2022 Medicare Current Beneficiary Survey (MCBS) Diabetes Prevalence and Self-Management Among Medicare Beneficiaries Public Use File Technical Appendix

DATA AND METHODS

This Technical Appendix provides information about the production of the estimates and margins of error (MOEs) presented in the *2022 Diabetes Prevalence and Self-management Among Medicare Beneficiaries* Public Use file (PUF).

These 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. 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://data.cms.gov/medicare-current-beneficiary-survey-mcbs. This PUF and other PUFs based on MCBS microdata are available here: https://www.cms.gov/research-statistics-data-and-systems/research/mcbs/data-tables/2023-mcbs-early-puf-internet-access-and-use-among-medicare-beneficiaries.

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 this PUF includes Medicare beneficiaries who were ever enrolled in Medicare during 2022 and completed a Community interview in Fall 2022. The remaining estimates pertaining to diabetes-related problems, diabetes care, and diabetes self-management and knowledge are only presented for beneficiaries who have ever been diagnosed with non-gestational diabetes. Beneficiaries who received a Community interview answered questions themselves or by proxy. Estimates presented in this PUF may not be representative of people with Medicare living in facilities.

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.

Many items in the MCBS ask respondents whether they have ever had certain conditions or problems related to a condition. For items that ask about conditions and condition-related problems that cannot change, such as diabetes or ever having had diabetes-related kidney problems, 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 and condition-related problems that cannot change, 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/associated problem.

The Survey File ever-enrolled weights were used to produce estimates that represent the population that was ever enrolled in Medicare and still alive, entitled, and residing in the Community in Fall 2022. 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]

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 estimates 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 this PUF.

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

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[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.

primary residence address. ADI values in the first percentile are the least disadvantaged, and those in the hundredth are the most disadvantaged.[2]

Chronic conditions: Chronic conditions comprises a group of 13 health conditions measures: heart disease, cancer (other than skin cancer), Alzheimer's disease, dementia other than Alzheimer's disease, depression, mental condition, hypertension, diabetes, 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 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.

Diabetes: Respondents were asked whether a doctor or other health professional ever told them that they had any type of diabetes. In this PUF, diabetes encompasses Type I, Type II, borderline diabetes, prediabetes, gestational diabetes, and high blood sugar. Respondents who reported ever having diabetes were asked about the type. Those who did not report ever having diabetes were categorized as "No" in all diabetes type estimates.

Diabetes self-management: Respondents who reported having non-gestational diabetes were asked whether they use different techniques to manage their diabetes, including: taking insulin, taking prescription diabetes pills or oral diabetes medicine, testing their blood for sugar or glucose, checking for sores or irritations on their feet, measuring their blood pressure at home, taking aspirin regularly for their diabetes, and participating in a diabetes self-management course or class or receiving special training on how they can manage their diabetes.

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. Beneficiaries were considered "dually eligible" and

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[2] University of Wisconsin School of Medicine Public Health. 2018 and 2019 Area Deprivation Index v2.0. https://www.neighborhoodatlas.medicine.wisc.edu/.

assigned a dual eligibility status if they were enrolled in Medicaid for at least one month. This information was obtained from administrative data sources.

Income: Information on income is self-reported by the respondent for the calendar year. Respondents are 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.

Income to poverty ratio (IPR): IPR is calculated only for household sizes of one (beneficiary living alone) or two (beneficiary living with a spouse only) as the income and asset information is collected only from the beneficiary and the beneficiary's spouse. Medicare beneficiaries have slightly different poverty level indices used for program eligibility. The IPR uses the Medicare poverty thresholds for calculation.

Knowledge of diabetes self-management: Respondents were asked how much they know about managing their diabetes. Responses of "Just about everything you need to know" and "Most of what you need to know" were categorized as "Good knowledge." Responses of "Some of what you need to know," "A little of what you need to know," and "Almost none of what you need to know" were categorized as "Limited or no knowledge." This question was only asked of beneficiaries (i.e., not proxy respondents).

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 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.

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.

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[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

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