

Changes to the Behavioral Risk Factor Surveillance System

Frequently Asked Questions

Q: What is the BRFSS?

A: The Behavioral Risk Factor Surveillance System (BRFSS) is the largest ongoing telephone health survey in the world. It is a state-based system of health surveys established by the Centers for Disease Control and Prevention (CDC) in 1984. BRFSS completes more than 400,000 adult interviews each year.

For most states, BRFSS is their only source of population-based health behavior data about chronic disease prevalence and behavioral risk factors.

BRFSS surveys a sample of adults in each state to get information on health risks and behaviors, health practices for preventing disease, and healthcare access mostly linked to chronic disease and injury. The sample is representative of the population of each state.

Q: What are the changes that have been made to BRFSS?

A: The two BRFSS changes have been made to keep the data accurate and representative of the total population. These are making survey calls to cell-phone numbers and adopting an advanced weighting method.

- The first change is including and then growing the number of interview calls made to cell phone numbers. Estimates today are that 3 in 10 U.S. households have only cell phones.
- The second change is to replace the “post-stratification” weighting method with a more advanced method called “iterative proportional fitting,” also sometimes called “raking.”

For below, recommend making plain language changes that were made in the key messages document, so all language is similar.

Q: Why is it necessary to increase the number of survey calls to cell-phone numbers?

A: During 2003—2009, the proportion of U.S. adults who lived in cell phone-only households increased by more than 700%, and this trend is continuing. Estimates are that currently 3 in 10 U.S. households have only cell phones.

These households increasingly were left out of the population that BRFSS seeks to characterize—adults 18 years of age or older who do not live in institutional settings. Using cell phones only is especially strong in younger age groups and among persons in certain racial and ethnic minority groups.

Because of differences in the characteristics of people living in households with or without landline telephones, all telephone surveys in the United States have had to adapt their methods in response to the significant increase in households that use cell phones only.

Q: Why is it necessary to adopt a different method of data weighting?

A: For the past several decades, BRFSS used a statistical weighting method called “post-stratification.” However, the advent of easily accessible ultra-fast computer processors and networks has allowed the BRFSS to adopt an advanced weighting method called iterative proportional fitting, also known by its nickname, “raking.”

Raking differs from post-stratification because it incorporates adjustor variables one at a time in an iterative process, rather than imposing weights for demographic subgroups in a single process. A key advantage of raking is that many more variables are used than post stratification. In addition to the standard demographic variables of age, gender, and race and ethnicity, raking uses variables such as education level, marital status, renter or owner status, and phone source.

Q: What steps were taken to implement these BRFSS changes?

A: In 2004 a panel of national survey experts recommended that CDC make the two changes to ensure BRFSS data remained valid and useful. Beginning in 2006, how to best design and implement the changes went through an extensive development process with experts, collaboration with the state BRFSS coordinators to pilot test the new methods, and training to ensure that state BRFSS coordinators understood the changes and the rationale for them.

The changes were discussed at the annual BRFSS Conferences in 2007, 2008, 2009, 2010 and 2011; with CDC and state members of the BRFSS Working Group; at training sessions; and at meetings of NACCHO, APHA, CSTE, and the American Association of Polling and Opinion Research (AAPOR) in 2009, 2010, and 2011.

In September 2011, BRFSS provided states and CDC programs with preliminary datasets that incorporated the new methods so that early assessment could be made of the effects of the new methods. The 2011 BRFSS dataset will be released by CDC in June 2012. It will incorporate both changes: cell phone responses and the new weighting method.

Q: How will these two changes affect each state’s dataset?

A: Including cell phone interviews and using the new weighting method will keep BRFSS data accurate and meaningful. Specifically, BRFSS data will better represent lower-income and minority populations, as well as populations with lower levels of formal education. The size and direction of the effects will vary by state, the behavior under study, and other factors. Although generalizing is difficult because of these variables, it is likely that the changes in methods will result in somewhat higher estimates for the occurrence of behaviors that are more common among younger adults and to certain racial and ethnic groups.

Q: When will we first see BRFSS data that reflects the two changes?

A: The first data reflecting the changes is the BRFSS 2011 dataset that CDC releases in June 2012.

Q: Can the 2010 BRFSS dataset be compared with 2011 dataset?

A: It is always difficult to discern long-term trends by comparing one year to the next. Such

comparisons will be especially difficult to make for 2010 and 2011, given the change in BRFSS methods.

Changes in the 2011 data are likely to show indications of somewhat higher occurrences of risk behaviors common to younger adults and to certain racial or ethnic minority groups. Such effects will vary for each state survey. CDC anticipates small increases for health-risk indicators such as tobacco use, obesity, binge drinking, HIV, asthma, and health status.

Shifts in observed prevalence from 2010 to 2011 for BRFSS measures will likely reflect the new methods of measuring risk factors, rather than true trends in risk-factor prevalence.

Q: Where can I learn more about the BRFSS changes?

A: The BRFSS changes are discussed in detail in the June 7, 2012, MMWR Policy Note “Methodologic Changes in the Behavioral Risk Factor Surveillance System in 2011 and Potential Effects on Prevalence Estimates.”