Appendix. Data Sources and Methods

The Medicare Consumer Assessment of Healthcare Providers and Systems Surveys

The Medicare Consumer Assessment of Healthcare Providers and Systems (CAHPS) surveys are mail surveys with telephone follow-ups based on a stratified random sample of Medicare beneficiaries, with states serving as strata for beneficiaries with fee-for-service (FFS) coverage who are not enrolled in a prescription drug plan and with contracts serving as strata for all others. The 2016 survey attempted to contact 802,653 Medicare beneficiaries, and received responses from 291,170, a 37-percent response rate. The 2016 surveys represent all FFS beneficiaries, Medicare Advantage (MA) beneficiaries from 441 MA contracts that either were required to report (minimum of 600 eligible enrollees) or reported voluntarily (450–599 enrollees), and Prescription Drug Plan (PDP) beneficiaries from 60 PDP contracts with at least 1,500 eligible enrollees. The data presented in this report pertain only to MA beneficiaries.

The Healthcare Effectiveness Data and Information Set

The Healthcare Effectiveness Data and Information Set (HEDIS) consists of 81 clinical care measures across five domains (National Committee for Quality Assurance [NCQA], 2016). These domains are effectiveness of care, access/availability of care, experience of care, utilization and relative resource use, and health plan descriptive information. HEDIS measures are developed, tested, and validated under the direction of the NCQA. Whereas CAHPS data are collected only through surveys, HEDIS data are gathered both through surveys and through medical charts and insurance claims for hospitalizations, medical office visits, and procedures (Agency for Healthcare Research and Quality, 2015). In selecting the HEDIS measures to include in this report, we excluded measures that underwent a recent change in specification, were similar to reported measures preferred by Centers for Medicare and Medicaid Services (CMS), or were designated as unsuitable for this application by CMS experts.

Information on Race/Ethnicity

The 2016 CAHPS survey asked beneficiaries, “Are you of Hispanic or Latino origin or descent?” The response options were the following: “Yes, Hispanic or Latino” and “No, not Hispanic or Latino.” The survey then asked, “What is your race? Please mark one or more,” with response options of “White,” “Black or African American,” “Asian,” “Native Hawaiian or other Pacific Islander,” and “American Indian or Alaska Native.” Following a U.S. Census approach, answers to these two questions were used to classify respondents into one of seven mutually exclusive categories: Hispanic, multiracial, American Indian/Alaska Native (AI/AN), Asian/Pacific Islander (API), Black, White, or unknown.

- Respondents who endorsed Hispanic ethnicity were classified as Hispanic regardless of races endorsed.
- Non-Hispanic respondents who endorsed two or more races were classified as multiracial, with a single exception: Those who selected both “Asian” and “Native Hawaiian or other Pacific Islander” but no other race were classified as API.
- Non-Hispanic respondents who selected exactly one race were classified as AI/AN, API, Black, or White, according to their responses.

- Respondents without data regarding race/ethnicity were classified as unknown.
- We do not include estimates for the multiracial and unknown subgroups in this report.
- We also do not include estimates for the AI/AN subgroup, because there were too few AI/AN respondents to permit making accurate comparisons between this subgroup and whites when looking at women and men separately.

HEDIS data, unlike CAHPS data, do not contain the patient's self-reported race/ethnicity. Therefore, we imputed race/ethnicity for the HEDIS data using a methodology that combines information from administrative data, surname, and residential location (Martino et al., 2013). In 2016, there were 506 MA contracts that supplied the 13,395,973 HEDIS-measure records used.

Information on Gender

Information on the gender of MA beneficiaries is gathered from administrative records.

Analytic Approach

The CAHPS measures presented in this report are composite measures that summarize, through averaging, the answers to two or more related CAHPS survey questions, or items. The annual flu vaccine measure is included in the CAHPS survey and is thus grouped with other CAHPS measures in this report. It is, however, considered to be a HEDIS measure. This is a single-item measure rather than a composite.

CAHPS estimates for different racial/ethnic groups are from case-mix adjusted linear regression models that contain health contract intercepts, racial/ethnic indicators, and the following case-mix adjustors: age, education, self-rated health and mental health, dual eligibility/low-income subsidy, and proxy status. No adjustment was made for survey language. Race/ethnicity was coded as Hispanic, Black, API, AI/AN, multiracial, and unknown, with White as the (omitted) reference group. CAHPS estimates for men and women are from case-mix adjusted linear regression models that contain health contract intercepts, an indicator for female gender (with male as the reference group), and the same set of case-mix adjustors used in the racial/ethnic group models. CAHPS estimates for men and women of different racial/ethnic backgrounds are from case-mix adjusted linear regression models, stratified by gender, that contain health contract intercepts, racial/ethnic indicators, and the case-mix adjustors.

Predicted probabilities of race/ethnicity were used as weights to develop HEDIS-measure estimates for each racial/ethnic group (Elliott et al., 2009). None of the HEDIS measures reported (including the annual flu vaccine measure) is case-mix adjusted.

Statistical significance tests were used to compare the model-estimated scores for each racial/ethnic minority group with the score for Whites and to compare the model-estimated scores for women and men. A difference in scores is denoted as statistically significant if there is less than a 5-percent chance that the difference could have resulted due to sampling error alone. Differences that are statistically significant and larger than 3 points on a 0–100 scale (CAHPS) or 3 percentage points (HEDIS) are further denoted as practically significant. That is, in the charts that present national data on racial/ethnic and gender differences in patient experience (CAHPS) and clinical care (HEDIS), differences that are not

statistically significant or are statistically significant but less than 3 points in magnitude are distinguished (through the use of symbols and labeling) from differences that are both statistically significant and 3 points in magnitude or larger. The 3-point criterion was selected because a difference of this size is considered to be of moderate magnitude (Paddison et al., 2013).

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