

Basics of Payment Standardization

May 2022

Payment standardization is the process of adjusting the allowed charge for a Medicare service to facilitate comparisons of resource use across geographic areas. This allowed charge for a single service, referred to as the Medicare allowed amount, differs to accommodate varying input costs, such as local wages, and to address policy goals, such as add-on payments in under-served geographic areas.¹ The Centers for Medicare & Medicaid Services (CMS) uses payment standardization to assign a comparable allowed amount for the same service provided by different providers and/or in different settings to reveal differences in spending that result only from care decisions and resource use. Payment standardization does the following:

- **Preserves differences that result from health care delivery choices** such as:
 - the setting where the service is provided (e.g., physician office versus outpatient hospital);
 - the type of healthcare provider who provides the service (e.g., physician versus nurse practitioner);
 - the number of services provided in the same encounter; and
 - outlier cases.
- **Excludes geographic differences** in regional labor costs and practice expenses, as measured by hospital wage indexes and geographic practice cost indexes.
- **Excludes payment adjustments from special Medicare programs** that are not directly related to resource use for the service such as:
 - graduate medical education (GME) and indirect medical education (IME) payments;
 - disproportionate share payments (DSH) and uncompensated care payments (for serving a large low-income and uninsured population);
 - value based purchasing (VBP) payment adjustments; and
 - penalties related to the hospital readmission reduction program (HRRP), hospital acquired condition (HAC) reduction program, and quality reporting programs.
- **Substitutes a national amount** in the case of services paid on the basis of state fee schedules.

The payment standardization methodology basics are summarized in this document; for additional details, please refer to [this ResDAC website](#). The first section of this document provides a general framework for how Medicare Parts A and B claims are payment standardized, the second section describes how payments are standardized for each service type in detail, and the third section mentions a few considerations regarding the monthly standardization and upload

¹ Medicare allowed amount includes Medicare trust fund payments, payments from third party payers, and beneficiary deductibles and coinsurance.

process. For additional questions about the payment standardization methodology, please email [**CMS-PaymentStandardizationSupport@cms.hhs.gov**](mailto:CMS-PaymentStandardizationSupport@cms.hhs.gov).

OVERVIEW OF STANDARDIZED ALLOWED CALCULATION

The standardized allowed amount for a service is the sum of the core cost of that service, any add-ons or deductions directly related to resource use, and any applicable outlier payments. The first component, core cost, is the base payment for a service, usually dictated by the product of a fee schedule payment rate and a unit count or service weight. The second component, add-ons or deductions, accounts for payments for supplemental resource use not included in the core cost of a service, such as payments for new technologies used in the inpatient setting. The third component, outlier payment, accounts for excessive costs related to the service provided that are not accounted for by the core cost and add-ons. The calculation of these components differs based on the type of claim and payment system. These three components combine to construct payments that are free of geographic adjustments and special program payments not directly related to resource use. Figure 1 depicts the three components of the standardized allowed amount.

Figure 1. General Payment Standardization Formula



Standardization Approaches

There are three basic methods to calculate the components of the standardized allowed amount for all services. The first method, Approach A, is used when a service is paid at a national rate, meaning Medicare allowed amounts are uniform across geographic regions. Approach A takes the claim allowed amount, which already contains core costs, add-ons/deductions, and outlier payments, and assigns that amount as the standardized allowed amount. The second method, or Approach B, is used when the service is not paid at a national rate and the standardized allowed amount must be calculated without geographic differences. Approach B constructs core costs, add-ons/deductions, and outlier payments using service-specific payment rates according to their payment rules in such a way that geographic adjustment factors and special program payments not directly related to resource use are excluded. The third approach, or Approach C, is used when the service is not paid at a national rate and there is not enough information available to apply Approach B. Approach C starts with the claim allowed amount and removes regional adjustments and special program payments not directly related to resource use to determine the standardized allowed amount for each service. The following sections explain each method in more detail with appropriate examples.

▪ ***Approach A: Use Claim Allowed Amount without Adjustment***

For services paid using a uniform national rate, the Medicare allowed amount on the claim is already free of geographic adjustments and special program payments. Thus, the standardized allowed amount is set equal to the Medicare allowed amount paid for the specific claim.² This approach is also used to calculate payment standardized allowed amounts for services for which there is not enough information to calculate using approaches B or C.

(A.1)

Standardized Allowed = Medicare Allowed Amount

Example: Part B Drugs (Epoetin alfa)

Part B drugs are paid at a national rate equal to 106 percent of the average sales price for the drug. In the first quarter of 2021, the national rate for Epoetin alfa was \$8.824 per 1000 units, so the standardized allowed amount for such a claim line is as follows, where \$8.83 is the claim allowed amount and reflects the national rate for Epoetin alfa in the first quarter of calendar year (CY) 2021.

(A.2)

Standardized Allowed Amount_{1,000 units Epoetin alfa, 2021 Q1} = \$8.83

▪ ***Approach B: Calculate Based on Service-Specific Payment Rates***

For services not paid at a national rate, the standardized allowed amount for a claim is calculated by constructing the core costs, add-ons/deductions, and outlier payments using a service-specific payment rate. Depending on the setting, the base payment rate may be specific to a diagnosis-related group (DRG), procedure code, or resource utilization group (RUG) as shown in the equation below. These base payment rates are taken from the appropriate fee schedule on the CMS website. When appropriate, the payment rate is multiplied by units such as the number of days in a stay, the number of times the procedure was performed, or the number of units of a product applied.³ Add-ons, deductions, and outlier payments are also constructed independently of regional multipliers and special program payments unrelated to resource use.

² Note that a two percent reduction is applied to standardized amounts calculated using Approach A for claims from May 1, 2020, to Mar 31, 2022, to reflect sequestration after CMS's suspension of sequestration during the COVID-19 public health emergency. The two percent reduction is also applied for claims from April 1, 2022, to June 30, 2022, despite CMS's revision of the sequestration adjustment to 1 percent.

³ Note that for all services occurring on or after April 1, 2013, using Approach B, a two percent reduction is applied to the Medicare portion of the allowed amount in the payment standardization calculation to account for the sequester. This reduction will be retained on standardized amounts for claims: (i) from May 1, 2020 to March 31, 2022, when CMS suspended the sequestration during the COVID-19 public health emergency, (ii) from April 1, 2022, to June 30, 2022, when CMS revises the sequestration adjustment to 1 percent, and (iii) after July 1, 2022, when CMS resumes the 2 percent sequestration adjustment. Sequestration updates are based on requirements by law, and as such, these updates are in compliance with legislation.

(B.1)

$$\text{Standardized Allowed Amount} = (\text{Service Payment Rate} \cdot \text{Applicable Units}) \\ + \text{Add-ons or Deductions, If Applicable} + \text{Outlier Payments, If Applicable}$$

Example: Skilled Nursing Facility (SNF) Services

Prior to Fiscal Year (FY) 2020, skilled nursing facilities (SNF) services are paid based on a resource utilization group (RUG) with a specific daily rate determined by CMS each year. Both an urban and rural rate are published for each RUG. The core cost for a traditional three-day SNF stay for low-intensity rehabilitation in FY2019 is standardized as indicated in the formula below, where \$260.60 is the average of the urban and rural daily rates for low-intensity rehabilitation in a SNF in FY2019, and units are considered to be the number of days in the stay.

(B.2)

$$\text{Standardized Allowed Amount}_{\text{3-Day Low Intensity Rehab, FY2019}} = \$260.60 \cdot 3 = \$781.80$$

In this example there were no add-ons or deductions. Outlier payments are not made on SNF claims.

▪ ***Approach C: Calculate by Removing Geographic Adjustments from the Claim Allowed Amount***

For services not paid at a national rate and where there is insufficient information to apply Approach B, the payment standardization calculation removes any applicable special program payments, and geographic adjustments for wage variance from the allowed amount reported on the claim. The following equation provides a simplified depiction of the Approach C calculation, as used in institutional settings.⁴

(C.1)

$$\text{Standardized Allowed Amount} = \frac{\text{Medicare Allowed Amount} - \text{Special Program Payments}}{(\text{Labor Share} \cdot \text{Wage Index}) + (1 - \text{Labor Share}) \cdot \text{COLA}}$$

In CMS' calculation of the Medicare allowed amount, the labor share represents the proportion of costs that covers salaries and other costs of employment. Specifically, the labor share is the

⁴ Note that for all services occurring on or after April 1, 2013, using Approach C, a two percent reduction is applied to the Medicare portion of the allowed amount in the payment standardization calculation to account for the sequester. This reduction will be retained on standardized amounts for claims: (i) from May 1, 2020 to March 31, 2022, when CMS suspended the sequestration during the COVID-19 public health emergency, (ii) from April 1, 2022, to June 30, 2022, when CMS revises the sequestration adjustment to 1 percent, and (iii) after July 1, 2022, when CMS resumes the 2 percent sequestration adjustment. Sequestration updates are based on requirements by law, and as such, these updates are in compliance with legislation.

portion of the total cost that is adjusted for regional wage differences while the non-labor share is the portion adjusted for cost of living. Approach C divides the Medicare allowed amount by the product of the labor share, the provider’s wage index, the non-labor share, and the cost of living adjustment (COLA) for that state to remove these regional differences.⁵

Example: Skilled Nursing Services at Critical Access Hospitals (CAHs)

The payment standardization methodology for skilled nursing services provided in critical access hospitals (CAHs) calculates a standardized allowed amount by removing geographic adjustments from the claim allowed amount. The standardized allowed amount for a three-day, low-intensity rehabilitation stay in a CAH in FY2019 with a Medicare allowed amount of \$650 would be calculated as indicated in the formula below, where \$650 is the allowed amount reported on the claim, \$0 is the sum of special program payments, 0.70500 is the FY2019 SNF labor share, 1.0763 is the CAH’s wage index, and 1.0 is the COLA factor (COLA adjustments are not performed for Medicare SNF payments).

(C.2)

$$\text{Standardized Allowed Amount}_{\text{3-Day Low Intensity Rehab at CAH, FY2019}} = \frac{\$650 - \$0}{(0.70500 \cdot 1.0763) + (1 - 0.70500) \cdot 1.0} = \$616.82$$

In regions where the denominator of the equation above is greater than one, the standardized allowed amount is lower than the actual allowed amount.

Conversely, when the denominator is less than one, the standardized allowed amount will be greater than the actual allowed amount.

In each approach, the standardized allowed amount is free of geographic adjustments and special program payments not directly related to resource use. Services using Approach A already have such an amount listed on the claim (i.e., claim allowed amount); services using Approach B build up the standardized amount; and services using Approach C work backwards from the claim cost to achieve the standardized amount. The following sections describe each step of the payment standardization calculation and specify which standardization approach is used.

⁵ Approach C incorporates the denominator with these components (COLA, wage index, and labor share) to reverse the calculation performed by the CMS Pricers for institutional settings.

STANDARDIZED PAYMENTS BY SERVICE TYPE

The following sections highlight the methodology for calculating the standardized allowed amount for each of the seven Medicare Part A and B service types: (i) inpatient hospital; (ii) outpatient hospital; (iii) carrier (physician services); (iv) skilled nursing facility; (v) home health agency; (vi) hospice; and (vii) durable medical equipment, prosthetics, orthotics, and supplies (DMEPOS).⁶ As mentioned in the previous section, the standardized allowed amount for any Medicare claim is calculated based on three components:

1. **Core Costs** based on service-specific payment rates;
2. **Add-ons or Deductions** for additional costs not accounted for in core costs (such as new technologies in an acute inpatient stay) or for reduced-cost care (such as purchasing a used power wheelchair instead of a new one); and
3. **Outlier Payments** for unusually costly care.

The following sections will describe each component as it relates to a specific setting.

A. Inpatient Facilities

Standardization Approaches B and C are used to calculate the standardized allowed amount for inpatient facilities. For the purpose of standardized amount calculation, inpatient services are separated into five different settings: (i) acute care; (ii) inpatient psychiatric care; (iii) inpatient rehabilitation care; (iv) long term care; and (v) other. Approach B is used to calculate the standardized allowed amount for inpatient services for acute care, inpatient psychiatric care, inpatient rehabilitation care, and long term care hospitals (LTCH). Approach C is used for other inpatient services which do not fall under the aforementioned categories. The following provides a detailed breakdown of how the core cost, add-on/deductions, and outlier payments are calculated for inpatient services; the details are most relevant for services that are standardized with Approach B. Table 1 summarizes how standardized allowed costs are calculated for all inpatient facilities.

Component 1: Core Cost

Under Approach B, the core cost component is calculated using a base payment rate that is specific to the setting of the inpatient claim and fiscal year, and a weight that is specific to the setting, fiscal year, and DRG or case mix group (CMG). The DRG/CMG weight expresses the expected cost of a stay with that DRG/CMG relative to the expected cost of stays in that setting with other DRG/CMGs.

⁶ Appendix A outlines each provider type in more detail.

The following provides a simple example of how the core cost component is calculated under Approach B.

(1)

$$\text{Core Cost}_{\text{inpatient}} = \text{Setting Specific Base Rate} \cdot \text{DRG Weight}$$

Example: Lung Transplant in an Acute Hospital (Approach B)

The core cost of a lung transplant in an acute care hospital in FY2021 is calculated using the FY2021 Inpatient Prospective Payment System (IPPS) base rate of \$6,427.52 (which is the sum of the full annual payment update [APU] IPPS operating base rate and the IPPS capital base rate) and the FY2021 lung transplant IPPS DRG weight of 11.5743.

(2)

$$\text{Core Cost}_{\text{LungTransplant at Acute Care Hospital, FY2021}} = \$6,427.52 \cdot 11.5743 = \$74,394.04$$

Component 2: Add-ons or Deductions

When applicable, Approach B includes an add-on for the use of new technology or treatments, and a deduction for shorter-than-average stays.

Component 3: Outlier Payments

When applicable, Approach B calculates the outlier payment amount given to cover care that is significantly more expensive than expected. Outlier payments in inpatient settings are standardized according to CMS regulations using total covered charges reported by the provider, total payment received for the inpatient stay, a fiscal year- and setting-specific fixed loss threshold, and hospital characteristics.

Table 1. Inpatient Hospital Standardization Components

Inpatient Hospital Type	Standardization Approach	Core Costs	Add-ons/Deductions	Outlier Payments
Acute Care Hospital ⁷ (<i>Acute care, CAH, acute Maryland, children's, and cancer hospitals</i>)	Approach B	IPPS base rate multiplied by the IPPS DRG weight	Add-ons for use of new technology and/or treatments, and for clotting factors Deductions for shorter-than-average stays that end in a transfer and replacement medical device credits	Applied to stays where costs exceed payment beyond a fixed loss threshold
Inpatient Psychiatric Facility (IPF)	Approach B	IPF per diem base rate multiplied by the IPF DRG weight and weighted length of stay	Add-ons for clotting factors, electroconvulsive therapy, comorbidities, and age Deductions for replacement medical device credits	Applied to stays where costs exceed payment beyond a fixed loss threshold
Long-Term Care Hospital (LTCH)	Regular Stays: Approach B	LTC base rate multiplied by the LTC DRG weight	Add-ons for clotting factors Deductions for shorter-than-average stays and replacement medical device credits	Applied to stays where costs exceed payment beyond a fixed loss threshold
Long-Term Care Hospital (LTCH)	Site Neutral Stays: Approach B	IPPS base rate multiplied by the IPPS DRG weight	Add-ons for clotting factors Deductions for shorter-than-average stays and replacement medical device credits	Applied to stays where costs exceed payment beyond a fixed loss threshold
Inpatient Rehabilitation Facility (IRF)	Approach B	IRF base rate multiplied by the IRF CMG weight	Add-ons for clotting factors Deductions for shorter-than-average stays that end in a transfer and replacement medical device credits	Applied to stays where costs exceed payment beyond a fixed loss threshold
Other Inpatient Hospital	Approach C	Included in claim allowed amount	May be included in claim allowed amount	May be included in claim allowed amount

⁷ Acute hospitals include hospitals paid under Medicare's Inpatient Prospective Payment System (IPPS), acute Maryland hospitals, Critical Access Hospitals (CAHs), children's hospitals, and cancer hospitals. While acute Maryland hospitals, CAHs, children's hospitals, and cancer hospitals are paid under special systems, they provide a similar set of acute hospital services as IPPS hospitals.

B. Outpatient Facilities

Standardization Approaches A, B, and C are used to calculate the standardized allowed amount for care provided in outpatient facilities. Outpatient care is provided in seven settings: (i) outpatient hospitals; (ii) critical access hospitals (CAHs); (iii) community mental health centers (CMHCs); (iv) rural health clinics (RHCs); (v) federally qualified health centers (FQHCs); (vi) (community) outpatient rehabilitation facilities (CORFs/ORFs); (vii) and renal dialysis facilities. Approach A is used for outpatient services not found on any fee schedule. Approach B is used for services found on the outpatient department, physician, laboratory, ambulance, and DMEPOS fee schedules that are provided in outpatient hospitals, CAHs, CMHCs, CORFs, and ORFs, as well as for dialysis services provided in renal dialysis facilities. Approach C is used for services that do not qualify for Approaches A and B, which include services at RHCs and FQHCs. While Approaches A and C have the core cost, add-ons/deductions, and outlier payment components included in the claim allowed amount, Approach B calculates each component according to the following description. Table 2 outlines how standardized allowed costs are calculated for all services in outpatient facilities.

Component 1: Core Cost

In Approach B, the core cost is calculated by multiplying the calendar year- and service-specific base payment rate and the revenue units reported on the claim. The payment rates are defined by the physician, lab, outpatient prospective payment system (OPPS), DMEPOS, or end stage renal disease (ESRD) fee schedules, depending on the type of service. The following provides a simple example of how the core cost component is calculated under Approach B.

(3)

$$\text{Core Cost}_{\text{outpatient}} = \text{Service Specific Payment Rate} \cdot \text{Revenue Units}$$

Example: Dialysis in Outpatient Hospital (Approach B)

The core cost of a dialysis service in an outpatient hospital would be calculated using the CY2021 OPPS fee schedule rate of \$654.34.

(4)

$$\text{Core Cost}_{\text{Dialysis in OP hospital, 2021}} = \$654.34 \cdot 1 \text{ unit} = \$654.34$$

Component 2: Add-ons or Deductions

When applicable, Approach B includes multiple procedure payment reductions according to fee schedule rules. In addition, Approach B includes the deductions for use of specific devices in calculating the standardized allowed amounts for services in outpatient hospital settings.

Component 3: Outlier Payments

When applicable, Approach B includes outlier payments at the claim level given to cover outpatient services that are significantly more expensive than expected, with the exception of ESRD Prospective Payment System (PPS) claims which include outlier payment at both the line and claim level. All outlier payments are adjusted to remove geographic wage differences.

Table 2. Outpatient Hospital Standardization Components

Outpatient Facility Type	Standardization Approach	Core Costs	Add-ons/Deductions	Outlier Payments
Outpatient Hospitals, CAHs, and CMHCs ^{8,9}	Services not found on any fee schedule: Approach A	Included in claim allowed amount	May be included in claim allowed amount	May be included in claim allowed amount
	Services found on the OPSS, lab, physician, ambulance, or DMEPOS fee schedule: Approach B	Fee schedule rate multiplied by units	OPSS deductions for device purchase offsets and reduced or discontinued procedure reductions Physician fee schedule deductions for multiple procedure payment rules	For OPSS lines, applied to care that is significantly more expensive than expected
RHCs and FQHCs	Approach C	Included in claim allowed amount	None	None
CORFs and ORFs	Approach B	Physician fee schedule rate multiplied by units	Deductions for multiple therapies	None
Renal Dialysis Facilities	Dialysis services: Approach B	Calculated based on the ESRD PPS PRICER logic and fee schedule ¹⁰	Add-ons based on ESRD PPS PRICER logic	Applied to care that is significantly more expensive than expected
	Separately payable services (pre-2011): Approach A	Included in claim allowed amount	May be included in claim allowed amount	May be included in claim allowed amount
Other Outpatient Services	Approach A	Included in claim allowed amount	May be included in claim allowed amount	May be included in claim allowed amount

⁸ Services delivered in an outpatient setting are payment standardized in the same way for Maryland hospitals and non-Maryland hospitals. Although Maryland hospitals are not paid under the outpatient prospective payment system (OPSS), the payments made for their services are standardized the same way as other hospitals in order to allow for uniform national standardization and to facilitate national resource use comparisons.

⁹ Outpatient services can be provided in skilled nursing facility and home health settings. These services are standardized in the same way as all other OPSS services.

¹⁰ For additional details on the ESRD PPS Pricer logic, please refer to the [ESRD Pricer webpage](#).

C. Carrier (Part B Physician) Claims

Standardization Approaches A and B are used to calculate the standardized allowed amount for carrier claims (also known as physician/supplier Part B claims), which are submitted by physicians to CMS for reimbursement of services. Carrier claims are categorized into six services: (i) physician services, (ii) anesthesia services, (iii) ambulatory surgical centers (ASCs), (iv) clinical laboratory services, (v) drugs covered by Part B, and (vi) ambulance services. Approach A is used for drugs covered under Part B, which are paid at a national rate, and automated lab tests and chemistry panels which follow special bundling rules. Approach B is used for physician services, anesthesia services, ASCs, ambulance services, and the remainder of lab services. The following describes how the core cost, add-ons or deductions, and applicable outlier payments are calculated for carrier claims under Approach B. Table 3 summarizes how standardized allowed costs are calculated for carrier claims.

Component 1: Core Cost

For physician services, anesthesia services, ASCs, and most lab services, Approach B calculates the core cost component of the standardized allowed amount with the calendar year- and service-specific payment rate drawn from the physician, ASC, and lab fee schedules and the service count reported on the claim. The following provides a simple example of how the core cost component is calculated under Approach B.

(5)

$$\text{Core Cost}_{\text{Carrier}} = \text{Service-Specific Payment Rate} \cdot \text{Service Count}$$

Example: Glucose Blood Test (Core Cost Approach B)

The core cost of three glucose blood tests is calculated using the CY2021 lab fee schedule rate of \$3.28.

(6)

$$\text{Core Cost}_{3 \text{ Glucose Blood Tests, 2021}} = \$3.28 \cdot 3 \text{ services} = \$9.84$$

For ambulance services, a modified version of Approach B calculates the core cost component not accounting for differences in service count (e.g., mileage). Instead, the empirical arithmetic mean of the line allowed amount by ambulance procedure code from the prior year is used as the service-specific payment rate and each line is counted as a single service. This modified approach avoids assigning higher standardized payments to rural providers due to longer ambulance rides.

Component 2: Add-ons or Deductions

When applicable, Approach B includes the setting- and fee schedule-specific add-ons and deductions when calculating the standardized allowed amount.

Component 3: Outlier Payments

Outlier payments are not applicable because Medicare does not make outlier payments for physician services.

Table 3. Carrier (Physician/Supplier Part B) Standardization Components

Service Type	Standardization Approach	Core Costs	Add-ons/Deductions	Outlier Payments
Physician Services	Approach B	Physician fee schedule rate multiplied by units	Deductions for shared global surgeries, co-surgeries, assistant surgeons, non-physician practitioners, and bilateral, endoscopy, diagnostic imaging, cardiovascular, and multiple therapy procedures	Not applicable
Anesthesia Services	Approach B	Anesthesia base units multiplied by conversion factor	Deductions for physicians overseeing multiple concurrent procedures and procedures performed by non-physicians	Not applicable
Ambulatory Surgical Center (ASC)	Approach B	ASC payment rate multiplied by units	Deductions for multiple surgeries, reduced-price procedures, and procedures discontinued prior to the administration of anesthesia	Not applicable
Clinical Laboratory Services	Auto-test panel services: Approach A	Included in claim allowed amount	None	Not applicable
	All other services: Approach B	Lab fee schedule multiplied by units	None	Not applicable
Drugs Covered by Part B	Approach A	Included in claim allowed amount	None	Not applicable
Ambulance Services	Modified version of Approach B	The average line allowed amount for each ambulance procedure code is calculated each year and assigned as the standardized allowed amount	None	Not applicable
Other Carrier Lines	Approach A	Included in claim allowed amount	May be included in claim allowed amount	Not applicable

D. Skilled Nursing Facilities

Standardization Approaches B and C are used to calculate the standardized allowed amounts for skilled nursing services. Skilled nursing services are provided in SNFs and swing beds in CAHs.¹¹ Approach B is used for SNF services provided in traditional skilled nursing facilities; Approach C is used for SNF services provided in CAHs. The following outlines how the core cost, add-ons or deductions, and applicable outlier payments are calculated under Approach B. Table 4 summarizes each component for services provided in both SNF and CAHs.

Component 1: Core Cost

Approach B is used for services provided in traditional skilled nursing facilities, and the core cost is calculated at the line level. For SNF claims with service dates prior to FY2020, the payment rate is specific to the line RUG, and is taken as the average between the urban and rural RUG rates. The applicable units are populated by the revenue units on the claim line. SNF claims with service dates beginning in FY2020 are paid under the Patient-Driven Payment Model (PDPM). The PDPM sets daily payment rates specific to both the claim Health Insurance Prospective Payment System (HIPPS) code and a variable per diem (VPD) adjustment for certain components of the HIPPS code based on the day of the stay. The standardized PDPM per diem rate is calculated from the sum of the daily payment rates of four Case-Mix Groups (CMGs), representative of patient characteristics, plus a Non-Case-Mix Rate. The four CMGs are found in the first four digits of the HIPPS code in the following order: Physical and Occupational Therapy (PT/OT), Speech-Language Pathology (SLP), Nursing, and Non-Therapy Ancillary (NTA). The following provides simple examples of how the core cost component is calculated for SNF RUG and SNF PDPM claims under Approach B.

(7) Prior to FY2020:

$$\text{Core Costs}_{\text{SNF}} = \text{RUG Specific Payment Rate} \cdot \text{Revenue Units}$$

Example: Five-day Clinically Complex Care SNF RUG Stay (Core Cost Approach B)

The core cost of a five-day clinically complex RUG CB2 care stay in FY2019 is calculated using the FY2019 RUG average of urban and rural rates of \$316.07 per day.

¹¹ CAH swing beds are beds in small, rural hospitals that can be used to provide SNF care when needed. CAH swing bed claims are paid on a reasonable cost basis rather than according to the SNF PPS and therefore do not report the necessary information needed to calculate standardized allowed amounts like services provided in traditional SNFs.

(8)

$$\text{Core Cost}_{5\text{-Day Clinically Complex Care, FY2019}} = \$316.07 \cdot 5 \text{ days} = \$1,580.35$$

(9) Beginning in FY2020:

$$\text{Core Cost}_{\text{SNF}} = \sum_{d=\text{Prior Days}+1}^{\text{Prior Days}+\text{Revenue Units}} \text{PDPM Per Diem Rate}_d$$

Example: Five-day Clinically Complex Care SNF PDPM Stay (Core Cost Approach B)

The core cost of a five-day clinically complex HIPPS NHNC0 care stay in 2020 is calculated by using the daily payment rate determined by the HIPPS code and the VPD adjustment.

(10)

$$\begin{aligned} &\text{Core Cost}_{5\text{-Day Clinically Complex Care, 2020}} \\ &= \$947.09 + \$947.09 + \$947.09 + \$659.59 + \$659.59 = \$4,160.45 \end{aligned}$$

Component 2: Add-ons or Deductions

Approach B includes an add-on payment when skilled nursing services in a traditional SNF are provided to a patient who has the human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS). For claims with service dates prior to FY2020 paid under the RUG system, the entire stay receives an additional 28 percent (for 128 percent total) reimbursement. For claims with service dates after FY2020 paid under PDPM, the nursing component of the HIPPS code receives an 18 percent increased daily payment rate, while the NTA CMG receives a higher payment rate depending on other comorbidities.

Component 3: Outlier Payments

Medicare does not make outlier payments for SNF services.

Table 4. Skilled Nursing Services Standardization Components

Setting Type	Standardization Approach	Core Costs	Add-ons/Deductions	Outlier Payments
Skilled Nursing Facility, RUG (before FY2020)	Approach B	Average of urban and rural RUG rate multiplied by revenue units	Add-ons for patients with HIV/AIDS	Not applicable
Skilled Nursing Facility, PDPM (beginning in FY2020)	Approach B	Sum of averaged PDPM group per diem rates based on HIPPS code and VPD adjustment	Add-ons for patients with HIV/AIDS	Not applicable

Setting Type	Standardization Approach	Core Costs	Add-ons/Deductions	Outlier Payments
CAH Swing Bed	Approach C	Included in claim allowed amount	None	Not applicable

E. Home Health Agencies

Standardization Approach B is used to calculate standardized allowed amounts for all home health (HH) services. For services provided by home health agencies (HHA), the standardized allowed amount is calculated differently based on the type of service and level of utilization of services provided. The following provides a general outline of how the core cost, add-ons or deductions, and applicable outlier payments are calculated for home health services.

Generally, HH standardized allowed amounts are calculated as the product of the home health resource group (HHRG) weight and the HH base rate. For claims prior to CY2020, services are paid by Medicare in units of 60-day episodes. Beginning in CY2020, under the HH Patient-Driven Groupings Model (PDGM), services are paid in 30-day periods. If a Medicare patient is discharged or transferred to another HHA during the episode/period, the HHA claim will be adjusted as a partial episode/period. Furthermore, a low-utilization payment adjustment (LUPA) will be applied to HHA claims where the Medicare patient was visited below the LUPA threshold (i.e., four visits prior to CY2020, two to six visits starting in CY2020 depending on the PDGM case-mix group). Table 5 outlines the differences in each calculation step by episode/period length and utilization level.

Component 1: Core Cost

For normal or partial-episode/period length, the core cost component is determined by the annual base rate and the HHRG weight as shown in the following example.

(11)

$$\text{Core Cost}_{\text{HH}} = \text{HH Base Rate} \cdot \text{HHRG Weight}$$

Example: Full Length Home Health Episode/Period (Core Cost Approach B)

The core cost for a full-length early episode with 0-13 therapies, where severity levels (i.e., clinical severity, functional severity, service severity, supply severity) all equal 1, is calculated using the CY2019 home health base rate of \$3,154.27 and the HHRG weight for the corresponding HIPPS code 1AFK of 0.5468.

(12)

$$\text{Core Cost}_{\text{HHRG Code 1AFK, 2019}} = \$3,154.27 \cdot 0.5468 = \$1,724.75$$

For home health episodes/periods with visits below the LUPA threshold (i.e., four visits prior to CY2020, two to six visits starting in CY2020 depending on the PDGM case-mix group), the core cost component is determined by the type and number of visits as shown in the following example.

(13)

$$\text{Core Cost}_{\text{HH, LUPA}} = \sum_{\text{All Types}} \text{Visit Type Rate} \times \# \text{ of Visits of That Type}$$

Example: Home Health Episode/Period with Fewer than Four Visits

The core cost for two physical therapy visits and one speech therapy visit in 2019 is calculated using the CY2019 home health rates of \$160.14 per physical therapy visit and \$174.06 per speech therapy visit.

(14)

$$\text{Core Cost}_{\text{LUPA, 2 Physical and 1 Speech Therapy, 2019}} = (\$160.14 \cdot 2) + (\$174.06 \cdot 1) = \$494.34$$

Please note that payment rates for all HH episodes/periods reflect an average of urban and rural payment rates. Starting in 2019, payment rates reflect a weighted average based on HH payment and utilization rates.

Component 2: Add-ons or Deductions

Add-ons can be included for the first LUPA episode/period in a period of continuous care while deductions are taken for partial episodes. For claims prior to CY2020, non-routine supply (NRS) payments may be included as add-ons.

Component 3: Outlier Payments

Home health services can receive outlier payments to cover care that is significantly more expensive than expected. All claim outlier payments are included after removing geographic wage differences.

Table 5. Home Health Agency Standardization Components

Home Health Service	Standardization Approach	Core Costs	Add-ons/Deductions	Outlier Payments
Full-Episode/Period	Approach B	Base rate multiplied by HHRG weight	Add-on for NRSs prior to CY2020	Applied to care that is significantly more expensive than expected
Request for Anticipated Payment (RAP)	Approach B	Base rate multiplied by HHRG weight	Add-on for NRSs prior to CY2020 Deduction based on RAP payment percentage	Not applicable
Partial-Episode Payment	Approach B	Base rate multiplied by HHRG weight	Add-on for NRSs prior to CY2020 Deduction taken for the shorter length of stay	Applied to care that is significantly more expensive than expected

Home Health Service	Standardization Approach	Core Costs	Add-ons/Deductions	Outlier Payments
Low Utilization Payment Adjustment	Approach B	Sum of payment rates for each individual visit	Add-on for the first therapy visit in a period of continuous care	Applied to care that is significantly more expensive than expected

F. Hospice Services

Standardization Approach B is used for all traditional hospice services as well as physician services in the hospice setting. Below is an outline of how the core cost and add-ons or deductions are calculated to get a standardized allowed amount for hospice services. Hospice services are categorized into five types: (i) routine home care (RHC), (ii) continuous home care (CHC), (iii) inpatient respite care (IRC), (iv) general inpatient care (GIC), and (v) services performed by a physician or nurse practitioner. The allowed amount for the first four service types are standardized in the same way while the last type depends on the provider, as outlined in Table 6.

Component 1: Core Cost

Using Approach B, the core cost component for RHC, CHC, IRC, and GIC hospice services is calculated using the fiscal year- and service-specific payment rate and the revenue units reported on the claim. For services that are billed as continuous home care services but have fewer than eight revenue units, the core cost is calculated using the rate for routine home care.

(15)

$$\text{Core Cost}_{\text{Hospice}} = \text{Service Specific Payment Rate} \cdot \text{Revenue Units}$$

Example: Routine Home Care (Core Cost Approach B)

The core cost of five days of RHC, if all days occur in the first 60 covered days of a hospice episode, is calculated using the FY2021 RHC service payment rate for episodes that are less than or equal to 60 days, which is \$199.25 per day.

(16)

$$\text{Core Cost}_{5 \text{ Units of RHC, FY2021}} = \$199.25 \cdot 5 = \$996.25$$

For services provided by physicians or nurse practitioners, the core cost is calculated by matching the procedure on each claim line to a payment rate under the physician fee schedule (see how physician services are standardized under the Carrier Claims section above).

Component 2: Add-ons or Deductions

For hospice services provided by a nurse practitioner, the standardized allowed amount includes a 15 percent deduction.

Component 3: Outlier Payments

Outlier payments are not applicable because Medicare does not make outlier payments for hospice services.

Table 6. Hospice Services Standardization Components

Hospice Services	Standardization Approach	Core Costs	Add-ons/Deductions	Outlier Payments
Routine Home Care, Inpatient Respite Care, General Inpatient Care, and Continuous Home Care Services	Approach B	Hospice service payment rate multiplied by units	Add-ons for skilled nursing and medical social services provided during the last seven days of life (beginning 1/1/2016)	Not applicable
Physician or Nurse Practitioner Services	Approach B	Physician fee schedule rate multiplied by units	Deduction of 15 percent for care provided by nurse practitioners	Not applicable

G. Durable Medical Equipment, Prosthetics, Orthotics, and Supplies

Standardization Approaches A and B are used to calculate the standardized allowed amount for durable medical equipment (DME). The types of equipment include general durable medical equipment, oxygen and parenteral and enteral nutrition services, prosthetics, orthotics, and supplies. Approach A is used for maintenance and servicing fees for which there is not enough information to reconstruct payment. Approach B is used for general DME, oxygen, parenteral and enteral nutrition (PEN) supplies, prosthetics, orthotics, and supplies. The following sections summarize how the core cost and add-ons/deductions are calculated for equipment and supplies under Approach B. Table 7 outlines the differences in each standardized allowed amount component, by type of equipment.

Component 1: Core Cost

For general DME and prosthetics, orthotics, and supplies (POS), Approach B calculates the core cost component of the standardized allowed amount with the Healthcare Common Procedure Coding System (HCPCS)- and modifier-code specific payment rate set in the DMEPOS fee schedule. The following provides a simple example of how the core cost component is calculated under Approach B.

(17)

$$\text{Core Cost}_{\text{DME, POS}} = \text{Service and Modifier Specific Rate} \cdot \text{Units}$$

Example: Diabetic Testing Lancets (Core Cost Approach B)

The core cost of purchasing 10 boxes of diabetic testing lancets by mail in 2021 is calculated using the HCPCS- and modifier-code specific payment rate of \$1.42.

(18)

$$\text{Core Cost}_{10 \text{ Boxes Lancets by Mail, 2021}} = \$1.42 \cdot 10 = \$14.20$$

Component 2: Add-ons or Deductions

Approach B includes add-ons for the purchase of a power wheelchair, where the amount is higher for a new wheelchair as opposed to a used wheelchair. There are also deductions applied to capped rentals longer than three months.

Component 3: Outlier Payments

Outlier payments are not applicable because Medicare does not make outlier payments for DME, POS, oxygen, or PEN supplies.

Table 7. Durable Medical Equipment Standardization Components

DMEPOS Type	Standardization Approach	Core Costs	Add-ons/Deductions	Outlier Payments
General Durable Medical Equipment and Supplies	Approach B	DMEPOS fee schedule national ceiling multiplied by units	Add-ons for wheelchair purchase Deductions for capped rentals longer than three months	Not applicable
Parenteral and Enteral Nutrition Services	Approach B	PEN fee schedule median payment rate multiplied by units	None	Not applicable
Maintenance and Servicing	Approach A	Included in the claim allowed amount	None	Not applicable
Prosthetics, Orthotics, or Therapeutic Shoes	Approach B	5/6th the DMEPOS fee schedule national ceiling multiplied by units	None	Not applicable
Other DME Lines	Approach A	Included in the claim allowed amount	None	Not applicable

ADDITIONAL CONSIDERATIONS FOR USING STANDARDIZED AMOUNTS

Starting in January 2017, standardized allowed amounts are calculated and posted to the Integrated Data Repository (IDR) on a monthly basis for all Medicare claims processed the previous month. Prior to 2017, this standardization calculation occurred every quarter.

Review of the standardization program to incorporate new or updated payment system policies or input files occurs on a monthly, quarterly and annual basis, with the most changes incorporated at the beginning of the Calendar and Fiscal Year. Given policy and rate changes over time, researchers should consider that claims will be standardized according to policies active given the claims' service and process dates, especially when comparing providers across years.

Similarly, when claims are reprocessed, the reprocessed claim will be standardized given the claims' service date and reprocess date. The original claim and standardized amount will remain on the IDR and is accessible along with the reprocessed claim based on query dates.

APPENDIX A: MEDICARE SERVICE TYPES

Table A.1 summarizes each of the seven Medicare service type described in this document: inpatient hospital, outpatient hospital, carrier (physician services), skilled nursing facility, home health agency, hospice, and durable medical equipment, prosthetics, orthotics, and supplies.

Table A.1: Medicare Service Types and Abbreviations

Service Type	Service Type Abbreviation	Medicare FFS Program	Service Type
Inpatient	IP	Part A	Services provided to inpatients of hospital facilities
Outpatient	OP	Part B	Services provided to outpatients of hospital facilities
Carrier (or Part B Physician)	PB	Part B	Services provided by non-institutional physician/suppliers
Skilled Nursing Facility	SNF	Parts A and B	Rehabilitation and skilled nursing services provided in SNFs or hospital swing beds
Home Health	HH	Parts A and B	Services administered in beneficiaries' homes; may include therapy and social services
Hospice	HS	Parts A and B	Hospice services include physician services, nursing visits, medical social services, and counseling
Durable Medical Equipment	DME	Part B	Durable medical equipment, such as wheelchairs and oxygen tanks