

DATA AND METHODS

This Technical Appendix provides information about the production of the preliminary estimates and margins of error (MOEs) presented in the 2022 Medicare Current Beneficiary Survey (MCBS) Preliminary Estimates: Internet Access and Use Among Medicare Beneficiaries.

These preliminary estimates are based on data from the 2022 MCBS, 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 Limited Data Sets (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/Research-Statistics-Data-and-Systems/Files-for-Order/Data-Disclosures-Data-Agreements/DUA - NewLDS](https://www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/Data-Disclosures-Data-Agreements/DUA-NewLDS). MCBS Microdata Public Use Files (PUF) are also available to the public as free downloads and can be found through the CMS PUF website at <https://www.cms.gov/Research-Statistics-Data-and-Systems/Downloadable-Public-Use-Files/MCBS-Public-Use-File/index>. The Internet Access and Use and other PUFs based on MCBS microdata are available here: <https://www.cms.gov/research-statistics-data-and-systems/research/mcbs/data-tables>.

For details about the MCBS sample design, survey operations, and data files, please see the most recent *MCBS Methodology Report* and *Data User's Guides* available on the CMS MCBS website at <https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/MCBS/index>.

The universe for these preliminary estimates includes Medicare beneficiaries who were ever enrolled in Medicare during 2022 and were still alive, entitled, and enrolled at the time of their Winter 2023 Community interview. All outcome measures are based on preliminary data collected via the Beneficiary Knowledge and Information Needs Questionnaire (KNQ) in Winter 2023. These preliminary estimates are produced prior to final data editing and final weighting to provide early access to the most recent information from the MCBS. The preliminary data collected in Winter 2023 will undergo final processing and be released with the forthcoming 2022 Survey File, given that the reference period is 2022. Beneficiaries who received a Community interview answered questions themselves or by proxy.

Some measures are constructed from survey questions that involve questionnaire skip logic. For these items, unless otherwise noted, 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 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.

2022 Medicare Current Beneficiary Survey (MCBS) Preliminary Estimates: Internet Access and Use Among Medicare Beneficiaries Technical Appendix

The preliminary KNQ Survey File ever-enrolled weights were used to produce estimates that represent the population that was ever enrolled in Medicare in 2022 and still alive, entitled, and living in the community in Winter 2023. 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.¹ MOEs are presented for each estimate. Please see the Glossary for further details.

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 these preliminary estimates may be directed to: MCBS@cms.hhs.gov.

GLOSSARY

This Glossary provides an explanation of key terms and defines the measures for which preliminary estimates are presented in this release. All measures are based on preliminary administrative and survey data.

Age: Age is obtained from administrative data sources.

Beneficiary: Beneficiary refers to a person receiving Medicare services who may or may not be participating in the MCBS. Beneficiary may also refer to an individual selected from the MCBS sample about whom the MCBS collects information.²

Chronic conditions: Chronic conditions comprises a group of 14 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, and Parkinson's 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

¹ 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.

² <https://www.cms.gov/Medicare/Medicare-General-Information/MedicareGenInfo/index.html>

2022 Medicare Current Beneficiary Survey (MCBS) Preliminary Estimates: Internet Access and Use Among Medicare Beneficiaries Technical Appendix

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.

Community interview: Survey administered for beneficiaries living in the community (i.e., not in a long-term care facility such as a nursing home) during the reference period covered by the MCBS interview. An interview may be conducted with the beneficiary or a proxy.

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" and those 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 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.

Ever enrolled: A Medicare beneficiary who was enrolled at any time during the calendar year including people who dis-enrolled or died prior to their fall interview. Excluded from this population are residents of foreign countries and of U.S. possessions and territories.

Fee-for-Service (FFS): FFS Medicare encompasses beneficiaries eligible for Part A and/or Part B Medicare benefits at any time during the data collection year, and who were not enrolled in a Medicare Advantage plan at any time during the year. However, beneficiaries may have had Medicaid coverage or other public insurance coverage, such as a state-sponsored prescription drug plan, or may have been eligible for Department of Veterans Affairs health care benefits. Beneficiaries enrolled in FFS coverage may also have supplemental private insurance coverage. Coverage status is indicated for records for which administrative data are available.

Frequency of internet use to get information: Respondents who reported that they use the internet to get information (either themselves or through someone else, like a friend or relative) were asked how frequently they use the internet for information (daily, weekly, monthly, or a few times a year or less).

Income: Income represents the best source or estimate of income during the year of interest. Data gathered in the fall interview represents the most detailed data and are used when available. For individuals who did not complete the fall interview (that is, Continuing Panel people unavailable for their fall interview), the most recent information available is used.

2022 Medicare Current Beneficiary Survey (MCBS) Preliminary Estimates: Internet Access and Use Among Medicare Beneficiaries Technical Appendix

Information on income is self-reported by the respondent for the calendar year. Respondents were asked to report the total income the beneficiary and their spouse (if applicable) received from all sources during the year, including Social Security, Railroad Retirement, Supplemental Security Income (SSI), the Veteran's Administration, pensions, retirement accounts, interest, banking accounts, businesses, real estate, and jobs, before any taxes or deductions. Income represents the best source or estimate of income received during the year based on the most recent information reported. Respondents were asked to report either a one-month estimate ("Less than \$2,080/month" or "\$2,080 or more/month") or an annual estimate ("Less than \$25,000/year" or "\$25,000 or more/year"). One-month estimates were recategorized as annual estimates.

In the final Survey File LDS, income is imputed when income data are missing. However, because these estimates are considered preliminary, missing values, including "Don't know" and "Refused" responses, are left as missing and excluded from measure calculations.

Language spoken at home: Respondents were asked if they speak a language other than English at home.

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.

Medicare Advantage (MA): Medicare Advantage Plans, sometimes called "Part C" or "MA Plans," are offered by private companies under contracts with Medicare. In addition, other managed care plans are offered by private companies under contracts with Medicare under different parts of the Medicare statute. These Medicare managed care plans generally cover Medicare Part A and/or Part B benefits and are paid on either a risk-based capitated basis (MA plans) or on a reasonable cost basis (cost plans and healthcare prepayment plans). Beneficiaries were coded as having Medicare Advantage coverage if they had coverage for one or more months out of the calendar year. This information is obtained from administrative data sources.

Metropolitan/micropolitan area resident: Metropolitan/micropolitan area residence was obtained from administrative data sources and verified in the survey. This classification is based on Core Based Statistical Area (CBSA) designations.³

Proxy: Beneficiaries who were too ill, or who could not complete the interview for other reasons, were asked to designate a proxy, someone very knowledgeable about the beneficiary's health and living habits. In most cases, the proxy was a close relative such as the spouse or a

³ [https://www.federalreserve.gov/apps/mdrm/data-dictionary/search/item?keyword=9153%20&show_short_title=False&show_conf=False&rep_status=All&rep_state=Opened&rep_period=Before&date_start=99991231&date_end=99991231#:~:text=The%20term%20%22Core%20Based%20Statistical,but%20less%20than%2050%2C000\)%20population](https://www.federalreserve.gov/apps/mdrm/data-dictionary/search/item?keyword=9153%20&show_short_title=False&show_conf=False&rep_status=All&rep_state=Opened&rep_period=Before&date_start=99991231&date_end=99991231#:~:text=The%20term%20%22Core%20Based%20Statistical,but%20less%20than%2050%2C000)%20population)

2022 Medicare Current Beneficiary Survey (MCBS) Preliminary Estimates: Internet Access and Use Among Medicare Beneficiaries Technical Appendix

son or daughter. In a few cases, the proxy was a non-relative like a close friend or caregiver. In addition, a proxy was utilized if a beneficiary had been reported as deceased during the current round's reference period or if a beneficiary who was living in the community in the previous round had since entered into a long-term care facility.

Race/ethnicity: Hispanic origin and race are two separate and distinct categories. Persons of Hispanic origin may be of any race or combination of races. Hispanic origin includes persons of Mexican, Puerto Rican, Cuban, Central and South American, or Spanish origin. For the MCBS, responses to beneficiary race and ethnicity questions are reported by the respondent. More than one race may be reported. For conciseness, the text, tables, and figures in this document use shorter versions of the terms for race and Hispanic or Latino origin specified in the Office of Management and Budget 1997 Standards for Data on Race and Ethnicity. Beneficiaries reported as White and not of Hispanic origin were coded as White non-Hispanic; beneficiaries reported as Black/African-American and not of Hispanic origin were coded as Black non-Hispanic; beneficiaries reported as Hispanic, Latino/Latina, or of Spanish origin, regardless of their race, were coded as Hispanic. The "Other Race/Ethnicity" category includes other single races not of Hispanic origin (including American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander), or Two or More Races.

Reference period: The timeframe to which a questionnaire item refers.

Respondent: Respondent refers to a person who answers questions for the MCBS; for Community interviews, this person can be the beneficiary or a proxy.

Self-reported health status: Respondents were asked to rate their general health compared to other people of the same age. Beneficiaries answered health status questions themselves, unless they were unable to do so.

Sex: Respondents were asked to self-report the beneficiary's sex.

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