MCBS Advanced Tutorial on the COVID-19 Supplement Data

MCBS
Medicare Current Beneficiary Survey

CMS
CENTERS FOR MEDICARE & MEDICAID SERVICES
OFFICE OF ENTERPRISE DATA & ANALYTICS

Version Control Log

Date	Version	Revisions
03/02/21	1.0	Initial version released.
07/28/21	2.0	Updated version released to add new content on the COVID-19 Winter 2021 Public Use File and the COVID-19 Summer and Fall 2020 Community Supplement data in the 2019 MCBS Limited Data Set.
08/12/22	3.0	Updated version released to refresh content and add new content based on the release of the COVID-19 Winter 2021 Supplement data in the 2020 Survey File Limited Data Set.

Section 1: Introduction

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Learning Objectives

- After completing this Medicare Current Beneficiary Survey (MCBS) Advanced Tutorial, a data user will be able to answer the following questions:
  - What are the MCBS "coronavirus disease 2019" (COVID-19) Community Supplements and how are they distinct from the main MCBS?
  - How can data users access the MCBS COVID-19 Community Supplement data?
  - What should data users know in order to correctly use the MCBS COVID-19 Community Supplement data for their own analyses?
  - What are the differences between the MCBS COVID-19 Community and Facility Supplements?

Advanced Tutorial Outline

- Section 1: Introduction
- Section 2: Background and Development
- Section 3: COVID-19 Community Supplement Content
- Section 4: Accessing COVID-19 Community Supplement Data and Estimates
- Section 5: Overview of Using COVID-19 Community Supplement Data
- Section 6: Using Data from the COVID-19 Public Use Files (PUFs)
- Section 7: Using Data from the COVID-19 Summer and Fall 2020 and Winter 2021 Limited Data Set (LDS) Segments
- Section 8: Analytic Examples

Introduction to the MCBS

- The MCBS is a continuous, multi-purpose longitudinal survey covering a representative national sample of the Medicare population. Interviews are usually conducted in-person using computer-assisted personal interviewing (CAPI). However, due to the COVID-19 pandemic, data collection switched to phone-only interviews in March 2020 and throughout most of 2021 with a gradual return to some in-person interviewing beginning in November 2021. MCBS data collection will continue to include both in-person and phone interviewing in the future.
- The MCBS represents the population of Medicare beneficiaries aged 65 and over and beneficiaries aged 64 and under with certain disabling conditions living in the United States (U.S.).
- The MCBS is sponsored by the Office of Enterprise Data and Analytics (OEDA) of the Centers for Medicare & Medicaid Services (CMS) and is conducted through a contract with NORC at the University of Chicago (NORC).
- The MCBS is designed to aid CMS in administering, monitoring, and evaluating the Medicare program. The MCBS is the most comprehensive and complete survey available on the Medicare population and is essential in providing important information on beneficiaries that is not otherwise collected through operational or administrative data from the Medicare program.

Introduction to the MCBS (continued)

- The MCBS uses a rotating panel sample design and is designed to be representative of the population of all Medicare beneficiaries for the survey year. Each MCBS panel, an annual statistical sample of all Medicare enrollees, is interviewed up to three times per year over four consecutive years.
  - There are three distinct rounds of data collection each year; winter (January through April); summer (May through August); and fall (September through December).
  - One panel is retired at the conclusion of each winter round, and a new panel is selected to replace it each fall round.
- To obtain an accurate representation of all Medicare beneficiaries, the MCBS sample includes all beneficiaries regardless of residence status. The MCBS follows beneficiaries into and out of long-term care facilities to maintain a comprehensive profile of their health care utilization and expenditures.
  - Unlike beneficiaries living in the community, beneficiaries living in facilities or their proxies do not complete the interview. Instead, an interviewer conducts the interview with appropriate facility staff and abstracts some information from medical records to reduce burden on facility staff.

MCBS Documentation and Resources

- CMS provides a wide array of MCBS documentation that is publically available on the CMS MCBS website. This documentation contains more in-depth descriptions of the topics covered in this tutorial.
  - Tutorials, including the *New User Tutorial* and topical Advanced Tutorials
    - It is recommended that new MCBS data users refer to the *New User Tutorial* before consulting this or other Advanced Tutorials.
  - Additional data documentation including *Data User's Guides, Methodology Reports,* and codebooks
  - Annual *Questionnaires and Questionnaire User Documentation*
  - Annual *Chartbooks* and data tables
  - Annual Bibliographies, which include annotations starting in 2020
  - Annual *Early Looks* and topical infographics

CMS Website:
https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/MCBS/index

Medicare Current Beneficiary Survey (MCBS).
Questionnaires
Data Documentation and Codebooks
Data Tables
Bibliography
Data Briefs and Tutorials

Introduction to the COVID-19 Community Supplement Data

- In response to the emergence of the novel (new) coronavirus in the U.S. in 2020, the MCBS fielded a series of COVID-19 Supplements to quickly collect information on the pandemic's impacts on the Medicare population. CMS released topic-specific Public Use Files (MCBS COVID-19 Summer and Fall 2020 and Winter 2021 PUFs) to make these data publically available to data users. The table below displays more information about the release of Community Supplement data.

COVID-19 Supplements	Date of Survey Administration	Planned LDS File Release	Release Date of LDS File	Planned Public Use File Release	Release Date of Public Use File
COVID-19 Summer 2020 Community Supplement	June- July 2020	2019 Survey File COVIDSUM Segment	June 2021	COVID-19 Summer 2020 PUF	October 2020
COVID-19 Fall 2020 Community Supplement	October- November 2020	2019 Survey File COVIDFAL Segment	June 2021	COVID-19 Fall 2020 PUF	January 2021
COVID-19 Winter 2021 Community Supplement	March- April 2021	2020 Survey File COVIDWIN Segment	June 2022	COVID-19 Winter 2021 PUF	July 2021

- Note that CMS has also released *MCBS COVID-19 Data Snapshots* to accompany the COVID-19 PUF releases. These Data Snapshots use preliminary data from the MCBS COVID-19 Community Supplements to present information on Medicare beneficiaries' experiences with the COVID-19 pandemic via an infographic. The Data Snapshots are accompanied by data tables and a methodology document describing the construction of the analytic variables and weights used to create the preliminary estimates presented in the *MCBS COVID-19 Data Snapshots*.

Introduction to the COVID-19 Community Supplement Data (continued)

- This tutorial is intended to be a starting point for data users who would like to use the MCBS COVID-19 Community Supplement data for their own analyses. It provides an overview of the background and development of the MCBS COVID-19 Community Supplements, information on where data users can find data from the COVID-19 Community Supplements, and guidance on how to appropriately use data from the COVID-19 Community Supplements.
- More detailed descriptions of the topics discussed in this tutorial can be found in the *MCBS Data User's Guides* that accompany the COVID-19 PUF and 2019 Survey File LDS releases, the *MCBS Methodology Report*, and other survey documentation provided online, such as the *Questionnaires and Questionnaire User Documentation*:
  - *2020 Summer Supplemental COVID-19 Questionnaires*
  - *2020 Fall Supplemental COVID-19 Questionnaires*
  - *2021 Winter Supplemental COVID-19 Questionnaires*

What Are the COVID-19 Facility Supplements?

- COVID-19 Supplements were also administered for beneficiaries living in facilities in Fall 2020 and Winter 2021 (due to disclosure concerns, these data will be available in the 2020 and 2021 Survey File LDS releases, respectively); however, this tutorial focuses on data from the COVID-19 Community Supplements only.
- The COVID-19 Facility Supplements have been and will continue to be fielded within the main MCBS Facility instrument since their inception. The supplements included several facility-level measures to assess key ways in which COVID-19 impacted facilities that serve Medicare beneficiaries, as well as beneficiary-level topics similar to the COVID-19 Community Supplements.
- To be eligible for the COVID-19 Facility Supplements, a beneficiary must have been eligible for the Fall 2020 and/or Winter 2021 main MCBS Facility interviews. Facility-level measures were collected for persons alive or deceased, while beneficiary-level measures were collected only for persons alive at the time of interview.

Section 2: Background and Development

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Why Were the COVID-19 Community Supplements Developed?

- On January 31, 2020, the Health and Human Services (HHS) Secretary determined that a Public Health Emergency (PHE) existed for the U.S. to aid the nation's health care community in responding to the novel "severe acute respiratory syndrome coronavirus 2" ("SARS-CoV-2") virus and the disease it causes, COVID-19.
- Older people and people of all ages with severe chronic medical conditions — like heart disease, lung disease, and diabetes, for example — seem to be at higher risk of developing serious COVID-19 illness.
- With the emergence of the COVID-19 pandemic in the U.S., CMS was uniquely positioned to collect timely and vital information on how the pandemic was impacting the Medicare population by utilizing the MCBS.

How Were the COVID-19 Supplement Data Collected in the Community?

Mode	Telephone; standalone survey instrument administered by MCBS field interviewers to MCBS respondents.
Eligibility	A beneficiary must have been enrolled in Medicare in 2020 and still be alive, living in the **community**, and eligible and enrolled in Medicare at the time of their COVID-19 Summer or Fall 2020 or Winter 2021 Supplement interview.
Process	An advance letter was sent to all eligible sample members informing them of the addition of the COVID-19 Community Supplement. Consistent with MCBS protocols, beneficiaries were able to use the help of an assistant or proxy when needed. A Spanish version of the COVID-19 Community Supplement was available, and bilingual interviewers were available to conduct the COVID-19 Community Supplement in Spanish. The average administration time for the COVID-19 Community Supplement was 15 minutes.

Section 3: COVID-19 Community Supplement Content

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What Content Areas Are Included in the COVID-19 Community Supplements?

Content Area	COVID-19 Summer 2020 Supplement	COVID-19 Fall 2020 Supplement	COVID-19 Winter 2021 Supplement
Availability and Use of Telemedicine	X	X	X
Access to Computers and Internet	X	X	X
Forgone Health Care as a Result of the Pandemic	X	X	X
Autoimmune Disease Prevalence	X	X	X
Utilization of COVID-19 Testing	X	X	X
COVID-19 Care (including Symptoms and Suspected Diagnosis)	X	X	X
Preventive Measures	X	X	X
Sources of COVID-19 Information	X	X	X
Knowledge and Perceptions of COVID-19/Public Health Guidance	X	X	X
Ability to Access Basic Needs During the Pandemic	X	X	X
Impact to Financial and Mental Health	X	X	X
COVID-19 Vaccination (Presumptive Vaccine Uptake)		X	X
COVID-19 Vaccination (Vaccine Uptake)			X

Notable Updates to the COVID-19 Community Supplements Content Areas

Content Area Update	COVID-19 Summer 2020 Supplement	COVID-19 Fall 2020 Supplement	COVID-19 Winter 2021 Supplement
Utilization of COVID-19 Testing: Series on Viral Testing		X	X
Utilization of COVID-19 Testing: Series on Antibody Testing		X	X
Utilization of COVID-19 Testing: Time to Receive Test Results		X	X
Utilization of COVID-19 Testing: Out-of-Pocket Spending for Testing		X	X
COVID-19 Care: Incidence of COVID-19 Symptoms †	X		
COVID-19 Care: Lack of Access to COVID-19 Tests †	X		
Questionnaire Reference Period	"Since the beginning of the coronavirus outbreak…"	"Since July 1, 2020…"	"Since November 1, 2020…" *

* Note: The Winter 2021 Supplement asked about both vaccination utilization and presumptive vaccine uptake ***since December 2020***.
† Items were removed for the Fall 2020 and Winter 2021 Supplements to reflect changes in the course of the pandemic such as wider availability of COVID-19 testing.

Section 4: Accessing COVID-19 Community Supplement Data and Estimates

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COVID-19 Public Use Files

- The COVID-19 Summer 2020, Fall 2020, and Winter 2021 PUFs are available free for download.
- The full package available for download includes the following:
  - Data File
  - Codebook
  - Documentation
  - SAS code

MCBS PUF Website:
https://www.cms.gov/Research-Statistics-Data-and-Systems/Downloadable-Public-Use-Files/MCBS-Public-Use-File

Data File Year	Complete PUF Package	Data File	Codebook	Documentation	SAS® code
2021 Medicare Current Beneficiary Survey COVID-19 Winter Supplement PUF	MCBSCOVIDPUF 2021W (ZIP)	COVIDPUF_3_2021W _XPT (ZIP)	COVIDPUF_3_2021w.txt (PLAIN)	2021MCBSCOVIDPUF DUGWinter (PDF)	MCBSCOVID 2021W.txt (PLAIN)
2020 Medicare Current Beneficiary Survey COVID-19 Fall Supplement PUF	MCBSCOVIDPUF 2020F (ZIP)	COVIDPUF_2_2020F _XPT (ZIP)	COVIDPUF_2_2020f.txt (PLAIN)	2020MCBSCOVIDPUF DUGFall (PDF)	MCBSCOVID 2020F.txt (PLAIN)
2020 Medicare Current Beneficiary Survey COVID-19 Summer Supplement PUF	MCBSCOVIDPUF 2020S (ZIP)	COVIDPUF_1_2020S _XPT (ZIP)	COVIDPUF_1_2020s.txt (PLAIN)	2020MCBSCOVIDPUF SummerDUG (PDF)	MCBSCOVID 2020S.txt (PLAIN)

COVID-19 Community Supplement LDS Segments

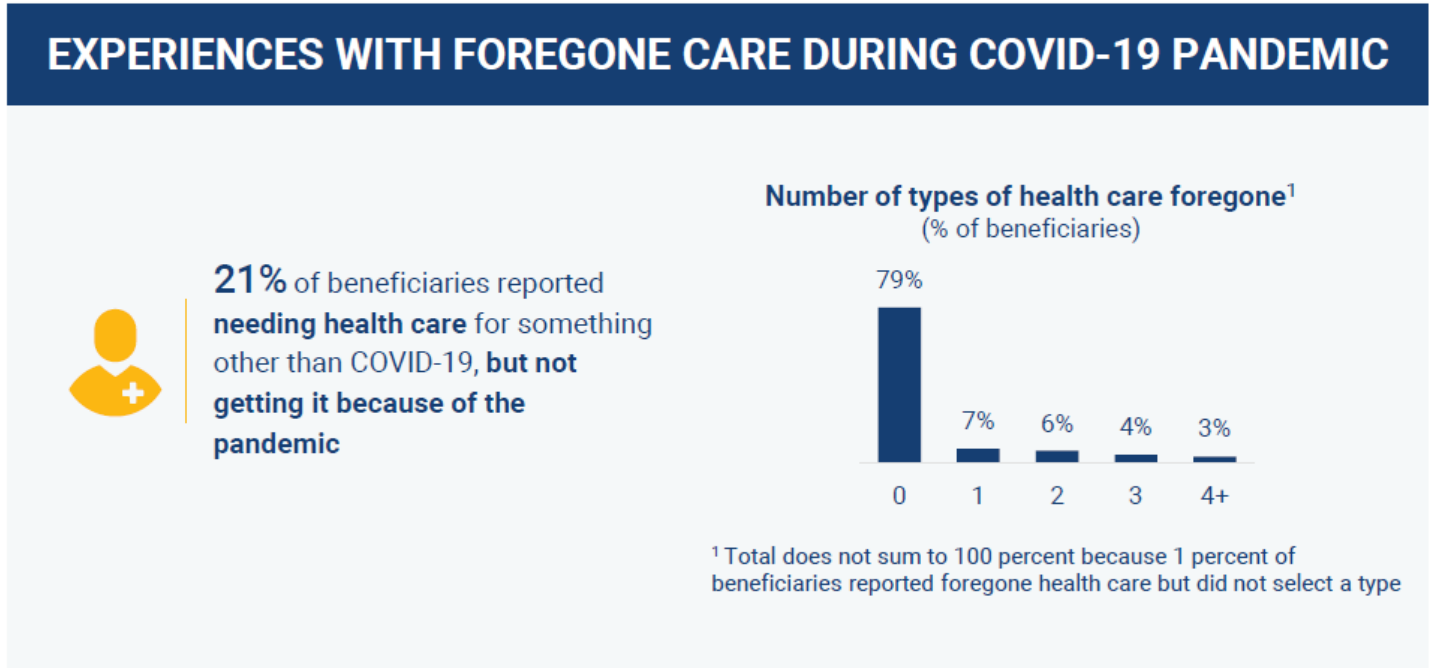
- The COVID-19 Summer and Fall 2020 LDS Segments are included in the 2019 MCBS Survey File LDS. The COVID-19 Winter 2021 LDS Segment is included in the 2020 MCBS Survey File LDS.
  - The MCBS LDS files must be obtained from CMS.
  - Administrative processing fees for obtaining the files are $300 for the Survey File alone and $600 for the Survey File with the Cost Supplement.
  - Each data requestor must submit an LDS Worksheet along with a required DUA.[1]
  - Upon request and formal approval, CMS releases the data on DVD or via the CMS Virtual Research Data Center (VRDC). Each data release contains multiple data sets that are linkable through a key identification variable (BASEID).

1. Requests for the MCBS LDS files must be made through the CMS Data Use Agreement (DUA) tracking system known as the Enterprise Privacy Policy Engine or EPPE. EPPE can be used to initiate a new LDS DUA request or to amend/update an existing LDS DUA. Instructions for accessing and using EPPE to make a request can be found here: https://www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/Data-Disclosures-Data-Agreements/DUA_-_NewLDS.

MCBS COVID-19 Data Snapshots

- CMS has released three MCBS COVID-19 Data Snapshots that present information on Medicare beneficiaries' experiences with the COVID-19 pandemic.
- Each Data Snapshot is accompanied by a methodology document which describes the construction of the analytic variables presented in the infographic. These Data Snapshots were produced using preliminary data from the COVID-19 Community Supplements.

MCBS COVID-19 Data Snapshot Website: https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/MCBS/Data-Briefs



Section 5: Overview of Using COVID-19 Community Supplement Data

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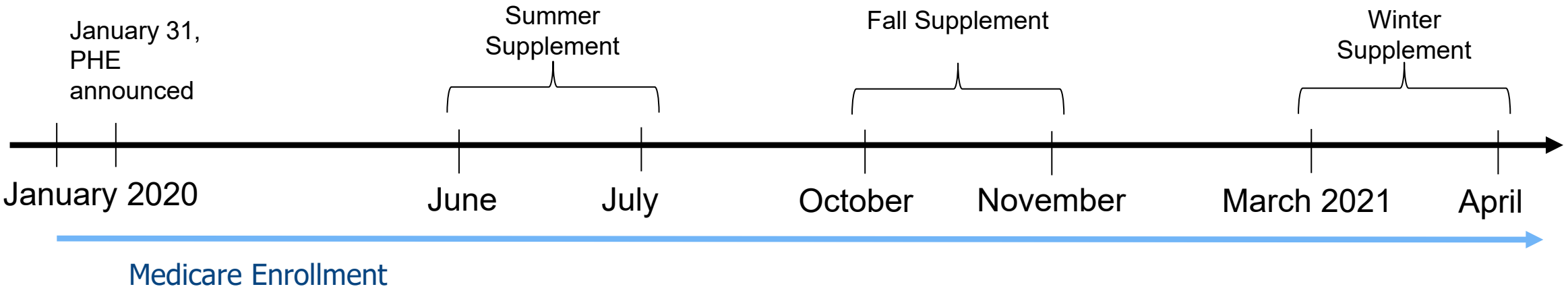
Medicare Population Represented by the MCBS Community Supplement Data

The MCBS COVID-19 Community Supplement data are representative of beneficiaries who were **enrolled** in Medicare in 2020 and still alive, living in the **community**, and eligible and enrolled in Medicare at the time of their COVID-19 Summer or Fall 2020, or Winter 2021 Supplement interview.



What Types of Questions Can Data Users Answer Using Data from the MCBS COVID-19 Community Supplements?

Research Area	Example Research Question
Pandemic Impact on Daily Life	Are there differences in the self-reported impact of the COVID-19 pandemic on Medicare beneficiaries' daily lives (e.g., ability to pay housing costs, get food) across socio-demographic characteristics?
Availability of Telemedicine Services	Among Medicare beneficiaries, are there differences in availability of telemedicine services by income (below or above $25,000) and metro area residence status?
Preventive Health Behaviors	Are there differences in self-reported preventive health behaviors (e.g., washing hands, wearing face masks) by age group?
Health Behaviors or Social Determinants of Health	Are there differences in the percentage of Medicare beneficiaries who were tested for COVID-19 by use of inhaled tobacco products?
Health Status and Functioning	Were Medicare beneficiaries with particular chronic conditions more likely than others to suspect they have or had COVID-19?
COVID-19 Vaccination	Were there differences in COVID-19 vaccination uptake by perceptions of COVID-19 severity (e.g., coronavirus is more deadly than the flu)?
Utilization of COVID-19 Testing	How did the proportion of Medicare beneficiaries who utilized COVID-19 testing change between Summer 2020 and Winter 2021?

Steps for Analyzing MCBS Data

Step 1: Define Research Question

- In order to analyze MCBS data, a data user must first define the:
  - Research question
  - Population of interest
  - Desired analysis
  - Data files needed

Steps 2: Create Analytic File

- To create an analytic file, a data user must:
  - Identify the data file(s) that the research question requires
  - Identify the variables and weights needed for analysis
  - Append data files (if needed)
  - Recode variables as necessary
  - Segment analytic file to population of interest (if needed)

Step 3: Conduct Analyses Using Appropriate Variance Estimation Methods

- For appropriate variance estimation, a data user must:
  - Determine the correct methodology for the intended analysis
    - For most analyses, the balanced repeated replication (BRR) method is recommended
    - Alternative methodology may be needed for a difference of estimates (as detailed in this section)
  - Identify replicate weights (if needed)
  - Utilize available resources
    - Data User's Guides
    - *Advanced Tutorial on Weighting and Variance Estimation*

Weighting

- The sample design of MCBS includes stratification, clustering, multiple stages of selection, and disproportionate sampling. Furthermore, the MCBS sampling weights reflect adjustments for survey nonresponse. These survey design and estimation complexities require special consideration when analyzing MCBS data (i.e., it is not appropriate to assume simple random sampling).
- To obtain accurate estimates from MCBS data, for either descriptive statistics or more sophisticated analyses based on multivariate models, the survey design complexities need to be taken into account by applying MCBS weights to produce estimates and using an appropriate technique to derive standard errors associated with the weighted estimates.

Variance Estimation

- To permit the calculation of random errors due to sampling, a series of replicate weights were computed for each MCBS COVID-19 Community Supplement data file. Unless the complex nature of the MCBS is taken into account, estimates of the variance of a survey statistic may be biased downward.
- When using the replicate weight approach to variance estimation, the variance estimation method of BRR using Fay's adjustment of 0.3 is recommended. Analysis of subgroups should utilize the domain functions within the statistical package of the data user's choice (e.g., the DOMAIN statement in SAS®, or the OVER function in STATA®); restricting the sample to the subgroup and then performing an analysis would lead to slightly biased estimates of variance.
- Most commercial software packages today include techniques to accommodate the complex design, through replicate weight approaches. Among these are STATA, SUDAAN®, R®, and the complex survey procedures in SAS.

Variance Estimation for a Difference of Estimates Between COVID-19 Community Supplement Data Files

- Repeated cross-sectional estimates can yield estimates of change over time.
- A point estimate of a difference is straightforward to calculate as the difference between the two individual cross-sectional estimates; for each cross-sectional estimate, use the full-sample weight from each PUF or LDS segment's data release.
- Estimating the standard error of estimates of net change is more complicated, due to correlation:
  - many beneficiaries are retained from the sample for one supplement to the next (serial correlation);
  - the same set of Primary Sampling Units (PSUs) and Secondary Sampling Units (SSUs) are used for each supplement (intra-cluster correlation)

Variance Estimation for a Difference of Estimates Between COVID-19 Community Supplement Data Files (continued)

- To estimate the variance of net change estimates, the data user may:
  - use statistical software such as SAS; or
  - calculate estimates directly as part of a custom program.
- SAS method example
  - Proc SURVEYREG can produce both point estimates of differences and estimates of standard errors for differences
  - An example of this methodology using SAS can be found in analytic example 3 of this tutorial.

Example- Direct Calculation of Variance for a Difference of Estimates Between COVID-19 Community Supplement Data Files

- Let X_0^t be a cross-sectional estimate of the mean of population characteristic *Y* from the COVID-19 Fall 2020 PUF (denoted as PUF *t*) using the full sample weights from PUF *t*.
- Let $X_1^t, X_2^t, \ldots, X_{100}^t$ be cross-sectional estimates of the same population mean from PUF *t* using each of the 100 corresponding replicate weights.
- Similarly, let $X_0^{t-1}, X_1^{t-1}, X_2^{t-1}, \ldots, X_{100}^{t-1}$ be estimates of the same population characteristic *Y* from the COVID-19 Summer 2020 PUF (denoted as PUF *t*-1), using the weights from PUF *t*-1.
- Then, let $D_0 = X_0^t - X_0^{t-1}, D_1 = X_1^t - X_1^{t-1}$ etc.
- Finally, an estimate of the variance of the estimate of net change from PUF *t*-1 to PUF *t* (i.e., the change between Summer 2020 and Fall 2020) is:

$$Var(D_0) = \frac{2.04}{100}\sum_{i=1}^{100}(D_i - D_0)^2$$

- The square root of this estimate is an estimate of the standard error.

Considerations for Interpretation

- In their cognitive testing of survey questions on COVID-19 administered during the pandemic, the National Center for Health Statistics (NCHS) found that the respondents were highly influenced by the context of the COVID-19 pandemic in their interpretation of survey questions. Additionally, NCHS found that the rapidly evolving pandemic timeline created challenges for respondents answering questions related to their experiences during the pandemic and that changing terminology throughout the PHE had wide ranging implications for question interpretation. It is recommended that data users reference NCHS's *Cognitive Testing Evaluation of Survey Questions on COVID-19* report for more information.
- Many of the MCBS COVID-19 survey questions were sourced from the NCHS survey tested in this report. For more information on the COVID-19 supplement question sources, see the *Data User's Guides*.
- It is important to note that the pandemic was rapidly evolving throughout the fielding of each MCBS COVID-19 supplement. Data users should take care to consider the quickly changing context of the pandemic when interpreting results.

Section 6: Using Data from the COVID-19 PUFs

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Weighting for the COVID-19 PUFs

- The MCBS COVID-19 PUFs include preliminary full-sample cross-sectional weights derived from nonresponse-adjusted weights among the beneficiaries sampled for the COVID-19 Community Supplements (CPWSWGT for the COVID-19 Summer 2020 PUF, CPWFWGT for the COVID-19 Fall 2020 PUF, and CPWWWGT for the COVID-19 Winter 2021 PUF). These preliminary weights are intended for use in cross-sectional statistics.
- Each weight is greater than zero for all beneficiaries on the file. For the COVID-19 Summer and Fall 2020 PUFs, the weights should be used to produce preliminary estimates of parameters for the Medicare population who were enrolled at any point in 2019 and still alive, enrolled, and living in the community in Summer or Fall 2020. For the COVID-19 Winter 2021 PUF, the weights should be used to produce preliminary estimates of parameters for the Medicare population who were enrolled in any point in 2020 and still alive, enrolled, and living in the community in Winter 2021.
- Note these weights are considered preliminary because administrative data on beneficiary status and Medicare eligibility was not yet finalized at the time of PUF release. It is possible that these preliminary weights may include a small number of beneficiaries who will later be determined to have been ineligible. The final weights are provided in the Survey File LDS and will reflect more complete entitlement and residency status for beneficiaries. Any differences between the preliminary and final weights are expected to be small.

Variance Estimation for the COVID-19 PUFs

- The replicate weights included in the MCBS COVID-19 PUFs can be used to calculate standard errors of the sample-based estimates.
  - In the COVID-19 Summer 2020 PUF, these replicate cross-sectional weights are labeled CPWS001 through CPWS100 corresponding to the ever enrolled weight CPWSWGT.
  - In the COVID-19 Fall 2020 PUF, these replicate cross-sectional weights are labeled CPWF001 through CPWF100 corresponding to the ever enrolled weight CPWFWGT.
  - In the COVID-19 Winter 2021 PUF, these replicate cross-sectional weights are labeled CPWW001 through CPWW100 corresponding to the ever enrolled weight CPWWWGT.

Analytic Limitations of the COVID-19 PUFs

- COVID-19 PUF data are only representative of beneficiaries **living in the community**.
- Each COVID-19 PUF is a **standalone file** and cannot be merged together or with other MCBS PUFs, (including Survey File PUFs or other COVID-19 PUFs) or LDS files.
- The COVID-19 PUFs contain **preliminary weights**; the final weights will only be available in the LDS.
- In general, the MCBS is designed to be representative of the **annual** population of enrollees. Due to the unique nature of the COVID-19 Community Supplements, COVID-19 PUF data are **only intended for cross-sectional analysis and cannot be used for longitudinal analysis**.
- While not necessarily a limitation, data users should note that data for variables about experiences with COVID-19 (those starting with XCV_) in the Fall 2020 COVID-19 PUF may combine data from the Summer 2020 supplement. This applies only to the Fall 2020 COVID-19 PUF and does not apply to XCV_ variables in the Winter 2021 COVID-19 PUF.

Analytic Limitations of the COVID-19 PUFs (continued)

- Some variables included in the COVID-19 PUFs were not collected during the administration of the COVID-19 Supplements. These variables were sourced from the Survey File LDS and were collected from MCBS respondents during prior interviews.* Data users should use caution when conducting analyses with these COVID-19 PUF variables as the data were not collected contemporaneously with the COVID-19 Community Supplement data. Such variables include:
  - Socio-demographics
  - Chronic conditions
  - Use of inhaled tobacco products
  - Dual eligible status ±

* Note that in the annual MCBS files, demographic and health behavior data collected in the Fall are added to the annualized file. Thus, this methodology is not dissimilar from how the annual MCBS files are constructed.

± Dual eligible status is derived from administrative data.

Section 7: Using Data from the COVID-19 Summer and Fall 2020 and Winter 2021 Limited Data Set (LDS) Segments

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How Are the MCBS COVID-19 Summer and Fall 2020 and Winter 2021 LDS Segment Data Different From the PUF Data?

- While the COVID-19 PUFs are standalone files, the COVID-19 Summer and Fall 2020 data are also available as segments in the 2019 MCBS Survey File LDS. The COVID-19 Winter 2021 data are also available as a segment in the 2020 MCBS Survey File LDS.
- Unlike the COVID-19 PUFs, the COVID-19 Summer and Fall 2020 LDS segments can be merged with other 2019 MCBS LDS files using the beneficiary identifier BASEID. This allows data users to link the COVID-19 data with data from the 2019 data year that may be directly relevant to beneficiaries' experiences leading up to and during the pandemic (e.g., information on health insurance coverage, health status, and experiences with care). Similarly, the Winter COVID-19 LDS segment can be merged with other 2020 MCBS LDS files using the beneficiary identifier BASEID.
- The COVID-19 LDS segments contain *only* data from the COVID-19 Community Supplements. Additional data that were added to the COVID-19 Summer and Fall 2020 and Winter 2021 PUFs from the MCBS regarding socio-demographics, chronic conditions, and use of inhaled tobacco products can be found on other segments from the 2019 and 2020 MCBS LDS, respectively.
- The COVID-19 LDS segments contain **final** weights.

Weighting for the COVID-19 Summer and Fall 2020 and Winter 2021 LDS Segments

- The data products for the MCBS COVID-19 Community Supplements include full-sample cross-sectional weights derived from nonresponse-adjusted weights among the beneficiaries sampled for the COVID-19 Community Supplements. These weights are intended for use in cross-sectional statistics.
- The LDS COVID-19 Supplement segments include "Survey File ever enrolled" weights which correspond to the Survey File ever enrolled population and "Survey File continuously enrolled" weights which correspond to the Survey File continuously enrolled population. These weights can be used to conduct analyses of the supplement data as representing the ever enrolled and continuously enrolled populations, respectively, and in conjunction with other Survey File data.
- Each LDS COVID-19 Supplement segment also includes "Cost Supplement ever enrolled" weights, which correspond to the Cost Supplement ever enrolled population and can be used to conduct analyses of the supplement data as representing the ever enrolled population and in conjunction with the Cost Supplement data.

Variance Estimation for the COVID-19 Summer and Fall 2020 and Winter 2021 LDS Segments

- The replicate weights included in the MCBS COVID-19 Summer and Fall 2020 and Winter 2021 LDS Segments can be used to calculate standard errors of the sample-based estimates. These replicate weights, with their corresponding full-sample weights and population, are listed in the table below.

Limited Data Set	Description	Segment	Full-Sample Weight	Replicate Weights	Population
2019 MCBS LDS	Summer 2020 COVID Survey File Ever Enrolled	COVIDSUM	VSSEWT	VSSE1-VSSE100	Ever enrolled in 2019 and still alive, entitled, and not residing in a facility in Summer 2020
2019 MCBS LDS	Summer 2020 COVID Survey File Continuously Enrolled	COVIDSUM	VSSCWT	VSSC1-VSSC100	Continuously enrolled in 2019 and still alive, entitled, and not residing in a facility in Summer 2020
2019 MCBS LDS	Summer 2020 COVID Cost Supplement Ever Enrolled	COVIDSUM	VSCEWT	VSCE1-VSCE100	Ever enrolled in 2019 and still alive, entitled, and not residing in a facility in Summer 2020
2019 MCBS LDS	Fall 2020 COVID Survey File Ever Enrolled	COVIDFAL	VFSEWT	VFSE1-VFSE100	Ever enrolled in 2019 and still alive, entitled, and not residing in a facility in Fall 2020
2019 MCBS LDS	Fall 200 COVID Survey File Continuously Enrolled	COVIDFAL	VFSCWT	VFSC1-VFSC100	Continuously enrolled in 2019 and still alive, entitled, and not residing in a facility in Fall 2020
2019 MCBS LDS	Fall 2020 COVID Cost Supplement Ever Enrolled	COVIDFAL	VFCEWT	VFCE1-VFCE100	Ever enrolled in 2019 and still alive, entitled, and not residing in a facility in Fall 2020
2020 MCBS LDS	Winter 2021 COVID Survey File Ever Enrolled	COVIDWIN	VWSEWT	VWSE1-VWSE100	Ever enrolled in 2020 and still alive, entitled, and not living in a facility in Winter 2021
2020 MCBS LDS	Winter 2021 COVID Survey File Continuously Enrolled	COVIDWIN	VWSCWT	VWSC1-VWSC100	Continuously enrolled in 2020 and still alive, entitled, and not living in a facility in Winter 2021
2020 MCBS LDS	Winter 2021 COVID Cost Supplement Ever Enrolled	COVIDWIN	VWCEWT	VWCE1-VWCE100	Ever enrolled in 2020 and still alive, entitled, and not living in a facility in Winter 2021

Analytic Limitations of the COVID-19 Summer and Fall 2020 and Winter 2021 LDS Segments

- COVID-19 Summer and Fall 2020 and Winter 2021 Segment data are only representative of beneficiaries **living in the community**.
- Data included in the COVID-19 Summer and Fall 2020 LDS Segments were not collected contemporaneously with the administration of the survey rounds included in the other 2019 MCBS LDS segments. Data users should refer to the *2019 MCBS Data User's Guide: Survey File* for more information.
  - Similarly, data included in the COVID-19 Winter 2021 LDS Segment were not collected contemporaneously with the administration of the survey rounds included in the other 2020 MCBS LDS segments. Data users should refer to the *2020 MCBS Data User's Guide: Survey File* for more information.
- In general, the MCBS is designed to be representative of the **annual** population of enrollees. Due to the unique nature of the COVID-19 Community Supplements, COVID-19 Summer and Fall 2020 and Winter 2021 LDS Segment data are **only intended for cross-sectional analysis and cannot be used for longitudinal analysis**.

Section 8: Analytic Examples

MCBS
Medicare Current Beneficiary Survey

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Example 1 Step 1: Define Research Question

Example 1 Step 1: Define Research Question

To what extent does access to telemedicine before and during the pandemic (as of Summer 2020) vary by metro area residence status for Medicare beneficiaries aged 65 and over living in the community?

- Objective of this example:
  - Demonstrate how to use data from the COVID-19 Summer 2020 PUF
  - Demonstrate how to apply cross-sectional weights to produce nationally representative estimates

Example 1 Step 2: Create Analytic File

Example 1 Step 2: Create Analytic File

- Creating the analytic file requires three steps:
  - Identify the variables and weights needed for analysis
  - Recode variables
  - Segment population to population of interest

Example 1: Identifying Variables and Weights

Telemedicine access before and during the pandemic (as of Summer 2020) by metro area residence status for beneficiaries aged 65 and over

- This research question requires the following variables from the COVID-19 Summer 2020 PUF:

Measure	Variable
Age	DMV_AGECAT
Primary Care Provider (PCP) offered telemedicine before the COVID-19 pandemic	ACV_TELMEDBE
PCP offered telemedicine during the COVID-19 pandemic	ACV_TELMEDDU
Metro residence designated by core-based statistical area (CBSA)	DMV_CBSA
COVID-19 PUF Summer Full Sample Weight	CPWSWGT
COVID-19 PUF Summer Replicate Weights	CPWS001-CPWS100

Example 1: Identify Variables and Weights of Interest and Recode Variables

- The below code shows how raw variables can be converted into analytic variables. This example recodes telemedicine variables ACV_TELMEDBE and ACV_TELMEDBU to an analytic variable representing telemedicine access before and during the pandemic (as of Summer 2020).

```
data analysis1;
        set summer.COVIDPUF_1_2020S (keep = DMV_AGECAT DMV_CBSA ACV_TELMEDBU ACV_TELMEDDU
        CPWSWGT CPWS001-CPWS100);
run;

data analysis1_recode;
        set analysis1;
        if ACV_TELMEDBE=1 then TELEMED=1; /* Beneficiary was offered telemedicine prior to pandemic */
        else if ACV_TELMEDBE=2 and ACV_TELMEDDU=1
                then TELEMED=2; /* Beneficiary was offered telemedicine for the first time during the pandemic */
        else if ACV_TELMEDBE=2 and ACV_TELMEDDU=2
                then TELEMED=3; /* Beneficiary has not been offered telemedicine*/
run;
```

Example 1: Recoded Variables

Measure	Original Variables	Recoded Variable
Telemedicine access before and during pandemic (as of Summer 2020) *	ACV_TELMEDBE/ACV_TELMEDDU 1 Yes 2 No	TELEMED 1 Beneficiary offered telemedicine before pandemic 2 Beneficiary offered telemedicine for first time during pandemic 3 Beneficiary not offered telemedicine

* Important note regarding variable universe:

Only respondents who indicated that they had a usual source of care were asked questions regarding access to and utilization of telemedicine.

Example 1: Segment the Population

- In order to restrict the file to beneficiaries aged 65 and over, this example will segment the file on the variable DMV_AGECAT.

```
data analysis1_final;
      set analysis1_recode;
      where DMV_AGECAT > 1; /* Subset to beneficiaries aged 65 and over */
run;
```

Example 1 Step 3: Conduct Analyses Using Appropriate Variance Estimation Methods

Example 1 Step 3: Telemedicine Access Before and During the Pandemic (as of Summer 2020) by Metro Area Residence Status for Beneficiaries Aged 65 and Over Living in the Community

Balanced Repeated Replication (BRR) Method of Variance Estimation

The following code generates the frequency of the recoded telemedicine access variable for Medicare beneficiaries aged 65 and over by metro area residence status using the BRR method of variance estimation.

```
proc surveyfreq  data=analysis1_final  varmethod=brr (fay=.30);
        table  DMV_CBSA*TELEMED / row;
        weight  CPWSWGT;
        repweights  CPWS001-CPWS100;
 run;
```

Example 1 Results: Telemedicine Access Before and During the Pandemic (as of Summer 2020) by Metro Area Residence Status for Beneficiaries Aged 65 and Over Living in the Community

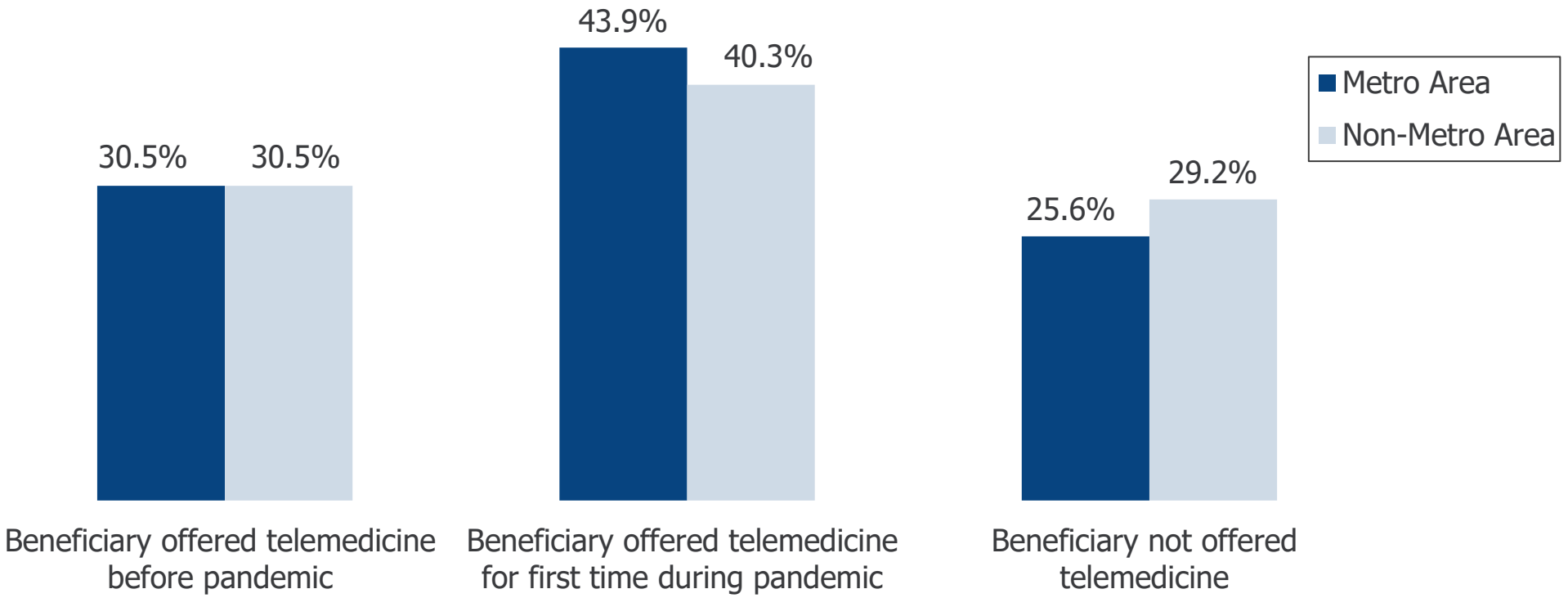
Telemedicine access before and during the pandemic (as of Summer 2020) by metro area residence status for beneficiaries aged 65 and over living in the community

Metro area residence status	Telemedicine access	Unweighted N	Weighted N	Estimate - % (St. Error)
Metro Area	Beneficiary offered telemedicine before pandemic	904	5,070,178	30.5 (1.6)
	Beneficiary offered telemedicine for first time during pandemic	1,349	7,299,130	43.9 (1.3)
	Beneficiary not offered telemedicine	782	4,262,244	25.6 (0.9)
Non-Metro Area	Beneficiary offered telemedicine before pandemic	238	1,000,348	30.5 (2.2)
	Beneficiary offered telemedicine for first time during pandemic	283	1,321,696	40.3 (2.2)
	Beneficiary not offered telemedicine	195	955,668	29.2 (2.4)

SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey COVID-19 Summer 2020 PUF.

NOTES: Percentages may not sum to 100 percent due to rounding. Estimates are representative of beneficiaries who were continuously enrolled in Medicare from the beginning of 2020 and still alive, living in the community, and eligible and enrolled in Medicare at the time of their COVID-19 Summer Supplement interview who reported that they had a usual source of care. Beneficiaries living in the community answered questions themselves or by proxy. Weights used for these estimates are preliminary weights and these estimates should therefore be interpreted with caution.

Example 1 Results: Telemedicine Access Before and During the Pandemic (as of Summer 2020) by Metro Area Residence Status for Beneficiaries Aged 65 and Over Living in the Community



SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey COVID-19 Summer 2020 PUF.

NOTES: Percentages may not sum to 100 percent due to rounding. See detailed table for standard errors. Estimates are representative of beneficiaries who were continuously enrolled in Medicare from the beginning of 2020 and still alive, living in the community, and eligible and enrolled in Medicare at the time of their COVID-19 Summer Supplement interview who reported that they had a usual source of care. Beneficiaries living in the community answered questions themselves or by proxy. Weights used for these estimates are preliminary weights and these estimates should therefore be interpreted with caution.

Example 2 Step 1: Define Research Question

Example 2 Step 1: Define Research Question

To what extent did the proportion of Medicare beneficiaries living in the community who were unable to receive needed care due to the COVID-19 pandemic change between Summer and Fall 2020?

- Objective of this example:
  - Demonstrate how to combine data from the COVID-19 Summer and Fall 2020 PUFs to compare estimates between the Summer and Fall 2020 Community Supplements
  - Demonstrate how to apply cross-sectional weights to produce nationally representative estimates
  - Demonstrate how to appropriately conduct variance estimation for a difference of estimates between the COVID-19 Summer and Fall 2020 PUFs

Example 2 Step 2: Create Analytic File

Example 2 Step 2: Create Analytic File

- Creating the analytic file requires three steps:
  - Identify the variables and weights needed for analysis
  - Concatenate data files
  - Recode variables

Example 2: Identifying Variables and Weights

Forgone care among beneficiaries living in the community in Summer and Fall 2020

- This research question requires the following variables from the COVID-19 Summer and Fall 2020 PUFs:

File	Measure	Variable
COVID-19 Summer 2020 PUF	Unable to Get Care Due to COVID-19	ACV_COVIDCAR
COVID-19 Summer 2020 PUF	COVID-19 Supplement Round	CVROUND
COVID-19 Summer 2020 PUF	COVID-19 PUF Summer Full Sample Weight	CPWSWGT
COVID-19 Summer 2020 PUF	COVID-19 PUF Summer Replicate Weights	CPWS001-CPWS100
COVID-19 Fall 2020 PUF	Unable to Get Care Due to COVID-19	ACV_COVIDCAR
COVID-19 Fall 2020 PUF	COVID-19 Supplement Round	CVROUND
COVID-19 Fall 2020 PUF	COVID-19 PUF Fall Full Sample Weight	CPWFWGT
COVID-19 Fall 2020 PUF	COVID-19 PUF Fall Replicate Weights	CPWF001-CPWF100

Example 2: Identify Variables and Weights of Interest

- The below code identifies variables needed for the analysis and renames the weights in each data set to utilize common weight names (POOLWGT and POOL001-POOL100) across PUFs in preparation for concatenation.

```
data summerPUF;
      set summer.COVIDPUF_1_2020S (keep = ACV_COVIDCAR CVROUND CPWSWGT CPWS001-CPWS100);
      rename CPWSWGT = POOLWGT;
      rename CPWS001-CPWS100 = POOL001-POOL100;
run;

data fallPUF;
      set fall.COVIDPUF_2_2020F (keep = ACV_COVIDCAR CVROUND CPWFWGT CPWF001-CPWF100);
      rename CPWFWGT = POOLWGT;
      rename CPWF001-CPWF100 = POOL001-POOL100;
run;
```

Example 2: Concatenate Data Sets and Recode Variables

- The below code vertically stacks the two PUF data sets, including their corresponding sets of weights, and recodes the forgone care variable ACV_COVIDCAR.

```
data analysis3;
      set summerPUF fallPUF;
      if ACV_COVIDCAR = 1 then FORGOCARE = 1; /* Unable to receive care due to COVID-19 */
      if ACV_COVIDCAR = 2 then FORGOCARE = 0; /* Did not forgo medical care due to COVID-19 */
run;
```

Example 2: Recoded Variables

Measure	Original Variables	Recoded Variable
Unable to Receive Care Due to COVID-19*	ACV_COVIDCAR 1 Yes 2 No	FORGOCARE 1 Unable to receive care due to COVID-19 0 Did not forgo medical care due to COVID-19

* Important note regarding variable reference periods:

In Summer, respondents were asked "At any time **since the beginning of the coronavirus outbreak**, did you need medical care for something other than coronavirus, but not get it because of the coronavirus outbreak?"

In Fall, respondents were asked "**Since July 1, 2020**, did you need medical care for something other than coronavirus, but not get it because of the coronavirus pandemic?"

Example 2 Step 3: Conduct Analyses Using Appropriate Variance Estimation Methods

Example 2 Step 3: Forgone Care Among Beneficiaries Living in the Community in Summer and Fall 2020

Balanced Repeated Replication (BRR) Method of Variance Estimation

The following code generates the proportion of Medicare beneficiaries living in the community who had to forgo care due to COVID-19 in Summer and Fall 2020 using the BRR method of variance estimation. This code also generates an estimate for the difference in these Summer and Fall 2020 estimates and the standard error for this net change. The variable CVROUND is used to indicate which PUF (Summer or Fall 2020) each of the two files represents.

```
proc surveyreg  data=analysis3 varmethod=brr (fay=.30);
            class CVROUND;
            model FORGOCARE = CVROUND;
            lsmeans CVROUND / diff;
            weight  POOLWGT;
            repweight  POOL001-POOL100;
run;
```

Example 2 Results: Forgone Care Among Beneficiaries Living in the Community in Summer and Fall 2020

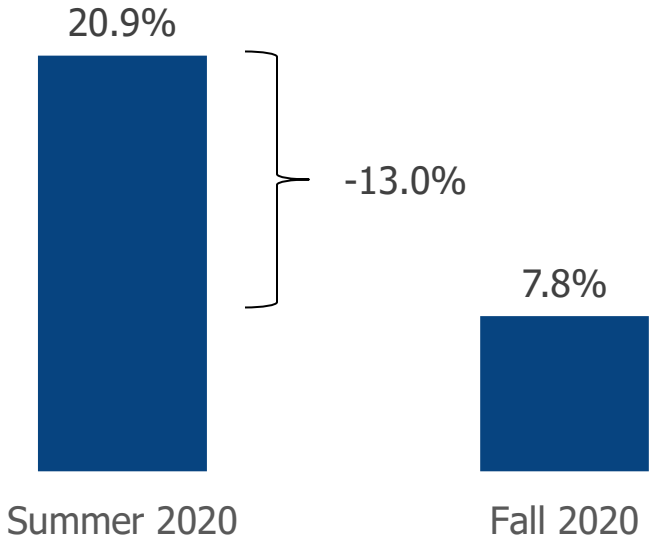
To what extent did the proportion of Medicare beneficiaries living in the community who were unable to receive needed care due to the COVID-19 pandemic change between Summer and Fall 2020?

COVID-19 Supplement Round	Estimate - % (St. Error)
Summer 2020	20.9 (0.8)
Fall 2020	7.8 (0.3)
Difference between Summer and Fall 2020	-13.0 (0.7)

SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey COVID-19 Summer and Fall 2020 PUF.

NOTES: Estimates are representative of beneficiaries who were continuously enrolled in Medicare from the beginning of 2020 and still alive, living in the community, and eligible and enrolled in Medicare at the time of their COVID-19 Summer or Fall Supplement interview. Beneficiaries living in the community answered questions themselves or by proxy. In Summer, respondents were asked "At any time since the beginning of the coronavirus outbreak, did you need medical care for something other than coronavirus, but not get it because of the coronavirus outbreak?" In Fall, respondents were asked "Since July 1, 2020, did you need medical care for something other than coronavirus, but not get it because of the coronavirus pandemic?" Weights used for these estimates are preliminary weights and these estimates should therefore be interpreted with caution.

Example 2 Results: Forgone Care Among Beneficiaries Living in the Community in Summer and Fall 2020



SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey COVID-19 Summer and Fall 2020 PUF.

NOTES: See detailed table for standard errors. Estimates are representative of beneficiaries who were continuously enrolled in Medicare from the beginning of 2020 and still alive, living in the community, and eligible and enrolled in Medicare at the time of their COVID-19 Summer or Fall Supplement interview. Beneficiaries living in the community answered questions themselves or by proxy. In Summer, respondents were asked "At any time since the beginning of the coronavirus outbreak, did you need medical care for something other than coronavirus, but not get it because of the coronavirus outbreak?" In Fall, respondents were asked "Since July 1, 2020, did you need medical care for something other than coronavirus, but not get it because of the coronavirus pandemic?" Weights used for these estimates are preliminary weights and these estimates should therefore be interpreted with caution.

Example 3 Step 1: Define Research Question

Example 3 Step 1: Define Research Question

To what extent did preventive measures in response to the COVID-19 pandemic (as of Winter 2021) vary by self-reported health status (as of 2020) for Medicare beneficiaries living in the community?

- Objective of this example:
  - Demonstrate how to use data from the COVID-19 LDS segments in the 2020 MCBS Survey File LDS
  - Demonstrate how to link data in the COVID-19 LDS segments to data included on other 2020 MCBS LDS segments
  - Demonstrate how to apply cross-sectional weights to produce nationally representative estimates

Example 3 Step 2: Create Analytic File

Example 3 Step 2: Create Analytic File

- Creating the analytic file requires four steps:
  - Identify the MCBS LDS segment(s) that the research question requires
  - Identify the variables and weights needed for analysis
  - Merge segments to create an analytic dataset
  - Recode variables

Example 3: Identifying Segments, Variables, and Weights

Preventive measures in response to the COVID-19 pandemic (as of Winter 2021) by self-reported health status (as of 2020) for beneficiaries living in the community

- This research question requires the following variables from the 2020 MCBS Survey File LDS:

Measure	Segment	Variable
Self-Reported Health Status	GENHLTH	GENHELTH
Because of COVID-19: Coughed or Sneezed into a Tissue or Sleeve	COVIDWIN	PREVTISS
Because of COVID-19: Cleaned or Sterilized Commonly-Touched Surfaces	COVIDWIN	PREVCLEA
Because of COVID-19: Sheltered in Place	COVIDWIN	PREVSHEL
Because of COVID-19: Consulted with a Health Care Provider	COVIDWIN	PREVCONS
COVID-19 Winter Survey File Ever Enrolled Full Sample Weight	COVIDWIN	VWSEWT
COVID-19 Winter Survey File Ever Enrolled Replicate Weights	COVIDWIN	VWSE1-VWSE100

Example 3: Merge Segments to Create Analytic File

- The below code shows how multiple Survey File segments can be merged in SAS using BASEID as the key variable.

```
data mergefile;
        merge survfile.covidwin (in=a)
                survfile.genhlth (keep=BASEID GENHELTH);
                if a then output;
                by BASEID;
run;
```

Example 3: Recode Variables

- The below code shows how raw variables can be converted into analytic variables. This example recodes the self-reported health status variable GENHELTH from five categories to two.

```
data analyticfile;
      set mergefile;

      if GENHELTH in (1:3) then HEALTH=1; /* Excellent/Very Good/Good */
      else if GENHELTH in (4:5) then HEALTH=2; /* Fair/Poor */

run;
```

Example 3: Recoded Variables

Measure	Original Variables	Recoded Variable
Self-Reported Health Status	GENHELTH 1 Excellent 2 Very Good 3 Good 4 Fair 5 Poor	HEALTH 1 Excellent/Very Good/Good 2 Fair/Poor

Example 3 Step 3: Conduct Analyses Using Appropriate Variance Estimation Methods

Example 3 Step 3: Preventive Measures in Response to the COVID-19 Pandemic (as of Winter 2021) by Self-Reported Health Status (as of 2020) for Beneficiaries Living in the Community

Balanced Repeated Replication (BRR) Method of Variance Estimation

The following code generates the frequency of the preventive measures by self-reported health status for beneficiaries living in the community using the BRR method of variance estimation.

```
proc surveyfreq data=analyticfile varmethod=brr (fay=.30);
        table HEALTH*PREVTISS HEALTH*PREVCLEA HEALTH*PREVSHEL HEALTH*PREVCONS/ row;
        weight VWSEWT;
        repweights VWSE1-VWSE100;
run;
```

Example 3 Results: Preventive Measures in Response to the COVID-19 Pandemic (as of Winter 2021) by Self-Reported Health Status (as of 2020) for Beneficiaries Living in the Community

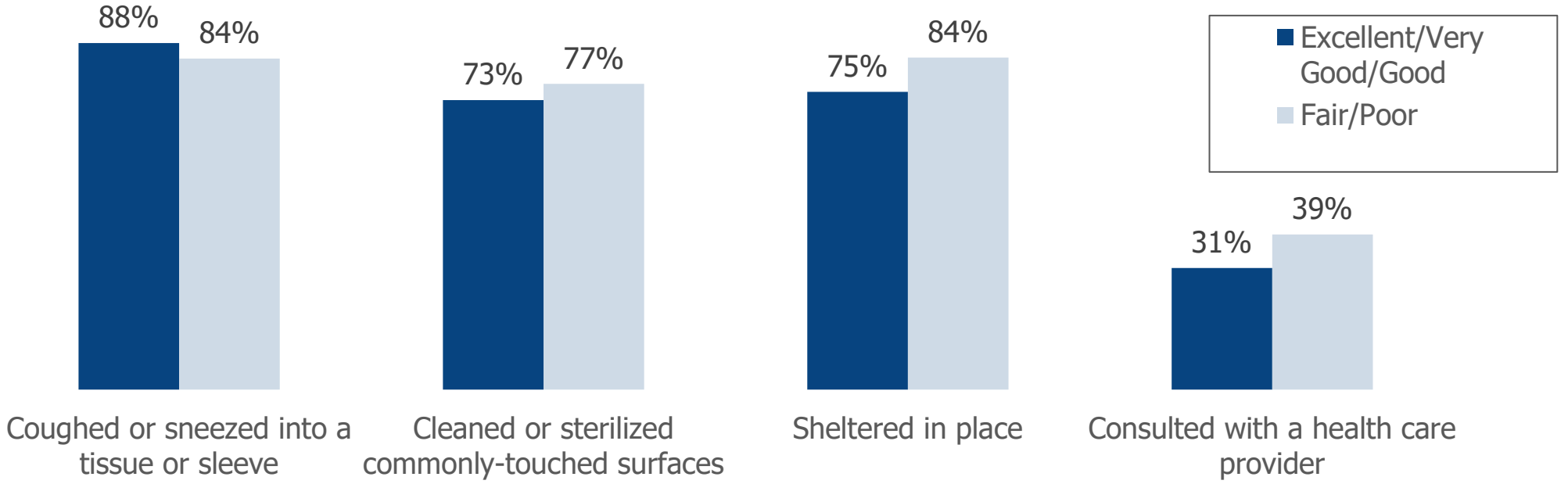
To what extent did preventive measures in response to the COVID-19 pandemic (as of Winter 2021) vary by self-reported health status (as of 2020) for Medicare beneficiaries living in the community?

Preventive Measure	Self-Reported Health Status	Unweighted N	Weighted N	Estimate - % (St. Error)
Coughed or Sneezed into a Tissue or Sleeve	Excellent/Very Good/Good	7,283	39,611,881	87.5 (0.6)
	Fair/Poor	1,791	9,146,235	83.6 (1.2)
Cleaned or Sterilized Commonly-Touched Surfaces	Excellent/Very Good/Good	6,129	33,507,094	73.1 (0.6)
	Fair/Poor	1,632	8,543,373	77.2 (1.0)
Sheltered in Place	Excellent/Very Good/Good	6,622	34,632,966	75.2 (0.8)
	Fair/Poor	1,839	9,415,948	83.8 (1.0)
Consulted with a Health Care Provider	Excellent/Very Good/Good	2,608	14,123,440	30.7 (0.7)
	Fair/Poor	861	4,417,447	39.2 (1.4)

SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, Survey File, 2020

NOTES: Estimates are representative of beneficiaries who were enrolled in Medicare at any point in 2020 and still alive, living in the community, and eligible and enrolled in Medicare at the time of their COVID-19 Winter 2021 Supplement interview. Beneficiaries living in the community answered questions themselves or by proxy.

Example 3 Results: Preventive Measures in Response to the COVID-19 Pandemic (as of Winter 2021) by Self-Reported Health Status (as of 2020) for Beneficiaries Living in the Community



SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, Survey File, 2020

NOTES: Estimates are representative of beneficiaries who were enrolled in Medicare at any point in 2020 and still alive, living in the community, and eligible and enrolled in Medicare at the time of their COVID-19 Winter 2021 Supplement interview. Beneficiaries living in the community answered questions themselves or by proxy.

For more information on how to use data from the COVID-19 Community Supplements, please consult the *Data User's Guides*.

Thank you!

If you have any questions, please contact CMS at the following email address: MCBS@cms.hhs.gov.

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