



Technical Notes for Rapid Surveys System Round 1 dashboards and web tables

Introduction

The National Center for Health Statistics (NCHS) Rapid Surveys System (RSS) is a platform that utilizes commercially available probability-based online panels to provide time-sensitive data about emerging and priority health concerns. RSS began fielding in 2023, and has a different questionnaire administered each round of data collection.

To provide timely access to selected point estimates based on RSS content, dashboards and web tables are released following each round of data collection. Percentages are shown by selected population subgroups such as age group, sex, race and Hispanic origin, education, household income as a percentage of the federal poverty level, region, and urbanicity.

Methods

Data Source

The target population of RSS Round 1 (RSS-1) is all U.S. adults aged 18 and older. Data were collected in August 2023 from two commercial panel providers using the same questionnaire (<https://www.cdc.gov/nchs/data/rss/questionnaire.pdf>). Two samples were drawn from each panel for the purpose of evaluating two data collection methodologies. For each panel, Sample 1 was collected using standard protocols (method 1) and Sample 2 was collected using additional efforts to increase response rates and sample representativeness (method 2). As they were collected using experimental methods, responses from Sample 2 in each panel were not used to produce published RSS-1 estimates in dashboards and web tables. The combined completion rate for both panels using method 1 was 41.5% (1).

Both panel providers collect profile information from their panelists on a regular basis, including several sociodemographic and geographic characteristics. As these data were already available for RSS respondents as part of their panel profile data, questions about these characteristics were not re-asked on the RSS questionnaire. These measures were harmonized into common categories, but the information was collected separately from RSS, at different times and using different questions in each panel.

Details on data collection, sampling methods, response rates, weighting methodologies, and other data processing components can be found in the Survey Description (<https://www.cdc.gov/nchs/data/rss/survey-description.pdf>) and the Quality Profile (<https://www.cdc.gov/nchs/data/rss/quality-profile.pdf>).

Estimation procedures

The RSS-1 questionnaire included several variables which were used to calibrate survey weights to NHIS population totals. These final calibrated weights were used to generate the estimates in the released dashboards and web tables.



Cases with missing data are excluded from the analysis, unless otherwise mentioned. Data would be considered missing for a variable if, for example, the respondent refused or didn't know how to respond, or if they skipped the question on the web. These are henceforth referred to as nonresponse. Overall, item nonresponse rates were low, averaging <2% per item in the combined file. Several of the sociodemographic characteristics used in the dashboards and web tables have very low or no missing values, as they were imputed when missing for weighting purposes. Exceptions include some content in the Air Cleaners and Purifiers (VEN) and Race and Ethnicity Measurement Methods (DEM) sections of the questionnaire, which had some items with nonresponse higher than 5%, most of which were below 10%. Data users using these measures are encouraged to consider the impact of nonresponse, if applicable to their analysis/research. Please see the Quality Profile (<https://www.cdc.gov/nchs/data/rss/quality-profile.pdf>) for more information.

Data limitations

While faster to produce compared to traditional household surveys, web-based panel surveys are subject to issues regarding accuracy and usability. Web-based panel surveys often have lower response rates than large-scale national surveys and may underrepresent certain subpopulations. This can lead to biased estimates when attempting to make inferences to the national population. Panel survey nonresponse occurs at many stages, including panel recruitment, panel retention, and at the individual survey level. RSS aims to compensate for nonresponse through calibration and weighting of the RSS to gold standard NCHS surveys. However, the effectiveness of these weighting adjustments for nonresponse may vary across survey estimates and will depend on the availability of appropriate gold standard survey data. RSS also includes a benchmarking component, which allows comparison of estimates to those from the same questions on other surveys, to facilitate bias assessments for a wide array of health-related estimates. These bias assessments provide context on the effectiveness of the weighting adjustments and quality of estimates generated from RSS. For an evaluation of the quality of RSS-1 data, including the calibration of weights and benchmark analysis, please see the Quality Profile (<https://www.cdc.gov/nchs/data/rss/quality-profile.pdf>).

Another limitation of RSS is that some of the sociodemographic and geographic variables are drawn from panel profile variables, which are collected separately from RSS, and are collected at different times than the RSS health topic content and using different questions in each panel. Although they are updated regularly, it is not known whether any of these characteristics had changed between the last time the panel collected the information and the respondent completed the RSS-1 questionnaire.

Variance estimation, statistical reliability, and hypothesis tests

All estimates shown meet the NCHS standards of reliability as specified in *National Center for Health Statistics Data Presentation Standards for Proportions* (2). Unreliable estimates are indicated with an asterisk (*) and are not shown. Reliable estimates with an unreliable complement are shown but are indicated with two asterisks (**). Complements are calculated as 100 minus the percentage. The standards are applied directly for percentages. Two-sided 95% confidence intervals are calculated using the Clopper-Pearson method adapted for complex surveys by Korn and Graubard (2). Standard errors used in this calculation were obtained using SUDAAN software, which takes into account the complex sampling design of RSS. The Taylor series linearization method was used for variance estimation.

Definitions of selected terms

Sociodemographic and geographic characteristics from panel profile data

The following sociodemographic and geographic characteristics used as covariates in these dashboards and tables were collected as part of the panel profile information (not RSS questionnaire) and harmonized between the two panels.

Age – Age is recorded in single years and grouped into categories depending on the purpose of the table or dashboard.

Education – Categories of education are based on years of school completed or highest degree obtained. GED is General Educational Development high school equivalency diploma.

Sex – Respondents are classified as Male or Female.

Hispanic origin and race – Hispanic origin and race are collected as two separate and distinct concepts by the two panels. Hispanic persons may be of any race. Hispanic origin and race is divided into Hispanic and Not Hispanic. Not Hispanic is further divided into Black or African American only, non-Hispanic; White only, non-Hispanic; and Other single or multiple races, non-Hispanic. Certain tables also show Asian only, non-Hispanic. Note that the Race and Ethnicity Measurement section of the questionnaire content (see below) is considered experimental and handles the definition and categorization of race and Hispanic ethnicity differently.

Home ownership status – Respondents are classified whether they own their home, rent, or occupy their home without payment of cash rent.

Household income as a percentage of the federal poverty level – Categories presented are Less than 100% FPL, 100% to less than 200% FPL, and 200% FPL and greater. FPL is federal poverty level.

Nativity – Respondents were categorized by whether they were born in the United States. This item had higher than typical nonresponse from one of the panel providers. Estimates are provided for those with missing information as a separate category.

Presence of children in household – Select tables include measures of any children residing in the household, which includes any children with ages under 18 years old.

Region – In the geographic classification of the U.S. population, states are grouped into four regions used by the U.S. Census Bureau:

- Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont
- Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin
- South: Alabama, Arkansas, Delaware, District of Columbia, Kentucky, Florida, Georgia, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia
- West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Urbanicity – Based on the 2013 NCHS Urban-Rural Classification Scheme for Counties (3) which groups U.S. counties and county-equivalent entities into six categories: large central metropolitan, large fringe metropolitan, medium metropolitan, small metropolitan, micropolitan, and non-core. For the RSS dashboards and tables,

medium and small metropolitan are combined into a single group, and micropolitan and non-core are combined into a single group (nonmetropolitan).

Select outcomes collected on questionnaire

Estimates for most measures are generated from a single question on the questionnaire. For exact wording of questions, please see the questionnaire (<https://www.cdc.gov/nchs/data/rss/questionnaire.pdf>). Below are additional details on some of the outcomes shown in the dashboards and tables.

Air cleaners and purifiers – Questions about frequency of use of air cleaners or purifiers in the home had the following answer categories: Never, Rarely, Sometimes, and Always. Adults who reported Rarely, Sometimes, or Always were included as using these devices. Additional questions about reasons for using these devices were asked of adults who selected Rarely, Sometimes, or Always, and additional questions about reasons for not using these devices were asked of adults who selected Never. Reasons adults use or do not use air cleaners or purifiers were not mutually exclusive. Responses of Don't know to the question about frequency of use of portable air cleaners or purifiers are included in the denominator for estimates of use of an air cleaner or purifier with HEPA filter.

Genetic tests – Questions about concerns about the results of genetic testing for cancer risk impacting insurance use or employment had the following answer categories: Not at all concerned, A little concerned, Somewhat concerned, and Very concerned. Estimates are shown for adults who selected A little concerned, Somewhat concerned, or Very concerned.

Long COVID – Questions about attitudes or beliefs on Long COVID had the following answer categories: Strongly disagree, Somewhat disagree, Somewhat agree, Strongly agree, and Don't know. These questions were some of the only questions with an on-screen option to select Don't know. Estimates for these measures are shown for adults who selected Somewhat agree or Strongly agree, but those who selected Don't Know were included in the denominator for these measures. Analysis including these responses of Don't know as missing values is possible but would likely yield different results.

Race and ethnicity measurement methods - Estimates of race and ethnicity as collected in the RSS-1 questionnaire (as opposed to in the panel profile data) were based on experimental questions proposed by the Office of Management and Budget (OMB) for collecting race and ethnicity. The proposed changes include asking about Hispanic ethnicity and race as part of the same question, versus separate questions, and the addition of a Middle Eastern or North African response option, which is not currently part of the OMB 1997 Standards. The RSS-1 questionnaire also included follow-up questions (which were also present in the OMB proposal), for adults who selected White, Hispanic or Latino, Black or African American, Asian, Middle Eastern or North African, or Native Hawaiian or Pacific Islander, which asked about specific racial or ethnic subgroups, including an opportunity to write in additional subgroups in an open response. Counts included both subgroups selected and responses provided in open-response option. Those who selected American Indian or Alaska Native were not provided subgroups, but were provided an open-response option which had entries counted. All estimates based on these measures are generated after any verbatim responses were upcoded, where appropriate, and counted.

As part of the experimental nature of these questions on RSS, four versions (with slightly different wording) of the initial race and ethnicity question were fielded, each to one-quarter of respondents. The aim was to determine if these slight variations in this wording or inclusion of reminders would result in differential reporting of race or ethnicity, including multiple races or ethnicities. The four variations are as follows:

1. What races or ethnicities are you? Please [select/tell me] all that apply. Are you:

2. What races or ethnicities are you? Please [select/tell me] all that apply, and note that you may report more than one group. Are you:
3. What race or ethnicity are you? Please [select/tell me] all that apply. Are you:
4. What race or ethnicity are you? Please [select/tell me] all that apply, and note that you may report more than one group. Are you:

All four versions had the same response categories:

- a. White
- b. Hispanic or Latino
- c. Black or African American
- d. Asian
- e. American Indian or Alaska Native
- f. Middle Eastern or North African
- g. Native Hawaiian or Pacific Islander

Follow-up questions about subgroups within each selected race or ethnicity also had two versions fielded, each to one-half of respondents. The two variations are as follows:

1. You said that you are [race or ethnicity reported]. Please [select/tell me] all that apply. Are you:
2. You said that you are [race or ethnicity reported]. Please [select/tell me] all that apply, and note that you may report more than one group. Are you:

The responses provided various subgroups as options, as well as a write-in option, depending on the race categories reported in the initial questions 1-4 above.

Sunscreen – Respondents were asked when outdoors in the sun, in warm weather, how often they use sunscreen on their face and on other exposed skin, in two separate questions. The question about sunscreen use on the face instructed respondents to not include makeup or moisturizer that includes sunscreen. For these two questions, they were asked to select from the following answer categories: Never, Rarely, Sometimes, Most of the time, and Always. Estimates of adults who selected Most of the time or Always are shown for each question individually as well as a composite.

Questions about the importance of features of sunscreen had the following answer categories: Not important at all, Slightly important, Moderately important, and Very important. Estimates are shown for adults who selected Moderately important or Very important. Additional questions asked about how respondents agreed or disagreed with various statements about sunscreen, with the following answer categories: Strongly disagree, Somewhat disagree, Somewhat agree, Strongly agree. Estimates are shown for adults who selected Somewhat agree or Strongly agree.

Further information

Data users can obtain the latest information about RSS by periodically checking the website (<https://www.cdc.gov/nchs/rss/rapid-surveys-system.html>). This website will feature downloadable public-use data and documentation for RSS, as well as important information about any modifications or updates to the data or documentation.

Suggested citations

Recommended citations for specific tables and charts are included in the notes at the end of each page. The citation for the Technical Notes is as follows, although it should also include the date accessed as it may be edited periodically when new tables are added.

NCHS. Technical Notes for Rapid Surveys System Round 1 dashboards and web tables. Available from: <https://www.cdc.gov/nchs/data/rss/technical-notes.pdf>.

References

1. National Center for Health Statistics. Rapid Surveys System (RSS): Round 1 survey description. 2024. Available from: <https://www.cdc.gov/nchs/data/rss/survey-description.pdf>.
2. Parker JD, Talih M, Malec DJ, Beresovsky V, Carroll M, Gonzalez JF Jr, et al. National Center for Health Statistics data presentation standards for proportions. National Center for Health Statistics. Vital Health Stat 2(175). 2017.
3. National Center for Health Statistics. NCHS urban–rural classification scheme for counties. Available from: https://www.cdc.gov/nchs/data_access/urban_rural.htm#2013_Urban-Rural_Classification_Scheme_for_Counties.