MCBS Advanced Tutorial on Year-to-Year Estimate Comparisons Using MCBS Data

MCBS
Medicare Current Beneficiary Survey

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

Version Control Log

Date	Version	Revisions
06/26/2025	1.0	Initial version released.

Tutorial Outline

- Section 1: Introduction
- Section 2: Performing Year-to-Year Estimate Comparisons with MCBS Data
- Section 3: Analytic Examples

Section 1: Introduction

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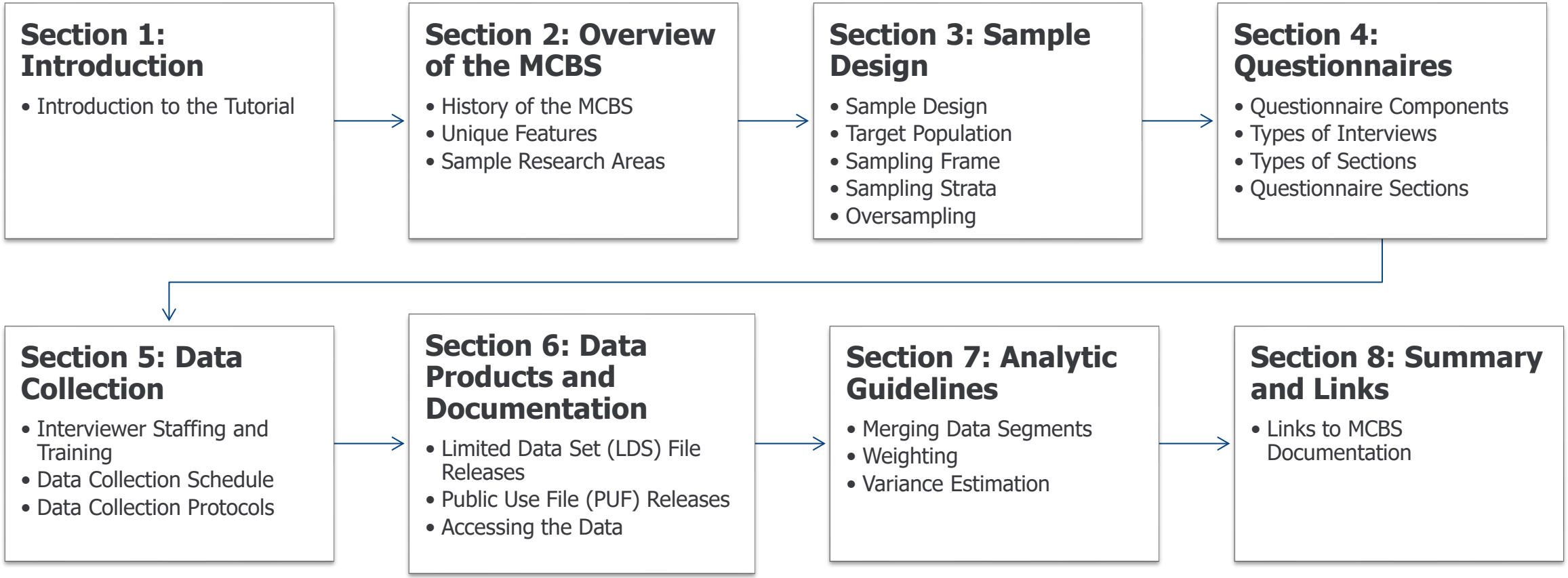
Learning Objectives

After completing this Medicare Current Beneficiary Survey (MCBS) Advanced Tutorial, a data user will be able to answer the following questions:

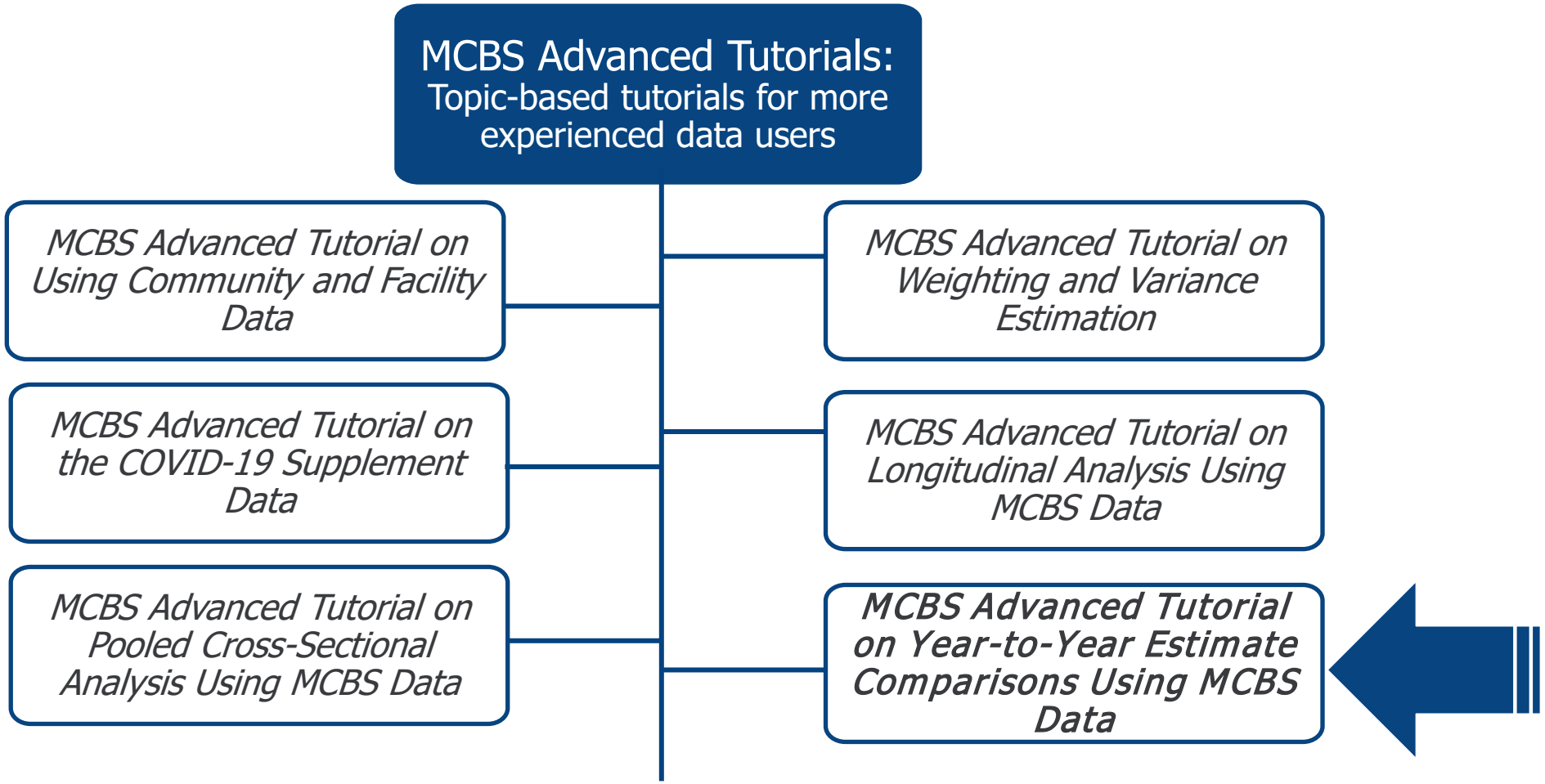
- Why consider performing year-to-year estimate comparisons with MCBS data?
- How does the MCBS support year-to-year estimate comparisons (a type of repeated cross-sectional analysis)?
- What are some considerations to account for when conducting year-to-year estimate comparisons using MCBS data?
- Which survey weights should be used for year-to-year cross-sectional analysis and variance estimation using MCBS data?

MCBS New User Tutorial Outline

- New MCBS data users should refer to the *New User Tutorial* before consulting this or other Advanced Tutorials. This graphic displays the information found in the *New User Tutorial.*

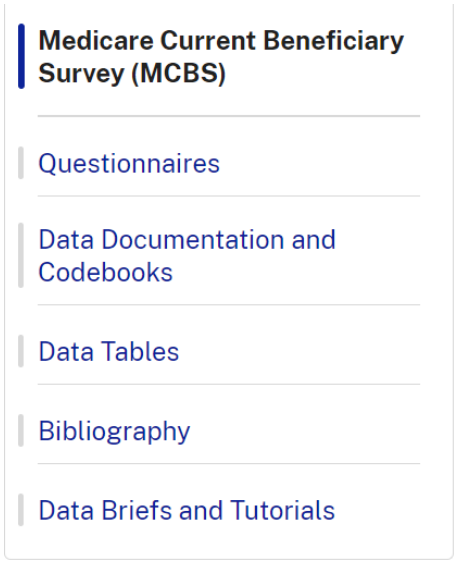


Overview of MCBS Advanced Tutorials



MCBS Documentation and Resources

CMS Website:
https://www.cms.gov/data-research/research/medicare-current-beneficiary-survey



CMS provides a wide array of MCBS documentation 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, data briefs, topical infographics, and posters
- Annual *Questionnaires and Questionnaire User Documentation*
- Data documentation including *Data User's Guides, Methodology Reports, Variable Crosswalks,* codebooks, and *Data Year Release Notes* for the LDS files
- *MCBS Glossary*
- Public Use File (PUF) table packages, Early PUF table packages, and other data tables
- *MCBS Chartbook*
- *Bibliographies*, which include annotations starting in 2020

Section 2: Performing Year-to-Year Estimate Comparisons with MCBS Data

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Why Conduct Year-to-Year Estimate Comparisons?

- Year-to-year comparisons are used to identify trends, measure quality improvement, and evaluate the effectiveness of interventions and policies.
- Year-to-year comparisons are a type of cross-sectional analysis that compares data from one year to the next, focusing on a single metric or a set of related metrics within a specified timeframe.
- How does a year-to-year comparison differ from a longitudinal analysis?
  - Year-to-year comparisons are considered a cross-sectional analysis.
  - Longitudinal analysis focuses on the same subjects observed at multiple points over a period of time. This allows for tracking of changes and trends in individual characteristics. For more information on conducting a longitudinal analysis with MCBS data, see *MCBS Advanced Tutorial on Longitudinal Analysis Using MCBS Data*.

Examples of Publications Using Year-to-Year Estimate Comparisons Using MCBS Data

- How did enrollment in Medicare supplemental insurance change from 2005-2019?[1]
- How did opioid use among Medicare beneficiaries aged 65 and over living in the community change from 2006-2019?[2]
- How did health care costs associated with treat-and-release emergency department (ED) visits among Medicare beneficiaries aged 65 and over change from 2015-2020?[3]

[1]Marr, J., & Polsky, D. (2024). Traditional Medicare supplemental insurance and the rise of Medicare Advantage. *The American Journal of Managed Care*, *30*(5), 218–223. https://doi.org/10.37765/ajmc.2024.89539

[2]Bromley, M. I., Gain, E. P., Ajoku, M., Ray, M. A., Mzayek, F., Kedia, S. K., & Yu, X. (2024). Burden of chronic and heavy opioid use among elderly community dwellers in the U.S. *AJPM Focus*, *3*(2), 100175. https://doi.org/10.1016/j.focus.2023.100175

[3]Gettel, C. J., Salah, W., Rothenberg, C., Liang, Y., Schwartz, H., Scott, K. W., Hwang, U., Hastings, S. N., & Venkatesh, A. K. (2024). Total and out-of-pocket costs surrounding emergency department care among older adults enrolled in traditional Medicare and Medicare Advantage. *Annals of Emergency Medicine*, *84*(3), 285–294. https://doi.org/10.1016/j.annemergmed.2024.04.023

Design Considerations for Year-to-Year Estimate Comparisons

- Data Processing
  - Standardization: Data or metrics used for analysis should be collected and coded consistently across years to allow for accurate comparisons.
  - Normalization: As needed, data from different years should be adjusted to a common scale to allow for accurate comparisons.
    - For example, financial metrics (e.g., income) should account for inflation.
- Statistical Methods: The appropriate statistical test based on the data distribution and research question should be used to identify statistically significant trends.
  - Pay attention to small sample sizes, confounding factors (e.g., the COVID-19 pandemic), and other factors that could impact the validity of statistical tests.

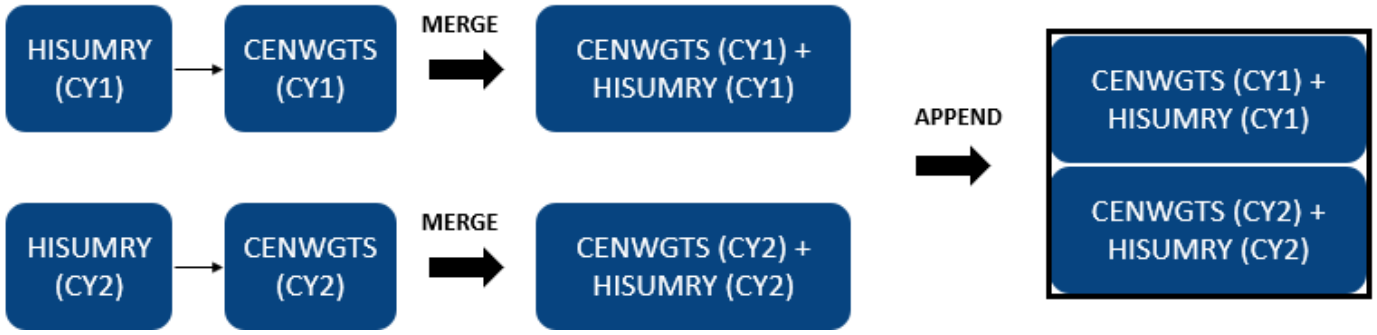
MCBS Data Considerations for Year-to-Year Estimate Comparisons

- Data users should confirm that their MCBS variables of interest are available and comparable for all years for which the analysis is being conducted.
  - Both the Survey File and Cost Supplement File cross-sectional population definitions are consistent from year to year, so the data are generally comparable between years.
  - Questionnaire revisions or data collection changes may impact the comparability and availability of specific variables between data years. Data users should consult the *MCBS Data User's Guides*, *Methodology Report*, *Data Year Release Notes*, and annual *Questionnaires* for each data year of interest to confirm data are comparable.
    - External factors such as policy changes, pandemics, and natural disasters can be confounding factors.
  - Initial interview variables[1] (e.g., Date of Birth, Education, etc.) are only asked once per panel. Data users should account for this design decision when using MCBS data for year-to-year comparisons.
- The *MCBS Variable Crosswalks* show the availability of variables for each data year and can be used to identify variables that are good candidates for year-to-year estimate comparisons.

[1]For a complete list of initial interview variables within a data year, please see the appropriate year-specific documentation.

Constructing an MCBS Dataset

The graphic below displays the steps to construct a stacked analytic dataset using calendar year 1 (CY1) and calendar year 2 (CY2) MCBS data, using the Health Insurance Summary (HISUMRY) segment as an example.



Note: It is recommended that if the full Survey File is available for a given year, then data users should use the Survey File instead of the Survey File - Early Release for year-to-year comparisons. For more information on suggested analysis using the Survey File - Early Release, please see the *MCBS Data User's Guide*.

- Step 1: Variables representing the outcome of interest should be merged with the continuously enrolled cross-sectional weights file (CENWGTS)[1] for each year in the analysis.
  - While merging, all observations in the weights file should be preserved.
- Step 2: The year-specific files should be concatenated to produce the analytic dataset.

[1]This example uses the Survey File continuously enrolled cross-sectional weights. Please see slide 16 for a list of weights that can be used to conduct year-to-year comparisons with MCBS data.

Variance Estimation for Year-to-Year Estimate Comparisons

- There is both serial and intra-cluster correlation in the MCBS data.
  - Many beneficiaries are retained from one year to the next (serial correlation).
  - The same set of Primary Sampling Units (PSUs) and Secondary Sampling Units (SSUs) are used for each year (intra-cluster correlation).
- Use the **Balanced Repeated Replication (BRR) method** to account for various correlations.
  - This method uses 100 sets of replicate weights along with each full-sample weight to estimate variances.
  - For example, the Survey File full-sample weight CEYRSWT is accompanied by the replicate weights CEYRS001-CEYRS100.
  - PROC SURVEYFREQ and PROC SURVEYMEANS in SAS can estimate variances; to use these SAS procedures, specify:
    - The full-sample weight in the 'weight' statement, the replicate weights in the 'repweight' statement, and the 'Fay' value, which is 0.30 for the MCBS.[1]
    - No need to specify sampling strata or clusters or define domains or subgroups when using the BRR method.

[1]Fay's method is a generalization of BRR and is used to provide estimates of variance when there are only two PSUs in some sampling strata. Fay's coefficient can take values from 0.00 to 0.50; the recommended value of 0.30 was chosen as a standard for the MCBS to provide a balance between the stability of variance estimates and the slight increases in variance seen with larger values of Fay's coefficient.

Use of MCBS Weights for Year-to-Year Estimate Comparisons

- Replicate cross-sectional weights include:
  - **Survey File Ever Enrolled:** Labeled **EEYRS001** through **EEYRS100** and can be found in each year's ever enrolled cross-sectional weights file **(EVRWGTS)**.
  - **Survey File Continuously Enrolled**: Labeled **CEYRS001** through **CEYRS100** and can be found in each year's continuously enrolled cross-sectional weights file **(CENWGTS)**.
  - **Cost Supplement File Ever Enrolled**: Labeled **CSEVR001 through CSEVR100** and can be found in each year's ever enrolled cross-sectional weights file **(CSEVRWGTS)**.
  - Note that data from the Survey File Topical segments must be analyzed using the special non-response adjustment weights included within each Topical segment rather than the general Survey File cross-sectional weights. For more information and guidance on appropriate use of weights, please reference the *MCBS Survey File Data User's Guides* (2015-2022) and the *MCBS Survey File Data Year Release Notes* (2023-present).
  - For more information and guidance on appropriate use of weights, please reference Section 8.4 (Weighting) of the *MCBS Data User's Guide*.

Statistical Testing in Year-to-Year Estimate Comparisons

- There are multiple methods to test for significant differences in year-to-year estimates.
- **Chi-Square test** is used with categorical data to determine if the categories influence an outcome variable differently.
  - **Example:** Is there a significant difference in the distribution of self-reported health status among Medicare beneficiaries between 2021 and 2022? (Analytic Example #1)
- **Regression analysis** models the relationship between an outcome (dependent) variable and one or more independent variables.
  - **Example:** Is there a significant difference in total amount received from retirement accounts among Medicare beneficiaries between 2021 and 2022? (Analytic Example #2)

Statistical Testing in Year-to-Year Estimate Comparisons (continued)

- There are multiple methods to test for significant differences in year-to-year estimates.
- **Two-Sample t-test** tests if there is a difference in the average of a variable between two groups.
  - **Example:** Is there a significant difference in the average satisfaction with general care among Medicare beneficiaries between 2018 and 2019?
- **Two Proportion Z-test** is used to compare the proportion of a variable between two groups.
  - **Example:** Is there a significant difference in the proportion of Medicare beneficiaries who report receiving a flu shot between 2019 and 2020?

A Note Regarding Year-to-Year Estimate Comparisons with 2014 MCBS Data

- The 2014 MCBS data were not released due to changes in sampling and data collection methodologies.
  - The Survey File and Cost Supplement File structure for the LDS was introduced in 2015. In 2013 and years prior, data were released via an Access to Care (ATC) file and a Cost and Use (CAU) file.
  - Because 2014 MCBS data were not released, a year-to-year estimate comparison that includes beneficiaries ever enrolled in Medicare in 2014 is not possible.

Section 3: Analytic Examples

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Analyzing MCBS Data

Analyzing MCBS Data (continued)

- This section walks through the process of producing basic descriptive statistics using MCBS data.
  - **Step 1: Define your research question**. The MCBS can support a broad range of analyses on the health and health care of the Medicare population. For examples, refer to the *MCBS Bibliographies* on the CMS website.
  - **Step 2: Create your analytic file**. Once you have defined your research question, identify the MCBS data file(s), weights files, and data segments and variables that your research question requires. Merge segments within or across files to create your analytic dataset and recode variables as necessary.
  - **Step 3: Conduct analyses using appropriate variance estimation methods**. The MCBS includes variables that allow researchers to obtain weighted estimates and estimated standard errors using two approaches: 1) the Taylor-series linearization method and 2) the BRR method (Fay's method).
- For more information on these topics, see the *MCBS Data User's Guide*.

Example 1 Step 1: Define Your Research Question

Example 1 Step 1: Define Your Research Question (continued)

Is there a significant difference in the distribution of self-reported health status among Medicare beneficiaries between 2021 and 2022?

- Objectives of this example:
  - Demonstrate how to use MCBS data to conduct year-to-year estimate comparisons
  - Demonstrate how to combine Survey File data across years to conduct year-to-year estimate comparisons
  - Demonstrate how to use a Chi-Square test for significance testing

Example 1 Step 2: Create Your Analytic File

Example 1 Step 2: Create Your Analytic File (continued)

- Creating your analytic file requires five steps:
  1. Identify the MCBS data file(s) that your research question requires.
  2. Identify the data segments and variables that your research question requires.
  3. Identify considerations specific to coding, data collection, and/or processing of variables of interest.
  4. Identify the study population and use the corresponding weights.
  5. Merge segments to create your analytic dataset and recode variables as necessary.

Example 1 Step 2: Create Your Analytic File (continued)

1. *Identify the MCBS data file(s) that your research question requires.*
2. *Identify the data segments and variables that your research question requires.*

Measure	File	Segment	Variable
Self-reported health status	2021 Survey File	General Health (GENHLTH)	GENHELTH
Survey year	2021 Survey File	General Health (GENHLTH)	SURVEYYR
Self-reported health status	2022 Survey File	General Health (GENHLTH)	GENHELTH
Survey year	2022 Survey File	General Health (GENHLTH)	SURVEYYR

Example 1 Step 2: Create Your Analytic File (continued)

3. Identify considerations specific to coding, data collection, and/or processing of variables of interest.

- Based on review of the *MCBS Survey File Variable Crosswalk* and *Questionnaires*, the variable of interest (GENHELTH) did not change coding or wording from 2021 to 2022 and thus is an acceptable variable to use in this analysis.
- Estimates should be suppressed when the unweighted frequency for a category of the denominator variable is less than 50 due to small sample size.
  - None of the denominators for self-reported health status (Excellent, Very good, Good, Fair, Poor) in either 2021 or 2022 meet this criteria, so no suppression is needed.

Example 1 Step 2: Create Your Analytic File (continued)

4. *Identify the study population and use the corresponding weights.*

- The population is all Medicare beneficiaries who reported sufficient information to determine their self-reported health status in 2021 and 2022.
- The estimates will be generated using data from a non-topical questionnaire section (GENHLTH), so the Survey File Continuously Enrolled weights (CEYRSWGT, CEYR1-CEYR100) from 2021 and 2022 will be used.

Example 1 Step 2: Create Your Analytic File (continued)

5. *Merge segments to create your analytic dataset and recode variables as necessary.*

- The SAS code on the next two slides shows how Survey File segments from two years can be merged with the appropriate weights segment using BASEID as the key variable.
- While merging, all observations in the weights file should be preserved.
- This example creates year-specific datasets using 2021 and 2022 data and then concatenates those files to produce an analytic dataset, survey_data_merged, containing data from both years of interest.

Example 1 Step 2: Create Your Analytic File (continued)

```
data survey_merged_2021;
        merge   survey21.DEMO (keep=BASEID)
                survey21.GENHLTH (keep=BASEID GENHELTH SURVEYYR)
                survey21.CENWGTS (keep=BASEID CEYRSWGT CEYRS001-CEYRS100)
                ;
        by BASEID;
run;

data survey_merged_2022;
        merge   survey22.DEMO (keep=BASEID)
                survey22.GENHLTH (keep=BASEID GENHELTH SURVEYYR)
                survey22.CENWGTS (keep=BASEID CEYRSWGT CEYRS001-CEYRS100)
                ;
        by BASEID;
run;

data survey_data_merged;
        set survey_merged_2021 survey_merged_2022;
run;
```

Example 1 Step 2: Create Your Analytic File (continued)

Measure	Original Variable	Recoded Variable
Self-reported health status	GENHELTH 1 Excellent 2 Very good 3 Good 4 Fair 5 Poor	GENHELTH2 1 Good, very good, or excellent 2 Fair or poor

- The SAS code below shows how the self-reported health status variable can be recoded to a dichotomous variable.

```
data survey_data_merged_recode;
            set survey_data_merged;
      if GENHELTH in (1:3)                    then GENHELTH2 = 1;      /*Good, very good, or excellent*/
      else if GENHELTH in (4:5)        then GENHELTH2 = 2;      /*Fair or poor*/
run;
```

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

SAS Code: Self-reported health status among Medicare beneficiaries, 2021-2022

BRR Method

The following SAS code requests the frequency, weighted frequency, percent, and standard errors of recoded self-reported health status (GENHELTH2) by survey year (SURVEYYR).

```
proc surveyfreq data=survey_data_merged_recode varmethod=brr (fay=.30);
      weight CEYRSWGT;
      repweights CEYRS001-CEYRS100;
      tables GENHELTH2 * SURVEYYR / col cl(type=cp) chisq1 nocellpercent ;
run;
```

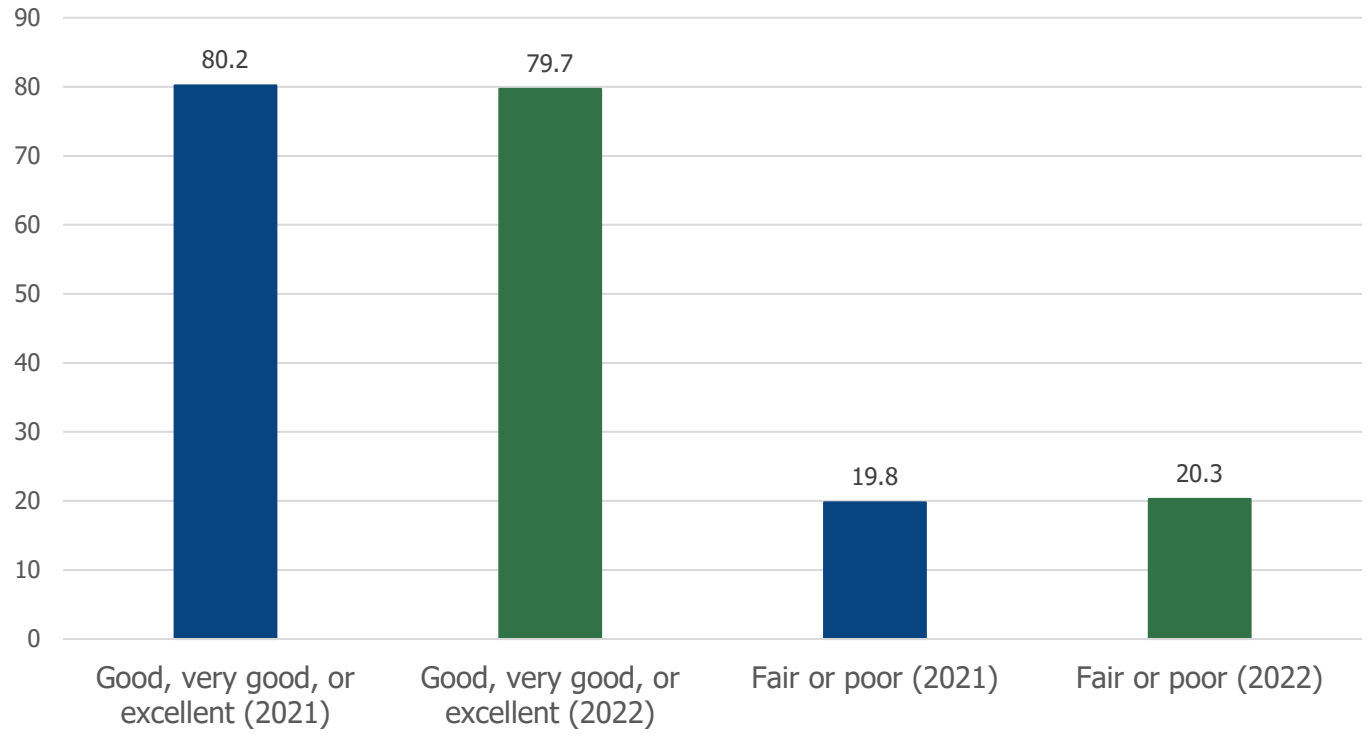
Results: Self-reported health status among Medicare beneficiaries, 2021-2022

Is there a significant difference in the distribution of self-reported health status among Medicare beneficiaries between 2021 and 2022?

Self-reported health status (Year)	Unweighted N	Weighted N	Estimate - % (St. Error - %)
Good, very good, or excellent (2021)	9,933	46,355,862	80.2 (0.43)
Good, very good, or excellent (2022)	9,605	47,219,184	79.7 (0.47)
Fair or poor (2021)	2,595	11,436,044	19.8 (0.43)
Fair or poor (2022)	2,626	12,023,200	20.3 (0.47)

SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, Survey File, 2021-2022.
NOTES: Estimates for 2021 and 2022 are based on Medicare beneficiaries who reported sufficient information to determine their self-reported health status.

Results: Self-reported health status among Medicare beneficiaries, 2021-2022



Based on the p-value (0.99), there is no statistically significant difference in the distribution of self-reported health status among Medicare beneficiaries between 2021 and 2022.

SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, Survey File, 2021-2022.
NOTES: Estimates for 2021 and 2022 are based on Medicare beneficiaries who reported sufficient information to determine their self-reported health status.

Example 2 Step 1: Define Your Research Question

Example 2 Step 1: Define Your Research Question (continued)

Is there a significant difference in total amount received from retirement accounts among Medicare beneficiaries living in households with retirement accounts between 2021 and 2022?

- Objectives of this example:
  - Demonstrate how to use MCBS data to conduct year-to-year estimate comparisons
  - Demonstrate how to combine Survey File data across years to conduct year-to-year estimate comparisons
  - Demonstrate how to adjust variables (e.g., income) to account for year-to-year changes and allow for comparison
  - Demonstrate how to use a regression analysis for significance testing

Example 2 Step 2: Create Your Analytic File

Example 2 Step 2: Create Your Analytic File (continued)

- Creating your analytic file requires five steps:
  1. Identify the MCBS data file(s) that your research question requires.
  2. Identify the data segments and variables that your research question requires.
  3. Identify considerations specific to coding, data collection, and/or processing of variables of interest.
  4. Identify the study population and use the corresponding weights.
  5. Merge segments to create your analytic dataset and recode variables as necessary.

Example 2 Step 2: Create Your Analytic File (continued)

1. *Identify the MCBS data file(s) that your research question requires.*
2. *Identify the data segments and variables that your research question requires.*

Measure	File	Segment	Variable
Total amount received from retirement accounts in the last year	2021 Survey File	Income and Assets (INCASSET)	LY401K
Survey year	2021 Survey File	Income and Assets (INCASSET)	SURVEYYR
Total amount received from retirement accounts in the last year	2022 Survey File	Income and Assets (INCASSET)	LY401K
Survey year	2022 Survey File	Income and Assets (INCASSET)	SURVEYYR

Example 2 Step 2: Create Your Analytic File (continued)

3. Identify considerations specific to coding, data collection, and/or processing of variables of interest.

- For continuous estimates, suppression is necessary when the relative standard error (RSE) is greater than 30%. RSE is calculated by dividing the standard error of the estimate by the estimate itself and multiplying by 100 (RSE = (standard error/estimate)*100).
  - RSE for total retirement income median (RSE=(standard error/median)*100) and mean (RSE=(standard error/mean)*100) is less than 30% for both 2021 and 2022, so suppression is not needed.
- The analysis will produce the adjusted mean and median as the estimates. For additional information on adjusting financial data for inflation when making year-to-year comparisons, see https://meps.ahrq.gov/about_meps/Price_Index.shtml#t1a2.

Example 2 Step 2: Create Your Analytic File (continued)

4. *Identify the study population and use the corresponding weights.*

- The population is restricted to Medicare beneficiaries who reported sufficient information to determine their retirement income in 2021 and 2022.
- The estimates will be generated using data from a Topical questionnaire section (INCASSET), so the special non-response adjusted weights included in the INCASSET Topical segment should be used from 2021 and 2022. For this analysis, the ever enrolled cross-sectional Topical weights (e.g., INSEWT, INSE1-INSE100) on INCASSET will be used.

Example 2 Step 2: Create Your Analytic File (continued)

5. Merge segments to create your analytic dataset and recode variables, as necessary.

- The SAS code on the next two slides shows how Survey File segments from multiple years can be merged with the appropriate weights segment using BASEID as the key variable.
- While merging, all observations in the weights file should be preserved.
- This example creates year-specific datasets using 2021 and 2022 data and then concatenates those files to produce an analytic dataset, surveyfile_merged_ly401k, containing data from both years of interest.
- The SAS code also demonstrates how to create a variable that adjusts 2021 data to the 2022 data using the price index series. This adjusted variable is then renamed, and the original unadjusted variable is dropped from the combined dataset.

Example 2 Step 2: Create Your Analytic File (continued)

```
data surveyfile_merged_2021;
        merge survey21.DEMO (keep=BASEID)
                survey21.INCASSET (keep=BASEID LY401K SURVEYYR INSEWT INSE1-INSE100)
                ;
        by BASEID;
run;

data surveyfile_merged_2021_adj;
        set surveyfile_merged_2021;
        /* Adjust measures to constant dollars using GDP price index:
                Adjusted Expenditure = Original Expenditure * (Target Year Index/Survey Year Index) */
        LY401K_adj = LY401K *(117.996/110.220);
        drop LY401K;
        rename LY401K_adj = LY401K;
run;
```

Example 2 Step 2: Create Your Analytic File (continued)

```
data surveyfile_merged_2022;
        merge survey22.DEMO (keep=BASEID)
                survey22.INCASSET (keep=BASEID LY401K SURVEYYR INSEWT INSE1-INSE100)
                ;
        by BASEID;
run;

data surveyfile_merged_ly401k;
        set surveyfile_merged_2021_adj surveyfile_merged_2022;
        by BASEID;
run;
```

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

SAS Code: Total amount from retirement accounts (among households with retirement accounts), 2021-2022

BRR Method

The following SAS code requests the median, standard error, and confidence limit range of total amount from retirement accounts (LY401K) by year (SURVEYYR).

```
proc surveymeans data=surveyfile_merged_ly401k median varmethod=brr (fay=0.30);
      weight INSEWT;
      repweights INSE1-INSE100;
      var LY401K;
      where SURVEYYR = 2021;
run;

proc surveymeans data=surveyfile_merged_ly401k median varmethod=brr (fay=0.30);
      weight INSEWT;
      repweights INSE1-INSE100;
      var LY401K;
      where SURVEYYR = 2022;
run;
```

SAS Code: Total amount from retirement accounts (among households with retirement accounts), 2021-2022

Regression Analysis for Significance Testing

The following SAS code is an example of using a regression analysis to produce estimates for and test for significant differences in mean total amount from retirement accounts (LY401K) by year (SURVEYYR).

```
proc surveyreg data=surveyfile_merged_ly401k varmethod=brr(fay=0.30);
    class SURVEYYR;  /* Declare Year as a categorical variable */
    model LY401K = SURVEYYR;  /* Year is the independent variable */
    lsmeans SURVEYYR / diff;
    weight INSEWT;
    repweights INSE1-INSE100;
run;
```

Results: Total amount from retirement accounts (among households with retirement accounts), 2021-2022

Is there a significant difference in total amount received from retirement accounts (among households with retirement accounts) among Medicare beneficiaries between 2021 and 2022?

Year	Mean - $ (St. Error - $)	Median- $ (St. Error - $)
2021	19,613 (719.93)	4,851 (297.87)
2022	17,345 (810.90)	3,992 (446.07)

SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, Survey File, 2021-2022.
NOTES: Estimates for 2021 and 2022 are based on Medicare beneficiaries who reported sufficient information to determine total amount from retirement accounts last year.

Results: Total amount from retirement accounts (among households with retirement accounts), 2021-2022

SURVEYYR Least Squares Means					
Survey Year	Estimate	Standard Error	DF	t Value	Pr > |t|
2021	19613	719.93	100	27.24	<.0001
2022	17345	810.90	100	21.39	<.0001

Differences of SURVEYYR Least Squares Means						
Survey Year	Survey Year	Estimate	Standard Error	DF	t Value	Pr > |t|
2021	2022	2268.46	952.20	100	2.38	0.0191

Based on the p-value (0.0191), there is a statistically significant difference in mean total amount from retirement accounts among Medicare beneficiaries from 2021 to 2022.

SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, Survey File, 2021-2022.
NOTES: Estimates for 2021 and 2022 are based on Medicare beneficiaries who reported sufficient information to determine total amount from retirement accounts last year.

Please refer to the *MCBS Data User's Guide* and other *MCBS Advanced Tutorials* or more information on conducting analyses with MCBS data.

Thank you!

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

MCBS
Medicare Current Beneficiary Survey

The MCBS is authorized by section 1875 (42 USC 1395ll) 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.