Calendar Year 2022 Final Hospice Capitation Payment Rate Actuarial Methodology

Value-Based Insurance Design Model: Incorporation of the Medicare Hospice Benefit into Medicare Advantage

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1. Background and General Information

Beginning in calendar year (CY) 2021, within the Value-Based Insurance Design (VBID) Model's Hospice Benefit Component, the Centers for Medicare & Medicaid Services (CMS) has been testing the impact on quality and program expenditures of incorporating the Medicare Part A hospice benefit into the Medicare Advantage (MA) program with the goal of creating a seamless continuum of care in the MA program for Part A and Part B services. In voluntarily participating in this Model component, MA Organizations (MAOs) are incorporating the Medicare hospice benefit into MA-covered services while offering comprehensive palliative care services outside the hospice benefit for enrollees with serious illness. In addition, participating MAOs are able to provide individualized, clinically appropriate transitional concurrent care services through in-network providers and to offer hospice-specific supplemental benefits.

On March 8, 2021, CMS released for comment the CY 2022 preliminary payment rate actuarial methodology for the Hospice Benefit Component of the Model. In response, CMS received a few submissions from MAOs. One commenter suggested that CMS apply separate monthly rating factors to the development of the first year and second year rates to prevent unintentional underpayments and overpayments. Based on this comment, as detailed in section 1.1 below, the monthly rating factors for the second year rates are different from what was proposed.

After consideration of all responses, CMS is finalizing the CY 2022 hospice payment rate actuarial methodology, as described in this updated methodology paper. The updates reflect CMS' continued commitment to maintaining the full Medicare hospice benefit while providing MAOs with the flexibility to develop and implement innovative approaches to serious illness care. CMS expects that uptake of the Hospice Benefit Component will result in improvements in financial accountability and timely access to high-quality palliative and hospice care for Medicare beneficiaries, and the agency is looking forward to continuing to work with stakeholders to achieve the shared goals of transforming and improving serious illness care for those beneficiaries. Comments or questions regarding the payment rate actuarial methodology of the Hospice Benefit Component may be sent by email to VBID@cms.hhs.gov.

1.1. Executive Summary of the CY 2022 Hospice Capitation Payment Rate Actuarial Methodology

This paper describes the actuarial methodology for the hospice capitation payment rate paid to MAOs that participate in the voluntary Hospice Benefit Component of the Model. Included in the document are the following: (i) a review of the key changes from the CY 2021 final methodology (section 1.2); (ii) the current payment structure of the fee-for-service (FFS) Medicare hospice benefit (section 1.3); and (iii) detailed technical specifications regarding payments made under the Hospice Benefit Component of the Model, including the rate determination process for the CY 2022 national monthly hospice capitation rate and applied rating factors (sections 2–4).

Payment Structure of the Hospice Benefit Component

Participating MAOs will be paid in accordance with current law for their enrollees who do not elect hospice. For their enrollees who elect hospice under 42 CFR 418.24, participating MAOs will be paid per the following payment structure:

- For the first month of hospice election ("Month 1"), the basic benefit capitation rate (also known as the "A/B capitation rate") will be paid only if, as of the first of the month, an enrollee is not under hospice election status consistent with 42 CFR 422.320(c).
- For all calendar months in which an enrollee elects hospice care, including the first month of hospice election, a participating MAO will receive the following:
  - A monthly hospice capitation rate;
  - Consistent with 42 CFR 422.320(c)(2), the beneficiary rebate amount as described in 42 CFR 422.304(a); and
  - Consistent with 42 CFR 422.320(c), the monthly prescription drug payment as described in 42 CFR 423.315 (if any).

Hospice Capitation Rate Development

For CY 2022, CMS developed two national monthly hospice capitation rates and corresponding sets of payment rates. The development of the first national monthly hospice rate and corresponding set of payment rates includes hospice stays that begin in each of the base calendar years used in the tabulations. These tabulations mimic the first year Model experience that MAOs with Plan Benefit Packages (PBPs) that offer the Hospice Benefit Component for the first time in CY 2022 will encounter in CY 2022—that is, the impact of not having carryover hospice stays from prior years. In essence, hospice stays that spanned calendar years are excluded to align the base data with the expected rating period duration. These values and rates will be referred to in this document as "year-1 rates."

The development of the second national monthly hospice rate and corresponding set of payment rates includes hospice stays that begin in each of the base experience calendar years or in the prior calendar year. These tabulations mimic the second year Model experience that MAOs with PBPs that offer the Hospice Benefit Component in CY 2021 and CY 2022 will encounter in CY 2022. These values and rates will be referred to as "year-2 rates."

Unless specified otherwise, the narrative and data contained in this report pertain to the year-1 rates, and references to years pertain to calendar, not fiscal, years.

The determination process for the CY 2022 rates[1] is described in section 2. These rates reflect FFS-paid hospice experience for care associated with the terminal condition and related conditions during a hospice stay ("hospice FFS payments") and FFS-paid non-hospice experience ("non-hospice FFS payments"). The latter experience consists of two parts: (i) FFS-paid non-hospice care furnished by non-hospice providers during a hospice stay; and (ii) other FFS-paid non-hospice care provided after a hospice stay ends (including, in the event of a live discharge, non-hospice

[1] These rates represent actual hospice FFS payments for hospice care and services; the term "hospice stay" refers to the overall period between an election and discharge, which may include multiple 90-day or 60-day periods.

care provided on the last day of the stay and through the end of the calendar month that the stay ends) for all Medicare beneficiaries who elected hospice (both those enrolled in Original Medicare and those enrolled in the MA program).

CMS followed a standard rate development process, which consisted of three parts: (i) as described in section 2.3, base data appropriate to the population and benefits being priced (for example, use of 3 years of complete data for hospice and non-hospice FFS-paid Part A and Part B claims from CY 2017 to CY 2019); (ii) as described in sections 2.4a through 2.4d, retrospective adjustments to the base data to allow for known changes that have taken place since the base data were incurred (for example, taking into account repricing to reflect fiscal year (FY) 2021 per diem payment rates and the FY 2021 Hospice Wage Index); and (iii) as described in section 2.5, prospective adjustments for changes that are anticipated to occur between the base data incurred period and the period being priced (for example, trending hospice and non-hospice FFS-paid claims to CY 2022).

The national monthly hospice capitation rates will be adjusted by two rating factors: an “area factor,” as described in section 3, and a “monthly rating factor,” as described in section 4. The national monthly hospice capitation rate will be adjusted for each county by a hospice-specific average geographic adjustment similar to the MA average geographic adjustment (area factor) to result in an adjusted monthly hospice capitation rate. Of note, beneficiary-specific risk adjustment will not be applied to the hospice capitation rate payment.[2] Additionally, to better reflect the first month beneficiary experience in hospice, the national monthly hospice capitation rate will be adjusted by a monthly rating factor for the first month only, as described in section 4. The hospice capitation rate paid for the first month will vary based on the number of days of hospice benefit occurring in the first calendar month of a hospice stay in a three-tiered structure (days 1–6, 7–15, 16+).

The Month 1 rating factors used in development of the year-1 rates are the same as originally proposed: (i) 0.340 for 1–6 days; (ii) 0.640 for 7–15 days; and (iii) 1.003 for 16+ days. The key parameters and values for the year-1 rates are summarized in table 1a. The rates are shown in the last column gross of sequestration.

[2] CMS reviewed the need for a risk mitigation program and found the variation in FFS payments by stay month to be relatively low (see section 3.2 on credibility) because the majority of the FFS payments (approximately 92 percent) consist of per diem rates with a small range of values.

Table 1a. National Average Values for 2022 Capitation Rates, Year-1 Rates

	Hospice Enrollment in Month 1	Average Monthly Service Days	Distribution of Stay Months	Monthly Rating Factor[1]	2022 Gross Monthly Base Rate
Month 1	1–6 Days	3.28	16.11%	**0.340**	$1,827.78
	7–15 Days	10.49	11.74%	**0.640**	$3,440.53
	16+ Days	22.65	11.23%	**1.003**	$5,391.96
Month 1 Composite[2]		11.01	39.09%	0.621	$3,336.56
Month 2+		26.25	60.91%	**1.000**	$5,375.83
CY 2022 Composite National Hospice Capitation Rate[3]		20.30	100.00%	0.852	$4,578.69

[1] Bold numbers are the monthly rating factors used.
[2] Values are based on the distribution of stay months.
[3] This amount represents the national hospice capitation base rate for year-1 rates.

In the March 8, 2021 memorandum, CMS proposed to use the same monthly rating factors for the year-1 and year-2 rates. However, use of the same monthly rating factors for these two cohorts would yield Core-Based Statistical Area (CBSA)-level Month 1 rates for year-2 that are lower than the corresponding year-1 rates. This result is not appropriate given that the Month 1 historical experience for the year-1 and year-2 rates is identical. Moreover, a commenter suggested that separate rating factors be used for the two cohorts, and CMS agrees with this recommendation. Therefore, the Month 1 rating factors used in development of the year-2 rates are as follows: (i) 0.349 for 1–6 days; (ii) 0.657 for 7–15 days; and (iii) 1.030 for 16+ days. These rating factors yield Month 1 rates that are in range with the Month 1 rates developed for year-1.[3] The key parameters and values for the year-2 rates are summarized in table 1b. Again, the rates are shown in the last column gross of sequestration.

Table 1b. National Average Values for 2022 Capitation Rates, Year-2 Rates

	Hospice Enrollment in Month 1	Average Monthly Service Days	Distribution of Stay Months	Monthly Rating Factor[1]	2022 Gross Monthly Base Rate
Month 1	1–6 Days	3.28	11.42%	**0.349**	$1,827.11
	7–15 Days	10.49	8.32%	**0.657**	$3,439.57
	16+ Days	22.65	7.96%	**1.030**	$5,392.33
Month 1 Composite[2]		11.01	27.70%	0.637	$3,336.10
Month 2+		26.98	72.30%	**1.000**	$5,235.27
CY 2022 Composite National Hospice Capitation Rate[3]		22.56	100.00%	0.900	$4,709.21

[1] Bold numbers are the monthly rating factors used.
[2] Values are based on the distribution of stay months.
[3] This amount represents the national hospice capitation base rate for year-2 rates.

[3] Month 1 rates developed under year-1 and year-2 approaches are not identical because the monthly rating factor is rounded to three decimal places. Month 1, year-2 CBSA-level rates are different from the corresponding Month 1, year-1 rates by between −0.04 percent and +0.01 percent.

First month hospice capitation payments will be made to participating MAOs in a lump sum retrospectively on a quarterly basis for all enrollees who have a first calendar month hospice experience. Consistent with current law, as applicable, the A/B capitation rate, beneficiary rebate amount, and monthly prescription drug payment will be paid prospectively for Month 1. For any future calendar month experience, a participating MAO will prospectively receive a flat hospice capitation rate, the beneficiary rebate amount, and the monthly prescription drug payment, if applicable, for an enrollee who continues under hospice care. For Months 2+, the monthly rating factor is 1.00, and the base rate gross of sequestration is $5,375.83 for year-1 rates and $5,235.27 for year-2 rates.

Overall, the hospice capitation rates are projected to be budget neutral; that is, for CY 2022, the total CY 2022 capitation amounts are projected to equal the aggregate estimated CY 2022 Medicare FFS payments, plus an administrative load. In other words, no discounts are applied to estimated CY 2022 Medicare FFS payments.

1.2. Key Changes from the CY 2021 Final Actuarial Methodology

On March 8, 2021, CMS released a memorandum titled *CY 2022 Preliminary Hospice Capitation Payment Rate Actuarial Methodology for the Hospice Benefit Component of the MA VBID Model*. Within the document is a section titled “Key Preliminary Updates from the CY 2021 Final Actuarial Methodology,” which includes proposed changes to the data, as well as the methodology to be used in the development of the CY 2022 rates. Summarized below are the provisions from this section that are reflected in the final CY 2022 hospice rates.

- CMS plans to use second year Model experience in counties where the Hospice Benefit Component was offered in CY 2021 and to use year-1 Model experience in counties where the component will be offered for the first time in CY 2022. This approach will still result in one ratebook for the Hospice Benefit Component; however, rates will be independently developed to reflect first and second year Model experience, and they will be applied by county as a year-1 rate or as a year-2 rate depending on whether any PBPs in the county participated in this component in CY 2021.
- The rates continue to be based on a 3-year experience period in the base data. For the CY 2022 rates, the experience period consists of CY 2017 through CY 2019.
- As described in “Medicare Program; FY 2021 Hospice Wage Index and Payment Rate Update” (CMS-1733-F),[4] there was a significant remapping of counties to CBSAs from FY 2020 to FY 2021, with 100 counties involved. Accordingly, CMS incorporated into the 2022 VBID hospice rates the CBSA changes from CMS-1733-F.
- For CY 2022, CMS has repriced the CYs 2017–2019 historical hospice FFS-paid claims experience to CY 2021. The repricing of these claims uses the FY 2021 per diem payment rates for the four prospectively determined rate categories of hospice care—routine home care

[4] Final Rule CMS-1733-F. “Medicare Program; FY 2021 Hospice Wage Index and Payment Rate Update.” Retrieved from https://www.federalregister.gov/documents/2020/08/04/2020-16991/medicare-program-fy-2021-hospice-wage-index-and-payment-rate-update

(RHC), continuous home care (CHC), inpatient respite care (IRC), and general inpatient care (GIP)—and the FY 2021 Hospice Wage Index.

- As a technical refinement, the repricing is based on the provider CBSA for IRC and GIP and on the place of residence for RHC and CHC. The repricing for CHC is based on CHC units and the published FY 2021 hourly rate for CHC (instead of on estimated CHC days and the published CHC per diem).
- Experience for beneficiaries with a current reason for Medicare entitlement, such as end-stage renal disease (ESRD), is included in the base data experience for CYs 2017–2019.
- As part of the base experience of FFS-paid non-hospice care and as a further refinement, the tabulation of non-hospice expenditures includes inpatient pass-through payments.[5] Additionally, consistent with the CY 2022 MA capitation rates, the tabulation of non-hospice claims excludes direct graduate medical education (DGME), indirect medical education (IME), and kidney acquisition costs (KACs). The DGME, IME, and KAC exclusion represents a sum of the three carve-out factors incorporated in the CY 2022 MA ratebook[6], tabulated at the CBSA level and applied against non-hospice claim expenditures. The consolidated carve-out factors are included in the "Hospice AGA Summary" tab of the published databook for the CY 2022 Hospice Benefit Component, which can be found on the VBID Model website.
- The Month 1 tiers described in section 4.2 of the CY 2021 Final Actuarial Methodology (1–6 days, 7–15 days, and 16+ days) will remain the same for CY 2022. The Month 1 tier factor for 16+ days decreased from 1.020 in CY 2021 to 1.003 in CY 2022, which will result in the projected composite Month 1 tier experience equaling the projected Month 1 aggregate experience.

1.3. Background: Payment Structure of the Current FFS Medicare Hospice Benefit

Hospice care is a holistic, comprehensive approach to treatment that recognizes that the impending death of an individual with terminal illness warrants a change in focus from curative care to palliative care for symptom management and relief of pain. Palliative care is at the core of hospice philosophy and care practices, and it is a critical component of the Medicare hospice benefit, with the goal of helping terminally ill individuals remain primarily in the home environment and continue life with minimal disruption to normal activities.[7] A hospice facility uses an interdisciplinary approach to deliver medical, social, nursing, emotional, psychological, and spiritual services through a collaboration of professionals and other caregivers in an effort to make the beneficiary as physically and emotionally comfortable as possible. This beneficiary and

[5] For background, Medicare establishes a daily payment amount to reimburse inpatient prospective payment system (IPPS) hospitals for certain "pass-through" expenses, such as capital-related costs, direct graduate medical education costs, kidney acquisition costs for hospitals that are renal transplant centers, and bad debts. This variable is the daily payment rate for pass-through expenses.

[6] https://www.cms.gov/medicarehealth-plansmedicareadvtgspecratestatsratebooks-and-supporting-data/2022, spreadsheet risk2022.xlsx

[7] Proposed Rule CMS-1714-P. "CMS FY 2020 Hospice Wage Index and Payment Rate Update and Hospice Quality Reporting Requirements." Retrieved from https://www.federalregister.gov/documents/2019/04/25/2019-08143/medicare-program-fy-2020-hospice-wage-index-and-payment-rate-update-and-hospice-quality-reporting

family/caregiver-centered care for those who are terminally ill is supported through a per diem payment that allows for the provision of a bundle of comprehensive services.

42 CFR part 418, subpart G provides for a per diem payment—based on each day a qualified Medicare beneficiary is under hospice care (once the individual has elected it)—in one of four levels of care: RHC, CHC, GIP, or IRC. This per diem payment is to include all of the hospice services and items needed for the palliation and management of a beneficiary's terminal condition, as required by section 1861(dd)(1) of the Social Security Act (the Act). These four levels of hospice care are distinguished by the intensity and location of the services provided.

A CMS review of claims over a recent 10-year period shows that RHC, which is the basic level of care under the hospice benefit, remains the highest utilized level of care, accounting for an average of 97.6 percent of total hospice days; GIP accounts for 1.7 percent of total hospice days, CHC for 0.4 percent, and IRC for 0.3 percent.[8] If, in the judgment of the hospice interdisciplinary team, the patient's symptoms cannot be effectively managed at home, 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, and its purpose is 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. Limited, short-term, intermittent IRC is also available because of the absence, or need for relief, of the family or other caregivers. Additionally, CHC can be provided during a period of crisis in which continuous care is required to achieve palliation or management of acute medical symptoms so that the individual can remain at home. For any given patient, the type of care can vary throughout the hospice stay as his or her needs change.

CMS has noted on multiple occasions that there has been little change in the hospice payment structure since the benefit's inception. Today, this original per diem payment structure remains largely the same, with some adjustments. A couple of these modifications are noted below:

- Beginning January 1, 2017, using the hospice payment reform authority under section 1814(i)(6) of the Act, Medicare changed how it pays for RHC. There are now two RHC base payment rates: a higher rate for days 1 to 60 and a lower rate for days 61 and beyond. Medicare also makes additional payments for registered nurse and social worker visits that are provided during the last 7 days of life, and these payments are made above and beyond the RHC per diem amount.
- Using the hospice payment reform authority under section 1814(i)(6) of the Act and under section III.A.3 of the FY 2021 hospice final rule "Medicare Program; FY 2021 Hospice Wage Index and Payment Rate Update" (CMS-1733-F), Medicare rebased the FY 2021 per diem payment rates for CHC, IRC, and GIP and reduced RHC payment amounts for FY 2021 in order to maintain overall budget neutrality. This rebasing was done to adequately cover the costs of providing higher-intensity levels of care—given that the costs of providing CHC, IRC, and GIP have been significantly higher than their payment rates, as highlighted in table 2.

[8] Final Rule CMS-1714-F. "Medicare Program; FY 2020 Hospice Wage Index and Payment Rate Update and Hospice Quality Reporting Requirements." Retrieved from https://www.govinfo.gov/content/pkg/FR-2019-08-06/pdf/2019-16583.pdf

Notably, the rebasing also ensures that hospices have access to the providers needed to comply with hospice Conditions of Participation (CoPs) and that hospices promote patient access to all levels of care.

Table 2. Hospice Average Costs Per Day versus Gross Per Diem Payment Rates in FY 2020 and FY 2021[9]

Code	Description	FY 2020 Per Diem Payment Rates	FY 2021 Per Diem Payment Rates
651	Routine Home Care (Days 1–60)	$194.50	$199.25
651	Routine Home Care (Days 61+)	$153.72	$157.49
652	Continuous Home Care Full Rate = 24 hours of care	$1,395.63/ $58.15 (hourly rate)	$1,432.41/ $59.68 (hourly rate)
655	Inpatient Respite Care	$450.10	$461.09
656	General Inpatient Care	$1,021.25	$1,045.66

Further, to ensure that hospice care does not exceed the cost of conventional care, there are two annual limits to hospice payments: the inpatient cap and the aggregate cap. The hospice inpatient cap limits the total number of Medicare inpatient days (for both general inpatient and inpatient respite care) to no more than 20 percent of a hospice's total Medicare hospice days. Any excess reimbursement must be refunded by the hospice. The hospice aggregate cap limits the total aggregate payments that any individual hospice can receive in a cap year to an allowable amount, based on an annual per beneficiary cap amount and the number of beneficiaries served. Any actual Medicare payments in excess of the aggregate cap must be refunded by the hospice. CMS found that the inpatient cap repayment represents about 0.01 percent of hospice claims and that the aggregate cap repayment constitutes about 1 percent of claims.

While hospice care is a covered Medicare Part A benefit, the MA program—formerly known as Medicare+Choice—does not include risk or financial accountability for providing the Medicare hospice benefit as part of MA plan obligations.[10] Specifically, the Balanced Budget Act of 1997 (BBA) provided that, should an individual enrolled in a Medicare+Choice program elect to receive hospice care from a particular hospice program, payment for that hospice care would be made to the hospice program by the Secretary of Health and Human Services (HHS), while payment for services not related to the individual's terminal illness and related conditions may be made by the Secretary of HHS to the Medicare+Choice organization or to the provider or supplier of the service.[11] As codified at 42 CFR 422.320(c)(2) and (3), during the time that the hospice election is in effect, CMS' monthly capitation payment to the MAO is reduced to the sum of (i) an amount equal to the beneficiary rebate for the MA plan, as described in 42 CFR 422.304(a)(3), or a zero

[9] Final Rule CMS-1714-F. "Medicare Program; FY 2020 Hospice Wage Index and Payment Rate Update and Hospice Quality Reporting Requirements." Retrieved from https://www.govinfo.gov/content/pkg/FR-2019-08-06/pdf/2019-16583.pdf and
Final Rule CMS-1733-F. "Medicare Program; FY 2021 Hospice Wage Index and Payment Rate Update." Retrieved from https://www.govinfo.gov/content/pkg/FR-2020-08-04/pdf/2020-16991.pdf

[10] Section 1852(a) of the Act carves hospice out of the services that MA plans must cover. See also H.R. 2015. Balanced Budget Act of 1997 (BBA). Retrieved from https://www.congress.gov/105/plaws/publ33/PLAW-105publ33.pdf

[11] The specific statutory provisions that were added by the BBA and that address this issue include section 1852(a), which provides that MA plans do not cover hospice, and section 1853(h)(2), which provides the payment rules for hospice services offered to MA enrollees.

amount for plans with no beneficiary rebate, as described in 42 CFR 422.304(a)(2); and (ii) the amount of the monthly prescription drug payment, as described in 42 CFR 423.315 (if any). The A/B capitation rate will be paid only if, as of the first of the month, an enrollee is not under hospice election status.

2. Rate Determination Process for the CY 2022 Hospice Capitation Rates under the Model

2.1. Introduction

This section describes the process used to develop the national hospice capitation rates for CY 2022. In developing these rates, CMS considered the following policy objectives:

- To the extent possible, maintain a simple, transparent, and clear payment structure and cost-neutral rates so that, for CY 2022, the aggregate 2022 capitation equals the aggregate estimated 2022 Medicare FFS payment (plus an administrative load);
- Continue to ensure the accuracy of rates to the extent possible while moving from a granular four-level per diem FFS payment structure, which automatically adjusts for length of stay and service intensity, to a monthly capitation rate, with capitation offering opportunities for improved quality management;
- Primarily measure accuracy on an aggregate basis by CBSA;
- To the extent possible and appropriate, develop rates consistent with the process by which MA benchmarks are prepared, following actuarial guidance and practices in developing the rates; and
- Align payment structure with policy objectives to (i) promote hospice enrollment early enough in the disease trajectory to allow delivery of the range of services necessary to promote comfort while also discouraging very short stays, when an enrollee with a terminal illness has little time to benefit from hospice services and after significant costs with acute medical care have often been incurred; and (ii) reduce the financial incentive surrounding very long stays that is present in the current FFS payment system,[12] to help ensure appropriate access to, and utilization of, the Medicare hospice benefit under the Model.

The basic rating structure under the Model is similar to the MA approach for setting benchmarks:

$$\textit{Monthly Capitation Payment} = \textit{National Base Rate} \times \textit{Area Factor} \times \textit{Monthly Factor}$$

As further described in sections 3 and 4, the rating structure under the Hospice Benefit Component has just two rating factors: (i) the area factor—to account for all regional variation in claims to the extent possible; and (ii) the monthly rating factor—to better match capitation with the durational claim pattern. Under the Model component, the rating structure, which is detailed in this payment methodology, is as follows:

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[12] Medicare Payment Advisory Commission (MedPAC). *Report to the Congress: Medicare Payment Policy*. Chapter 11: "Hospice Services." March 2021. Retrieved from http://www.medpac.gov/docs/default-source/reports/mar21_medpac_report_ch11_sec.pdf?sfvrsn=0

$$Capitation\ Rate_{CBSA,\ Month\ 1} = (National\ Rate) \times (Month\ 1\ Factor\ for\ Covered\ Days\ in\ Month\ 1) \times (Hospice\ Average\ Geographic\ Adjustment)_{CBSA,\ Month\ 1}$$

$$Capitation\ Rate_{CBSA,\ Month\ 2+} = (National\ Rate) \times (Month\ 2^{+}\ Factor) \times (Hospice\ Average\ Geographic\ Adjustment)_{CBSA,\ Month\ 2+}$$

CMS considered other rating factors,[13] but analysis showed that either they were not significant, after accounting for the area factor and monthly rating factor, or they were administratively too complex to implement. The area factor and monthly rating factor account for the following, all of which persist over years by area:

- Claim unit cost differences (for example, labor cost differences that vary by CBSA).
- Mix of services (for example, more use of intense hospice services such as CHC, GIP, and IRC and spending for non-hospice FFS-paid care).
- Mix of condition categories that are persistent in the experience (for example, in comparison to the national average, New York has a much higher proportion of beneficiaries who elect hospice with cancer conditions, and New Jersey has a much higher proportion of beneficiaries who elect hospice with dementia conditions).
- Stay month mix (that is, short, mid, and long stays in Month 1), in which the stay month reflects the calendar month of coverage for a beneficiary enrolled in Medicare.

In aggregate, of the FFS payments related to a hospice experience, 92.0 percent are for hospice FFS-paid claims, and 8.0 percent are for non-hospice FFS-paid claims. RHC represents the vast majority of all per diem amounts (97.6 percent) for hospice claims.

2.2. Process for Developing Rates

CMS followed a standard rate development process, which consisted of three parts:

- Base data appropriate to the population and benefits being priced.
- Retrospective adjustments to the base data to allow for known changes that have taken place since the base data were incurred.
- Prospective adjustments for changes that are anticipated to occur between the base data incurred period and the period being priced.

[13] The other rating factors identified as drivers of hospice and non-hospice FFS payments include (i) discharge status of hospice beneficiaries—that is, continue status (for those who continue from one month to the next), death status, or discharge status (for those who have a live discharge); (ii) terminal condition of a hospice beneficiary; (iii) aged versus disabled status; and (iv) dual versus non-dual status.

Table 3a provides an illustrative[14] development of the CY 2022 composite national hospice capitation rate for the year-1 rates. The CY 2022 rate prior to hospice provider caps is $4,578.69, which is 2.5 percent higher than the corresponding value of $4,468 for CY 2021.

Table 3a. 2022 National Hospice Capitation Composite Rate Development, Year-1 Rates

		2017	2018	2019
	Stay Months	3,157,415	3,331,417	3,458,060
CY 2022 Hospice FFS Payments				
(a)	Actual Net Per Member Per Month (PMPM)	$3,629.44	$3,680.72	$3,761.53
(b)	Calculated Using Service Days & Historical Per Diem Rates	$3,582.26	$3,636.62	$3,715.52
(c) = (a) / (b)	True-up Adjustment	1.0132	1.0121	1.0124
(d)	Calculated Using Service Days and FY 2021 Per Diem Rates (Gross)	$3,967.32	$3,963.77	$3,964.44
(e)	Claim Completion Adjustment	1.0000	1.0000	1.0000
(f) = (d) x (c) x (e)	Calculated FY 2021 x True-up x Claim Completion	$4,019.57	$4,011.84	$4,013.53
(g)	Per Diem Trend from FY 2021 to CY 2022	1.0340	1.0340	1.0342
(h)	Service Day Utilization and Mix Change	1.0000	1.0000	1.0000
(i) = (f) x (g) x (h)	CY 2022 Hospice FFS Payment (Gross)	$4,156.23	$4,148.39	$4,150.69
CY 2022 Non-Hospice FFS Payments				
(j)	Actual Net PMPM	$327.04	$336.72	$352.28
(k)	Claim Completion Adjustment	1.0177	1.0177	1.0176
(l)	Non-ESRD PMPM USPCC Trend to CY 2022	1.2498	1.2059	1.1634
(m)	Sequestration Gross Up	0.9800	0.9800	0.9800
(n) = (j) x (k) x (l) / (m)	CY 2022 Non-Hospice FFS Payments (Gross)	$424.45	$421.67	$425.58
CY 2022 Hospice FFS Payments + Non-Hospice FFS Payments				
(o) = (i)) + (n)	CY 2022 Hospice + Non-Hospice FFS Payments	$4,580.68	$4,570.06	$4,576.27
(p)	Straight Average[1]			$4,575.67
Top Side Adjustments				
(q)	Administrative Load Factor			1.0007
(r) = (p) x (q)	CY 2022 National Composite Gross Capitation Rate (prior to Provider Cap Adjustment)			$4,578.69

[1] Calculated as the simple average of CYs 2017–2019, consistent with the approach used in the MA ratebook development.

Table 3b provides an illustrative development of the CY 2022 composite national hospice capitation rate for the year-2 rates. The CY 2022 rate prior to hospice provider caps is $4,709.21, which is 2.85 percent higher than the corresponding value for the year-1 rates.

[14] The actual rate development for the most part was done at a beneficiary level. Tables 3a and 3b show the rate development at an aggregate level.

Table 3b. 2022 National Hospice Capitation Composite Rate Development, Year-2 Rates

		2017	2018	2019
	Stay Months	4,357,341	4,617,782	4,879,975
CY 2022 Hospice FFS Payments				
(a)	Actual Net Per Member Per Month (PMPM)	$3,783.35	$3,835.21	$3,922.51
(b)	Calculated Using Service Days & Historical Per Diem Rates	$3,741.53	$3,797.07	$3,883.17
(c) = (a) / (b)	True-up Adjustment	1.0112	1.0100	1.0101
(d)	Calculated Using Service Days and FY 2021 Per Diem Rates (Gross)	$4,117.18	$4,115.92	$4,125.28
(e)	Claim Completion Adjustment	1.0000	1.0000	1.0000
(f) = (d) x (c) x (e)	Calculated FY 2021 x True-up x Claim Completion	$4,163.20	$4,157.26	$4,167.07
(g)	Per Diem Trend from FY 2021 to CY 2022	1.0319	1.0320	1.0320
(h)	Service Day Utilization and Mix Change	1.0000	1.0000	1.0000
(i) = (f) x (g) x (h)	CY 2022 Hospice FFS Payment (Gross)	$4,296.10	$4,290.15	$4,300.41
CY 2022 Non-Hospice FFS Payments				
(j)	Actual Net PMPM	$316.72	$327.39	$339.89
(k)	Claim Completion Adjustment	1.0177	1.0177	1.0176
(l)	Non-ESRD PMPM USPCC Trend to CY 2022	1.2498	1.2059	1.1634
(m)	Sequestration Gross Up	0.9800	0.9800	0.9800
(n) = (j) x (k) x (l) / (m)	CY 2022 Non-Hospice FFS Payments (Gross)	$411.05	$409.98	$410.61
CY 2022 Hospice FFS Payments + Non-Hospice FFS Payments				
(o) = (i)) + (n)	CY 2022 Hospice + Non-Hospice FFS Payments	$4,707.15	$4,700.13	$4,711.02
(p)	Straight Average[1]			$4,706.10
Top Side Adjustments				
(q)	Administrative Load Factor			1.00066
(r) = (p) x (q)	CY 2022 National Composite Gross Capitation Rate (prior to Provider Cap Adjustment)			$4,709.21

[1] Calculated as the simple average of CYs 2017–2019, consistent with the approach used in the MA ratebook development.

2.3. Base Data

The base data reflect 3 years of complete data for Part A and Part B claims from CY 2017 to CY 2019 (that is, 100 percent of Medicare final action hospice FFS-paid and non-hospice FFS-paid claims, as defined in section 1, for beneficiaries enrolled in the FFS program or in an MA plan). Because the Medicare hospice benefit does not cover Part D benefits, these were excluded in the national hospice capitation rate. It is important to note that the base data, which are derived from paid claims, reflect a net of the 2-percent sequestration reduction and do not include the hospice provider inpatient and aggregate caps.

To emulate the first year experience of MAOs newly offering the Hospice Benefit Component in CY 2022, the base data supporting the year-1 rates use only those hospice benefit periods that begin in each of the calendar years.

The base data supporting the year-2 rates consist of claims incurred during the historical period, including benefit periods that started during the prior year. For example, the year-2 base experience for CY 2017 uses benefit periods that started in both CY 2016 and CY 2017.

2.4. Retrospective Adjustments

As described in greater detail below, CMS made three retrospective adjustments:

- Repricing of the hospice FFS-paid claims using the FY 2021 per diem payment rates for RHC, CHC, IRC, and GIP levels of care and the FY 2021 Hospice Wage Index (see section 2.4a).
- Recognizing the impact of the hospice provider inpatient and aggregate caps, which are not included in the claims data (see section 2.4c).
- Making an adjustment to the CY 2019 experience for estimated beneficiary-level claims that were incurred but not reflected in the base experience and for claims paid outside the claim system (see section 2.4d).

Additionally, the 2017–2019 trends in service day utilization and mix of levels of care were analyzed and were determined to have an insignificant trend, and therefore no adjustment was made (see section 2.4b).

2.4a. Repricing

CMS performed three steps to reprice the CYs 2017–2019 historical hospice FFS-paid claims experience to FY 2021:

Step 1: CMS repriced the data using the 2021 per diem payment rates by type of service (RHC days 1–60, RHC days 61+, CHC, GIP, and IRC) multiplied by a FY 2021 Hospice Wage Index adjustment and by the number of service days by stay month for each beneficiary within the base data. The 2021 Hospice Wage Index was based on the beneficiary's CBSA listed within CMS data.

Step 2: In addition to services covered by the standard per diem payment rates, CMS considered other features that were not accounted for in those rates, including service intensity add-ons, physician services covered under the hospice benefit but not offered by a hospice provider, and the fact that some hospice providers receive lower per diem payment rates for not reporting quality data.[15] To account for these features, CMS performed a second repricing, identical to the first except using per diem rates and wage indices specific to the incurred time period and the beneficiary's CBSA. The actual paid amount in the base data was then compared to this calculated paid amount to develop a true-up adjustment factor.

Step 3: CMS multiplied the calculated 2021 claims from Step 1 with the adjustment factor from Step 2 to recognize the features that were not accounted for in the FY 2021 per diem payment rates.

2.4b. Service Day Utilization and Intensity Adjustment

As part of its ongoing analysis of hospice utilization trends, CMS observed that both the number of service days per stay month and the number of RHC 61+ days increased during the historical

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[15] This adjustment factor also accounts for situations in which the hospice provider is in a CBSA that is different from the beneficiary's CBSA listed in the CMS data. Based on analysis of the beneficiary's CBSA and the provider location, approximately 4 percent of 2018 payments were to providers in States that were different from the beneficiary's location.

period, while the use of higher-intensity levels of care (GIP and CHC) decreased. Table 4 shows these changes and their impact.

For the period CY 2017–CY 2019, the trend in the service days was 1.90 percent, and the trend in service intensity was −1.69 percent, yielding a combined impact of 0.18 percent. For the period 2017–2019, the trend in the service days was 1.10 percent, and the trend in service intensity was −0.85 percent, yielding a combined impact of 0.24 percent. The simple average of the combined impact over 3 years is 0.14 percent. CMS determined that the average annual impact of 0.14 percent is not significant, and accordingly no adjustment for service day utilization and intensity is reflected in the 2022 hospice rates.

Table 4. Service Day Utilization and Intensity Adjustment, Year-1 Rates

	Service Days Per Stay Month (a)	Mix of Service Days RHC 1–60 (b)	RHC 61+ (c)	IRC (d)	GIP (e)	CHC (f)	Weighted Per Diem (g)	Combined Impact [(1+a)x(1+g)]-1
2021 Per Diem		$199.25	$157.49	$461.09	$1,045.66	$1,432.41		
2017	22.62	32.6%	65.5%	0.3%	1.4%	0.2%	$186.73	
2018	22.80	32.0%	66.2%	0.3%	1.2%	0.2%	$185.14	
2019	23.05	31.1%	67.3%	0.3%	1.1%	0.2%	$183.58	
Change from 2017 to 2019	1.90%	−4.44%	2.62%	1.40%	−17.72%	−16.52%	−1.69%	0.18%
Change from 2018 to 2019	1.10%	−2.85%	1.57%	0.06%	−8.83%	−9.37%	−0.85%	0.24%
Combined Impact for All Three Experience Years (straight average divided by 3)								0.14%

2.4c. Recognition of the Hospice Provider Inpatient and Aggregate Caps[16]

As noted in sections 1.3 and 2.3, any actual Medicare payments made to a hospice provider in excess of the inpatient cap and the aggregate cap must be refunded; these amounts were not reflected in the base data (that is, within the 100 percent of Medicare final action hospice claims for beneficiaries enrolled in the FFS program or in an MA plan). Below is a description of the two provider cap adjustments. The combined impact of both caps on the final rates for CY 2022 was a 0.9-percent reduction, weighted by stay months.

Hospice Provider Inpatient Cap

The hospice provider inpatient cap excess reimbursements for 2017–2019 were relatively small ($5.8 million total) compared to the total hospice payment. However, these amounts were limited to seven hospice providers during that 3-year period, with three hospice providers responsible for 98 percent ($5.7 million total) of the overpayment. CMS reduced the hospice FFS-paid claims in the three CBSAs that showed year-over-year consistency both in reimbursement amounts and in the identity of providers that had these recoveries. Furthermore, CMS reduced the experience by approximately 37 percent to adjust the mature experience to a second year basis (that is,

[16] A detailed description is available at https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/bp102c09.pdf

experience supporting year-2 rates, as described in section 2.3). Table 5 shows the reductions by CBSA by year.

Table 5. Hospice Provider Inpatient Cap Experience Adjustment (Year-2 Rates)

CBSA	CBSA Description	2017	2018	2019	Total
22744–FL	Fort Lauderdale–Pompano Beach–Deerfield Beach, FL	$97,493	$57,552	$101,206	$256,251
25060–MS	Gulfport–Biloxi–Pascagoula, MS	$234,492	$349,476	$0	$583,968
32820–TN–MS–AR	Memphis, TN–MS–AR	$952,122	$1,078,485	$720,046	$2,750,652
Total		$1,284,106	$1,485,513	$821,252	$3,590,871

Hospice Provider Aggregate Cap

To determine the hospice provider aggregate cap, CMS modeled the hospice aggregate cap calculation using the proportional approach at a provider level. Next, CMS allocated any calculated overpayment to beneficiaries using that provider based on hospice FFS payments by beneficiary. This approach allowed the allocation of the overpayments to beneficiary CBSAs. CMS calculated the overpayments as a percentage of hospice FFS-paid claims for Month 2+ and applied that reduction to all experience years for the given CBSA. This calculation is based on second year experience supporting the year-2 rates, and it is appropriate for both year-2 and year-1 rates since the ratio of hospice claims to total claims is about the same for both cohorts.

Because the annual limit for the aggregate cap is not adjusted for regional labor cost differences and 68 percent of the per diem payment rates are adjusted for regional labor cost, CMS expected that areas with a higher Hospice Wage Index would have higher aggregate cap overpayments. However, since beneficiaries can seek hospice services outside of their home CBSAs, the Hospice Wage Index is not a perfect predictor of the aggregate cap recovery. Table 6 summarizes the distribution of CBSA count by the percentage of the hospice provider aggregate cap reduction to the Month 2+ hospice average geographic adjustment (AGA) (see section 3 for details on the hospice AGA). On an aggregate basis, the reduction is approximately 1.0 percent of hospice FFS payments (0.9 percent of total payments).

Table 6. Distribution of Hospice Provider Aggregate Cap Reductions to Month 2+ Hospice AGAs

Month 2+ Reduction	Count of CBSAs
<1%	425
1–3%	44
3–5%	8
>5%	5

2.4d. Claim Completion

To develop the hospice claim completion factors, CMS used historical experience consistent with the process used to develop claim completion factors for the MA program. Table 7 shows the claim completion multiplicative factors for both hospice and non-hospice FFS-paid claims for 2017–2019.

Table 7. Claim Completion Multiplicative Factors

Claim Type	2017	2018	2019
Hospice FFS-paid claims	1.0000	1.0000	1.0000
Non-hospice FFS-paid claims	1.0177	1.0177	1.0176

The multiplicative factors listed in table 7 account for outstanding claims from the National Claims History (NCH) base experience and provider reimbursements made outside the NCH, including cost report settlements, but these factors do not include hospice cap settlements.

2.5. Prospective Adjustments

Table 8 provides a high-level summary of prospective adjustments and respective assumptions.

Table 8. Summary of Prospective Adjustments and Respective Assumptions

Prospective Adjustment	Note	Assumption
Hospice FFS Payment		
2021 to 2022 Per Diem Change	Projection of Market Basket Update Offset by Multifactor Productivity Adjustment.	FY 2021 to FY 2022, 2.3%; FY 2022 to FY 2023, 3.3%
2021 to 2022 Hospice Wage Index Change by CBSA	No Change	0%
Change in Utilization and Mix of Services from 2019 to 2022	No Change	1.000
Non-Hospice FFS Payment		
2017 to 2022	FFS USPCC—Non-ESRD Growth Rate from the MA 2022 Announcement	1.2498
2018 to 2022		1.2059
2019 to 2022		1.1634
Other		
Administrative Expense Load	Claims Processing Cost Load	0.0656%
Sequestration	Base data are net of sequestration. Repricing of hospice FFS-paid base data used per diem gross of sequestration. The non-hospice FFS-paid base data were divided by 0.98 to result in data that are gross of sequestration.	

Per Diem Trend from FY 2021 to CY 2022

After repricing the base data to 2021, CMS made an adjustment to the hospice FFS-paid claims to reflect an estimated increase in per diem payment rates from FY 2021 to FY 2022 (for the period January 1, 2022 to September 30, 2022) and from FY 2021 to FY 2022 (for the period October 1, 2022 to December 31, 2022). An annual trend of 2.3 percent for FY 2021 to FY 2022 and of 3.3 percent for FY 2022 to FY 2023 was applied, based on the CMS projection of the inpatient hospital market basket offset by the legislated multifactor productivity adjustment.

Trending Non-Hospice FFS-Paid Claims from the Experience Period to 2022

The FFS USPCC—non-ESRD trends that were presented in the CY 2022 Rate Announcement were used to trend the non-hospice FFS-paid claims from the 2017, 2018, and 2019 base data to CY 2022.[17] Table 9 shows the trend rates by year.

Table 9. USPCC—Non-ESRD Trends

Calendar Year	Trend
2017 to 2018	3.64%
2018 to 2019	3.65%
2019 to 2020	−5.86%
2020 to 2021	11.72%
2021 to 2022	10.62%

Administrative Expense

The national hospice capitation rate includes the same administrative load, or clams processing costs, as a percentage of benefits as the MA ratebook. Table 10 demonstrates the development of the total hospice administrative load of 0.000656.

Table 10. Administrative Expense[18]

	Hospice FFS Payment	Non-Hospice FFS Payment		Total
Claims Processing Costs as Fraction of Benefits, FY 2019.	Part A	Part A	Part B	
	0.000625	0.000625	0.001536	0.000656
Claims for Beneficiaries in Hospice Status as Percentage of Total for Year-1 Rates, 2017–2019	92.03%	4.62%	3.35%	100.00%

Sequestration

Consistent with MA capitation rates, the final hospice capitation rates under the Hospice Benefit Component are presented gross of sequestration in the CY 2022 hospice capitation ratebook for the Model (that is, without the application of the 2-percent sequestration reduction). The following bullets describe how CMS handles sequestration in the rate development process:

- *Hospice FFS-Paid Claims:* CMS repriced the 2017–2019 experience using FY 2021 per diem payment rates by CBSA (see "Repricing" under section 2.4a). The per diem rates reflect the values in tables 5 and 6 of "Medicare Program; FY 2021 Hospice Wage Index and Payment

[17] CMS. "Announcement of Calendar Year (CY) 2022 Medicare Advantage (MA) Capitation Rates and Part C and Part D Payment Policies." January 15, 2021. Retrieved from https://www.cms.gov/files/document/2022-announcement.pdf

[18] CMS. "Announcement of Calendar Year (CY) 2022 Medicare Advantage (MA) Capitation Rates and Part C and Part D Payment Policies." January 15, 2021. Retrieved from https://www.cms.gov/files/document/2022-announcement.pdf

Rate Update" (CMS-1733-F).[19] This repricing resulted in an estimate of 2021 claims gross of sequestration.

- *Non-Hospice FFS-Paid Claims:* CMS used 2017–2019 non-hospice FFS-paid claims, which reflect the paid amount, net of sequestration. The projected non-hospice claims are divided by 0.98 to result in amounts that are gross of sequestration, consistent with the hospice claims.

3. Area Factor

3.1. Background and Development of the Area Factor

FFS-paid hospice per diem payment rates vary by CBSA,[20] with the variation driven by the Hospice Wage Index. This Index is based on the CMS inpatient prospective payment system (IPPS) Hospital Wage Index, which measures the relative difference in hourly wages for certain health care professionals across areas based on an annual survey of hospitals. The Hospice Wage Index measures the difference in labor cost by CBSA. In total, there are 463 CBSAs in the FY 2021 Hospice Wage Index; there were 460 in FY 2019.

The Hospice Wage Index is applied to only the labor portion of the per diem payment rates, which varies by hospice service type. In aggregate, the labor portion accounts for about 68 percent (specifically 68.71 percent for RHC) of the hospice per diem rates. The non-hospice FFS-paid services are reimbursed using the prevailing area-specific CMS fee schedules. CMS developed 498 CBSA-State areas and then combined several of the smaller CBSAs for credibility purposes. The result was a final list of 482 areas (referred to as CBSAs in this document) for the area factor development.

The MA average geographic adjustment (AGA) is the area factor used to develop county-level benchmarks for enrollees in non-hospice status. The AGA reflects county variation in claim costs due to the cost of services under FFS Medicare, as well as variation in the utilization of comprehensive medical services. Table 11 shows the range of the Hospice Wage Index and the approximate range of the impact on the per diem payment rates for FY 2019 and FY 2021; the data in this table demonstrate why an area factor is needed.

Table 11. Hospice Wage Index and Per Diem Ranges

	Hospice Wage Index		Approximate Per Diem Range	
	FY 2019	FY 2021	FY 2019	FY 2021
Lowest	0.3945	0.3727	0.5874	0.5725
Highest	1.8674	1.8807	1.5911	1.6001

CMS considered several approaches for the area factor, including the following:

- Splitting an area factor for hospice FFS payment and non-hospice FFS payment, whereby hospice FFS-paid claims were adjusted by the Hospice Wage Index and non-hospice FFS-paid claims were adjusted by the MA AGA. There were several CBSAs with significant mismatches

[19] Final Rule CMS-1733-F. "Medicare Program; FY 2021 Hospice Wage Index and Payment Rate Update." Retrieved from https://www.govinfo.gov/content/pkg/FR-2020-08-04/pdf/2020-16991.pdf

[20] CBSAs are collections of counties within States; in 48 CBSAs, they are collections of counties that cross State lines.

with regard to the 2019 hospice FFS-paid claims, and there was a weak correlation between (i) the MA AGA and the non-hospice FFS-paid claims by CBSA—due to the difference in the mix of services for comprehensive medical care, which the AGA is based on—and (ii) the non-hospice FFS-paid services used by hospice beneficiaries.

- Creating a three-part area factor for hospice FFS-paid claims to adjust for (i) the Hospice Wage Index area factor; (ii) the service intensity factor (that is, the mix of service days by area weighted by their relative per diem payment rate compared to the national average mix of services); and (iii) the relative length of stay by stay month. The three-part area factor was a good fit and showed correlation with hospice FFS-paid claims in combination with the non-hospice FFS-paid claims, which were adjusted using the AGA, but there was still a mismatch. As expected, the greatest variation occurred within CBSAs with 2,000 or fewer beneficiaries.

The approach that best accounted for all regional variation in claims was emulating the MA AGA, which is the ratio of the area-specific spending to the national average (referred to as the "hospice average geographic adjustment" or "hospice AGA" under the Model).

The general formula is as follows:

$$Hospice\ AGA_{CBSA} = \frac{Historical\ Claim\ Cost\ PMPM_{CBSA}}{Historical\ Claim\ Cost\ PMPM_{National}}$$

There are separate hospice AGAs for Month 1 and Month 2+ because of the differences in utilization of services and length of stay by CBSA. This distinction is captured in the following general formula:

$$Hospice\ AGA_{CBSA,\ Month} = \frac{Historical\ Claim\ Cost\ PMPM_{CBSA,\ Month}}{Historical\ Claim\ Cost\ PMPM_{National,\ Month}}$$

The 2022 hospice AGA is calculated using the 2022 projected cost for each of the 3 experience years. This calculation is represented by the following general formula:

$$2022\ Hospice\ AGA_{CBSA,\ Year,\ Month} = \frac{2022\ Projected\ Cost\ PMPM_{CBSA,\ Year,\ Month}}{2022\ Projected\ Cost\ PMPM_{National,\ Year,\ Month}}$$

The Month 1 hospice AGA is adjusted to account for the difference in the mix of stay months by rating tier between the CBSA and the national distribution. The factor used to account for this difference is termed the "Month 1 Hospice AGA Tier Adjustment" (see section 4 for more detail). The formula for Month 1 is shown below:

$$Adjusted\ Hospice\ AGA_{CBSA,\ Year,\ Month} = \frac{2022\ Hospice\ AGA_{CBSA,\ Year,\ Month\ 1}}{Month\ 1\ Hospice\ AGA\ Tier\ Adjustment_{Year,\ Month}}$$

The Month 2+ hospice AGA is adjusted to recognize the impact by CBSA of the hospice provider inpatient and aggregate caps (see section 2.4 c for more detail). The formula for Month 2+ is shown below:

$$\begin{aligned}&\mathit{Adjusted\ Hospice\ AGA}_{CBSA,\ Year,\ Month\ 2+} = \\ &\mathit{2022\ Hospice\ AGA\ 2022\ Hospice\ AGA}_{CBSA,\ Year,\ Month\ 2+} \times \\ &\mathit{Hospice\ Provider\ Cap\ Adjustment}_{CBSA}\end{aligned}$$

The 2022 hospice AGA is the average of the three yearly hospice AGAs:

$$\begin{aligned}&\mathit{2022\ Hospice\ AGA}_{CBSA,\ Month} = \mathit{Average}\,(\mathit{2022\ Hospice\ AGA}_{CBSA,\ 2017,\ Month}, \\ &\mathit{2022\ Hospice\ AGA}_{CBSA,\ 2018,\ Month}, \mathit{2022\ Hospice\ AGA}_{CBSA,\ 2019,\ Month})\end{aligned}$$

3.2. Credibility for the Core-Based Statistical Area (CBSA)-Level Experience

This section describes CMS' analysis of the level of historical exposure necessary to consider the hospice AGA 100 percent credible for a CBSA.[21] Typically, in health claim credibility analysis, the unit of measurement is claim cost PMPM, and the objective is to determine the number of members needed for full credibility. For the Hospice Benefit Component of the Model, the unit of measurement is FFS payments per stay month. In this analysis, the statistics used in the credibility calculation (that is, the standard deviation and mean) are calculated using the CY 2019 data set for hospice stays that began in 2019 on a stay month level, not a beneficiary level. In other words, there is no need to do a "beneficiary to stay month" conversion similar to the "member to member month" conversion in typical health claim credibility analysis.

Description of the Credibility Methodology

Based on an application of classical credibility theory, the determination of full credibility depends on the assumed variation in the claim experience. CMS' goal is to determine the number of stay months in a CBSA that are needed to have a probability (P = 95 percent) of being within a percentage (k = 10 percent) relative to the expected claim amount. These parameters are consistent with the MA credibility methodology, the details of which can be found in the "Proposed Guidelines for Full Credibility to be used in the MA and Prescription Drug Bid Pricing Tools."[22]

Table 12a summarizes the experience data used in the analysis. It also shows the coefficient of variation (COV), which is the ratio of the standard deviation to the mean. The COV is used in the analysis to allow comparison across different types of claims.

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[21] The principle references for credibility theory are the "Proposed Guidelines for Full Credibility to be used in the MA and Prescription Drug Bid Pricing Tools," which were issued on February 15, 2019 and are available at https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Downloads/ProposedCredibilityGuidelines.pdf, and the Credibility Practice Note of the American Academy of Actuaries, which is available at https://www.actuary.org/sites/default/files/files/publications/Practice_note_on_applying_credibility_theory_july2008.pdf.

[22] CMS. Office of the Actuary. "Proposed Guidelines for Full Credibility to be used in the MA and Prescription Drug Bid Pricing Tools." February 15, 2019. Retrieved from https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Downloads/ProposedCredibilityGuidelines.pdf

Table 12a. Credibility Calculation

	Stay Months	Standard Deviation	Mean	Coefficient of Variation
Hospice FFS Payments	3,396,175	$2,019	$3,655	0.55
Non-Hospice FFS Payments during a Hospice Election Period	3,396,175	$970	$136	7.14
Non-Hospice FFS Payments after Live Discharge	3,396,175	$2,164	$195	11.08
Total Hospice and Non-Hospice FFS Payments	**3,396,175**	**$3,083**	**$3,986**	**0.77**
The following is provided for comparison to MA experience				
2017 MA non-ESRD Experience				2.36
2017 Part D Experience				3.58

The hospice benefit has a relatively low COV because the FFS payments related to a hospice experience are predominantly hospice FFS-paid claims (91.7 percent of the total) and have a COV of 0.55. The reason for the low variation in the hospice FFS-paid claims is that 98 percent of the hospice FFS payments are derived from the RHC per diem rate, which has a small range of costs and, on average, 20 units of service per stay month. Table 12b shows the stay months for 100 percent credibility for CY 2019 data.

Table 12b. Credibility Calculation

Probability Result is within k% of Actual (a)	Standard Normal Variable Z (b)	Coefficient of Variation (Standard dev / mean) (c)	k% (d)	Stay Months for 100% Credibility e = (b * c/d)
0.95	1.96[1]	0.77	0.10	230

[1] Because this is a one-tailed test, the z-value for $p_{0.975}$ is used.

Because of the observed regional differences in the use of hospice (for example, the beneficiaries' apparent acuity on enrollment as seen in the average length of stay in Month 1) and the mix of type of service days, CMS' preference was to combine low-volume CBSAs with adjacent CBSAs where practicable instead of using a partial credibility approach.

Partial Credibility

Initially there were some CBSAs with insufficient stay months to be 100 percent credible. CMS used two approaches to address this issue. The first was to combine low-volume CBSAs with adjacent CBSAs that have a similar Hospice Wage Index and similar historical utilization and cost. The second was specific to low-volume CBSAs without adjacent CBSAs—Guam, the U.S. Virgin Islands, American Samoa, and the Northern Mariana Islands. For these four areas, CMS used a partial credibility approach. For CBSAs with a Hospice Wage Index (the Virgin Islands and Guam), CMS credibility weighted the year-by-year tier-mix-adjusted Month 1[23] and Month 2+ hospice AGAs with the Hospice Wage Index area factor for the CBSA. The 2022 hospice AGA for these two CBSAs is the average of the credibility-adjusted factors. Since American Samoa and the Northern Mariana Islands do not have a Hospice Wage Index, any historical experience (there was none for the Northern Mariana Islands) was credibility weighted with the national Hospice Wage Index area factor, which is 1.000.

[23] For details on the Month 1 tier adjustment, see section 4.2.

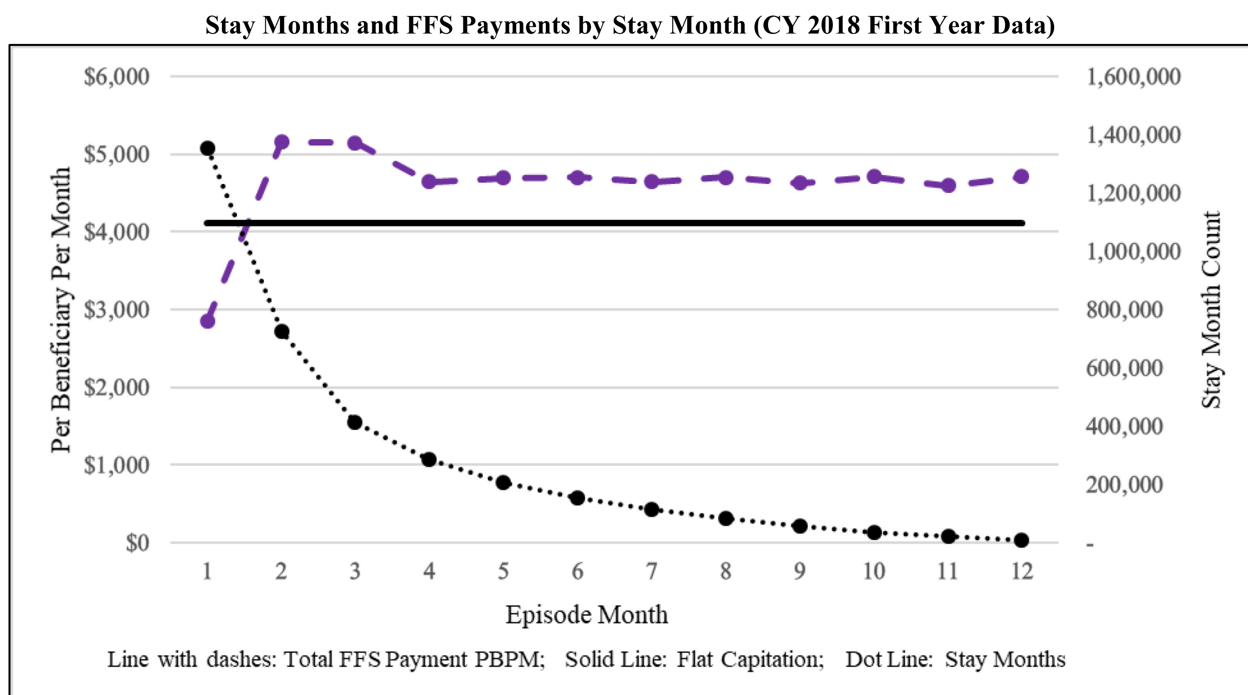
4. Monthly Rating Factor

4.1. Background and Development of the Monthly Rating Factor

This section describes the monthly rating factor, which is applied to the base rate to adjust the capitation payment for the stay month. The purpose of the monthly rating factor is to create the best possible fit of monthly capitation payments to historical claims within the objectives for the Model.

The following chart shows why the monthly rating factor is needed. The dotted line shows the FFS payment pattern by stay month for CY 2018 for stays that started in 2018; Month 1 is low, driven by the average mid-month entry and the large number of short stays, while Months 2 and 3 are higher due to the higher per diem rate for RHC days 1–60 and the relatively level FFS payment for Months 4+. The purpose of the monthly rating factor is to improve the match of the hospice capitation rate line with the FFS payment line.

Stay Months and FFS Payments by Stay Month (CY 2018 First Year Data)



This chart also highlights the following:

- The dashed line shows the concentration of stay months in the first few months (39 percent of the total stay months occur in the first month and 72 percent in the first 3 months).
- The solid line is a "flat" capitation, which represents the average stay month FFS payment over all months and serves as a reference. A flat capitation would significantly overpay relative to the FFS per diem payment methodology in Month 1 and would underpay in Months 2 and 3.

In recognition of the variation in FFS payments across months within a hospice election period, CMS developed a methodology to determine the Month 1 capitation payment based on the actual days that a beneficiary is enrolled in hospice in Month 1.

For the first month only, the monthly hospice capitation rate that will be paid will have an adjustment (that is, the monthly rating factor) applied to better reflect actual beneficiary experience (in combination with the area factor discussed in section 3). The hospice capitation rate paid for the first month will vary based on the number of days of hospice benefit that occur in the first calendar month of a hospice stay, split into three tiers, as shown in table 13:

Table 13. Month 1 Rating Factors, Year-1 Rates

Days in Month 1	Monthly Rating Factor	Gross Monthly Base Rate[1]
1–6 Days	0.340	$1,827.78
7–15 Days	0.640	$3,440.53
16+ Days	1.003	$5,391.96

[1] Gross of sequestration

The day count is equal to the hospice discharge date (or the last day of the month if there is no discharge) minus the enrollment date plus one. If there is more than one stay month in Month 1, the days in hospice will be added together to determine rate tier.

The change in 16+ days monthly rating factor from the 2021 rates to the 2022 rates is due to a change in the aggregate distribution of stay months resulting from replacement of 2016 experience with 2019 experience in the base data.

First month payments will be made in a lump sum retrospectively to participating MAOs on a quarterly basis for all enrollees who have first-calendar-month hospice experience.

For Months 2+, the monthly rating factor is 1.00, and the base rate is $5,375.83 (gross of sequestration).

4.2. Month 1 Tier Adjustment

The rating tier factors shown in table 13 were developed using the national distribution of days in 2019. A difference in the distribution of Month 1 stay months by rate tier between the national and CBSA distributions would result in the appropriate rate not being produced by the Month 1 hospice AGA. To address this issue, CMS developed a Month 1 tier adjustment. Table 14 provides an example of how the Month 1 tier adjustment was calculated.

Table 14. Example of Month 1 Tier Factor Calculation for CBSA 48424—West Palm Beach–Boca Raton–Boyton Beach

<table>
<tr><th>Rate Tier:
Days in Month 1</th><th>Monthly Rating Factor</th><th>National Distribution of 2019 Month 1 Stay Months</th><th>CBSA 48424 Distribution of 2019 Stay Months</th></tr>
<tr><td>1–6 Days</td><td>0.340</td><td>41.22%</td><td>50.66%</td></tr>
<tr><td>7–15 Days</td><td>0.640</td><td>30.04%</td><td>27.00%</td></tr>
<tr><td>16+ Days</td><td>1.003</td><td>28.74%</td><td>22.34%</td></tr>
<tr><td colspan="2">Stay Month Weighted Composite Factor
(Month 1 Tier Distribution Factor)</td><td>0.6207</td><td>0.5691</td></tr>
<tr><td colspan="3">Month 1 Hospice AGA Tier Adjustment
(CBSA Month 1 Tier Distribution Factor/National Month 1 Tier Distribution Factor)</td><td>0.9169</td></tr>
</table>

The following formula is used to develop the Month 1 tier distribution factors:

$$Month\ 1\ Tier\ Distribution\ Factor_{CBSA,\ Year} = \begin{bmatrix} 0.340 \\ 0.640 \\ 1.003 \end{bmatrix} x \begin{bmatrix} Tier\ 1\ stay\ month\ \% \\ Tier\ 2\ stay\ month\ \% \\ Tier\ 3\ stay\ month\ \% \end{bmatrix}_{CBSA,\ Year}$$

The Month 1 tier adjustment is calculated as follows:

$$Month\ 1\ Hospice\ AGA\ Tier\ Adjustment_{CBSA,\ Year} = \frac{Month\ 1\ Tier\ Distribution\ Factor_{CBSA,\ Year}}{Month\ 1\ Tier\ Distribution\ Factor_{National,\ Year}}$$

The final adjusted Month 1 hospice AGA is calculated in the following way:

$$Adjusted\ Hospice\ AGA_{CBSA,\ Year,\ Month\ 1} = \frac{Hospice\ AGA_{CBSA,\ Year,\ Month\ 1}}{Month\ 1\ Hospice\ Tier\ Adjustment_{CBSA,\ Year}}$$

4.3. Operational Rules

CMS built the operational rules of the "CY 2022 Request for Applications" for the Hospice Benefit Component (outlined in section 2.7) into the final pricing of Model payments. These operational rules include the following:

- *No more than one hospice capitation will be paid for an enrollee for a given month.* In the historical hospice experience, there are situations in which a beneficiary dis-enrolls and re-enrolls in the same month. For purposes of pricing, CMS concatenated these stay months in calculating the capitation rates.

- *For Month 1 (that is, the first month in which a hospice election occurs), the sum of the days that a beneficiary is enrolled in that month will be used to determine which Month 1 tier rate will be paid.* For purposes of pricing, CMS reviewed the live discharges and re-enrollments within Month 1 and concatenated these stay months in attributing the correct Month 1 tier.