MILLIMAN WHITE PAPER

High-level impacts of the proposed CMS-HCC risk score model on Puerto Rico Medicare Advantage payments for 2024

Commissioned by the Medicaid and Medicare Advantage Product Association of Puerto Rico (MMAPA)

Rob Pipich, FSA, MAAA
Luis Maldonado, FSA, MAAA
Stuart Rachlin, FSA, MAAA

Milliman

The 2024 Medicare Advantage (MA) Advance Notice[1] includes a proposal to implement a clinically revised risk score model to be used for MA payments for calendar year (CY) 2024. The MA risk score model adjusts payments from the federal government to Medicare Advantage Organizations (MAOs) based on the expected cost to care for beneficiaries as a result of their demographics and medical conditions. Because the risk score model determines most of the payment amounts MAOs receive from CMS, changes to the model are expected to have significant implications on MAO revenue. This Milliman white paper provides an overview of the expected high-level impacts of these proposed changes by Medicare plan or population type for MA beneficiaries in the Commonwealth of Puerto Rico. The calculations used in this analysis are consistent with those from the prior Milliman publication.[2] The Puerto Rico specific MA payment reduction is 9.1%, which is significantly higher than the national average reduction of 3.4%.

The Advance Notice proposes revisions to several mechanisms the federal government uses to determine how MAOs are paid. Approximately half of all Medicare-eligible beneficiaries, over 28 million people, are enrolled in Medicare Advantage (MA) plans.[3] Puerto Rico beneficiaries enroll in MA at significantly higher rates than the national average, with over 82%[4] of total Medicare members participating in MA, or over 95%[5] of members with Part A and B. Additionally, beneficiaries eligible dually for Medicare and Medicaid (duals) are the largest subpopulation in MA in Puerto Rico (see Figure 1 below.)

The MAOs that offer MA plans receive revenue from the Centers for Medicare and Medicaid Services (CMS) for each beneficiary enrolled in their plans. These revenue amounts are set based on the *expected* cost to care for the beneficiaries who enroll, rather than the actual cost of their care. To estimate expected costs for different members, CMS developed a risk adjustment system that considers each beneficiary's demographic characteristics as well as medical conditions, determined by medical diagnoses. CMS assigns a payment

[1] CMS (February 1, 2023). Advance Notice of Methodological Changes for Calendar Year (CY) 2024 for Medicare Advantage (MA) Capitation Rates and Part C and Part D Payment Policies. Retrieved March 7, 2023, from https://www.cms.gov/files/document/2024-advance-notice.pdf.
[2] Pipich, R., Cross, K., & Rothschild, M. (February 2023). High-level impacts of the proposed CMS-HCC risk score model on Medicare Advantage payments for 2024. Milliman White Paper. Retrieved March 7, 2023, from https://www.milliman.com/en/insight/analysis-of-2024-CMS-proposed-HCC-Model.
[3] Fried, M. et al. (August 25, 2022). Medicare Advantage in 2022: Enrollment Update and Key Trends. Kaiser Family Foundation. Retrieved March 7, 2023, from https://www.kff.org/medicare/issue-brief/medicare-advantage-in-2022-enrollment-update-and-key-trends/.
[4] CMS. Monthly Enrollment by State: February 2023. Retrieved March 7, 2023, from https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MCRAdvPartDEnrolData/Monthly-Enrollment-by-State.
[5] CMS. FFS Data (2015-2021). Retrieved March 7, 2023, from https://www.cms.gov/medicare/health-plans/medicareadvtgspecratestats/ffs-data.

relativity factor to each condition—or what CMS refers to as Hierarchical Condition Categories (HCCs)—based on the historical cost to care for a beneficiary with that condition under the traditional Medicare fee-for-service (FFS) program.

CMS periodically revises the CMS-HCC model to reflect updated diagnosis codes and recent relationships between conditions and expected medical costs, the latter of which is referred to as recalibration. The 2024 Advance Notice proposes a substantial clinical revision in addition to a recalibration. The revised model reflects several additional significant changes relative to previous versions. First, CMS has calibrated the model for the first time on ICD-10 diagnoses, rather than ICD-9 diagnoses, using 2018 diagnosis data along with 2019 payment data. Second, CMS has removed certain diagnoses that CMS believes[6] are overrepresented in MA data versus FFS data and therefore may not be predictive of true expected medical costs. Finally, CMS has significantly expanded the number of clinical conditions, set the coefficients of certain HCCs equal to each other, and remapped diagnoses to most of the condition categories.

In the 2024 Advance Notice Fact Sheet,[7] CMS stated that the expected impact of implementing the new risk score model would be a reduction in payments to MAOs of 3.12%. We note that CMS calculated this estimate using diagnoses from 2020, which were significantly affected by COVID-19. To estimate the impact without the effects of COVID-19, we recalculated the impact of the new risk score model on 2024 versus 2023 payments using both MA and fee-for-service (FFS) 2019 diagnosis data, which predates the COVID-19 pandemic. The approach of excluding diagnosis year 2020 is consistent with how CMS calculated the FFS normalization factors. Based on our analysis, we estimated the impact of the new risk score model in Puerto Rico as an aggregate 9.1% reduction in payments to MAOs. This white paper describes our analysis and the impact on several subpopulations.

Risk score model and normalization background

Every CMS-HCC risk score model is calibrated by CMS to a “denominator year” of payment data. Because providers tend to code more completely and more intensely as time goes on, CMS makes an incremental reduction to the risk score model for each additional year that has passed since the denominator year. CMS implements this incremental reduction using a factor referred to as the “FFS normalization factor.” This factor is generally calculated based on observed trends in FFS risk scores under the applicable CMS-HCC model. CMS applies the factor by dividing the raw risk scores from the model by the published FFS normalization factor. Additionally, CMS accounts for the difference between FFS and MA provider coding by reducing MA risk scores a further 5.9%, referred to as the “MA coding pattern adjustment.”

The interaction of the CMS-HCC model and the FFS normalization factor can be complex and for the purpose of this white paper we use the CMS proposed FFS normalization factors without adjustment. CMS cites the -3.12% risk score impact of the new model as a combination of the new risk score model and the new FFS normalization factor and we maintain that presentation.

The scope of this paper is MA only, and is limited to Puerto Rico. MA risk score normalization factors are developed prospectively. The impact on programs like Accountable Care Organization (ACO) Realizing Equity, Access, and Community Health (REACH) and the Medicare Shared Savings Program (MSSP) is outside the scope of this paper. Normalization factors in those programs are developed retrospectively.

Source data and models

We utilized the CMS research identifiable files (RIFs) for our analyses and applied the CMS-published CMS-HCC models to calculate risk scores under both models. Consistent with CMS guidance, we used the CMS-HCC V24 model to calculate “current” risk scores, that is, risk scores for payment year 2023, and we used the CMS-HCC V28 model to calculate “proposed” risk scores for the 2024 payment year.

In calculating risk scores for each beneficiary, we combined diagnoses from both 2019 FFS data and 2019 MA encounter data along with demographic data from 2020 eligibility data. We utilized the entire Puerto Rico Medicare population, with certain exclusions as described in the Methodology section below.

[6] CMS (February 1, 2023), op cit., “Principle 10-Focused Clinical Updates” section.
[7] CMS (February 1, 2023). 2024 Medicare Advantage and Part D Advance Notice Fact Sheet. Retrieved March 7, 2023, from https://www.cms.gov/newsroom/fact-sheets/2024-medicare-advantage-and-part-d-advance-notice-fact-sheet.

Results

We recalculated risk scores for Medicare beneficiary populations that were not end-stage renal disease (ESRD) or hospice and were in both Medicare Part A and Medicare Part B. We completed these calculations for both the FFS and MA populations. We validated our raw FFS risk scores, on a national basis, against the risk scores presented in Table II-7 of the 2024 Advance Notice. Our risk scores are uniformly higher than the CMS risk scores, which we believe to be driven, in part, by the fact that our data lacks an institutionalized indicator. Institutionalized Medicare beneficiaries receive risk scores based on a separate set of HCC factors using the same diagnosis-to-HCC mapping as noninstitutionalized beneficiaries. This difference impacts both our current and proposed risk score models; the impact is small both because institutionalized beneficiaries make up a small proportion[8] of the overall Medicare population and because we focus on the difference between the current and proposed risk scores, which are impacted similarly. We tested the effect on the model change impact of using the noninstitutional risk score model versus the institutional risk score model for certain members who are likely to be institutionalized; we did not see evidence of a skew in the risk score model change. For the broader population, we validated our calculation of current risk scores against known MAO risk scores as well as against CMS-published payment year 2021 MAO-specific model change impacts.

In total, we calculate the national model change impact, including FFS normalization, as resulting in a 3.4% reduction in payments across all MAOs (the nationwide MA impact is shown as 3.5% in Figure 1 due to censoring small data cells). In Puerto Rico, we calculate 9.1% as the comparable average reduction in payments.

Dual eligibility flags for Puerto Rico are not reliably populated in the data we used for this analysis. For the purposes of calculating risk scores, we overrode the dual eligibility flag for beneficiaries in Dual-Eligible Special Needs Plans (D-SNPs) to reflect dual eligibility. We used the flag as reported for other plan types.

Figure 1 shows the estimated national and Puerto Rico-specific impact of the new risk score model and FFS normalization (FFS Norm) factor by population or plan type—all beneficiaries included in Figure 1 are Part A and B beneficiaries. Member months within the chart are Puerto Rico member months, though the national model impacts are weighted by national member months. As shown in Figure 1, the model is expected to have different impacts depending on population or plan type.

FIGURE 1: PUERTO RICO RISK SCORE MODEL IMPACT BY PLAN TYPE – BASED ON 2019 DIAGNOSES

Plan Type	Member Months	Raw Current Risk Scores	Raw Proposed Risk Scores	2023 Normalized Risk Scores	Proposed 2024 Normalized Risk Scores	Puerto Rico Model Impact	National Model Impact
Medicare Fee-for-Service	500,231	1.102	1.009	0.978	0.994	1.6%	2.8%
*Medicare Advantage**							
General Enrollment	2,460,559	1.571	1.277	1.394	1.258	-9.7%	-3.1%
EGWP	1,162,799	1.654	1.355	1.467	1.335	-9.0%	-1.6%
D-SNP	3,042,470	2.260	1.856	2.005	1.829	-8.8%	-5.8%
C-SNP	85,746	1.949	1.553	1.730	1.530	-11.5%	-11.1%
MA Total	6,751,658	1.900	1.555	1.686	1.532	-9.1%	-3.5%
Grand Total	7,251,889	1.845	1.517	1.637	1.495	-8.7%	-0.1%

*I-SNP plans are excluded from this chart since no I-SNPs are offered in Puerto Rico. Beneficiaries moving from another I-SNP to Puerto Rico are included in the MA Total.

[8] Pena, M. et al. (January 31, 2023). A Profile of Medicare-Medicaid Enrollees (Dual Eligibles), Kaiser Family Foundation. Retrieved March 7, 2023, from https://www.kff.org/medicare/issue-brief/a-profile-of-medicare-medicaid-enrollees-dual-eligibles/.

Additionally, we modeled the impact by regions defined by U.S. Department of Agriculture (USDA) Rural-Urban Commuting Area Codes.[9] These results are shown in the table in Figure 2. Note that the impact of the model change in rural areas is small, while the impact is estimated to be large and negative in metropolitan areas.

FIGURE 2: PUERTO RICO RISK SCORE MODEL IMPACT BY REGION – BASED ON 2019 DIAGNOSES

Region	Member Months	Raw Current Risk Scores	Raw Proposed Risk Scores	2023 Normalized Risk Scores	Proposed 2024 Normalized Risk Scores	Puerto Rico Model Impact	National Impact
Metropolitan	6,549,823	1.903	1.556	1.689	1.533	-9.2%	-3.7%
Micropolitan	95,079	1.789	1.493	1.587	1.471	-7.3%	-0.6%
Small Town	51,180	1.764	1.542	1.565	1.519	-2.9%	0.5%
Rural	2,648	1.170	1.051	1.039	1.036	-0.3%	1.5%

Methodology

Based on historical publications from CMS, the 2024 Advance Notice, conversations with CMS, and our experience replicating CMS risk scores over the years, we made the following assumptions to replicate the CMS analysis in the 2024 Advance Notice. This methodology is intended to replicate the CMS analysis and is not appropriate for other purposes, such as MA bid development or quantification of plan-specific financial impacts.

SOURCE DATA

- RIF Encounter and FFS claims: Diagnoses are combined.
- 2019 diagnoses; 2020 eligibility—July 2020 cohort.

METHODOLOGY

- Filtered diagnoses with CMS Encounter Data System (EDS) filtering logic.
- Exclude ESRD and hospice beneficiaries.
- Exclude beneficiaries without Parts A and B in the payment year.
- Beneficiaries with fewer than 12 months of both Part A and Part B in the diagnosis year receive the new enrollee risk score.
- An institutional flag was not available and so institutionalized FFS beneficiaries and MA beneficiaries not in institutional special needs plans (I-SNPs) receive the community risk score. Beneficiaries in an I-SNP receive the institutional risk score.
- Dual eligibility flags for Puerto Rico are not reliably populated in the data. For the purposes of calculating risk scores, we overrode the dual eligibility flag for beneficiaries in D-SNPs to reflect dual eligibility. We used the flag as reported for other plan types.
- Frailty factors were not applied for any beneficiary.
- Income statuses 2, 4, 8, and 10 are considered full dual.
- Income statuses 1, 3, 5, and 6 are considered partial dual.
- Beneficiary ages are calculated as of February of the payment year.

[9] As defined by the USDA Rural-Urban Commuting Area Codes. Retrieved March 7,2023, from https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes/.

- The V24 model scores are calculated with the CMS Statistical Analysis System (SAS) risk score program, as published by CMS.
- The V28 model is the CMS V24 model updated with the new diagnosis mappings, HCCs, and payment relativity factors published with the 2024 Advance Notice. We used the list of ICD-10 diagnosis lists published by CMS that is valid for fiscal years 2020 and 2021.

Qualifications

Rob Pipich, Luis Maldonado, and Stuart Rachlin certify we are members of the Academy of Actuaries and meet the Academy's qualification standards for this type of analysis.

We have relied on certain models developed by others and developed certain models to estimate the values included in this analysis. We have reviewed the models, including their inputs, calculations, and outputs, for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice (ASOP).

This white paper is intended as an independent quantification of one funding item within the 2024 Advance Notice, not as a comprehensive summary of the Advance Notice and issues involved. Readers are assumed to have a working knowledge of the complex issues involved. Milliman does not intend to benefit or create a legal duty to any reader and readers should consult their own qualified experts.

The authors would like to thank Michael Polakowski for his contributions and peer review.

Milliman

Milliman is among the world's largest providers of actuarial and related products and services. The firm has consulting practices in life insurance and financial services, property & casualty insurance, healthcare, and employee benefits. Founded in 1947, Milliman is an independent firm with offices in major cities around the globe.

milliman.com

CONTACT

Rob Pipich, FSA, MAAA
rob.pipich@milliman.com

Luis Maldonado, FSA, MAAA
luis.maldonado@milliman.com

Stuart Rachlin, FSA, MAAA
stuart.rachlin@milliman.com