Minnesota All Payer Claims Database Healthcare Services Public Use File: A User Guide

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MN APCD
All Payer Claims Database

Background

The Minnesota Department of Health (MDH) maintains the Minnesota All Payer Claims Database (MN APCD), a repository of healthcare claims data that supports statewide analyses of healthcare costs, quality, and utilization. Under legislative mandate, MDH releases publicly available summary information from the MN APCD in the form of public use files (PUFs). PUF data are delivered in spreadsheets with aggregated records that prevent the identification of individual members, providers, and health plans. Currently available MN APCD PUFs, derived from medical and pharmacy claims, contain summary data on healthcare services, healthcare utilization, primary diagnoses, provider specialties, members, and prescription drugs.[1] This document introduces the Healthcare Services PUF, illustrates how to interpret PUF records, and includes technical instructions for users who wish to further aggregate PUF records.

Overview of the services PUF

The Healthcare Services PUF was derived from MN APCD medical claims submitted by insurers. Each record in the PUF aggregates claims information by service code, payer type (commercial, Medicare, or Minnesota Health Care Programs) and an additional set of stratifying variables representing the member's age group, sex, and county of residence. The Healthcare Services PUF can be used to study variation of medical services across payer types and within or across combinations of the additional stratifying variables. Expenditure variables include the medical providers' collective charged amounts as well as the separate amounts paid by the insurer and member and their total for medical costs.

MDH developed this PUF in partnership with Onpoint Health Data and welcomes questions and feedback from users at: health.APCD@state.mn.us.

Design of the services PUF

Definition of services

Medical services in the Healthcare Services PUF, reported at the service line level, are either procedure codes from professional claims or revenue codes from facility claims. Broadly, professional claims capture procedures performed by healthcare providers (e.g., mammogram), while facility claims capture resource utilization (e.g., private room and board). Procedures codes in the PUF include both Current Procedural Terminology (CPT) and Healthcare Common Procedure Coding System (HCPCS) codes. If both a procedure code and a revenue code were reported on the same claim service line, the procedure code was used for assignment to a PUF record. The PUF includes a variable that allows for filtering between CPT/HCPCS and revenue codes.

Additionally, the Healthcare Services PUF includes a variable that aggregates similar services into broader categories. This variable, the service code category, assigns similar revenue codes to categories based on logic created by Onpoint Health Data. For example, the revenue codes for 'Oncology room and board' and 'Psychiatric room and board' are both assigned to the service code category 'Room and board (non-nursery)'. For procedure codes, the service code category variable groups similar services into clinically meaningful categories based on Clinical Classification System (CCS) groupings.[2] The procedure codes for 'Colonoscopy with lesion removal' and 'Diagnostic colonoscopy' appear in the 'Colonoscopy and biopsy' category, for example. Onpoint Health Data further enhanced the CCS categorization to identify several categories (e.g., office visits, preventive visits, emergency room visits, consultations, behavioral health services) that CCS had aggregated into a single category (227: 'Consultation, evaluation, and preventative care').

The spending on services reported in the Healthcare Services PUF may significantly underestimate the total and average spending on services that are billed as part of a larger encounter (i.e., the collection of all healthcare services provided to a member during a single visit or inpatient stay). The combination of services in any given encounter can vary. Encounter level data are not available in the Healthcare Services PUF. Data on select encounters can be found in the MN APCD Healthcare Utilization PUF.

Data elements

In addition to stratification by service code and payer type, PUF records are further stratified by:

- Member's age group
- Member's sex
- Member's county of residence

Five age groups (years) are identified in the PUF, based on member age at the time of the medical claim: (1) 18 and younger, (2) 19 to 44, (3) 45-64, (4) 65 to 74, and (5) 75 and older. Member sex (male or female) is similarly based on the information reported at the time of the medical claim. Member county of residence represents the county associated with a member's ZIP code using information reported on the member's eligibility data.

Exclusions from the public use files

Medical claims submitted to the MN APCD include duplicate and denied claims as wells as other claims with various types of deficiencies that detract from their analytic usefulness. The Minnesota Department of Health (MDH) removes duplicate and denied claims as well as claims that fail a number of tests—including whether the claim was filed on behalf of an in-state resident and reported a positive total amount paid.

The Healthcare Services PUF excludes claims for non-Minnesota residents, orphaned claims (i.e., reversal claims that result in negative paid amounts), denied claims, claims with missing or

invalid procedure codes and revenue codes, dental codes, claims with a reported sex code of "U" (unknown), and those that are missing county information based on the member's reported ZIP code.

After claims were aggregated to produce a preliminary or "full" version of the PUF, records with counts <11 were redacted to prevent identification of individual members, providers, or payers. Approximately 14% of claims and 21% of total paid amount from the MN APCD are redacted from the Healthcare Services PUF.

Other important data considerations

The MN APCD includes medical claims for Medicare, Minnesota Health Care Programs, and most commercial plans. The MN APCD was not designed to include claims for healthcare covered by Tricare, Veterans Affairs, the Indian Health Service, Workers' Compensation, or for care provided to Minnesotans without health insurance. It also does not include claims for services provided by plans that do not cover general medical care, such as accident-only, vision, or dental plans. In addition, data from certain low-volume carriers (less than $3 million in medical claims or less than $300,000 in pharmacy claims) are exempt from submission to the MN APCD. Lastly, it should be noted that claims data are only as accurate as the coding on submitted claims.

In a decision released on March 1, 2016, the U.S. Supreme Court upheld a lower court's ruling that self-insured health plans could not be required to submit claims data to a state's APCD (Gobeille v. Liberty Mutual Insurance Co.). The court found that requiring self-insured plans to submit medical and pharmacy claims was preempted by the Employee Retirement Income Security Act (ERISA). The decision does not prohibit the voluntary submission of self-insured plan data to the MN APCD. The effect of this decision was to substantially reduce the volume of commercial claims and enrollment that ERISA-subject self-insured plans reported to the MN APCD. The Healthcare Services PUF, because its claims data are span data from 2016 and later, will include members whose commercial insurers stopped submitting data early in the year. As a result, the Healthcare Services PUF will tend to understate counts for the commercial coverage for the population it represents. Estimates of cost distributions within the commercially insured group—means and medians—should not be greatly affected.[3] However, estimates of total counts or spending amounts for all Minnesotans will be affected.

Interpreting public use file data

The table below includes two records from the Healthcare Services PUF for patients with an office visit procedure code of 99215. Both records are for female patients covered by a commercial submitter in 2022. The only difference between patients in the two records is county of residence. The first record shows that, among Minnesotans with commercial insurance that reported data to the MN APCD for 2022, there were 6,609 unique females aged 45-64 years living in Hennepin County with commercial insurance who had a procedure code for an office visit. The total paid amount (sum) associated with these procedure codes was $4,754,398.05. The second record shows that, in the MN APCD, there were 69 unique females

aged 45-64 years living in Roseau County with commercial insurance who had a procedure code for an office visit in 2022. The total paid amount (sum) associated with these procedures codes was $23,036.88.

Table 1. Sample records with a 99215 service code office visit in 2022

County	Payer	Age group	Sex	Service code	Code category	Category description	Total paid amount (sum)	Unique members
Hennepin	Commercial	3	F	99215	300	Office visits	$4,754,398.05	6,609
Roseau	Commercial	3	F	99215	300	Office visits	$23,036.88	69

User calculations

Using the same example from Table 1 (above), a sample calculation is illustrated in Table 2 (below). We can compare the per member per month (PMPM) cost for the given service between the counties of Hennepin (urban) and Roseau (rural) by dividing the total paid amount by member months (months of insurance coverage among all members in the record) for the members that received the service. The result in the table below shows that Hennepin had a higher PMPM cost ($61.61) for this service code than Roseau ($46.45). This calculation is appropriate even considering the unreported data for some commercial members, with the assumption that spending for commercial enrollees with data in the MN APCD is similar to spending for commercial enrollees whose plans have not reported data to the MN APCD.

Table 2. Sample records with a 99215 service code office visit in 2022, with calculation

County	Payer	Age Group	Sex	Service code	Code category	Total paid amount (sum)	Member months	Total paid PMPM
Hennepin	Commercial	3	F	99215	300	$4,754,398.05	77,043	$61.61
Roseau	Commercial	3	F	99215	300	$23,036.88	496	$46.45

[1] At this time, all PUFs are available free of charge to the user community. PUFs may be downloaded online by completing a survey form: https://survey.vovici.com/se/56206EE333F13F0F.

[2] Agency for Healthcare Research and Quality. Clinical classifications software for services and procedures. 2021. https://www.hcup-us.ahrq.gov/toolssoftware/ccs_svcsproc/ccssvcproc.jsp.

[3] Note, however, that coverage by self-insured plans will be underrepresented among coverage by all commercial plans. To the extent that the medical expenditures incurred by participants in self-insured plans are different from those of participants in other commercial plans, the expenditure data reported for participants in commercial plans will provide biased estimates of the expenditures of participants in all commercial plans.

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