Source of the Data and Accuracy of the Household Trends and Outlook Pulse Survey (HTOPS) Data Collection of September 2026

SOURCE OF THE DATA

The Household Trends and Outlook Pulse Survey (HTOPS), an experimental data product, measures how emergent social and economic issues impact U.S. households. The HTOPS is conducted by the United States Census Bureau in partnership with other Federal agencies and offices including:

- Bureau of Labor Statistics (BLS)
- Bureau of Transportation Statistics (BTS)
- Centers for Disease Control and Prevention (CDC)
- Department of Defense (DOD)
- Energy Information Administration (EIA)
- Department of Housing and Urban Development (HUD)
- Food and Drug Administration (FDA)
- HHS Administration for Community Living (HHS/ACL)
- HHS Office of the Assistant Secretary for Planning and Evaluation (HHS/ASPE)
- HHS Office of the Surgeon General (OSG)
- Maternal and Child Health Bureau (MCHB)
- National Center for Education Statistics (NCES)
- National Center for Health Statistics (NCHS)
- National Center for Immunization and Respiratory Diseases (NCIRD)
- National Endowment for the Arts (NEA)
- National Institute for Occupational Safety and Health (NIOSH)
- USDA Economic Research Service (ERS)
- USDA Food and Nutrition Service (FNS)
- The White House Council of Economic Advisers (CEA)

These agencies collaborated on the design and provided content for the September 2026 data collection.

As part of the Census Bureau's efforts to ensure these vital data are produced in an efficient, less burdensome manner—while enhancing their usefulness—for informing policy, the Census Bureau introduced new methods for conducting the HTOPS. Since early October 2024, HTOPS content was incorporated into a longitudinal design with data being collected every other month and released at the national level. The longitudinal design benefited the HTOPS data by allowing direct measurement of change over a much longer period of time in critical elements like spending, inflation, and other social and economic indicators of well-being.

To further strengthen the HTOPS program, beginning March 2026, the Census Bureau transitioned the HTOPS from a longitudinal to a cross-sectional design. The cross-sectional

approach provides independent bi-monthly samples, allowing for frequent data collections on a wide range of topics across diverse population subgroups. This design supports the production of estimates that meet quality standards of the Federal Statistical Agencies and the Office of Management and Budget (OMB).

The sample for this survey is selected from the Census Bureau's Master Address File (MAF). This ensures that the survey is rooted in a rigorously developed and maintained frame, and available for linkage to administrative records securely maintained and curated by the Census Bureau. Initial invitations to enroll in this survey were sent by mail and questionnaires were collected mainly by internet self-response. The survey maintains representativeness by allowing respondents who choose not to respond via the internet to respond via in-bound computer-assisted telephone interviewing (CATI).

The Census Bureau has reviewed this data product to ensure appropriate access, use, and disclosure avoidance protection of the confidential source data (Project No. P-7536034, Disclosure Review Board (DRB) approval number: CBDRB-FY27-0040).

The Household Trends and Outlook Pulse Survey measures how emergent social and economic issues are impacting households across the country.

The September HTOPS asked about core demographic household characteristics, as well as the following topics:

- Access to infant formula
- Children's mental health treatment
- Education, specifically K-12 enrollment
- Childcare arrangements
- Employment
- Food sufficiency
- Housing security
- Impacts of heat
- Dietary guidelines and consumer behavior
- Trust in health information sources
- Household spending, including energy expenditures and consumption
- Inflation concerns and changes in behavior due to increasing prices
- Mental health
- Transportation
- Health insurance coverage (including Medicaid)
- Social isolation
- Shortage of critical items
- Use of NARCAN
- Participation with the arts
- Trust in government
- The use of SI at work and home
- Suicidal ideation

Table 1 provides the start and end dates for the September 2026 data collection.

Table 1. Data Collection Periods for the September Household Trends and Outlook Pulse Survey

Data Collection Period Start Date	Data Collection Period Finish Date
September 9, 2026	October 12, 2026

Sample Design

The HTOPS utilizes the Census Bureau's MAF as the universe for the sampled housing units (HUs). HUs on the January 2025 MAF were stratified based on information obtained from the Demographic Frame[1], the 2024 Block-Group Level Planning Database (PDB)[2], and the 2024 Community Resilience Estimates[3] (CRE), which uses a Boolean social vulnerability flag to determine which housing units (HUs) are in vulnerable tracts.

The Demographic Frame is a comprehensive database of person-level data that contains demographic characteristics and addresses associated with each person. It is derived from administrative, third-party, census, and survey data sources. The Demographic Frame includes unique person-level identifiers used to link individuals across datasets. Extracts from the Demographic Frame are available only to approved internal users in a secured computing environment.

The 2024 PDB is a dataset that contains a range of housing, demographic, socioeconomic, and census operational data. The estimates in the PDB are derived from 2020 Census counts and 2016-2020 American Community Survey (ACS) 5-year estimates. Data are summarized for all block groups in the country and the territory of Puerto Rico.

The CRE program provides a metric for every neighborhood in the United States concerning its level of social vulnerability to the impacts of disasters. Census tract-level measures of social vulnerability are produced using small area estimation (SAE) techniques to combine data from the ACS, Decennial Census, and the Population Estimates Program (PEP).

To form the sampling strata, HUs were first linked to the Demographic Frame, PDB, and CRE to enable partitioning HUs into groups based on race, ethnicity, and social vulnerability. Those groups historically associated with low response, were assigned to the low-response stratum while the remaining HUs were assigned to the high response stratum. Table 2 provides the resulting strata.

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[1] More information on the Demographic Frame is available on the Frames Program (census.gov) website.

[2] More information of the PDB is available on the 2024 Planning Database (census.gov) website.

[3] More information on the CRE is available on https://www.census.gov/programs-surveys/community-resilience-estimates.html

Table 2. Stratum Definitions and Size of Stratum from the January 2025 MAF

Stratum	Characteristics	Stratum Size+
HIGH	High Response Stratum	86,099,000
LOW	Low Response Stratum	66,950,000

Source: U.S. Census Bureau
+Stratum sizes are rounded to the thousands.

The sample was then selected systematically within high and low strata within the geographic areas defined by the four Census regions[4] combined with the 10 largest Core Based Statistical Areas (CBSA). Adjustments were applied to the sampling intervals to support the production of estimates for both the four Census regions and the 10 largest CBSAs.

Sample sizes were determined such that a 9 percent coefficient of variation (CV) for a target estimate of 15 percent of the population would be achieved for each of the four Census regions and the 10 largest CBSAs. In addition, the sample size calculation assumed a 10 percent response rate, which yielded an overall national sample size requirement of 136,000 HUs.

Oversampling was conducted in all strata except the two non-Hispanic white population strata to ensure reliable estimates of low-response subgroups.

Data Collection

Initial invitations to complete the HTOPS survey online were distributed via a postal mailing. Households received up to three invitation or reminder mailings total. An outbound telephone follow-up operation and inbound call operations were employed in addition to an automated reminder call operation to encourage higher participation.

The Census Bureau conducted the survey online using CENTURION, the Census Bureau's web-based application used for the design, delivery, and execution of surveys, censuses, and other data collection and data exchange efforts over the Internet. This system has been designed to provide respondents of the Census Bureau's many surveys and censuses a secure means to respond over the Internet.

Approximately 14,000 respondents participated in the September 2026 HTOPS sample. Table 3 shows the sample sizes and the number of responses for the data collection.

Table 3. Sample Size and Number of Respondents at the National Level

Data Collection	Sample Size	Number of Respondents
September HTOPS	136,000	14,000

Source: U.S. Census Bureau, September 2026 Household Trends and Outlook Pulse Survey

[4] Go to census.gov for a map of the Census regions.

Estimation Procedure

The weighting procedures for the respondent sample apply adjustments to correct for nonresponse and coverage bias. The final HTOPS weights are designed to produce national, region-level, and CBSA-level estimates (10 largest) for the total population aged 18 and older living within HUs. These weights are created by adjusting the HU-level sampling base weights by various factors to account for nonresponse, adults per household, and coverage.

The sampling base weights in each of the four sample regions and top 10 CBSAs are calculated as the total eligible HUs in the sampling frame divided by the number of eligible HUs selected for interviews. Therefore, the base weights for all sampled HUs sum to the total number eligible HUs on the MAF within each region and CBSA.

The final HTOPS person weights are created by applying the following adjustments to the sampling base weights:

1. Nonresponse adjustment – the weight of all sample units that did not respond to the HTOPS are evenly allocated to the units that did respond within each sampling stratum. After this step, the weights of all respondents sum to the total HUs on the MAF.
2. Occupied HU ratio adjustment – this adjustment corrects for undercoverage in the sampling frame by inflating the HU weights after the nonresponse adjustment to match independent controls for the number of occupied HUs within each geographic area defined by the combined Census regions and 10 largest CBSAs. For this adjustment, the independent controls are from the 2024 American Community Survey (ACS) one-year, region and CBSA-level estimates available at www.census.gov[5].
3. Person adjustment – this adjustment converts the HU weights into person weights by multiplying them by the number of persons aged 18 and older that are reported to live within the household. The number of adults is based on subtracting the number of children under 18 years old in the household from the number of total persons in the household. This number is capped at 10 adults.
4. Iterative raking ratio to population estimates – this procedure controls person weights so that estimates of totals match population controls for the Census regions and the 10 largest CBSAs geographies combined, and for demographics at the national level. The ratio adjustment is done through an iterative raking procedure to simultaneously control the sample estimates to population controls sourced from the ACS and the PEP: educational attainment estimates from the 2024 1-year ACS estimates (Table B15001)[6], and age, sex, and Hispanic origin/race from the Census Bureau's Population Estimates Program (PEP). Additionally, this procedure also controlled to population counts for each combined region and 10 largest CBSAs geographic area. The PEP provided household population estimates by single year of age (0-84, 85+) and sex, race (31 groups), and Hispanic origin for regions from the vintage 2025 estimates

[5] The one-year estimates are at this URL: B25002: Occupancy Status - Census Bureau Table
[6] The1-year state-level detailed table B15001 is located at this URL: B15001 - Census Bureau Tables.

series[7]. The ACS 2024 estimates are adjusted to match the 2025 population controls at the national level. Table 4 shows the raking dimensions and adjustment cells. The raking procedure runs until convergence or a maximum of 10 iterations.

Before the raking procedure is applied, a check was performed to ensure that no cells contained less than 30 cases. The cells after collapsing remained the same throughout the raking. These collapsed cells are also used in the calculation of replicate weights for variance estimation. Collapsing occurred only before raking; there is no collapsing during the first three steps of weighting

Table 4: Raking Dimensions and Adjustment Cells

Dimension	Adjustment Cells
Geocode (Census region and 10 largest CBSAs combined)	{01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15}
Sex	{Male, Female}
Age (years)	{18-24, 25-34, 35-44, 45-64, 65+}
Educational Attainment	{No HS diploma, HS diploma, Some college/Associate's degree, Bachelor's degree or higher}
Race-Ethnicity	{Hispanic, White non-Hispanic, Black non-Hispanic, Other non-Hispanic}

The final HTOPS HU weights are created by applying the following adjustments to the final HTOPS person weights:

1. HU adjustment – this adjustment converts the person level weight back into a HU weight by dividing the person level weight by the number of persons aged 18 and older that are reported to live within the household. The number of adults is the same value used to create the person adjustment in Step 3 above.
2. Occupied HU ratio adjustment – this adjustment ensures that the final HTOPS HU weights will sum to the 2024 ACS one-year, combined region and 10 largest CBSAs geographic area estimates available at www.census.gov. This ratio adjustment is the same adjustment applied to the person weights in Step 2 above but is needed again because the CBSA-region totals may have changed as a result of the iterative raking adjustment in the final step of the person weight creation.

For HTOPS data releases that include detailed tables, the tables show frequency counts rather than percentages. Showing the frequency counts allows data users to see the count of cases for each topic and variable that are in each response category and in the 'Did Not Report' category. This 'Did Not Report' category is not a commonly used data category in U.S. Census Bureau tables. Most survey programs review these missing data and

[7] The Vintage 2025 estimates methodology statement is available at this URL: methods-statement-v2025.pdf
The Modified Race Summary File methodology statement is available at this URL: https://www2.census.gov/programs-surveys/popest/technical-documentation/methodology/modified-race-summary-file-method/mrsf2010.pdf

statistically assign them to one of the other response categories based on other characteristics.

In these tables, the Census Bureau recommends choosing the numerators and denominators for percentages carefully, so that missing data are deliberately included or excluded in these calculations. In the absence of external information, the percentage based on only the responding cases will most closely match a percentage that would result from statistical imputation. Including the missing data in the denominator for percentages will lower the percentages that are calculated.

Users may develop statistical imputations for the missing data but should ensure that they continue to be deliberate and transparent with their handling of these data.

ACCURACY OF THE ESTIMATES

A sample survey estimate has two types of error: sampling and nonsampling. The accuracy of an estimate depends on both types of error. The nature of the sampling error is known given the survey design; the full extent of the nonsampling error is unknown.

Sampling Error

Since the HTOPS estimates come from a sample, they may differ from figures from an enumeration of the entire population using the same questionnaires, instructions, and enumeration methods. For a given estimator, the difference between an estimate based on a sample and the estimate that would result if the sample were to include the entire population is known as sampling error. Standard errors, as calculated by methods described below in "Standard Errors and Their Use," are primarily measures of the magnitude of sampling error. However, the estimation of standard errors may include some nonsampling error.

Nonsampling Error

For a given estimator, the difference between the estimate that would result if the sample were to include the entire population and the true population value being estimated is known as nonsampling error. There are several sources of nonsampling error that may occur during the development or execution of the survey. It can occur because of circumstances created by the respondent, the survey instrument, or the way the data is collected and processed. Some nonsampling errors, and examples of each, include:

- Measurement error: The respondent provides incorrect information, the respondent estimates the requested information, or an unclear survey question is misunderstood by the respondent. The interviewer may also be a source of measurement error.
- Coverage error: Some individuals who should have been included in the survey frame were missed.
- Nonresponse error: Responses are not collected from all those in the sample or the respondent is unwilling to provide information.
- Imputation error: Values are estimated imprecisely for missing data.

To minimize these errors, the Census Bureau applies quality control procedures during all stages of the production process including the design of the survey, the wording of questions, and the statistical review of reports.

Two types of nonsampling error that can be examined to a limited extent are nonresponse and undercoverage.

Nonresponse

The effect of nonresponse bias cannot be measured directly, but one indication of its potential effect is the nonresponse rate. Tables 5 and 6 show the unit response rates by collection period.

Table 5. Unweighted National Level Response Rates by Collection Period for the Household Trends and Outlook Pulse Survey

Data Collection	Overall Response Rate (Percent)
September 2026 HTOPS	10.32

Source: U.S. Census Bureau, September 2026 Household Trends and Outlook Pulse Survey.

Table 6. Weighted National Level Response Rates by Collection Period for the Household Trends and Outlook Pulse Survey

Data Collection	Overall Response Rate (Percent)
September 2026 HTOPS	11.66

Source: U.S. Census Bureau, September 2026 Household Trends and Outlook Pulse Survey.

Responses are made up of complete interviews and sufficient partial interviews. A sufficient partial interview is an interview in which the household or person answered enough of the questionnaire to be considered a complete interview. Some remaining questions may have been edited or imputed to fill in missing values. Insufficient partial interviews are considered nonrespondents.

Undercoverage

The concept of coverage with a survey sampling process is defined as the extent to which the total population that could be selected for sample "covers" the survey's target population. Missed HUs and missed people within sample households create undercoverage in the HTOPS. A common measure of survey coverage is the coverage ratio, calculated as the estimated population before poststratification divided by the independent population control.

HTOPS person coverage varies with age, sex, Hispanic origin/race, and educational attainment. Generally, coverage is higher for females than for males and higher for the non-black population than for the black population. This differential coverage is a general issue for most household-based surveys. The HTOPS weighting procedure tries to mitigate the bias from undercoverage within the raking procedure. However, due to small sample sizes, some demographic cells need collapsing to increase sample counts within the raking cells.

Table 7 shows the coverage ratios for the person demographics of age, sex, Hispanic origin/race, and educational attainment before and after the raking procedure was run.

Table 7. Person-Level Coverage Ratios at the National Level for Household Trends and Outlook Pulse Survey Before and After Raking

Demographic Characteristic	Before Raking	After Raking
Total Population	1.01	1.00
Male	1.03	1.00
Female	0.97	1.00
Age 18-24	0.16	1.00
Age 25-29	0.36	1.00
Age 30-34	0.56	1.00
Age 35 - 39	0.68	1.00
Age 40-44	0.92	1.00
Age 45-49	0.99	1.00
Age 50-54	1.15	1.00
Age 55-64	1.42	1.00
Age 65+	1.62	1.00
Hispanic	1.09	1.00
Non-Hispanic White-only	0.66	1.02
Non-Hispanic Black-only	0.55	0.98
Non-Hispanic other races	0.47	0.91
No high-school diploma	0.35	1.00
High-school diploma	0.51	1.00
Some college or associate's degree	1.31	1.00
Bachelor's degree or higher	1.41	1.00

Source: U.S. Census Bureau, September 2026 Household Trends and Outlook Pulse Survey.

Biases may also be present when people who are missed by the survey differ from those interviewed in ways other than age, sex, Hispanic origin/race, and educational attainment. How this weighting procedure affects other variables in the survey is not precisely known. All these considerations affect comparisons across different surveys or data sources.

Comparability of Data

Data obtained from the HTOPS, and other sources, are not entirely comparable. This is due to differences in data collection processes, as well as different editing procedures of the data, within this survey and others. These differences are examples of nonsampling variability not reflected in the standard errors. Therefore, caution should be used when comparing results from different sources.

A Nonsampling Error Warning

Since the full extent of the nonsampling error is unknown, one should be particularly careful when interpreting results based on small differences between estimates. The Census Bureau recommends that data users incorporate information about nonsampling errors into their analyses, as nonsampling error could impact the conclusions drawn from

the results. Caution should also be used when interpreting results based on a relatively small number of cases.

Standard Errors and Their Use

A sample estimate and its standard error enable the creation of a confidence interval. A confidence interval is a range about a given estimate that has a specified probability of containing the true value. For example, if all possible samples were surveyed under essentially the same general conditions and using the same sample design, and if an estimate and its standard error were calculated from each sample, then approximately 90 percent of the intervals from 1.645 standard errors below the estimate to 1.645 standard errors above the estimate would include the true value.

A particular confidence interval may or may not contain the average estimate derived from all possible samples, but one can say with the specified confidence that the interval includes the average estimate calculated from all possible samples.

The context and meaning of the estimate must be kept in mind when creating the confidence intervals. Users should be aware of any "natural" limits on the bounds of the confidence interval for a characteristic of the population when the estimate is near zero – the calculated value of the lower bound of the confidence interval may be negative. For some estimates, a negative lower bound for the confidence interval does not make sense, for example, an estimate of the number of people with a certain characteristic. In this case, the lower confidence bound should be reported as zero. For other estimates such as income, negative confidence bounds can make sense; in these cases, the lower confidence interval should not be adjusted. Another example of a natural limit is 100 percent as the upper bound of a percent estimate.

Standard errors may also be used to perform hypothesis testing, a procedure for distinguishing between population parameters using sample estimates. The most common type of hypothesis is that the population parameters are different.

Tests may be performed at various levels of significance. A significance level is the probability of concluding that the characteristics are different when, in fact, they are the same. For example, to conclude that two characteristics are different at the 0.10 level of significance, the absolute value of the estimated difference between characteristics must be greater than or equal to 1.645 times the standard error of the difference.

The Census Bureau uses 90-percent confidence intervals and 0.10 levels of significance to determine statistical validity. Consult standard statistical textbooks for alternative criteria.

Estimating Standard Errors

The Census Bureau uses successive difference replication to estimate the standard errors of HTOPS estimates. These methods primarily measure not only the magnitude of sampling error but some effects of nonsampling error as well. They do not, however, measure systematic biases in the data associated with nonsampling error. Bias is the average over all possible samples of the differences between the sample estimates and the true value.

Eighty replicate weights were created for the HTOPS. Using these replicate weights, the variance of an estimate (the standard error is the square root of the variance) can be calculated as follows:

$$Var(\hat{\theta}) = \frac{4}{80}\sum_{i=1}^{80}(\theta_i - \hat{\theta})^2 \quad (1)$$

where $\hat{\theta}$ is the estimate of the statistic of interest, such as a point estimate, ratio of domain means, regression coefficient, or log-odds ratio, using the weight for the full sample and θ_i are the replicate estimates of the same statistic using the replicate weights. See reference Judkins (1990).

Creating Replicate Estimates

Replicate estimates are created using each of the 80 weights independently to create 80 replicate estimates. For point estimates, multiply the replicate weights by the item of interest to create the 80 replicate estimates. You will use these replicate estimates in the formula (1) to calculate the total variance for the item of interest. For example, say that the item you are interested in is the difference in the number of people with a loss in employment income in one time frame compared to the number of people with a loss in employment income in another time frame. You would create the difference of the two estimates using the sample weight, $\hat{x}_0$, and the 80 replicate differences, x_i, using the 80 replicate weights. You would then use these estimates in formula (1) to calculate the total variance for the difference in the number of people with a loss in employment income from the first time frame to the second time frame.

$$Var(\hat{x}_0) = \frac{4}{80}\sum_{i=1}^{80}(x_i - \hat{x}_0)^2$$

where x_i is the ith replicate estimate of the difference and $\hat{x}_0$ is the full estimate of the difference using the sample weight.

Example for Variance of Regression Coefficients

Variances for regression coefficients β_0 can be calculated using formula (1) as well. By calculating the 80 replicate regression coefficients $\beta_i's$ for each replicate and plugging in the replicate β_i estimates and the β_0 estimate into formula (1),

$$Var(\hat{\beta}_0) = \frac{4}{80}\sum_{i=1}^{80}(\beta_i - \hat{\beta}_0)^2$$

gives the variance estimate for the regression coefficient β_0.

TECHNICAL ASSISTANCE

If you require assistance or additional information, please contact the Demographic Statistical Methods Division via e-mail at dsmd.source.and.accuracy@census.gov.

REFERENCES

Judkins, D. (1990) "Fay's Method for Variance Estimation," Journal of Official Statistics, Vol. 6, No. 3, 1990, pp.223-239.

All links were verified as correct on November 10, 2026.