

Updates to the Case-Mix Adjustment Approach for Publicly Reported CAHPS® Hospice Survey Results

This document highlights updates to the CAHPS Hospice Survey case-mix adjustment approach over time.

- CMS developed an initial case-mix adjustment model for calculation of CAHPS Hospice Survey measure scores using 2015 and 2016 data.¹
- In Q2 2017, CMS updated the CAHPS Hospice Survey case-mix adjustment model, simplifying categories and improving the precision of coefficients used for adjustment. The updates were as follows:
 - Payer for Hospice Care: categories ‘Uninsured or no payer’ and ‘Other’ were combined
 - Primary Diagnosis:
 - Category ‘Other’ was split into ‘Other, Cancer’ and ‘Other, Non-cancer’
 - Categories ‘Ovarian cancer’ and ‘Stomach cancer’ were combined with ‘Other, Cancer’
 - Caregiver Age: Three youngest age groups (18-24, 25-34, 35-44) were combined
 - Caregiver Relationship: Category ‘Grandparent’ was combined with ‘Other’
 - Survey Language/Respondent’s Home Language:
 - Chinese language (home and survey) was removed
 - Categories Spanish at home and Spanish survey language were combined
- In Q3 2017, CMS updated the calculation of the case-mix adjustment variable response percentile so that it would be calculated by dividing lag time rank by quarterly sample size (rather than monthly sample size).
- In Q2 2025, CMS updated the case-mix adjustment model, refining categories and making adjustments to account for the introduction of a new survey administration mode (web-mail mode).² The updates were as follows:

¹ Parast L, Haas A, Tolpadi A, Elliott MN, Teno JM, Zaslavsky AM, Anhang Price R. (2018) Effects of Caregiver and Decedent Characteristics on CAHPS Hospice Survey Scores. *J Pain Symptom Manage*. 56(4):519-529.

² Beginning with Q2 2025 decedents, CMS introduced a revised version of the CAHPS Hospice Survey as well as an additional mode of survey administration, Web Mail.

- Primary Diagnosis: ICD-10 codes were added to existing categories to account for ICD-10 codes that were added between 2017 and 2022, including ICD-10 codes for COVID-19.
- Length of Final Episode of Hospice Care: The longest category (81+ days) was split into two categories, 81-180 days and 181+ days.
- Survey Language/Respondent's Home Language:
 - Asian language preference (survey or home language was Chinese, Vietnamese, or Korean) was added
- Response percentile: Response percentile was stratified by email address availability (i.e., calculated separately for sampled caregivers with versus without an available email address) for caregivers surveyed in the web-mail mode and whose family member's hospice had valid email addresses available for 20% or more of their sampled caregivers.