Abt SRBI conducted the survey of Georgia residents, 18 years and older, on behalf of the Atlanta Journal Constitution. The survey included telephone interviews with a representative sample of 1,003 Georgia residents (822 registered voters). Telephone interviews were conducted by landline (n=351) and cell phone (n=652). Interviewing was conducted from May 9 to May 12, 2016.

**Sampling**

The sample design was a multiple frame sample using a list Georgia registered voters (RV) with their cell phone or landline numbers appended and a random digit dialed (RDD) frame of cell phone numbers and landline numbers with a Georgia telephone exchange. This sample design is referred to as a “multiple-frame” because it includes four different frames: the RDD landline frame, the RDD cellphone frame, the RV cellphone frame and the RV landline frame.

The RV frame contains some information that people who register to vote in Georgia is asked to provide, including their landline or cellphone number. About 75% of the registered voters in Georgia provide either their landline or cellphone number. For this reason, the RDD landline and cellular frames were also used to supplement the sample in order to address a potential coverage problem on the RV frame.

The RDD landline frame is constructed by compiling all Georgia telephone exchanges that are classified as providing regular telephone service. The frame is referred to as “list-assisted” because a complete file of directory-listed residential numbers is used to remove 100-banks from the frame if they contain zero residential listings. The remaining 100-banks are “working” and used to enumerate all the telephone numbers within the bank from which a sample is drawn. All landline numbers (directory-listed and unlisted) in the working banks are eligible to be randomly dialed. Telephone numbers known to belong to businesses are removed.

The RDD cellular telephone frame begins with 1,000-blocks constructed from exchanges that provide cellular telephone service. The frame of 1,000-blocks is then expanded to the 100-block level to identify and remove “mixed use” 100-blocks, or those that include landline numbers. The result is a sampling of cellular 100-blocks that is mutually exclusive of the list-assisted RDD sampling frame described above.

First, a random sample of landline numbers was drawn from the RDD frame. Then, our RV frame vendor flagged in our RDD sample the landline numbers that were also present in the RV frame and a random sample of landline numbers was drawn from the RV list excluding the matched numbers. This way, a single landline number is selected from each of the two frames. The same process was applied to the cellular samples.

For the landline samples, interviewers were asked to speak with the youngest adult male or female currently at home based on a random rotation. If no male/female was available, interviewers asked to speak with the youngest adult of the other gender. For the cell samples, interviews were conducted with the person who answered the phone. Interviewers verified that the person was an adult and in a safe place before administering the survey.

**Weighting**

The final weights produced for this survey accounted for the multiple frame sample design and aligned the sample to match the population parameters of the adult population in Georgia. To construct the weights, we used the full sample of 1,003 Georgia residents. The full sample was post-stratified (raked) to benchmark demographic distributions for the Georgia adult population, as described below. The benefit of this approach is that statewide benchmarks for all adults are available from the Census Bureau and highly accurate and reliable.[[1]](#footnote-1)

The first stage of weighting corrected for different probabilities of selection associated with the number of adults in the household and the respondent’s telephone usage (landline only, cell phone only or has both kinds of phones). This weighting also adjusts for the overlapping landline and cell sample from both the RV and RDD frames and the relative sizes of each frame and each sample.

The second stage of weighting balanced sample demographics to estimated adult population parameters for the state of Georgia. The sample was balanced to match adult population parameters for sex, age, education level, race/Hispanic ethnicity, region (North, Atlanta Metro, Atlanta Exurbs, Southeast, Southwest), and telephone usage (cell-only, dual-user, landline-only). The demographic population parameters were computed from the 2014 American Community Survey (ACS). The population parameter for region of state was obtained from the 2014 Census Population Estimates. The telephone usage population estimates for Georgia were constructed from model-based state-level estimates released by the National Center for Health Statistics for the year 2014.[[2]](#footnote-2) Since the cell phone-only adult population has increased since 2014, the state-level estimate was updated to reflect national trends according to the 2015 NCHS report.[[3]](#footnote-3)

The second-stage weighting was conducted using an operation known as raking ratio estimation, or “raking”. Raking is used to reduce the risk of biases due to nonresponse and non-coverage in sample surveys. The raking procedure uses an iterative technique that simultaneously calibrates the sample to population distributions defined by socio-demographic parameters. After the raked weights were generated, we examined the distribution of values. The final weights were trimmed at the 1.5 and 98.5 percentiles to prevent individual interviews from having too much influence on the final results.

**Margin of Error**

The margin of error for an estimate is a measure of uncertainty that reflects the fact that the estimate is derived from a sample drawn from the population. If one were to draw a second sample in the exact same manner, the estimate would be different from the first simply due to the fact that the sample contains different members of the population. A third sample would be different from the first two, and so on. The margin of error measures how different estimates could be based on drawing different samples from the same population.

The error margin for the entire sample of 1,003 residents is +/-3.84 percentage points. For the sample of 822 registered voters, the margin or error is +/-4.26 percentage points. This includes a “design effect” of 1.55. The design effect is the amount of variability introduced by the sample design, such as the dual-frame sample and weighting.

1. Polls that take the alternate approach of weighting just the weighting the likely voter sample to previous turnout numbers run the risk of using benchmarks that are inaccurate as the demographic profile of who turns out to vote varies from election to election. [↑](#footnote-ref-1)
2. Blumberg SJ, Ganesh N. Wireless substitution: State-level Estimates from the National Health Interview Survey, 2014. Hyattsville, MD: National Center for Health Statistics. 2016. [↑](#footnote-ref-2)
3. Blumberg SJ, Luke JV. Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, July-December 2016. National Center for Health Statistics. May 2016. Available from: http://www.cdc.gov/nchs/nhis.htm. [↑](#footnote-ref-3)