

## Change in BRFSS Methodology: Start of a New Era

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The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based system of health surveys created by the Centers for Disease Control and Prevention (CDC) in 1984 to gather information on the health of adults ages 18 years and older. State health departments conduct the BRFSS surveys continuously through the year using a standardized core questionnaire and optional modules, plus state-added questions. More than 400,000 adult interviews are conducted annually. The BRFSS is the sole source of state-level health risk factors, behaviors and prevalence of certain chronic conditions.

Beginning with data collected in 2011, two significant changes have been made to the methodology used with the BRFSS survey. Cell phone interviews are now included, and a new weighting procedure has been implemented. These changes were brought about to maintain the accuracy and validity of the BRFSS.

### Background

Traditionally, the BRFSS survey has relied on landline telephone numbers. With the rapid growth of cell phone-only households by more than 700 percent from 2003 to 2009, these households needed to be included to more accurately reflect the adult population. People with cell phone only service are known to have a different demographic profile than those who have a landline telephone. People in cell phone-only households tend to be younger, rent instead of own their homes, are not married and likely to be in a racial or ethnic minority group. There are also attitudinal and behavioral differences between these two groups. Including cell phone-only households will improve survey coverage of certain population groups. The proportion of interviews conducted with respondents who are male, those with lower education and lower income levels, and younger ages will increase; while the proportion for white, older and female respondents will decrease.

### Results

Raking and the inclusion of cell phone respondents will result in improved measuring of risk factors; as such, 2011 BRFSS data will not be comparable to earlier years. In 2011, the median proportion of interviews represented by cell phones is believed to be 10 percent. In 2012, CDC requested that all states have at least 20 percent of their interviews represented by cell phone.

Use of the new methodology will result in prevalence estimates that will be different from estimates achieved with the previous post-stratification procedure. These differences will vary by survey question and state, with the results determined by variations by state in demographic variables used for raking plus the portion of respondents who use cell phones. CDC has determined that some of the BRFSS indicators will increase for the majority of the states. This increase is most likely due to the addition of cell phone respondents and the new raking method and is not a “real” change in the prevalence from 2010. Analysis done by CDC indicates that the shape of trend lines will not change greatly over time.

A review of select variables among states indicated that use of the new methodology meant changes ranging from +9.6 percent (Idaho) to +49.4 percent (South Dakota) (+1.5 to +7.6 percentage points) for all states for current smoking. The estimated prevalence of adults with any type of health care coverage meant changes ranging from -0.7 percent (Maine) to -10.4 percent (Georgia) (-0.6 to -8.7 percentage points) for all states. Prevalence estimates by state will be made available by CDC soon.

Risk factors and behaviors more prevalent in younger and/or minority groups, such as smoking and binge drinking, will have more of a change from 2010 to 2011.

For Indiana, use of the new methodology resulted in a higher prevalence for certain risk factors and behaviors in 2011 compared to 2010, for example:

- Current smoking – 25.6 percent (2010 prevalence was 21.2 percent)
- Adults ages 18-64 without health care coverage – 23.6 percent (2010 prevalence was 17.9 percent)
- Adults reporting binge drinking – 17.8 percent (2010 prevalence was 13.5 percent)

As stated above, the change in prevalence does not mean an actual increase in the behavior, but is more likely due to the change in weighting and the inclusion of cell phones.

For Indiana, there were similar prevalence estimates for certain risk factors and behaviors for 2010 and 2011:

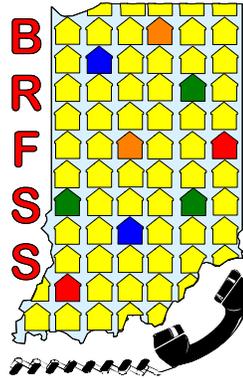
It is important that the BRFSS, along with other health surveys, take advantage of improvements in surveillance and statistical procedures to provide the best information possible. Raking methods allow the BRFSS to incorporate information from cell phone interviews and create estimates with smaller sample sizes. The prevalence resulting from the new methodology is a more precise estimate of the various behaviors and risk factors obtained through the BRFSS.

In the upcoming months, the Indiana State Department of Health and the Centers for Disease Control will be publishing results from the 2011 BRFSS survey.





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