different plan ID to each plan that serves a different defined population or service area, resulting in multiple records in the base file that each links to a smaller, mutually exclusive set of records in the service area or population enrolled supplemental files. A managed care company that operates plans in multiple states should always appear in the APL base file as separate records for each state.

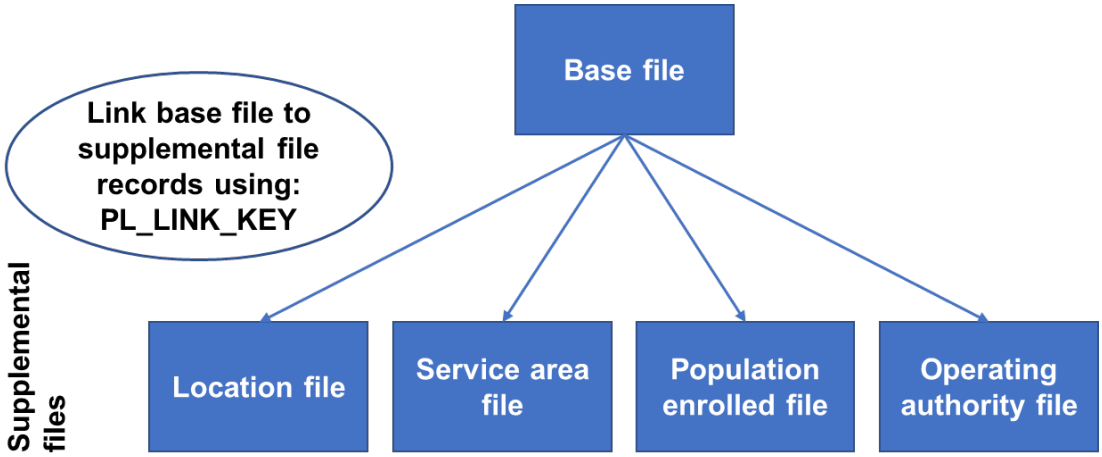
Table 1. Contents of each APL file

File	Contents
Base	Primary file that includes one record per managed care entity reported by the state, with each entity defined by a unique plan ID. Each record includes data elements that capture the characteristics of the managed care entity.
Location	Information on every service location associated with the managed care plan. Each service location record indicates a specific address where a beneficiary may receive services covered by the managed care plan.
Service Area	Information on all service areas that each managed care plan is contracted to cover, with one record per service area. A service area is a geographic area in which beneficiaries enrolled in a plan may receive services, and may be statewide or limited to specific regions, counties, cities, or zip codes. States use free-text fields to define service areas; often, states report service areas using zip codes or county or region names.
Population Enrolled	Information on every eligibility group that a state is authorized to enroll in each managed care plan.
Operating Authority	Details on the operating authority and waiver identifiers under which each managed care entity is authorized to operate.

[5] Historically, some states reported each provider who received PCCM payments as a separate managed care entity in the managed care file. This resulted in large number of plans of type 02 and 03 in the APL base file, with plan names that look like individual provider or clinic names. In October 2019, CMS released guidance that instructed states to instead report one proxy managed care ID in the managed care file that covered all providers participating in a traditional PCCM program. For details on the current guidance for reporting PCCM providers in the managed care and provider files, see the guidance topic "Primary Care Case Management Reporting, Updated" on the T-MSIS Coding Blog at https://www.medicaid.gov/medicaid/data-and-systems/macbis/tmsis/tmsis-blog/entry/52896.

Figure 1 shows the relationships between the APL files and the recommended methods of linking these files. Users can append information in the four supplemental files to the base records by linking records using PL_LINK_KEY, which is a constructed variable consisting of information about the file (run ID, submitting state code, managed care plan ID, file date, and file version). Note that a one-to-one merge between the base file and supplemental files is not expected; a single managed care plan record in the base file will often match to multiple records in the supplemental files.[6]

Figure 1. APL base and supplemental files: Relationships and recommended linking methods



C. Construction of data elements in the APL

Each TAF created from the raw T-MSIS data—including the eligibility, claims, provider, and plan files—is first created as a monthly file. These monthly TAF include both lightly cleaned[7] data from state T-MSIS submissions as well as constructed variables designed to support research and analysis. For the managed care data, the state-submitted information includes data elements such as the plan ID, plan name, plan type, and contract effective and end dates, all of which are captured as a state reports them. Additional analytic variables that states do not directly report are also created for each month, such as plan type category, which groups the plan type code reported by the state into a smaller number of meaningful categories.

Although states submit T-MSIS data monthly, the APL was constructed as an annual research file after analysis showed little variability from month to month in the managed care plan information reported by states. An annual file reduces the need for end users to reconcile 12 monthly data sets. As a result of its annual structure, most of the data elements in the APL are constructed using one of two methods: (1) the "last-best" method, which selects the value in the most recent month in which a nonmissing value exists;

6 For instance, a managed care plan could have a service area defined by multiple counties, each of which is represented as a separate record in the service area file. This would represent a one-to-many merge between the base file record and the multiple records in the service area file.

7 Data cleaning in TAF production involves recoding any invalid values to a standard NULL value. This is done only for those data elements with a small number of defined valid values (fewer than 100). Data elements with many potentially valid values, such as zip code, are not cleaned to remove invalid values.

or (2) the “ever-in-the-year” method, which sets the value for the variable based on whether the plan met the criterion during any month of the calendar year.

The base file includes many data elements about the characteristics of the managed care entity that are constructed using the last-best method, including plan name, plan type, program served (Medicaid, CHIP, or both), reimbursement arrangement (risk based or non-risk based), and profit status. Other plan characteristics in the base file are constructed using the ever-in-the-year method, including flags for different operating authorities and populations the plan is authorized to enroll. Still other data elements in the base file include the plan contract’s effective and end dates, the accrediting organization, and a flag for whether the plan has any linked records in the four supplemental files.

In a small number of states, the CHIP program or the third-party administrator (TPA) submitted T-MSIS records separately from the Medicaid program. In some cases, more than one agency in a state reports eligibility and claims data to T-MSIS, and the data from each reporting entity have separate submitting state codes. As of 2021, four states have separate reporting entities: Wyoming and Wyoming CHIP (SUBMTG_STATE_CD 56 and 93, respectively), Montana and Montana Third-Party Administrator (TPA) (SUBMTG_STATE_CD 30 and 94, respectively), Iowa and Iowa CHIP (SUBMTG_STATE_CD 19 and 96, respectively), and Pennsylvania and Pennsylvania CHIP (SUBMTG_STATE_CD 42 and 97, respectively).[8] As part of the production of the TAF RIF, records from different data submitters in the same state are assigned the same state code. However, users of non-RIF versions of the TAF should make sure to include records with both codes for analyses in those states.[9]

III. Sources of managed care information in the TAF

Many TAF include information on managed care, including the eligibility files, the claims files, the provider file, and the APL. This section provides an overview of the type of managed care information available in different files and the types of analyses that each file will support.

8 In TAF files produced after February 1, 2021 the submitting state code distinguishes between the Medicaid and non-Medicaid entities in Montana, Pennsylvania, and Wyoming; Iowa Medicaid began reporting separate CHIP records in its T-MSIS submissions and all TAF created after February 1, 2021, will exclude records from Iowa CHIP. In May 2020, Montana Medicaid began reporting TPA records in its T-MSIS submissions and all TAF created after July 1, 2021 exclude records from the Montana TPA. In October 2020, Wyoming Medicaid began reporting separate CHIP records in its T-MSIS submissions.

9 Users of non-RIF versions of the TAF interested in analyzing information at a state level in these states should conduct all file linking and tabulations at the Medicaid or non-Medicaid entity level. However, for plan-level analyses, users will need to concatenate the plan records for the Medicaid entity and the non-Medicaid entity before summarizing the results by state. Because there is no T-MSIS guidance preventing one entity from using the same identification number as another entity for a different plan, TAF users should not attempt to link plan records across entities in the event one or more records with the same plan ID are submitted by both entities.

A. Eligibility files

Like the APL, the TAF annual Demographic and Eligibility (DE) file is made up of a base file and several supplemental files.[10] Each record in the DE base file represents a person who was enrolled in Medicaid or CHIP at any point during the calendar year. The base file includes a single monthly managed care plan type code (MC_PLAN_TYPE_CD_*xx*, where *xx* indicates month 01–12), which can be used to identify beneficiaries who were enrolled in any type of managed care in a given month or beneficiaries who did not participate in any managed care (those who were FFS only). Beneficiaries who were enrolled in multiple types of managed care—for instance, a comprehensive MCO and a non-emergency transportation plan—will have only a single plan type code represented in the DE base file for each month, with the selection of plan type based on a hierarchy.

The annual DE file also includes a managed care supplemental file with additional details on all the plans that a person was enrolled in during each month of the calendar year. In this supplemental file, which also has one record per unique beneficiary, TAF users can find the managed care plan ID associated with each plan a beneficiary was enrolled in (up to 16 plans per month) and the managed care plan type code associated with each plan. There are also annual summary variables indicating the number of months the beneficiary was enrolled in managed care plans of different types. Because the DE base file only includes information on a single plan, even when beneficiaries are enrolled in more than one type of managed care during the month, TAF users must use the managed care supplemental file to generate a complete count of beneficiaries enrolled in a specific plan or in a certain type of managed care.

The information in the DE managed care supplemental file can be used to determine the number of beneficiaries enrolled in specific plans or in different types of managed care for each month in the year. The DE file also supports analyses of the characteristics and enrollment patterns of beneficiaries participating in different plans or types of managed care. However, the DE file alone does not provide any information about managed care plans beyond the plan type. Data users who want to combine information about enrollment with details about the plan itself (including basic information such as plan name) would need to link the annual DE and APL files. More information on how to link these files can be found in the next section.

B. Claims files

The monthly TAF claims files—inpatient (IP), long-term care (LT), other services (OT), and prescription drug (RX)—include capitation payments and other flat fees that the state pays managed care entities, along with managed care encounters representing claims that the managed care entity processed and paid on behalf of beneficiaries. TAF users who want to study the flow of payments from the state to managed care entities can use the financial transactions in the OT claim file to do so.[11] TAF users who

[10] For more information on the content, structure, and recommended methods for using the annual DE file, see the *TAF Technical Documentation: Annual Demographic and Eligibility (DE) File*, available in the Resources section of the *DQ Atlas* at http://www.medicaid.gov/dq-atlas.

[11] The suggested method for identifying records and counting state expenditures on different types of managed care can be found in the Background and Methods available in the "Total Monthly Beneficiary Payments" topic in the *DQ Atlas* at http://www.medicaid.gov/dq-atlas.

want to study the services covered or provided by managed care entities can do so using the managed care encounter records in the IP, LT, OT, and RX files.[12] Although service use information such as diagnosis code, procedure code, revenue code, and bill type appear in managed care encounter records, information on the payments that managed care plans made to providers is redacted from the encounter records in the TAF RIF.

The managed care plan ID is available on both capitation and managed care encounter records, enabling TAF users to examine payments received by plans and patterns of managed care service use statewide or by individual plan. However, other information about plan characteristics, such as plan type, is not available in the claims files. In some cases, the state-assigned type-of-service (TOS) code can be used to group together capitation payments for certain types of managed care, such as comprehensive MCOs or PCCM arrangements. Alternatively, users who wish to study capitation payments or service use patterns among certain types of plans can link the capitation and encounter records to the APL using the managed care plan ID. More information on how to conduct this linking can be found in the next section.

C. APL

The APL is a plan-level file that can be used to study the number of managed care entities in each state and their characteristics. It is the only file that includes information on plan name (as submitted by the state), which TAF users would need to study specific plans or link with external data sets. However, information on the number of beneficiaries participating in each plan, the payments made to each plan, and the specific services that the plan covers are not available in the APL base or supplemental files. Data users who want to study enrollment, payments, or services associated with different plans would need to link the APL, eligibility, and claims files.

D. Provider file

The TAF Annual Provider (APR) file includes all providers enrolled with the state Medicaid or CHIP program to offer services to eligible beneficiaries. Providers include facilities, individual practitioners, and groups. States can report any managed care plan that the provider is known to be affiliated with in the provider affiliation supplemental file. When this file specifies an affiliation type of “managed care plan,” the provider affiliation ID in the APR record will be the same plan ID as reported in the APL. Information on managed care affiliation captured in the APR could potentially let TAF users examine the provider networks for a Medicaid or CHIP managed care plan.

[12] Managed care encounter records can be identified in the claims files as those with claim type code values of 3 (Medicaid or M-CHIP encounter record), C (separate CHIP encounter record), and W (other managed care encounter record).

IV. Linking eligibility records to the APL

TAF users might need to link beneficiary enrollment records in the DE file with additional information from the APL file to learn more about the plans that manage the beneficiaries' care. Alternatively, some users might wish to start with a specific plan that appears in the APL file and determine which beneficiaries are enrolled in that plan by linking to the DE file.

Linking eligibility records to the APL requires the use of the managed care supplemental file in the annual DE because the DE base file does not include managed care plan IDs. APL base file records (each representing a unique managed care plan) can be linked to records in the annual DE managed care supplemental file (each representing a beneficiary) by using the combination of file reporting date (*xx*_FIL_DT, where *xx* represents the file type PL or DE), submitting state code (SUBMTG_STATE_CD), and managed care plan ID (MC_PLAN_ID). If the analysis requires demographic or program enrollment information about the beneficiary, the DE managed care supplemental file records can be linked to the DE base file records using the file reporting date (PL_FIL_DT), submitting state code (SUBMTG_STATE_CD), and unique state-assigned beneficiary ID (MSIS_ID).

DQ Atlas contains information about the proportion of managed care plan IDs present in each state's DE managed care supplemental file that can be linked to in the APL file, and vice versa.[13]

V. Linking claims records to the APL

Users who need to link capitation payments or encounter records to APL records will need to use a combination of three data elements to link records in the APL base file to header records in each of the claims files. These data elements are file date (*xx*_FIL_DT, where *xx* represents the file type PL, IP, LT, OT, or RX), submitting state code (SUBMTG_STATE_CD), and managed care plan ID (MC_PLAN_ID).

VI. Linking provider records to the APL

Users who need to link providers in the APR to plan records in the APL will need to use the APR affiliated program supplemental file and the APL base file. Users would first restrict to records in the affiliated program supplemental file where AFLTD_PGM_TYPE_CD is equal to "2" (managed care plan). They could then link those records to the APL using a combination of three data elements: file date (*xx*_FIL_DT, where *xx* represents the file type PL or PR), submitting state code (SUBMTG_STATE_CD), and managed care plan ID (MC_PLAN_ID in the APL and AFLTD_PGM_ID in the APR).

VII. Identifying and classifying plans

TAF users might wish to identify certain types of managed care entities or group together plans with similar characteristics. This section describes common approaches for using data elements from the APL base file to identify or classify managed care entities.

[13] See the topic "Linking the DE to the APL" in the Explore by Topic section of *DQ Atlas*.

A. Active plans

States should include only managed care plans that were active in the relevant calendar year in their APL reporting. An active managed care plan record in T-MSIS has (1) an effective start date and end date that overlap with at least one day in the calendar year and (2) an indicator identifying the record as the active record if multiple records represent the same period. However, states sometimes submit managed care plan records as active that were in fact inactive because the plan's contract was not in effect during the calendar year. If a state reports these inactive plans, they are included in the APL file.

Users of the APL file might choose to restrict their analysis to plan ID values that have at least one enrollee reported in the DE managed care supplemental file. This would remove inactive plans from the APL that were erroneously reported by the state. However, it could also exclude active plans in states that have other data quality issues that interfere with correctly linking the eligibility and APL records.

B. Medicaid versus CHIP managed care plans

The managed care program code (MC_PGM_CD) in the APL base file can be used to determine whether a state contracted a plan to serve the Medicaid population, the CHIP population, or enrollees in both programs.[14] For the purpose of service delivery, beneficiaries enrolled in Medicaid-expansion CHIP are considered part of the Medicaid population and are served by Medicaid plans.

C. Type of managed care

Many users rely on the plan type code to classify managed care plans by the type of benefits they cover. There are 22 valid values for plan type code in the APL and DE files, plus other values that have been retired but may appear in historic enrollment, claims, and managed care TAF. For some analyses, users might want to roll up these plan type codes into higher-level categories.

One common approach is to group plan type codes into seven categories: comprehensive managed care, behavioral health organizations, managed long-term services and supports, other medical-only prepaid health plans (noncomprehensive), nonmedical prepaid health plans, primary care case management, and other. Table 2 shows the mapping of plan type codes to these seven managed care categories.

Table 2. Mapping plan type codes to higher-level managed care categories

Managed care category	Plan type codes
Comprehensive managed care	01: Comprehensive MCO 04: Health Insuring Organization (HIO) 80: Integrated Care for Dual Eligibles
Behavioral health organizations	08: Mental Health (MH) Prepaid Inpatient Health Plan (PIHP) [a] 09: Mental Health (MH) Prepaid Ambulatory Health Plan (PAHP) [b] 10: Substance Use Disorders (SUD) PIHP 11: Substance Use Disorders (SUD) PAHP 12: Mental Health (MH) and Substance Use Disorders (SUD) PIHP 13: Mental Health (MH) and Substance Use Disorders (SUD) PAHP

[14] For more information on the completeness and quality of the managed care program code in each state's APL base file, see the topic "Managed Care Plan Characteristics" in the Explore by Topic section of *DQ Atlas.*

Managed care category	Plan type codes
Managed long-term services and supports, including PACE	07: Long-Term Services & Supports (LTSS) PIHP 17: Program of All-Inclusive Care for the Elderly (PACE) 19: Long-Term Services & Supports (LTSS) and Mental Health (MH) PIHP
Medical-only prepaid health plans (noncomprehensive)	05: Medical-Only PIHP (risk or nonrisk/noncomprehensive/with inpatient hospital or institutional services) 06: Medical-Only PAHP (risk or nonrisk/noncomprehensive/no inpatient hospital or institutional services)
Nonmedical prepaid health plans	14: Dental PAHP 15: Transportation PAHP 16: Disease Management PAHP 18: Pharmacy PAHP
Primary care case management	02: Traditional PCCM Provider Arrangement 03: Enhanced PCCM Provider Arrangement 70: Health/Medical Home *(retired value but might appear in historic data)*
Other	20: Other 60: Accountable Care Organization[15]

[a] A PIHP is a type of PHP that includes inpatient hospital or institutional services.

[b] A PAHP is a type of PHP that provides only certain outpatient services, such as dental services or outpatient behavioral health care.

Depending on the analysis, different users might consider some of these categories to be equivalent to being in the FFS system. For example, enrollees who receive primary care case management without participating in any other type of managed care are usually classified as FFS enrollees. In some analyses, someone enrolled in a nonmedical prepaid health plan (such as a dental-only or transportation-only plan) without participating in any other type of managed care would also be considered an FFS enrollee.

D. Operational characteristics of managed care plans

Several data elements in the APL provide information on the operational characteristics of each managed care plan serving Medicaid and CHIP enrollees. Users can identify the profit status of the entity that operates the plan—501(c)3 nonprofit, closely held for-profit, or publicly traded for-profit—via the profit status code in the APL base file (MC_PRFT_STUS_CD). The Medicaid or CHIP operating authority or authorities under which the plan operates is also available in the APL base file via the indicator variables, or each operating authority is listed separately in the APL operating authority supplemental file. Finally, the compensation arrangement between the state and plan—including risk-based capitation, non-risk capitation, fee-for-service, or primary care case management—is available in the reimbursement arrangement category data element (REIMBRSMT_ARNGMT_CAT).[16]

[15] As of 2021, only a single state (Vermont) was reporting any beneficiaries enrolled in an Accountable Care Organization in T-MSIS. This program is not authorized to operate as a Medicaid managed care plan, but for the purposes of T-MSIS reporting it is captured as a type of managed care. Users will need to decide whether to consider this to be managed care for the purpose of their analysis.

[16] More information on the completeness and quality of these variables in each state's APL base file can be found in the topic "Managed Care Plan Characteristics" in the Explore by Topic section of *DQ Atlas*.

References

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