ONPOINT Health Data

Support Documentation

Imputation of Fee-for-Service Equivalents – Methods Overview

Purpose

This document provides a brief overview of the methodology used to impute fee-for-service (FFS) equivalent amounts for services provided under a capitated healthcare payment plan. These FFS equivalent amounts are built from data submitted to the Health Care Payments Data (HPD) Program of the California Department of Health Care Access and Information (HCAI). The purpose of creating FFS equivalent amounts is to give researchers and analysts an approximate value for each reported service.

Introduction

When patients see a healthcare provider, the provider will subsequently submit a claim to the patient's health insurance plan to request payment for the healthcare services that were rendered, typically on a fee-for-service payment basis. Under a capitation arrangement, providers do not submit claims for individual services, instead they submit encounters to document the provision of services. Encounters and claims both include information about the service, diagnosis, patient, and provider information. The primary difference is that claims are used for billing and payment while encounters are not. The HPD dataset contains both claims and encounters.

When health insurance plans submit encounter data to HCAI's HPD system, they are asked to supply FFS equivalent amounts for each capitated service. Those amounts estimate what would have been allowed for payment to the provider if the capitated services were paid under a FFS payment arrangement. HCAI has found that some submitted FFS equivalents are incomplete or unreasonable (e.g., some include only the patient's portion of the estimated service payment). To improve those payment estimates, HCAI worked with its HPD vendor, Onpoint Health Data, to impute FFS equivalent amounts for encounters where submitted data was either unreliable or missing.

Note that FFS equivalents reported by Kaiser Permanente's plans are not imputed and are not used to impute other insurance plan's missing FFS equivalents. Kaiser's integrated care business model is significantly different from other insurance business models, and their high volume of FFS equivalents in the HPD dataset would result in imputed values that too closely resemble Kaiser amounts.

Imputation Approach

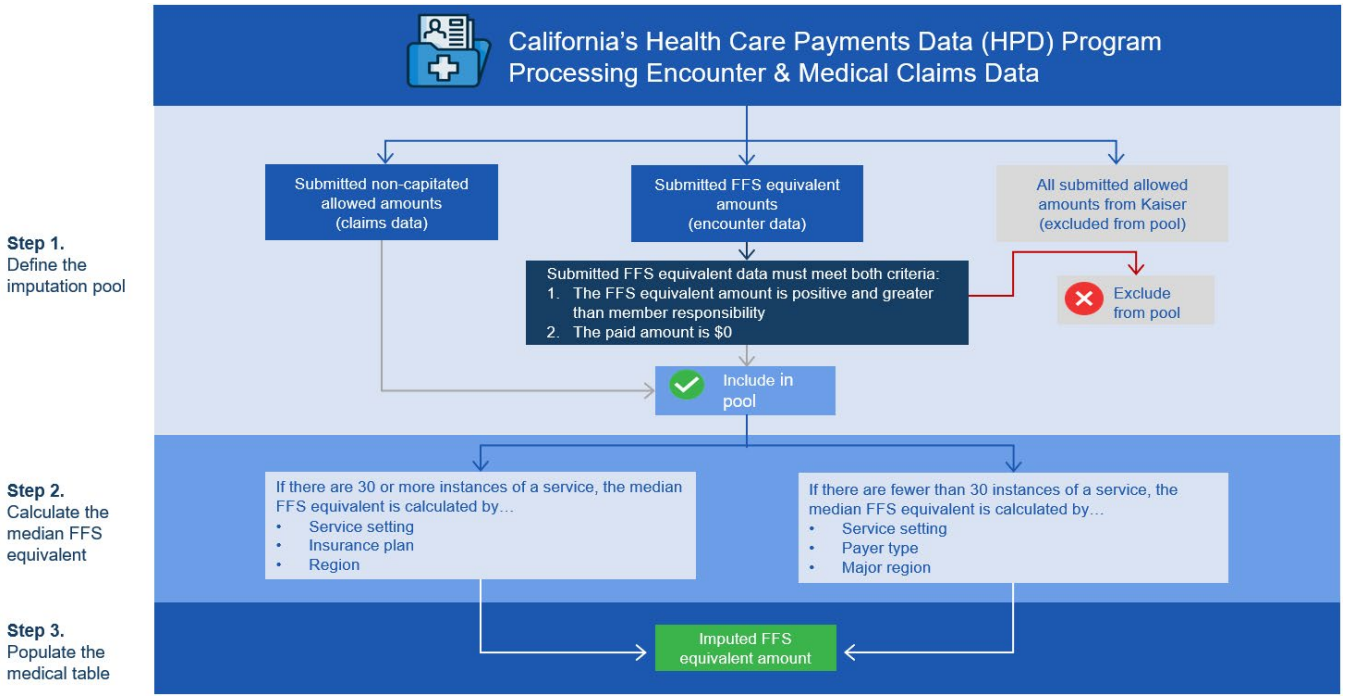
To impute a missing FFS equivalent amount, HCAI calculates the median amount across the FFS and FFS equivalent data for each Current Procedural Terminology (CPT) codes or Medicare Severity Diagnosis Related Groups (MS-DRG) by calendar year. This methodology works for hospital inpatient facility encounters, hospital outpatient facility encounters, and professional encounters, but does not work for other service settings (e.g. skilled nursing facilities, home health).

The imputation process for an insurance plan's missing or unreasonable FFS equivalent amount is carried out in the following steps:

1. Define the imputation dataset
    - Include high-quality FFS equivalent amounts from encounter data
        - Submitted FFS Equivalent Amounts must be positive and greater than member responsible amount (copay, co-insurance, and deductibles)
        - Paid amount must be $0
    - Include all FFS amounts from claims data
2. Calculate the median FFS equivalents from the imputation datasets
    - Medians require at least 30 occurrences at the service level (CPT or MS-DRG)
    - Medians are stratified by
        - Service setting (hospital inpatient, hospital outpatient, professional)
        - Insurance plan
        - Region (Covered CA, northern CA, or southern CA)
    - If necessary, medians are stratified at higher levels of aggregation to achieve 30 occurrences
        - Service setting (hospital inpatient, hospital outpatient, professional)
        - Major payer type (commercial, Medi-Cal, Medicare)
        - Major region (northern CA, southern CA, or statewide)
3. Populate median FFS equivalents in HPD in place of low-quality submitted or missing FFS equivalents

The process described above is illustrated in **Figure 1**.

Figure 1. Process Flow for the Imputation of FFS Equivalents



A sample of the results of the median FFS equivalent imputation process shown in **Table 1.** The table shows a service year 2023 snapshot of the amount of capitated records in HPD by service setting, and the corresponding percentages of imputed FFS equivalents that are recommended for use.

Table 1 Prevalence of Imputed FFS Equivalents Recommended for Capitated Claims [1]

Service Setting	Service Year	Major Payer Type	Count of Capitated Professional and Outpatient Claim Service Lines or Inpatient Stay with Capitated Encounters	Percent of records where Imputed FFS EQ is applied
Hospital Outpatient Facility	2023	COMMERCIAL	4,309,046	53%
Hospital Outpatient Facility	2023	MEDICAID	48,439,517	43%
Hospital Outpatient Facility	2023	MEDICARE ADVANTAGE	4,094,409	39%
Professional Facility	2023	COMMERCIAL	6,761,361	64%
Professional Facility	2023	MEDICAID	85,737,337	37%
Professional Facility	2023	MEDICARE ADVANTAGE	6,521,795	41%
Professional Non-Facility	2023	COMMERCIAL	17,457,465	60%
Professional Non-Facility	2023	MEDICAID	84,165,251	57%
Professional Non-Facility	2023	MEDICARE ADVANTAGE	14,507,887	40%
Hospital Inpatient Facility	2023	COMMERCIAL	714,312	27%
Hospital Inpatient Facility	2023	MEDICAID	37,476	41%
Hospital Inpatient Facility	2023	MEDICARE ADVANTAGE	68,703	35%

When are FFS Equivalents not Imputed

An imputed FFS equivalent amount will not be populated under the following scenarios:

- If a specific CPT or MS-DRG code has less than 30 occurrences at the statewide level
- If unexpected or invalid combinations of CPT codes and procedure code modifiers are used in professional claims (e.g., technical component (TC) modifier on an evaluation and management visit such as CPT 99213)
- If a specific CPT code has not been submitted

[1] Kaiser Permanente data is excluded from these totals.

Cautions When Viewing and Interpreting FFS Equivalents

In addition to the considerations provided in the previous sections, analysts should use the FFS equivalent amounts with the following in mind:

- This document describes the initial approach for imputing FFS equivalents. It may be revised as HPD receives additional information about capitation services, such as the Non-Claims Payment data.
- FFS equivalent amounts should be used with caution when comparing aggregated payer costs that include capitated services and when comparing specific hospitals or other providers on the cost of specific services.
- Submitted and imputed FFS equivalents should not be used to compare reimbursement rates between providers, to compare plan designs, nor to compare capitated versus non-capitated costs.