

Technical Notes: Behavioral Data

Behavioral Risk Factor Data

Beginning in 2011, the Division of Behavioral Surveillance (DBS) of the Centers for Disease Control and Prevention made two major changes to the BRFSS Survey methodology. These changes were designed to improve the accuracy of BRFSS estimates; however the results using these new methods are not comparable to BRFSS estimates from previous years¹.

The first change is the adoption of an improved weighting method called iterative proportional fitting, commonly referred to as “raking.” Raking is a technique for weighting the survey data, whereby the weighted respondent data is made more comparable to the characteristics of the target population, such as the proportion of Hispanic adults in the state. Raking improves the representativeness of state estimates by including socio- economic factors, such as education and marital status, in the final survey weights. The former post- stratification methodology was limited to adjusting the final weights by categories of age, race and sex and is no longer utilized.

The second change is the addition of cell phone interviews to the BRFSS. Adoption of cell phones (with no landline phone) has been particularly evident among younger adults and racial/ethnic minorities. Adding cell phone interviews improves the BRFSS coverage of these groups. As a result of these changes, the BRFSS will better represent lower-income and minority populations and provide more accurate prevalence estimates. However, it will no longer be possible to compare results from 2011 or later BRFSS surveys to results from earlier years of BRFSS data. It is also likely that prevalence estimates will be somewhat higher as a result of the change in methods for behaviors that are more common among younger adults and/or minorities.

For more information on changes to the methodology please visit the NC BRFSS at www.schs.state.nc.us/units/stat/brfss/ or the CDC BRFSS www.cdc.gov/brfss/

Strengths and Limitations of the BRFSS Survey Data

One limitation of a telephone survey is the lack of coverage of persons who live in households without a telephone. Households without a telephone are, on average, of lower income. Therefore, for many of the health risks measured, the results are likely to understate the true level of risk in the total population of adults. A second limitation is due to the fact that the data are self-reported by the respondents. We expect that respondents tend to underreport health risk behaviors, especially those that are illegal or socially unacceptable. A third limitation is that these data are “cross-sectional,” meaning that the data are collected in a single point in time. Each month an entirely new sample of respondents are contacted. Therefore, causality cannot be inferred from BRFSS survey results. All that can be determined is the likelihood of an association between two or more variables, such as the association between smoking and cardiovascular disease – these results do not permit one to say that smoking “causes” heart disease.

There are some significant advantages of the telephone survey methodology, including better quality control over data collection made possible by a computer-assisted-telephone-interviewing system, relatively low cost, and speed of data collection. The BRFSS methodology has been used and evaluated by the CDC and participating states since 1984. The content of the survey questions, questionnaire design, data collection procedures, interviewing techniques and editing procedures have been carefully developed to improve data quality and lessen the potential for bias. The data collection is ongoing, and each year new annual results become available.

Sources:

Pierannunzi, C., Town, M., Garvin, W., Shaw, F and Balluz, L. Methodologic Changes in the Behavioral risk Factor Surveillance System in 2011 and Potential Effects on Prevalence Estimates. *Morbidity and Mortality Weekly Report*; 2012 June;61(22):410-413. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6122a3.htm?s_cid=mm6122a3_w. Accessed September 12, 2012.