

DATA AND METHODS

This Technical Appendix provides information about the production of the estimates and margins of error (MOEs) presented in the 2023 Medicare Current Beneficiary Survey (MCBS) Socio-demographic and Health Characteristics of Medicare Beneficiaries Living in the Community Public Use File (PUF).

These estimates are based on data from the 2023 MCBS Survey File - Early Release Limited Data Set (LDS).¹ The MCBS is a nationally representative, longitudinal survey of Medicare beneficiaries sponsored by the Centers for Medicare & Medicaid Services (CMS) and directed by the Office of Enterprise Data and Analytics (OEDA). The MCBS is the most comprehensive and complete survey available on the Medicare population and is essential in capturing data not otherwise collected through operations and administration of the Medicare program.

MCBS LDS are available to researchers with a data use agreement. Information on ordering MCBS files from CMS can be obtained through the CMS LDS website at <https://www.cms.gov/data-research/files-for-order/data-disclosures-and-data-use-agreements-duas/limited-data-set-lds>. MCBS Microdata PUFs are available to the public as free downloads and can be found through the CMS PUF website at <https://www.cms.gov/data-research/statistics-trends-and-reports/mcbs-public-use-file>. The 2023 MCBS Socio-demographic and Health Characteristics PUF and other PUFs based on MCBS microdata are available here: <https://www.cms.gov/data-research/research/medicare-current-beneficiary-survey/data-tables>.

For details about the MCBS sample design, survey operations, and data files, please see the most recent *MCBS Methodology Report*, *Data User's Guides*, and *Data Year Release Notes* available on the CMS MCBS website at <https://www.cms.gov/data-research/research/medicare-current-beneficiary-survey>. For definitions of common key terms used for the MCBS, please see the *Glossary* available at the same link.

The universe for the 2023 MCBS Socio-demographic and Health Characteristics PUF includes Medicare beneficiaries who were ever enrolled in Medicare during 2023 and completed a Community interview in Fall 2023. Beneficiaries who received a Community interview answered questions themselves or by proxy.

Some PUF measures are constructed from survey questions that involve questionnaire skip logic. For these items, if the respondent provided a "No" response and subsequently skipped the follow-up question, the response was still included in the denominator and the follow-up

¹ For the 2015 through 2022 data years, CMS released two MCBS LDS files annually, the Survey File and the Cost Supplement File. Beginning with the 2023 data year, CMS releases a third file, the Survey File - Early Release LDS. The Survey File LDS and Cost Supplement File LDS continue to be released annually. The Survey File - Early Release is a subset of the Survey File LDS segments released to improve the timeliness of MCBS data. Estimates from the 2023 Survey File - Early Release may differ slightly from the 2023 Survey File since the Survey File - Early Release does not include finalized enrollment data.

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question that was skipped was treated as a "No" response for measure calculation. "Don't know" and "Refused" responses were treated as missing values and excluded from both the numerator and denominator in measure calculation.

Many items in the MCBS ask respondents whether they have ever had certain conditions or preventive care services. For items that ask about conditions/services that cannot change or reoccur, such as Alzheimer's or shingles vaccination, once an affirmative response is given, respondents are not asked again. However, if a negative response is given, respondents are asked annually thereafter. For conditions/services that can change or reoccur, such as high blood pressure or annual health screenings, respondents are asked annually. For conditions/services that cannot change or reoccur, data on the beneficiary from the current survey year and all previous years are used to determine whether the beneficiary has ever had the condition/service.

The Survey File - Early Release ever enrolled weights were used to produce estimates that represent the population that was ever enrolled in Medicare and still alive, entitled, and living in the community at the time of their Fall 2023 interview. Balanced repeated replication survey weights were used to account for the complex sample design.

Estimate suppression is used to protect the confidentiality of Medicare beneficiaries by avoiding the release of information that can be used to identify individual beneficiaries. Estimates with a denominator of less than 50 sample persons or with a numerator of zero sample persons are suppressed. In addition, some estimates are suppressed because they do not meet minimum criteria for reliability. For the proportions in these tables, the Clopper-Pearson method was used to compute confidence intervals for each estimate. Estimates with a confidence interval whose absolute width is at least 0.30, with a confidence interval whose absolute width is no greater than 0.05, or with a relative confidence interval width of more than 130 percent of the estimate are suppressed.²

The MCBS is authorized by section 1875 (42 USC 139511) of the Social Security Act and is conducted by NORC at the University of Chicago for the U.S. Department of Health and Human Services. The OMB Number for this survey is 0938-0568.

Additional technical questions concerning the 2023 MCBS Socio-demographic and Health Characteristics PUF may be directed to: MCBS@cms.hhs.gov

GLOSSARY

This Glossary provides an explanation of key terms and defines the measures for which estimates are presented in the 2023 MCBS Socio-demographic and Health Characteristics PUF.

² Parker, Jennifer D., Makram Talih, Donald J., Malec, et al. "National Center for Health Statistics Data Presentation Standards for Proportions." National Center for Health Statistics. *Vital Health Stat* 2, no. 175 (2017). Available from: https://www.cdc.gov/nchs/data/series/sr_02/sr02_175.pdf.

Area deprivation index (ADI): ADI is an indicator of the socioeconomic disadvantage of geographic areas. National rankings are based on the Census block group for the beneficiary's primary residence address. ADI values in the first percentile are the least disadvantaged, and those with values in the hundredth are the most disadvantaged.³

Arthritis: Respondents were asked whether a doctor or other health professional ever told them that they had rheumatoid arthritis, osteoarthritis, or any other form of arthritis. The arthritis measure counts the presence of at least one of these conditions. Beneficiaries who have more than one condition are only counted once for the purposes of calculating the proportion of beneficiaries with arthritis.

Chronic conditions: Chronic conditions comprise a group of 15 health conditions measures: heart disease, cancer (other than skin cancer), Alzheimer's disease, dementia other than Alzheimer's disease, depression, mental condition, hypertension, diabetes, arthritis, osteoporosis/broken hip, pulmonary disease, stroke, high cholesterol, Parkinson's disease, and chronic kidney disease. It is possible for a beneficiary to have "ever" been diagnosed with both Alzheimer's disease and dementia (other than Alzheimer's disease) as previous survey responses are carried forward into subsequent data years. For the purposes of the number of chronic conditions measure, Alzheimer's disease, and dementia (other than Alzheimer's disease) are counted as one chronic condition for beneficiaries diagnosed with both conditions. As the definition of mental condition encompasses depression, for the purposes of the number of chronic conditions measure, depression and mental condition are counted as one chronic condition for beneficiaries diagnosed with both conditions.

Disability status: Respondents were asked whether they have serious difficulty hearing; seeing; concentrating, remembering, or making decisions; walking or climbing stairs; dressing or bathing; or with errands. Beneficiaries who had no serious difficulties with these activities were included in the category "No disability." Beneficiaries who had a serious difficulty in one area were categorized as "One disability." Beneficiaries who had a serious difficulty in more than one area were categorized as "Two or more disabilities."

Dual eligibility status: Annual Medicare-Medicaid dual eligibility measure was based on the state Medicare Modernization Act (MMA) files. Medicare beneficiaries were considered "dually eligible" and assigned a dual eligibility status if they were enrolled in Medicaid for at least one month. This information was obtained from administrative data sources.

Heart disease: Respondents were asked whether a doctor or other health professional had ever told them that they had myocardial infarction (heart attack), angina pectoris or coronary heart disease, congestive heart failure, or any other heart condition. The heart disease measure counts the presence of at least one of these conditions. Beneficiaries who have more than one

³ "2020 Area Deprivation Index v3.2," University of Wisconsin School of Medicine and Public Health, <https://www.neighborhoodatlas.medicine.wisc.edu/>.

condition are only counted once for the purposes of calculating the proportion of beneficiaries with heart disease.

Housing quality issues: Respondents were asked if any of the following conditions were present in their place of residence: pests such as bugs, ants, or mice; mold; lead paint or pipes; lack of heat; lack of cooling system; oven or stove not working; smoke detectors missing or not working; or water leaks. Beneficiaries who live in residences without any of these conditions were included in the category "No housing quality issues." Beneficiaries who live in residences with one of these conditions were categorized as "One housing quality issue." Beneficiaries who live in residences with two or more of these conditions were categorized as "Two or more housing quality issues."

Language spoken at home: Respondents were asked if the beneficiary speaks a language other than English at home. Responses of "No" were categorized as "English." If "Yes," respondents were then asked what language the beneficiary speaks at home. Responses of "Spanish" were categorized as "Spanish." Beneficiaries who speak a language other than English or Spanish at home were categorized as "Other language."

Living arrangement: Living arrangement reflects the beneficiary's household composition. Responses of "Spouse only" and "Partners only" were collapsed as "Lives with spouse/partner only." Responses of "Spouse & children," "Spouse & grandchildren," "Spouse & children & grandchildren," "Partners & children," "Children only," "Grandchildren only," "Children & grandchildren," "Parents only," and "Parents & siblings" were collapsed as "Lives in a multigenerational household." Responses of "Siblings only," "Other relatives," "Non-relatives only," and "Other" were collapsed as "Other living arrangement."

Long COVID-19: Respondents were asked if they had symptoms lasting three months or longer that they did not have prior to having COVID-19. Responses of "Not applicable, recently diagnosed with COVID-19 (less than three months)" were categorized as "No."

Margin of error (MOE): MOE is a measure of an estimate's variability. The larger the MOE in relation to the size of the estimate, the less reliable the estimate. This number, when added to and subtracted from the estimate, forms the 90 percent confidence interval. MOEs are based on standard errors calculated using replicate weights.

Metropolitan/micropolitan area resident: This classification is based on Core Based Statistical Area (CBSA) designations.⁴ Beneficiaries who live in a micropolitan statistical area or outside the boundaries of a CBSA designation were categorized as "Non-metropolitan area residents." This information was obtained from administrative data sources.

Oral cancer exam: Respondents were first asked whether they have ever received an exam for oral cancer (during which the doctor or dentist pulled on their tongue and felt under the

⁴ <https://www.census.gov/programs-surveys/metro-micro/about/glossary.html>

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tongue and inside the cheeks). Responses of "Yes" were categorized as "Ever had an oral cancer exam." If "Yes," respondents were then asked when their most recent oral/mouth cancer exam took place. Responses of "Within the past year" were categorized as "Had oral/mouth cancer exam in the past year." Responses of "Between 1 and 3 years" and "Over 3 years ago" were categorized as "No." Respondents who reported "No" to ever receiving an exam were also categorized as "No."

Sexual orientation: Respondents were asked to self-report their sexual orientation. This question was only asked of beneficiaries (i.e., not proxy respondents). Responses of "Lesbian or gay" and "Bisexual" were collapsed as "Lesbian, gay, or bisexual."

Trouble eating solid foods: Respondents were asked how much trouble they have eating solid foods because of problems with their mouth or teeth. Response options include "No trouble," "A little trouble," and "A lot of trouble." "A little trouble" and "A lot of trouble" were collapsed into "Has trouble eating solid foods due to teeth."

Wellness visit: Respondents were asked whether they had a "Welcome to Medicare" or an "Annual Wellness" visit within the past year. Within the first 12 months of a beneficiary's Medicare enrollment, Medicare offers a one-time "Welcome to Medicare" visit with their primary care provider to assess their current health. After a beneficiary has been enrolled in Medicare for 12 months, Medicare offers yearly "Annual Wellness" visits with their primary care provider to update their personalized prevention plan.

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