Medicare Fee-For-Service Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files: Methodological Overview

August 2025

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1. Background

The Office of Enterprise Data and Analytics (OEDA) within the Centers for Medicare & Medicaid Services (CMS) annually releases the Post-Acute Care and Hospice Provider Utilization and Payment Public Use Files (herein referred to as "PAC PUF"). The PAC PUF includes summary information on healthcare services provided to Medicare beneficiaries by home health agencies (HHAs), hospices, skilled nursing facilities (SNFs), inpatient rehabilitation facilities (IRFs), and long-term care hospitals (LTCHs).

To support trend analyses, the PAC PUF covers calendar years (CYs) 2014 to 2023 for HHAs and fiscal years (FYs) 2014 to 2023 for hospices, SNFs, IRFs, and LTCHs. The PAC PUF contains information on demographic and clinical characteristics of beneficiaries served, professional and paraprofessional service utilization, and payment information at the provider, state, and national levels for each PAC setting (i.e., HHAs, hospices, SNFs, IRFs, and LTCHs).

2. New for This Year

We've redesigned the way users interact with the PAC PUF data to comply with the 2018 Evidence Act[1]. All data for this product are now available via data.cms.gov as well as the data.cms.gov API[2].

Users can access the PAC PUF datasets by visiting the following webpages:

- Medicare Post-Acute Care Utilization (Main Landing Page)
- Medicare Post-Acute Care Utilization - Home Health Agency
- Medicare Post-Acute Care Utilization - Home Health Agency by Geography/Provider and Case-Mix Grouping
- Medicare Post-Acute Care Utilization - Hospice
- Medicare Post-Acute Care Utilization - SNF (Skilled Nursnig Facility)
- Medicare Post-Acute Care Utilization - SNF Supplement by Geography/Provider and Case Mix Grouping
- Medicare Post-Acute Care Utilization - IRF (Inpatient Rehabilitation Facility)

[1]For more information on the 2018 Evidence Act, please visit https://www.congress.gov/bill/115th-congress/house-bill/4174

[2] For data.cms.gov documentation, please visit https://data.cms.gov/api-docs.

- Medicare Post-Acute Care Utilization - IRF by Geography/Provider and Case Mix Grouping
- Medicare Post-Acute Care Utilization - LTCH (Long Term Care Hospital)

For more information on the layout of the webpages above can be found in Section 8 of this document titled "Data Tables". Please note that there were no methodological changes and we only made updates to the layout of the data tables.

3. Data Sources

The PAC PUF is derived from information in CMS's Chronic Conditions Data Warehouse (CCW) data files. The CCW contains Medicare data sources such as enrollment and eligibility, Part A (Institutional) claims, Part B (Non-Institutional) claims, and Part D (Prescription Drug) events. Part A and B claims are based on 100 percent Medicare's fee-for-service (FFS) final action claims (i.e., all claim adjustments have been resolved).

a. Provider of Services

Medicare claims require providers to include their 6-digit identification number, called the CMS Certification Number (CCN). The first two characters indicate the state where the provider is located, using the SSA's state codes; the middle two characters represent the type of provider; and the last two digits are used as a counter for the providers within a given provider type. The CMS Provider of Services (POS) file is created annually and includes provider certification, termination, accreditation, ownership, name, location, and other characteristics organized by the CCN. The PAC PUF includes the provider's name and address from the POS file. Additional information regarding the POS file is available on the CMS website.[3]

b. Spending & Payment System Groupings

The PAC PUF calculates charges and payments using Part A claims with a National Claims History (NCH) claim type codes of 10, 20, 30, 50, or 60. We excluded claims with allowed payments less than or equal to $0. Both IRF and LTCH claims were processed with an NCH

[3] Provider of Services File - Hospital & Non-Hospital Facilities

claim type code of 60. Therefore, we utilized the provider's CCN to differentiate between IRF and LTCH claims. The NCH claim type code for each PAC setting is shown in the table below.

PAC Setting	NCH Code Type	CCN
HHA	10	-
Hospice	50	-
SNF	20 (non-swing bed) 30 (swing bed)	-
IRF	60	3rd and 4th digits = 20, 21, 22
LTCH	60	Last 4 digits = 3025 through 3099 or 3rd digit = R or T

i. HH Resource Groups (HHRGs)

The following table provides the major differences between the pre-Patient Driven Groupings Model (PDGM) and post-PDGM HH PPS. Further information about each case-mix system can be found below.

Pre-PDGM (2014-2019 PAC PUF)	PDGM (2020-2023 PAC PUF)
60-day episodes of care	30-day periods of care
153 case-mix groups based on • Clinical severity level • Functional severity level • Service utilization	432 case-mix groups based on • Admission source and timing • Clinical grouping • Functional impairment level • Comorbidity adjustment
Therapy visits included with payment	Therapy visits not included with payment

2014-2019 PAC PUF (Prior to implementation of the PDGM)

Medicare made payments under the HH Prospective Payment System (PPS) on the basis of a national, standardized 60-day episode payment rate that was adjusted for the applicable case-mix and wage index. The national, standardized 60-day episode rate included the six HH disciplines (skilled nursing, home health aide, physical therapy (PT), speech-language pathology (SLP), occupational therapy (OT), and medical social services).

To adjust for case-mix, the HH PPS used a 153-category case-mix classification system to assign patients to a home health resource group (HHRG). The clinical severity level, functional severity level, and service utilization were computed from responses to selected data elements in the Outcome and Assessment Information Set (OASIS) assessment instrument and were used to place the patient in a particular HHRG. Each HHRG had an associated case-mix weight which

was used in calculating the payment for a 60-day episode. Therapy service use was measured by the number of therapy visits provided during the episode and were categorized into nine visit level categories (or thresholds): 0 to 5; 6; 7 to 9; 10; 11 to 13; 14 to 15; 16 to 17; 18 to 19; and 20 or more visits. An episode consisting of four or fewer visits within a 60-day episode received a low utilization payment adjustment (LUPA). For LUPA episodes, Medicare paid national per-visit rates based on the discipline(s) providing the services. For certain cases that exceeded a specific cost threshold, an outlier adjustment may have occurred.

2020-2023 PAC PUF (After implementation of the PDGM)

For home health periods of care beginning on or after January 1, 2020, Medicare makes payment under the HH PPS on the basis of a national, standardized 30-day period payment rate that is adjusted for case-mix and area wage differences. The national, standardized 30-day period payment rate includes payment for the six home health disciplines (skilled nursing, home health aide, PT, SLP, OT, and medical social services).

To adjust for case-mix for 30-day periods of care beginning on and after January 1, 2020, the HH PPS uses a 432-category case-mix classification system to assign patients to a HHRG using patient characteristics and other clinical information from Medicare claims and the OASIS assessment instrument. These 432 HHRGs represent the different payment groups based on five main case-mix categories under the PDGM (admission source, timing, clinical grouping, functional impairment level, and comorbidity adjustment). Under this case-mix methodology, case-mix weights are generated for each of the different PDGM payment groups by regressing resource use for each of the five categories using a fixed effects model. Each HHRG has an associated case-mix weight that is used to calculate the payment for a 30-day period of care. Under the PDGM, each HHRG has its own LUPA threshold. For periods of care with visits less than the LUPA threshold for the specific HHRG, Medicare pays national per-visit rates based on the discipline(s) providing the services. For certain cases that exceed a specific cost threshold, an outlier adjustment may also be available. The PAC PUF excludes 60-day episodes which began in 2019 and ended in 2020. Please see Appendix A for more information regarding these claims.

ii. Hospice Care Groups

Hospice care is a comprehensive, holistic approach to treatment that recognizes the impending death of a terminally ill individual and warrants a change in the focus from curative care to palliative care for relief of pain and for symptom management. There are four payment categories that are distinguished by the location and intensity of the hospice services provided. The base payments are adjusted for geographic differences in wages by multiplying the labor share, which varies by category, of each base rate by the applicable hospice wage index. A hospice is paid the routine home care (RHC) rate for each day the beneficiary is enrolled in hospice, unless the hospice provides continuous home care (CHC), inpatient respite care (IRC), or general inpatient care (GIP). CHC is provided during a period of patient crisis to maintain the patient at home. CHC may be covered for as much as 24 hours a day, and these periods must be predominantly nursing care. A minimum of 8 hours of nursing care, or nursing and aide care, must be furnished on a particular day to qualify for the CHC rates. IRC is short-term inpatient care provided to the individual only when necessary to relieve the family members or other persons caring for the individual. IRC may be provided only on an occasional basis and may not be reimbursed for more than five consecutive days at a time. If the patient's symptoms cannot be effectively managed at home through RHC or CHC, then the patient is eligible for GIP, a more medically intense level of care. GIP must be provided in a Medicare certified hospice freestanding facility, skilled nursing facility, or hospital. GIP is provided to ensure that any new or worsening symptoms are intensively addressed so that the beneficiary can return to his or her home and continue to receive RHC.

iii. SNFs: Resource Utilization Groups, Version IV (RUG-IV) Model and PDPM

Medicare covers services provided in a SNF for qualifying patients for up to 100 days per benefit period (also called spell of illness). Once the 100 available days of SNF benefits are used, the current benefit period must end before a beneficiary can renew SNF benefits under a new benefit period. Generally, Medicare makes payments under the SNF PPS for the 100 days on a per diem basis that is adjusted for case-mix and area wage differences. The following table provides the major differences between the pre-Patient Driven Payment Model(PDPM) (Resource Utilization Group-IV, or RUG IV) and post-PDPM SNF PPS. Further detailed information about each case-mix system can be found below.

RUG-IV (2014-2019 PAC PUF)	PDPM (2020-2023 PAC PUF)
Two case-mix adjusted components: • Nursing • Therapy	Five case-mix adjusted components: • Nursing • Non-therapy ancillary (NTA) • PT • OT • SLP

2014-2019 PAC PUF (Prior to implementation of the PDPM)

Medicare made payments under the RUG-IV model based on various resident characteristics and the type and intensity of therapy services provided to each resident. Each RUG was assigned a case-mix index for each payment component to reflect relative differences in cost and resource intensity. Under the RUG-IV model, there were two case-mix-adjusted components of payment: Nursing and therapy. The nursing component reflected relative differences in a resident's associated nursing and non-therapy ancillary (NTA) costs, based on various resident characteristics, such as resident comorbidities, and treatments. The therapy component reflected relative differences in a resident's associated therapy costs, which is based on a combination of PT, OT, and SLP services. Under the RUG-IV model, resident classification for the therapy component was based primarily on the amount of PT, OT, and SLP the SNF chose to provide to a SNF resident. Under the RUG–IV model, residents were classified into rehabilitation groups, where payment was determined primarily based on the intensity of therapy services received by the resident, and into nursing groups, based on the intensity of nursing services received by the resident and other aspects of the resident's care and condition. However, only the higher paying of these groups (nursing vs therapy) was used for payment purposes. Most patients were classified into a therapy group, which primarily used the volume of therapy services provided to the patient as the basis for payment classification.

2020-2023 PAC PUF (After implementation of the PDPM)

For benefit periods (spell of illness) beginning on or after October 1, 2019, Medicare makes SNF payments under the PDPM. The PDPM utilizes a combination of six payment components to derive payments. Five of the components are case-mix adjusted to cover utilization of SNF

resources that vary according to patient characteristics. There is also an additional non-case-mix adjusted component to address utilization of SNF resources that do not vary by patient. Different patient characteristics are used to determine a patient's classification into a case-mix group within each of the case-mix adjusted payment components.

iv. IRFs: Case-Mix Groups (CMGs)

An inpatient rehabilitation hospital or an inpatient rehabilitation unit of a hospital (otherwise referred to as an IRF) is excluded from the hospital inpatient prospective payment system (IPPS) and is eligible for payment under the IRF PPS if it meets all criteria. Specifically, to be classified for payment under Medicare's IRF PPS, at least 60 percent of a facility's total inpatient population must require IRF treatment for one or more of 13 conditions. Payments under the IRF PPS encompass inpatient operating and capital costs of furnishing covered rehabilitation services (that is, routine, ancillary, and capital costs), but not direct graduate medical education costs, costs of approved nursing and allied health education activities, bad debts, and other services or items outside the scope of the IRF PPS.

Medicare makes payments under the IRF PPS per discharge (i.e., beneficiary) and adjusts for case-mix and area wage differences. Each discharge utilizes information from the IRF patient assessment instrument (PAI) to classify patients into a case-mix group (CMG) based on clinical characteristics and expected resource needs. For FYs 2014-2019 the IRF PPS had a total of 92 CMGs. Of those, 87 CMGs used a motor and cognitive score, age, and rehabilitation impairment categories (RICs). In addition, there were five special CMGs to account for very short stays and for patients who expire in the IRF. In FY 2020 and forward, the IRF PPS updated the IRF-PAI by removing the cognitive score and updating the RICs. Therefore, for FY 2020 and forward there are a total of 100 CMGs under the IRF PPS. Of those, 95 CMGs use a motor score, age, and RIC; while 5 are special CMGs to account for very short stays and for patients who expire in the IRF. Separate payments are calculated for each CMG, including the application of case and facility level adjustments.

v. LTCHs: Diagnosis Related Groups (DRGs)

LTCHs are certified under Medicare as short-term acute-care hospitals but are excluded from the IPPS. In general, LTCHs are defined as having an average inpatient length of stay of greater than

25 days. The LTCH PPS includes payment for all inpatient operating and capital costs of furnishing covered services (including routine and ancillary services), but not certain pass-through costs (i.e., bad debts, direct medical education, and blood clotting factors). Medicare makes payment under the LTCH PPS at a predetermined, per discharge amount for each Medicare Severity long-term care diagnosis-related group (MS-LTC-DRG). The LTC-DRGs are the same DRGs used under the hospital IPPS but have been weighted to reflect the resources required to treat the type of medically complex patients' characteristic of LTCHs. Relative weights for the LTC-DRGs reflect resource utilization for each diagnosis and account for the variation in cost per discharge.

c. Demographic Information

Medicare enrollment data, Medicaid eligibility status, and demographic information including age, sex, race/ethnicity were derived from the Master Beneficiary Summary File (MBSF). Additional data from the MBSF is used to calculate the following secondary variables: the beneficiary's FIPS code (where the beneficiary receives Medicare correspondence) and the beneficiary's date of death, validated by the Social Security Administration (SSA). Rural location was derived principally from the beneficiary FIPS code using Census Bureau's Core-based Statistical Area (CBSAs).The PAC PUF identifies "rural" as those FIPS codes in areas identified by CBSA as having a population less than 10,000.[4] The validated date of death was used to calculate the volume of services delivered in the seven days prior to death for hospice beneficiaries, and to confirm a discharge status of "death" on a claim.

d. Chronic Conditions

The CCW includes variables for common chronic conditions and other chronic or potentially disabling conditions which identify additional chronic health, mental health, and substance abuse conditions. We have updated the beneficiary chronic condition information reported in all available data years of the PAC PUF. In 2020, CMS convened a technical expert panel (TEP) to refine and enhance 30 common chronic condition algorithms. The updated common chronic condition algorithms exist for data years 2017 forward. In regards to the other chronic and

[4] Previously we identified as rural those beneficiary ZIP codes with a Rural Urban Community Area Code (RUCA) between 4 and 10. We now use the CBSA framework because this is more aligned with Medicare payment policies.

disabling conditions, CMS has not made any changes to the original algorithms. Due to the changes in chronic condition information, we have made the following revisions to this data:

- For data years prior to 2017, all chronic condition variables have been removed.
- For data years 2017 to present, all ***other chronic and disabling conditions*** have been renamed with "V1" to indicate no change in original algorithm.
- For data years 2017 to present, ***common chronic conditions*** have been renamed with "V2" to indicate a change to original algorithm.

Due to these changes, caution should be used when comparing data reported in previously released versions of the PAC PUF.

The CCW develops algorithms which indicate that treatment for a condition appears to have taken place in a single CY. However, in the PAC PUF, all Hospice, SNF, IRF, and LTCH variables are reported on a FY basis to align with their payment settings. To account for this, a beneficiary in any non-home health setting in the PAC PUF is identified as having a chronic condition if they have a chronic condition in either of the two CYs that overlap the FY (e.g., CYs 2017 and 2018 are used for FY 2018). In addition, the chronic condition variables cannot be used to determine whether Medicare Advantage (MA) enrollees have been treated for the condition(s) of interest, and this impacts the chronic condition prevalence for beneficiaries who switch between FFS and MA during the year. To a lesser extent, this limitation also applies to newly eligible Medicare beneficiaries who may have only a partial year of FFS coverage, or MA Cost Plan beneficiaries, who have both FFS and MA encounter claims.

e. Principal (Primary) Diagnosis

The PAC PUF describes the extent to which providers submitted claims with a primary diagnosis included in one of 15 primary diagnosis categories. These diagnosis categories are derived from individual ICD chapters or combinations of individual ICD chapters. To ensure consistency across years, the PAC PUF uses the same 15 primary diagnosis categories regardless of if there was an ICD–9–CM or ICD–10–CM principal diagnosis listed on the claim. The PAC PUF includes, in each primary diagnosis category, all stays (or HH episodes) with a claim with the relevant diagnosis. A hospice or SNF stay can involve more than one claim and thus are linked to more than one primary diagnosis. Consequently, a single hospice or SNF stay can be counted in

more than one primary diagnosis category. The 15 ICD chapter-based primary diagnosis categories are listed below.

1. Endocrine, nutritional and metabolic diseases
2. Neoplasms & Diseases of the blood and blood forming organs
3. Endocrine, nutritional and metabolic diseases
4. Mental, Behavioral and Neurodevelopmental disorders
5. Diseases of the nervous system (ICD-9 sensory organs)
6. Diseases of the eye and adnexa & Disease of the ear and mastoid process
7. Diseases of the circulatory system
8. Diseases of the respiratory system
9. Diseases of the digestive system
10. Diseases of the genitourinary system
11. Diseases of the skin and subcutaneous tissue & Diseases of the musculoskeletal system and connective tissue
12. Pregnancy, childbirth and the puerperium, conditions originating in the perinatal period, and congenital anomalies
13. Symptoms, signs, and ill-defined conditions
14. Injury, poisoning and certain other consequences of external causes & External causes of morbidity
15. Factors influencing health status and contact with health services & Codes for special purposes

Previous releases of the PAC PUF used principal diagnosis categories derived from Clinical Classification Software (CCS) developed by the Healthcare Cost and Utilization Project (HCUP). CMS is no longer supporting these CCS-derived principal diagnosis categories.

f. Professional & Paraprofessional Service Utilization

The PAC PUF includes information on the type of professional and paraprofessional services, as well as the associated volume of those services by each provider. Professional and paraprofessional services can include physician services, PT, OT, SLP, nursing, social work, and behavioral/mental health. It is important to note that therapy minutes delivered as noted on either claims or relevant assessment instruments are included, regardless of provider or specialty type.

The PAC PUF does not identify the discipline of the provider delivering the services (i.e., whether the therapy was provided by an OT or an OTA).

i. HHAs

Services for HH were obtained from the revenue center files on the CCW and include the following revenue center codes: 0420-0429 (physical therapy), 0430-0439 (occupational therapy), 0440-0449 (speech language pathology), 0550-0559 (nursing), 0560-0569 (social work), and 0570-0579 (home health aide).

ii. Hospice

Services for hospice were obtained from the revenue center files on the CCW and include the following revenue center codes: 0550-0559 (nursing), 0560-0569 (social work), 0570-0579 (home health aide) and 0657 (physician services).

iii. SNFs

The PAC PUF calculates the volume (i.e., minutes) of therapy services by discipline type delivered in SNFs from the Long-Term Care Minimum Data Set 3.0 (MDS). The MDS is a standardized, primary screening and assessment tool of health status, which forms the foundation of the comprehensive assessment for all residents of nursing homes that are certified to participate in Medicare or Medicaid. The MDS contains items that measure physical, clinical, psychological, psycho-social functioning, and life care wishes. The MDS is used for payment determination and as part of the SNF quality reporting program (SNF QRP). For FYs 2014-2019 MDS Part A assessment question O0400 was used to calculate the volume of therapy services delivered. For FY 2020 and forward MDS Part A discharge assessment question O0425 reports the total minutes of therapy delivered by discipline type and is used to calculate the volume of therapy services delivered.

iv. IRFs

The PAC PUF calculates the volume (i.e., minutes) of therapy services by discipline type delivered in IRFs from the IRF Patient Assessment Instrument (IRF-PAI). The IRF-PAI is a standardized assessment tool used to collect clinical and demographic information for payment determination and quality measure calculations in accordance with the IRF quality reporting program (IRF QRP). Completion of the IRF-PAI is required for each Medicare FFS and MA patient discharged from an IRF. Questions O0401 and O0402 report the total minutes of therapy

delivered by discipline type during the first two weeks of care. Please note that for the 2014-2015 PAC PUFs, there is missing data for volume of therapy services delivered for IRF, as these variables were not active in the IRF-PAI assessment until October 1, 2015.

v. LTCHs

The PAC PUF does not report on any professional or paraprofessional services for LTCHs.

g. Site of Service

Healthcare Common Procedure Coding System (HCPCS) codes Q5001-Q5010 were used to determine sites of service. The PAC PUF reports six sites of service as listed below. Please note that not every site of service is reported for every care setting.

1. Home (Q5001)
2. Assisted living facilities (Q5002)
3. Nursing long-term care facilities and non-skilled nursing facilities (Q5003)
4. Skilled nursing facilities (Q5004)
5. Inpatient hospitals (Q5005)
6. Inpatient hospice facilities (Q5006)

4. Population

The population in the PAC PUF only includes Medicare beneficiaries who received care in at least one PAC setting and have a valid FFS claim that was submitted to Medicare for payment. Specifically, the PAC PUF is compiled of provider-level files that include data for providers that had a valid CCN and submitted at least one Medicare Part A or Part B claim during a calendar or fiscal year. It is important to note that all hospice-related services are submitted to Medicare FFS, even if the beneficiary is enrolled in an MA plan. The PAC PUF includes one variable related to MA beneficiaries, *BENE_MA_PCT*. This variable includes beneficiaries from MA who had at least one FFS paid claim. MA beneficiaries with zero FFS claims in a calendar of fiscal year were not included in this field. Therefore, this variable is not a measure of total MA enrollment, but rather captures spending on hospice services from certain FFS claims submitted by MA cost plans. See the Data Dictionary for further information about this variable.

To protect the privacy of Medicare beneficiaries, we use cell suppression when appropriate and indicate these suppressions by the following:

- Ten or fewer beneficiaries, indicated with an asterisk (*).
- Values of BENE_DUAL_PCT are suppressed for records where STATE = 'PR' and replaced with a plus sign (+) due to known data limitations in the reporting of dual-eligibles in Puerto Rico.

5. Aggregation

The spending and utilization data in the PAC PUF are aggregated by the national, state, and provider (i.e., CCN) levels. We note that each data table is suppressed separately. As the cell sizes in the more detailed tables are smaller, there are more suppressed rows. Therefore, counts in the detailed tables do not sum to the counts in the aggregate tables. For example, the sum of the total number of episodes or stays across all providers may not equal the total number of episodes at the state or national levels because cell suppression occurred at the provider level.

The PAC PUF provides the number of distinct Medicare beneficiaries (i.e., a unique beneficiary) with at least one paid claim in the calendar or fiscal year. The PAC PUF aggregates the number of distinct beneficiaries based on the level of detail requested and will apply cell suppression when necessary. A beneficiary is counted only once for each provider who had a paid claim, only once for each state in which they receive care, and only once at the national level. Therefore, if a beneficiary received care from more than one provider in the same state, then the PAC PUF would count the beneficiary twice at the provider level (i.e., once for each provider), but only once at the state level. If a beneficiary received care from two different providers in two states, then the beneficiary is counted once for each provider, once for each state, and only once at the national level. Therefore, the counts in the detailed tables do not sum to the counts in the aggregate tables.

6. Data Limitations and Notations

Although the PAC PUF has a wealth of payment and utilization information, the dataset also has a number of limitations that are worth noting. The PAC PUF does not have any information on patients who are not covered by Medicare, such as those with coverage from other federal programs (like the Federal Employees Health Benefits Program or Tricare), those with private health insurance (such as an individual policy or employer-sponsored coverage), or those who are uninsured. Even within Medicare, the PAC PUF does not include claim information for MA.

The PAC PUF does not include a calculation on average length of service, but rather the total number of Medicare covered days provided in the calendar or fiscal year. Claims with Medicare covered days less than or equal to zero were excluded. Beneficiaries may have very long stays that may spread across several years. This makes it difficult to attribute long stays to a single calendar or fiscal year, particularly for beneficiaries in a HHA, hospice, or SNF.

The information presented in this file does not indicate the quality of care provided by individual providers. Additionally, the data were not risk adjusted and thus do not account for differences in the underlying severity of disease of patient populations treated by providers.

Because of known data limitations in the reporting of dual eligibles in Puerto Rico, we have also suppressed the percentage of Medicare beneficiaries who are dual eligibles for providers in Puerto Rico at the state level.[5]

a. HHAs

The Medicare allowed amount is equal to the sum of the amount Medicare pays, the deductible and coinsurance amount that the beneficiary is responsible for paying, and any amount that a third party is responsible for paying. However, beneficiaries who receive home health services do not have any deductible or cost-sharing responsibilities and therefore the allowed amount will always equal Medicare payments. The HH PPS is also a bundled payment system where providers are paid based on a national, standardized payment rate that is adjusted for case-mix and area wage differences, regardless of the amount a provider charges to Medicare. Therefore, the amount a provider changes could be lower or higher than the Medicare payment amount. In order to receive the full payment under the HH PPS, providers are required to provide a certain number of visits. If the HHA does not meet this visit threshold, then providers receive a LUPA payment. Therefore, we exclude LUPA claims in variables related to payments.

[5] Specifically, we have suppressed values for variable BENE_DUAL_PCT for records where STATE = 'PR' and replaced these values with a plus sign (+).

b. Hospice

Similar to the HH PPS, beneficiaries under the hospice benefit typically do not have any deductibles or coinsurance and therefore the allowed amount will always equal Medicare payments. In addition, hospices do not have any outlier payments.

There is insufficient data for chronic conditions for hospice beneficiaries. Therefore, we cannot calculate the proportion of beneficiaries with chronic conditions that are otherwise reported for the other PAC settings in the PAC PUF. Also, the average hierarchical condition categories (HCC) score is calculated for both MA and FFS beneficiaries as a single metric because all hospice services are submitted to Medicare FFS. Caution should be used when comparing across providers as the ratio of FFS to MA beneficiaries may vary. Please refer to the "Additional Information" section of this document for more details on HCC risk scores.

The intent of the hospice benefit is to focus on comfort and not curative care and while possible, beneficiaries typically do not receive PT, OT, or SLP services. Therefore, the PAC PUF does not include data on PT, OT, or SLP services for hospice. In addition, beneficiaries on hospice mostly receive RHC; therefore, the proportion of all hospice care days is reported for only RHC. The PAC PUF does not report the proportion of all hospice days for CHC, IRC, or GIP.

c. SNFs

A hospital can uses its beds, as needed, to provide SNF care and be classified as a "swing bed" facility. Short-term hospitals, long-term hospitals, and rehabilitation hospitals certified as swing bed hospitals are paid under the SNF PPS. However, critical access hospitals (CAHs) that are considered "swing bed" facilities, are not paid under the SNF PPS. Therefore, we exclude claims from swing bed CAHs in the PAC PUF.

Since the SNF Medicare Part A benefit only covers the first 100 days per benefit period (spell of illness), we do not include data on the proportion of beneficiaries with 180 days of services or greater for SNF. Although beneficiaries who have multiple spells of illness may have more than 100 covered days of SNF care over the course of the FY, this count is too low to report.

For FYs 2014-2019, there were two different measures of therapy utilization for SNF, both derived from data in the MDS assessment. The first is the number of MDS assessments that met a specific minute threshold; the denominator for these metrics is the number of assessments (i.e., there may be more than one assessment for each claim) and only applies to claims delivered under RU or RV RUGs. The second set of therapy utilization metrics are reported as the number of therapy minutes delivered by each provider. It is important to note that the therapy minute variable is not made for any specific RUG category. Rehabilitation RUGs typically see more MDS assessments as they are required at the start of therapy, when a change in therapy is indicated, or an end of therapy occurs, in addition to the standard reporting windows for all RUG types. Furthermore, the MDS assessment variables with therapy minutes information (O0400) only reports therapy minutes performed in the seven days prior to the assessment. Consequently, the total number of therapy minutes performed during the SNF stay is not available to report for FYs 2014-2019.

For FYs 2020-2023, there is an MDS assessment variable (O0425) available that does report therapy minutes performed for the entire stay covered by Medicare's Part A SNF benefit. However, this variable is only reported on MDS Part A Discharge assessments, and CMS does not always require a discharge assessment to be completed.

For FYs 2014-2019 patients may be classified into multiple RUGs over the course of their SNF stay if their medical needs change. When claims are submitted by a SNF for a beneficiary's stay, the claim includes information on how many total days the patient received care in the SNF, and which RUGs they were classified into and for how many days. Total payment is then calculated by one of the Medicare Administrative Contractors (MACs). However, total payment information is only available on the claim at the stay level and is not delineated by RUG. To include spending data at the RUG level for SNFs, we attribute total spending to each RUG in a stay. We used the RUG codes, units of service (days), and the revenue center payment amounts from the revenue center files to allocate total spending across each RUG. As coinsurance details are only included at the stay level, and not the RUG level, we cannot determine the coinsurance by RUG. Therefore, we assume an even split across all RUGs in a stay, regardless of the amount of coinsurance. Please note that SNFs do not receive outlier payments.

d. IRF

In order to receive payment under the IRF PPS, an IRF must deliver intensive rehabilitation services to no less than 60 percent of its population (known as the "60 percent rule"). The PAC PUF does not report data on whether the IRF was compliant or not compliant with this requirement. To reduce the number of cells suppressed in the PAC PUF Provider Table, CMGs were combined into larger categories, where possible, by clinical similarities.

While submission of the IRF-PAI is a requirement as part of the IRF QRP, there are IRF claims which had no corresponding IRF-PAI assessment. This may be due to assessments that fell outside of our claim-assessment matching algorithm, or in some cases where a facility did not submit a timely assessment. The requirement to record therapy data was effective on discharges on/after October 1, 2015. Therefore, if the provider does not have an IRF-PAI assessment available, then no therapy minutes are reported for that provider in the PAC PUF.

e. LTCHs

LTCHs use a modified version of the IPPS for payment and therefore less information from LTCHs is available compared to other care settings. There are over seven hundred MS-LTC-DRGs and the PAC PUF does not provide information at this level. Instead, the PAC PUF reports data for the major diagnostic categories (MDCs). Additionally, utilization information is not currently available in either the revenue center files or the LTCH Continuity Assessment Record and Evaluation (CARE) Data Set.

7. Additional Information

a. Medicare Standardized Spending

Users can find more information on the methodology for calculating Medicare standardized payments at https://resdac.org/articles/cms-price-payment-standardization-overview.

b. Hierarchical Condition Categories (HCCs)

CMS developed a risk-adjustment model that uses HCCs to assign risk scores. Those scores estimate how beneficiaries' spending compares to the entire Medicare population. Risk scores are based on a beneficiary's age and sex; whether the beneficiary is newly eligible for Medicare, dually eligible for Medicaid, first qualified for Medicare on the basis of a disability, or lives in an

institution (usually a nursing home); and a hierarchical rank of the beneficiary's diagnoses from the previous year. Scores are adjusted for MA coding intensity (i.e., an intensity modifier is applied to account for the higher levels of coding in MA), and blended (i.e., a mix of MA encounter data and RAPS data[6]) as required under the 21st Century Cures Act. Finally, risk scores are normalized, where the average score among the entire population is set to 1.0. Beneficiaries with scores greater than 1.0 are expected to have above-average spending, and beneficiaries with scores lower than 1.0 are expected to have below-average spending.

The HCC model was designed for capitated payment risk adjustment on larger populations and generates more accurate results when used to compare groups of beneficiaries rather than individuals. More information on the HCC risk score can be found on CMS's website.[7]

8. Data Tables

Beginning with the 2025 release, the PAC PUF contains multiple data tables with each data table summarized at the provider, state, and national levels for each setting (HHAs, hospices, SNFs, IRFs, and LTCHs) broken out by year. The product includes information such as provider charges, Medicare allowed amount (if applicable), Medicare payment, and standardized payment as well as include demographic and clinical characteristics of beneficiaries.

Similarly, settings with supplemental data (HHAs, SNFs, IRFs) have dedicated pages with information such as case-mix groupings. In addition, for this year's release, all data tables accessible through the interactive "View Data" tool on data.cms.gov are machine readable and available through the data.cms.gov API.

Specifically for the supplemental tables, more information is provided below.

[6] Risk Adjustment Processing System (RAPS). RAPS supports the RAS primary business function by receiving, processing, and storing MA organization risk adjustment claims data. Historically, CMS has used diagnoses submitted into RAPS for the purpose of calculating risk scores for payment.
[7] https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Risk-Adjustors

a. Medicare Post-Acute Care & Hospice – Home Health Agency by Geography/Provider and Case-Mix Grouping (CYs 2014-2023)

The "Medicare Post-Acute Care & Hospice – HHA by Geography/Provider and Case-Mix Grouping" table is specific to the HH PPS and contains payment and utilization information by HHA and by HHRG.

b. Medicare Post-Acute Care & Hospice – Skilled Nursing Facility by Geography/Provider and RUG (FYs 2014-2019); Medicare Post-Acute Care & Hospice – Skilled Nursing Facility by Geography/Provider and Case-Mix Grouping (FY 2020-2023)

The "Medicare Post-Acute Care & Hospice – SNF by Geography/Provider and Case-Mix Grouping" for FYs 2014-2019 contains payments and utilization information by SNF and RUG type. Due to the implementation of the PDPM, the FY 2020-2023 Medicare Post-Acute Care & Hospice – SNF supplemental dataset does not break out data by RUG type. Instead, the FY 2020-2023 SNF supplemental dataset contains information on therapy minutes by discipline, stays by clinical category, and percent of stays for depression and swallowing disorders.

c. Medicare Post-Acute Care & Hospice – Inpatient Rehabilitation Facility by Geography/Provider and Case-Mix Grouping (FYs 2014-2023)

The "Medicare Post-Acute Care & Hospice – IRF by Geography/Provider and Case-Mix Grouping" table is specific the IRF PPS and contains payment and utilization information by IRF and CMG. The Medicare Post-Acute Care & Hospice – IRF by Geography/Provider and Case-Mix Grouping table is available for download on the resource tab.

9. Data Dictionary

The data dictionary is used to describe the contents, format, and structure of each variable listed in the PAC PUF. Beginning in 2025, each setting has a corresponding data dictionary on its dedicated page to describe the specific variables in the data table. The resources on the main landing page will also have a consolidated singular data dictionary available for download. For this consolidated data dictionary, it is important to note that there are multiple tabs within the master data dictionary file to indicate which data table is being described.

10. Glossary

Ancillary Costs: Costs associated with ancillary services. Ancillary services are professional services by a hospital or other inpatient health program. These may include x-ray, drug, laboratory, or other services.

Beneficiary: A person who is entitled to Medicare benefits and/or has been determined to be eligible for Medicare.[8]

Capital Costs (Medicare): Medicare's share of a hospital's depreciation and interest expenses, plus capital-related insurance costs, property taxes, leases, and rent.

Case Mix: The distribution of patients into categories reflecting differences in severity of illness and/or resource consumption**.**

Chronic Conditions Data Warehouse (CCW): A research database created by CMS in response to the Medicare Modernization Act of 2003. The CCW contains Medicare files (claims, enrollment/eligibility, assessment), Medicare encounter records, Medicaid files, and Part D Prescription Drug Event data.

Claim: A claim is a request for payment for services and benefits. Claims are also called bills for all Part A and Part B services billed through Fiscal Intermediaries. "Claim" is the word used for Part B physician/supplier services billed through the Carrier.

Coinsurance (Medicare Private Fee-For-Service Plan): The percentage of the Private Fee-for-Service Plan charge for services that a beneficiary may have to pay after they pay any plan deductibles. In a Private Fee-for-Service Plan, the coinsurance payment is a percentage of the cost of the service (e.g., 20%).

Coinsurance (Outpatient Prospective Payment System): The percentage of the Medicare payment rate or a hospital's billed charge that a beneficiary must pay after they pay the deductible for Medicare Part B services.

Covered Days: The amount of time which Medicare FFS paid for services to be delivered; this may not necessarily be the same as the total days a beneficiary received services from the provider, as it excludes days which a beneficiary received services, but which Medicare did not pay.

Critical Access Hospital (CAH): A small facility that gives limited outpatient and inpatient hospital services to people in rural areas.

[8] 42 CFR §400.200 eCFR :: 42 CFR Part 400 -- Introduction; Definitions

Deductible (Medicare): The amount a beneficiary must pay for health care before Medicare begins to pay, either for each benefit period for Part A, or each year for Part B. These amounts can change every year.

Discharge Status: Recorded on claims as the official release from a hospital or medical facility at the conclusion of care. Discharge status may include community/self-care, another medical facility, or death.

Dually Eligible: Persons who are entitled to Medicare (Part A and/or Part B) and who are also eligible for Medicaid.

Fiscal Year: For Medicare, a year-long period that runs from October 1st through September 30th of the next year. The government and some insurance companies follow a budget that is planned for a fiscal year.

Healthcare Common Procedure Coding System (HCPCS): Part of a uniform coding system that is used to identify medical services and procedures furnished by physicians and other health care professionals.

Home Health Agency (HHAs): An organization that provides home care services for an illness or injury, such as skilled nursing care, physical therapy, occupational therapy, speech therapy, and personal care by home health aides.

Hospice: Hospice is a special way of caring for people who are terminally ill, and for their family. This care includes physical care and counseling. Hospice care is covered under Medicare Part A (Hospital Insurance).

Inpatient Rehabilitation Facility (IRF): A free-standing rehabilitation hospital or rehabilitation unit in acute care hospitals that provide an intensive rehabilitation program. Patients who are admitted to an IRF must be able to tolerate three hours of intense rehabilitation services per day.

International Classification of Diseases (ICD), Clinical Modification: A system of codes and terminology that arranges diseases and injuries into groups according to established criteria. The National Center for Health Statistics (NCHS) serves as the World Health Organization (WHO) Collaborating Center for the Family of International Classifications for North America and in this capacity is responsible for coordination of all official disease classification activities in the United States relating to the ICD and its use, interpretation, and periodic revision.

Long-Term Care Hospitals (LTCHs): Certified as acute-care hospitals, but focus on patients

who, on average, stay more than 25 days. LTCHs typically specialize in treating patients who have more than one serious condition, but who may improve with time and care.

Medical Social Services: Services that are provided by a qualified medical social worker or a social work assistant under the supervision of a qualified medical social worker. Services may include, but are not limited to assessment of the social and emotional factors related to the patient's illness, need for care, response to treatment and adjustment to care. assessment of the relationship of the patient's medical and nursing requirements to the patient's home situation, financial resources and availability of community resources; appropriate action to obtain available community resources to assist in resolving the patient's problem; and counseling services that are required by the patient.

Medicare: The federal health insurance program for: people 65 years of age or older, certain younger people with disabilities, and people with End-Stage Renal Disease (permanent kidney failure with dialysis or a transplant, sometimes called ESRD).

Medicare Advantage Plan: A Medicare program that gives you more choices among health plans. Everyone who has Medicare Parts A and B is eligible, except those who have End-Stage Renal Disease (unless certain exceptions apply). Medicare Advantage Plans used to be called Medicare + Choice Plans.

Medicare Benefits: Health insurance available under Medicare Part A and Part B through the traditional fee-for service payment system.

Medicare Part A (Hospital Insurance): means the hospital insurance program authorized under Part A of title XVIII of the Social Security Act.[7] Hospital insurance that pays for inpatient hospital stays, care in a skilled nursing facility, hospice care, and some home health care.

Medicare Part B (Medical Insurance): means the supplementary medical insurance program authorized under Part B of title XVIII of the Act.[7] Medicare medical insurance that helps pay for doctors' services, outpatient hospital care, durable medical equipment, and some medical services that aren't covered by Part A.

Medicare Part C: means the choice of Medicare benefits through Medicare Advantage plans authorized under Part C of the title XVIII of the Act.[7]

Medicare Part D: means the voluntary prescription drug benefit program authorized under Part D of title XVIII of the Act.[7]

Outlier: Additions to a full episode payment in cases where costs of services delivered are

estimated exceed a fixed loss threshold.

Paraprofessional: care disciplines that do not require a license in order to practice; this includes home health aides.

Post-Acute Care (PAC): A range of medical services that support an individual's continued recovery from illness or injury or management of a chronic illness or disability. Generally, PAC includes rehabilitation or palliative services.

Principal Diagnosis: The condition established after study to be chiefly responsible for the admission. This condition is also referred to as the primary diagnosis.

Professional: Care disciplines that require a license in order to practice; this includes nursing, physical therapy, occupational therapy, speech language pathology, social work, and physician services.

Prospective payment system (PPS): A method of reimbursement in which Medicare payment is made based on a predetermined, fixed amount. The payment amount for a particular service is derived based on the classification system of that service.

Provider: Providers can refer to a hospital, a critical access hospital, a skilled nursing facility, a comprehensive outpatient rehabilitation facility, a home health agency, or a hospice that has in effect an agreement to participate in Medicare, or a clinic, a rehabilitation agency, or a public health agency that has in effect a similar agreement but only to furnish outpatient physical therapy or speech pathology services, or a community mental health center that has in effect a similar agreement but only to furnish partial hospitalization services.[7]

Public Use File: Non-identifiable data that is within the public domain.

Services: Medical care or services and items, such as medical diagnosis and treatment, drugs and biologicals, supplies, appliances, and equipment, medical social services, and use of hospital, a critical access hospital, or a skilled nursing facility.

Skilled Nursing Facility (SNF): A facility (which meets specific regulatory certification requirements) which primarily provides inpatient skilled nursing care and related services to patients who require medical, nursing, or rehabilitative services but does not provide the level of care or treatment available in a hospital.

Wage Index: An adjustment factor for area differences in hospital wage levels by a factor reflecting the relative hospital wage level in the geographic area of the hospital compared to the national average hospital wage level. Data included in the wage index derive from

the Medicare Cost Report, the Hospital Wage Index Occupational Mix Survey, hospitals' payroll records, contracts, and other wage-related documentation. In computing the wage index, CMs derive an average hourly wage for each labor market area (total wage costs divided by total hours for all hospitals in the geographic area) and a national average hourly wage (total wage costs divided by total hours for all hospitals in the nation). A labor market area's wage index value is the ratio of the area's average hourly wage to the national average hourly wage. The wage index adjustment factor is applied only to the labor portion of the standardized amounts.

11. Appendix A

a. Implementation of the PDGM for the HH PPS

As noted in the "Data Source" section, the HH PPS had a change in the case-mix system starting CY 2020. This change was significant and included a change in the unit of payment from 60-day episodes to 30-day periods, a change from 153 case-mix groups to 432 case-mix groups, and the removal of therapy threshold in calculating payments. While the unit of payment for HH services is currently a 30-day period payment rate, there were no changes to timeframes for re-certifying eligibility and reviewing the HH plan of care, both of which will occur every 60-days (or in the case of updates to the plan of care, more often as the patient's condition warrants). We note the following differences between the CYs 2014-2019 PAC PUFs and the CY 2020-2023 PAC PUFs for HH.

i. HH Claims

For the CYs 2014-2018 PAC PUF, a HH 60-day episode was included in the calendar year that the episode ended. For example, if an episode began December 1, 2016, and ended January 15th, 2017, it would be included in the CY 2017 PAC PUF. However, due to the implementation of the PDGM, 60-day episodes which started in CY 2019 and ended in CY 2020 were excluded from the CYs 2019 and 2020 PAC PUF. As such a 60-day episode must have ended by December 31, 2019, to be included in the CY 2019 PAC PUF. No 60-day episodes were included in the CY 2020 PAC PUF. In addition, the unit of payment changed to 30-day periods and there are no 30-day periods which started prior to January 1, 2020. Therefore, we urge caution when comparing the total number of 60-day episodes or 30-day periods across years.

As noted in the "Data Source" section, if a 60-day episode consisted of four or fewer visits or a 30-day period did not meet the visit threshold, then the claim received a LUPA. The total count of LUPAs is included in all PAC PUFs. For LUPA episodes or periods, Medicare paid national per-visit rates based on the discipline(s) providing the services. Therefore, we excluded LUPA claims for variables which are related to payments. For example, a LUPA claim would not be assigned an HHRG and therefore was excluded when calculating the total amount Medicare paid per HHRG.

ii. Updated variables

Prior to the implementation of the PDGM, the HH PPS included therapy thresholds in the calculation of payments. For CYs 2014-2019, the PAC PUF reported the number of 60-day episodes based on the number of therapy visits provided (low, medium, or high) and the timing (early or late) of the 60-day episodes. The following HH variables are specific to the CYs 2014-2019 PAC PUF.

- CASEMIX
- CASEMIX_DAY_PCT

Under the PDGM, the number of therapy visits were not calculated as part of the standard 30-day payment and instead the referral source (community or institutional) and comorbidity level (none, low, or high) were used in determining the HHRG. The following HH variables are specific to the CY 2020-2023 PAC PUF.

- CASEMIX_SRC_TMNG
- CASEMIX_SRC_TMNG_EPSD_PCT
- CASEMIX_CLNCL_FNCTNL
- CASEMIX_CLNCL_FNCTNL_EPSD_PCT

In addition, we note that we updated our calculations from percent of days to percent of episodes/periods for all years.

b. Implementation of the PDPM for the SNF PPS

As noted in the "Data Source" section, the SNF PPS had a change in the case-mix system starting FY 2020. This change was significant as the previous system (RUG-IV model) relied heavily on the volume of therapy services while the PDPM does not include the amount of therapy. We urge caution when comparing payments and utilization from the FYs 2014-2019 and

the FY 2020-2023 PAC PUFs. Therefore, we note the following differences between the FY 2014-2019 PAC PUFs and the FY 2020-2023 PAC PUFs regarding SNF.

i. Updated Variables:

The following SNF variables are specific to the FYs 2014-2019 PAC PUF:

- CASEMIX
- CASEMIX_DAY_PCT
- TOTAL_ASMT_CNT
- ASMT_10_MNTS_RV_THRSHLD_PCT
- ASMT_10_MNTS_Ru_THRSHLD_PCT

The following SNF variables are specific to the FYs 2020-2023 PAC PUF:

- PDPM_PT_OT_TC_DAYS_PCT
- PDPM_PT_OT_TD_DAYS_PCT
- PDPM_SLP_SK_DAYS_PCT
- PDPM_SLP_SL_DAYS_PCT
- PDPM_NRSNG_ES3_DAYS_PCT
- PDPM_NRSNG_ES2_DAYS_PCT
- PDPM_NTA_NA_DAYS_PCT
- PDPM_NTA_NB_DAYS_PCT
- STAY_CLNCL_ACU_INF_CTGRY_PCT
- STAY_CLNCL_ACU_NEU_CTGRY_PCT
- STAY_CLNCL_CTGRY_CNCR_PCT
- STAY_CLNCL_CTGRY_CRD_COAG_PCT
- STAY_CLNCL_CTGRY_MJR_SPN_PCT
- STAY_CLNCL_CTGRY_MED_MNG_PCT
- STAY_CLNCL_CTGRY_NOORTH_SRGY_PCT
- STAY_CLNCL_CTGRY_ORTH_NOSRGY_PCT
- STAY_CLNCL_CTGRY_ORTH_SRGY_PCT
- STAY_CLNCL_CTGRY_PLMNRY_PCT
- STAY_DPRSN_MOOD_SCRE_PCT

- STAY_SWLWG_DSRDR_PCT
- STAY_MLNTRN_PCT

Please note that in previous versions of the PAC PUF, group and concurrent therapy were adjusted. The concurrent treatment minute count was adjusted using a 0.5x modifier and the group treatment minute count was adjusted using a 0.25x modifier. Beginning with the 2020 PAC PUF, group and concurrent therapy minutes are calculated using a straight sum and are not adjusted. This new methodology applies to all years of data (i.e., FYs 2014-2023) in the current release of the PAC PUF.