

Vaccination Against COVID-19 Among Medicare Beneficiaries Living in the Community

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Data on vaccination status were collected from winter 2020 through summer 2021 and represent survey responses at the time of the interview.

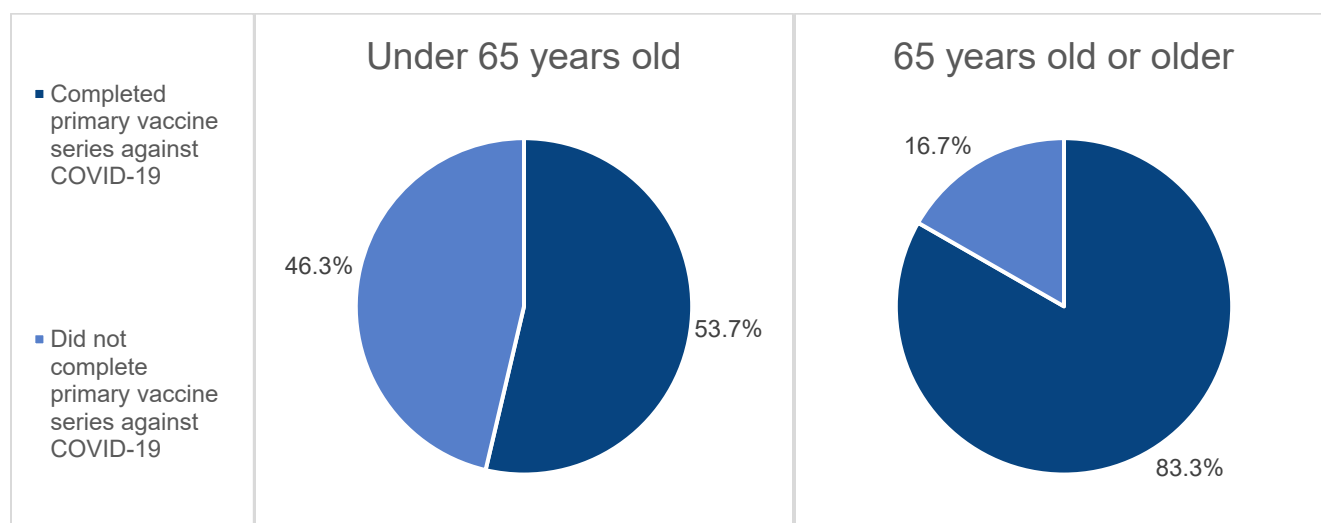
Vaccination against COVID-19 is critical for the Medicare population, as fully-vaccinated people aged 65 and older showed a 94% reduced risk of COVID-19 hospitalization.¹ Certain medical conditions such as cancer or cardiovascular disease can increase the risk of severe COVID-19 and the proportion of people with such underlying conditions increases with age, compounding risk of severe COVID-19 among the Medicare population.²

This data brief examines uptake of the primary COVID-19 vaccination series, defined as two doses of an mRNA vaccine or one dose of a single-dose vaccine, among the Medicare population in the first half-year of the United States vaccination campaign in 2021. The brief uses data from the 2020 Medicare Current Beneficiary Survey (MCBS) Public Use File (PUF).

KEY FINDINGS

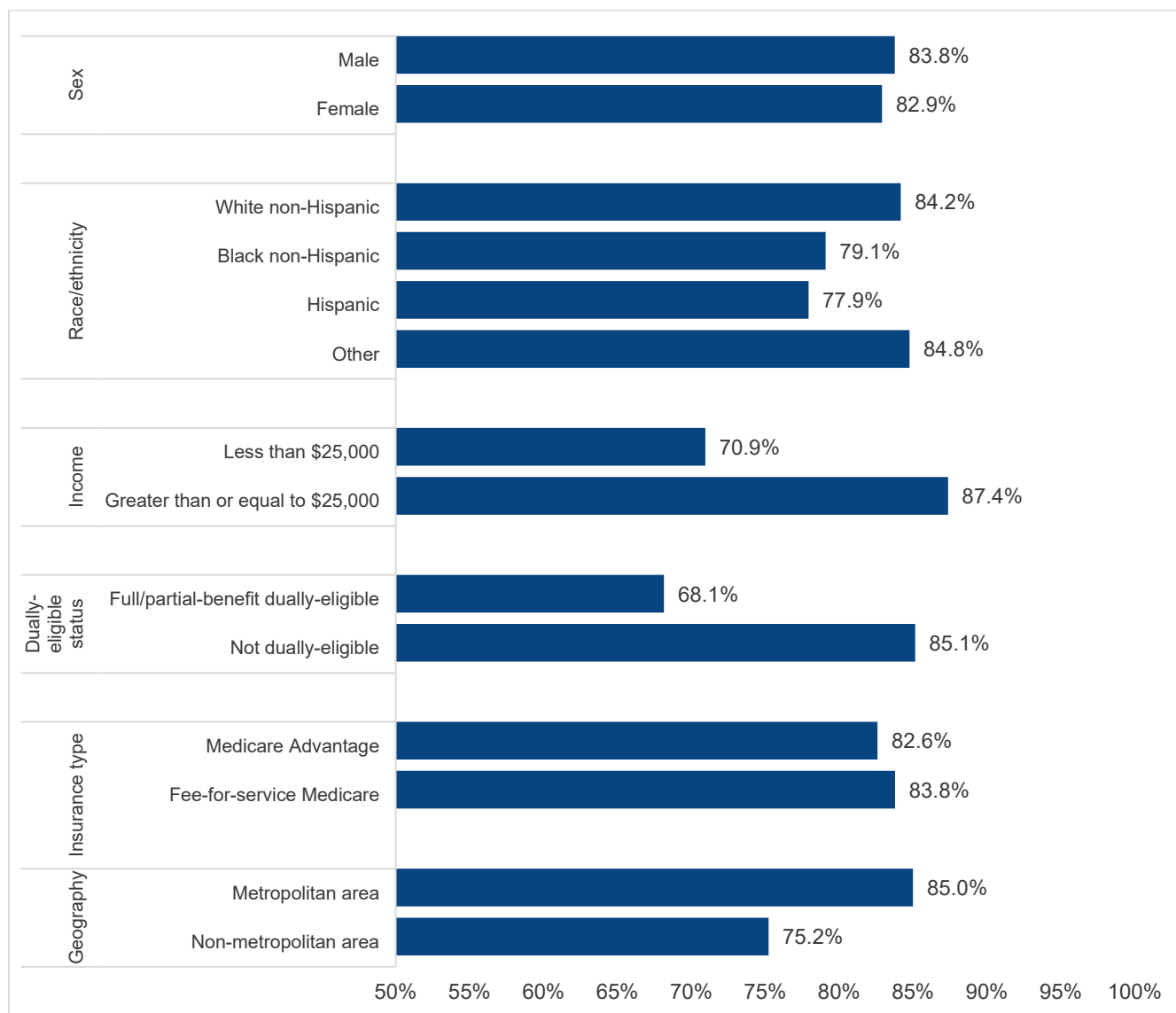
- More than 80 percent of Medicare beneficiaries completed the primary vaccine series against COVID-19 as of summer 2021.
- Vaccination rates were lower among beneficiaries with low income and beneficiaries living in rural areas.
- Beneficiaries with traditional fee-for-service Medicare had similar COVID-19 vaccine uptake as those with Medicare Advantage.

Figure 1: Prevalence of Vaccination Against COVID-19 Among Medicare Beneficiaries Living in the Community, as of Summer 2021



Source: 2020 Medicare Current Beneficiary Survey Public Use File. Estimates weighted to represent the national population of beneficiaries who were alive, enrolled in Medicare, and living in the community at the time of their interviews in winter 2020 and summer 2021 (unweighted N=8,289). Beneficiaries completed the primary vaccine series if they received either two doses of an mRNA vaccine or one dose of a single-dose vaccine.

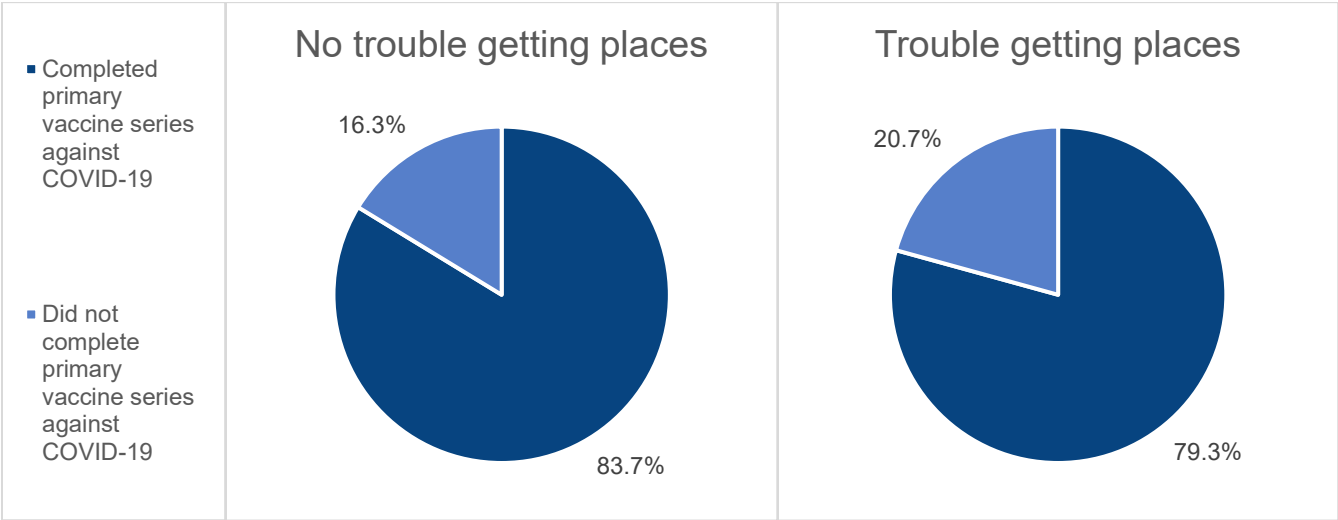
Figure 2: Prevalence of Vaccination Against COVID-19 Among Medicare Beneficiaries Aged 65+ Living in the Community by Demographic Characteristics, as of Summer 2021



Source: 2020 Medicare Current Beneficiary Survey Public Use File. Estimates weighted to represent the national population of beneficiaries aged 65+ who were alive, enrolled in Medicare, and living in the community at the time of their interviews in winter 2020 and summer 2021 (unweighted N=6,896). Beneficiaries completed the primary vaccine series if they received either two doses of an mRNA vaccine or one dose of a single-dose vaccine. For Race/Ethnicity, 'Other' category includes Asian, Pacific Islander, Native Hawaiian, Alaska Native, American Indian and multiracial. Income represents combined income last year (beneficiary and spouse, if married). Beneficiaries classified as dually-eligible if they were eligible for Medicaid at any point during the study period.

- Black non-Hispanic and Hispanic beneficiaries had lower vaccination rates compared to other groups.
- Just 70% of low-income beneficiaries were vaccinated compared to 87% of those with an income greater than \$25,000 per year. Seventy-five percent of beneficiaries living in rural areas were vaccinated, compared to 85% among beneficiaries living in urban areas.
- Beneficiaries with fee-for-service Medicare had similar vaccine uptake compared to those with Medicare Advantage.

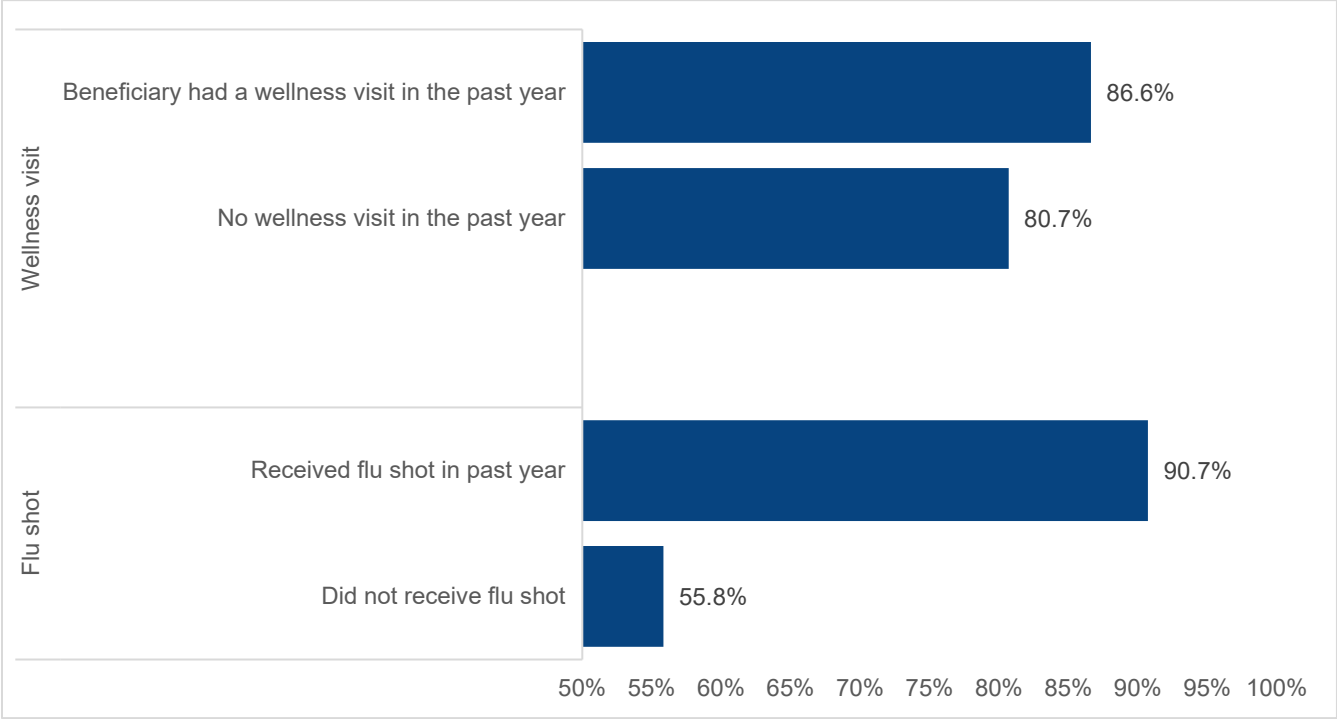
Figure 3: Prevalence of Vaccination Against COVID-19 Among Medicare Beneficiaries Aged 65+ Living in the Community by Access to Transportation, as of Summer 2021



Source: 2020 Medicare Current Beneficiary Survey Public Use File. Estimates weighted to represent the national population of beneficiaries aged 65+ who were alive, enrolled in Medicare, and living in the community at the time of their interviews in winter 2020 and summer 2021 (unweighted N=6,896). Beneficiaries completed the primary vaccine series if they received either two doses of an mRNA vaccine or one dose of a single-dose vaccine.

- Beneficiaries who experienced trouble getting places were vaccinated against COVID-19 at a lower rate compared to those who had no trouble.

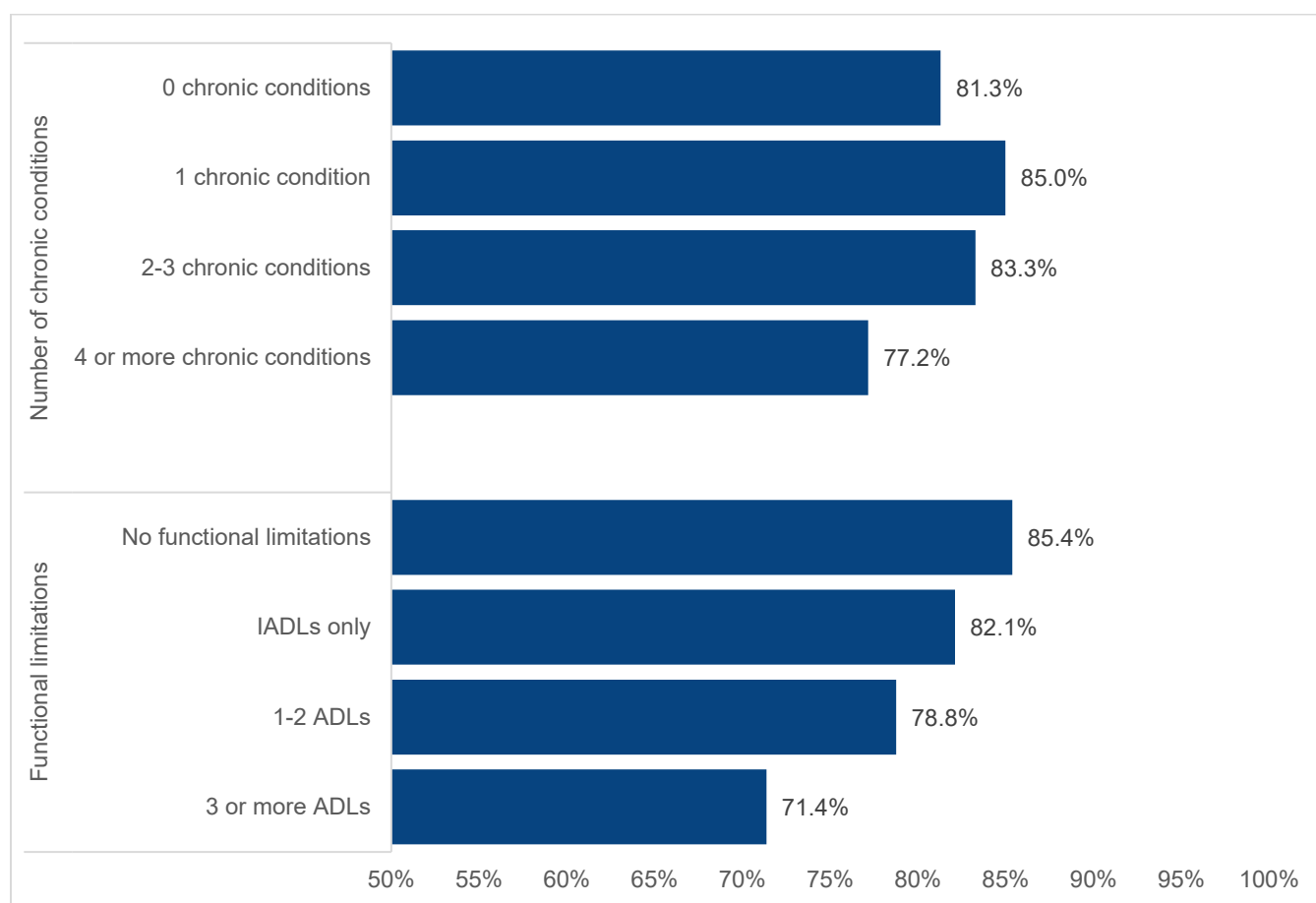
Figure 4: Prevalence of Vaccination Against COVID-19 Among Medicare Beneficiaries Aged 65+ Living in the Community by Preventive Care Behavior, as of Summer 2021



Source: 2020 Medicare Current Beneficiary Survey Public Use File. Estimates weighted to represent the national population of beneficiaries aged 65+ who were alive, enrolled in Medicare, and living in the community at the time of their interviews in winter 2020 and summer 2021 (unweighted N=6,896). Beneficiaries completed the primary vaccine series if they received either two doses of an mRNA vaccine or one dose of a single-dose vaccine. Wellness visits are yearly visits to update preventive health plans, offered for free with Medicare; these are distinct from “welcome to Medicare” visits that are offered upon initial enrollment. Flu shot is defined as beneficiary receiving flu shot in fall 2020 or winter 2020-2021.

- Beneficiaries who received the flu vaccine during the previous flu season were overwhelmingly also vaccinated against COVID-19, with 90% of those beneficiaries completing the primary COVID-19 vaccine series as of summer 2021. Just 56% of beneficiaries who did not receive a flu shot were vaccinated against COVID-19.

Figure 5: Prevalence of Vaccination Against COVID-19 Among Medicare Beneficiaries Aged 65+ Living in the Community by Health Status, as of Summer 2021



Source: 2020 Medicare Current Beneficiary Survey Public Use File. Estimates weighted to represent the national population of beneficiaries aged 65+ who were alive, enrolled in Medicare, and living in the community at the time of their interviews in winter 2020 and summer 2021 (unweighted N=6,896). Beneficiaries completed the primary vaccine series if they received either two doses of an mRNA vaccine or one dose of a single-dose vaccine. Chronic conditions include cardiovascular conditions, cancer, stroke, neurological conditions, psychiatric illness and more. ADL: Activities of daily living; IADL: Instrumental activities of daily living.

- Beneficiaries with little or no limitations in activities of daily living were vaccinated at a higher rate compared to those who have difficulties with three or more activities of daily living (ADLs).

Discussion

Vaccination against COVID-19 is a critical tool to reduce hospitalizations and death caused by the disease, especially among the older Medicare population.

Beneficiaries under the age of 65 who became eligible for Medicare because of a disability are much less likely to be vaccinated against COVID-19 compared to older adults. This population faces disability-related barriers to care, which may affect vaccine uptake.³ Younger adults are also less likely to be vaccinated against COVID-19, further pushing down vaccination rates among the under-65 Medicare population.

This analysis showed that non-Hispanic Black and Hispanic Medicare beneficiaries were vaccinated at a lower rate compared to other groups, emblematic of continued healthcare cost and access issues among racial and ethnic minorities.⁴ There were also large gaps in vaccination status by income level and geography, with rural and low-income beneficiaries having lower vaccination rates compared to urban and higher-income beneficiaries.

Beneficiaries receiving a flu vaccine were very likely to also receive a COVID-19 vaccination; This may reflect coadministration⁵ or individual beneficiaries' willingness to undertake preventive health behaviors. On the other hand, beneficiaries with IADLs and ADLs had lower rates of vaccination, possibly indicating barriers to preventive care for Medicare beneficiaries living with disabilities.

Definitions

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.

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.

Sex: A beneficiary's sex is self-reported by the respondent.

Income: Includes income from all sources, such as pension, Social Security, and retirement benefits, for the beneficiary and spouse.

Number of chronic conditions: Self-reported MCBS data, current as of the beneficiaries' fall 2020 MCBS interview, indicated whether the beneficiary had ever been diagnosed with any of a list of chronic conditions. The listed chronic conditions used for this data highlight included the following, along with their respective variables in the LDS file:

- Heart conditions (including myocardial infarction, angina pectoris or coronary heart disease, congestive heart failure, and other heart conditions)
- Alzheimer's or non-Alzheimer's dementia
- Rheumatoid arthritis
- Diabetes
- Hypertension
- Depression or other mental illness
- Osteoporosis
- Broken hip
- Cancer
- Stroke
- Lung disease (including emphysema, asthma, and chronic obstructive pulmonary disease).

One category could lead to multiple specific types of chronic conditions being counted. For example, a beneficiary with both a history of myocardial infarction and congestive heart failure would be counted as having two chronic conditions.

Number of limitations with daily living: Limitations included those involving activities of daily living (ADLs) and instrumental activities of daily living (IADLs). A limitation occurred if a beneficiary reported during his or her fall 2020 MCBS interview that he or she needed help or had stopped doing an activity due to health reasons. Listed ADLs included bathing, getting in and out of bed or chairs, dressing, eating, using the toilet, and walking. IADLs included using the telephone, paying bills, heavy housework, light housework, preparing meals, and shopping.

Primary vaccine series against COVID-19: Beneficiaries completed the primary vaccine series if they received either two doses of an mRNA vaccine or one dose of a single-dose vaccine. Beneficiaries were asked about vaccination in interviews during winter 2020 or summer 2021 and those data were combined to create national estimates of vaccination against COVID-19.

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.

Data sources and methods

The MCBS is longitudinal survey of Medicare beneficiaries that is 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. The MCBS sample includes participants from the 48 continental United States.

The MCBS employs a rotating panel design, in which beneficiaries remain in the sample for a maximum of four years. Each year, beneficiaries who have remained in the sample for up to four years exit the sample, and a new sample of beneficiaries is selected to replace those exiting the sample (roughly one-third of the sample is replaced each year). This data highlight used cross-sectional survey weights to account for overall selection probability of each sample person and included adjustments for the stratified sampling design, survey nonresponse, and coverage error. Balanced repeated replication (BRR) weights were used for variance estimation.

This analysis uses the Public Use File (PUF), an easy-to-use data file with select data items that allow researchers to conduct analysis on health disparities, access to and satisfaction with healthcare, and medical conditions for community dwelling Medicare beneficiaries. The MCBS PUF is not intended to replace the more detailed limited data set (LDS) files, rather it provides a publicly available alternative for those researchers interested in the health, health care use, access to and satisfaction with Medicare of beneficiaries, while providing the very highest degree of protection to the Medicare beneficiaries' protected health information, meeting all necessary de-identification of the data and mitigating disclosure risk. The MCBS PUFs can be accessed free and without a data use agreement [here](#):

<https://www.cms.gov/research-statistics-data-and-systems/downloadable-public-use-files/mcbs-public-use-file>

Researchers who are interested in a wider set of variables on the MCBS sample may obtain the MCBS LDS files, which are available from the CMS for a fee and require a data use agreement. The MCBS LDS consists of the MCBS Survey File and the MCBS Cost Supplement. The MCBS Survey File includes survey-based and administrative data on beneficiary socio-demographic characteristics, health status and functioning, access to care, satisfaction, and sources of care. The MCBS Cost Supplement includes survey-based and administrative data on beneficiary health care costs, utilization, sources of payment. MCBS LDS files are available to researchers with a data use agreement, and information on ordering MCBS files can be obtained from CMS' LDS website at:

<https://www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/Data-Disclosures-Data-Agreements/DUA - NewLDS.html>

Study population

The analytic dataset included 8,289 Medicare beneficiaries who represented the national population of community-based (i.e. not living in a facility) Medicare beneficiaries. Weighted data allowed the results to represent a national population of 57,027,924 community-based Medicare beneficiaries. Probability of selection into the sample was stratified by age, sex, race, and place of residence. For more information on sampling procedures, please see the 2020 MCBS Methodology Report.⁶

About the authors

This report was written by William Doss and Nicholas Schluterman at the Centers for Medicare & Medicaid Services (CMS) Office of Enterprise Data and Analytics (OEDA).

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