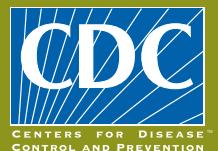


**HEALTH RISKS IN THE
UNITED STATES**
BEHAVIORAL RISK FACTOR
SURVEILLANCE SYSTEM

AT A GLANCE
2009

**NATIONAL CENTER FOR CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION
IMPROVING HEALTH AND QUALITY OF LIFE FOR ALL PEOPLE**





Measuring Health Risks Among Adults

For more than 20 years, CDC's Behavioral Risk Factor Surveillance System (BRFSS) has helped states survey U.S. adults to gather information about a wide range of behaviors that affect their health. The primary focus of these surveys has been on behaviors and conditions that are linked with the leading causes of death—heart disease, cancer, stroke, diabetes, and injury—and other important health issues. Examples of these behaviors and conditions include

- Not getting enough physical activity.
- Being overweight.
- Not using seat belts.
- Using tobacco and alcohol.
- Not getting preventive medical care, such as flu shots, mammograms, Pap smears, and colorectal cancer screening tests.

A Unique State-Based Surveillance System

The BRFSS is a state-based system that is used to gather information through telephone surveys conducted by the health departments of all 50 states, the District of Columbia, Puerto Rico, the Virgin Islands, and Guam, with assistance from CDC. The BRFSS is the world's largest continuously conducted telephone health surveillance system, which conducts more than 350,000 interviews per year.

States use BRFSS data to identify emerging health problems, establish health objectives and track their progress toward meeting them, and develop and evaluate public health policies and programs to address identified problems.

The BRFSS is the primary source of data for local entities, states, and the nation on the health-related behaviors of adults. States collect data through monthly telephone interviews with noninstitutionalized adults aged 18 years and older. BRFSS interviewers ask questions related to behaviors that are associated with preventable chronic diseases, injuries, and infectious diseases.

CDC works with states to ensure the success of the BRFSS. For example, CDC public health advisors provide technical assistance, and CDC epidemiologists help with survey

Through the BRFSS surveys, states, CDC, and other federal agencies have learned much about these and other harmful behaviors and conditions. This information is essential for planning, conducting, and evaluating public health programs at state, local, and national levels.

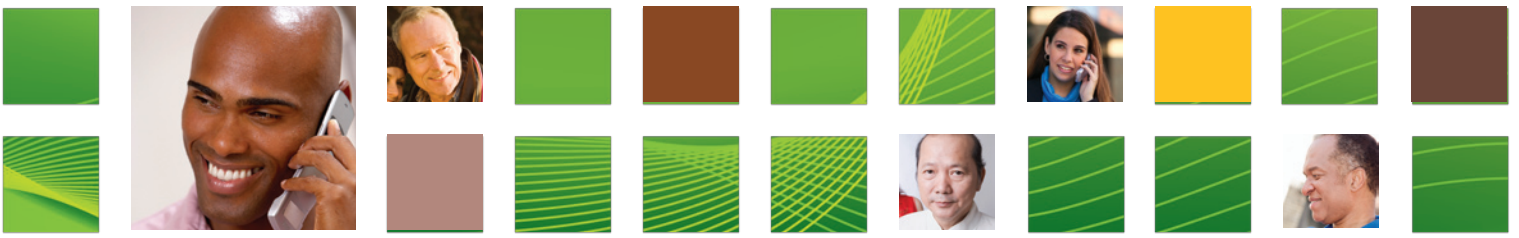
"If surveillance is a snapshot of the country, then BRFSS has given us a portfolio of our health habits."

Marta Induni, PhD

Research Program Director, Survey Research Group
California Department of Public Health

methodology and data analysis. To ensure that the BRFSS data are of high quality, CDC generates a household calling list for each state, processes survey data, produces monthly and annual data quality reports, and provides online training for state-based BRFSS coordinators and interviewers. CDC also helps states develop resources to analyze, interpret, and use their survey data. State and local health departments rely on data from the BRFSS to

- Determine high-priority health issues, detect emerging health issues, and identify populations at highest risk for illness, disability, and death by analyzing data according to respondents' age, sex, education, income, and race/ethnicity.
- Develop strategic plans and targeted prevention activities and programs.
- Examine trends in behaviors over time to monitor the effectiveness of public health programs and progress in meeting prevention goals.
- Support community policies and programs that promote health and prevent disease—for example, by educating the public, the health community, and policy makers about disease prevention.



A Unique State-Based Surveillance System (continued)

Researchers, professional groups, managed care organizations, and community-based groups use BRFSS data to develop targeted prevention activities and programs. Public health professionals use the data to monitor the progress of the nation, states, and local areas toward meeting the health objectives in

Healthy People 2010. In addition, many countries, including China, Brazil, Mexico, Vietnam, Jordan, and Egypt recognize the value of the BRFSS and have asked CDC to help them establish and evaluate similar surveillance systems.

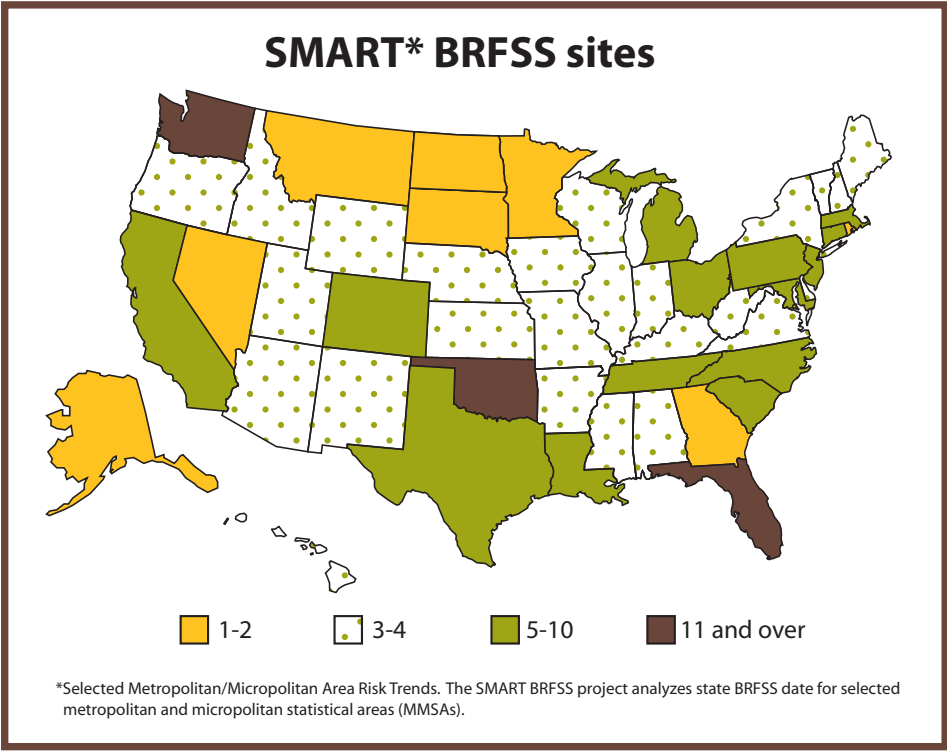
Versatility of the BRFSS

The BRFSS allows states the flexibility to add questions specific to their needs. At the same time, standard core questions on the survey enable health professionals to make comparisons among states and local areas and also to reach conclusions about the nation as a whole. BRFSS data also highlight state-to-state differences in key health issues. In 2007, for example, the percentage of adults who smoked ranged from 8.7% in the U.S. Virgin Islands to 26.9% in West Virginia.

BRFSS data also can be used to examine smaller geographic areas within states. For example, CDC has analyzed BRFSS data for more than 180 metropolitan and micropolitan statistical areas (MMSAs). The results of this analysis, which are available on a searchable Web site called Selected Metropolitan/Micropolitan Area Risk Trends (SMART) BRFSS, show that the prevalence of high-risk health behaviors varies substantially among MMSAs.

In areas analyzed for 2007,

- The prevalence of a diagnosis of diabetes ranged from 2.2% in the Boulder, Colorado MMSA to 14.6% in the Gulfport-Biloxi, Mississippi MMSA.
- The prevalence of having no health insurance ranged from 5.5% in the Cambridge-Newton-Framingham, Massachusetts MMSA to 51.5% in the Brownsville-Harlingen, Texas MMSA.
- The prevalence of pneumonia vaccination among adults aged 65 years and older ranged from 43.7% in the Miami-Fort Lauderdale-Miami Beach, Florida MMSA to 82.8% in the Bangor, Maine MMSA.



The BRFSS also can be used to address urgent and emerging health issues in a particular area. States can add questions on a wide range of important health issues, such as diabetes, indoor air quality, anxiety and depression, folic acid consumption, and natural disasters.

For example, following the devastating effects of Hurricanes Katrina and Rita in 2005, Alabama, Florida, Louisiana, Mississippi, and Texas added an emergency module to assess the impact of these events. In 2008, BRFSS added questions as modules about sleep, adverse childhood events, and social context.



BRFSS In Action

The BRFSS is addressing the challenges presented by a growing demand for survey data. One such challenge is to keep phone interviews to a reasonable length while meeting the demand for data on additional topics. To meet the many challenges, the BRFSS has increased the number of adults interviewed in each state. In 2007, the average number of participants per state was 7,980, compared with 6,712 in 2006. This increase allows states to provide local data and to use split sampling, in which different portions of the sample population answer different sets of BRFSS questions. As a result, states can collect BRFSS data on a wider range of topics each year.

With the addition of the SMART BRFSS, CDC is able to provide data on specific risks for some communities. Another new resource is the BRFSS Maps interactive Web site, which graphically displays the prevalence of behavioral risk factors at

state and MMSA levels. This tool is revolutionizing the way people at local, state, and federal levels use BRFSS data by providing easy access to specific examples important to local communities. It is available at <http://www.cdc.gov/brfss>.

BRFSS added a Web-Enabled Analysis Tool (WEAT) in 2007. WEAT is an online application that analyzes data using a variety of statistical methods. Users are able to run cross-tabulation and logistic regression. It is available at <http://www.cdc.gov/brfss>.

In 2008, BRFSS implemented the Cell Phone Pilot Survey in 21 states. By including cell phones in the survey, BRFSS is able to reach segments of the population that were previously inaccessible—those who had a cell phone but not a landline—and producing a more representative sample and higher quality data.

Future Directions

States and local areas will continue to rely on the BRFSS to gather the high-quality data they need to plan and evaluate public health programs and to allocate scarce resources. CDC will work closely with state and federal partners to ensure that the BRFSS continues to provide data that are useful for public health research and practice and for state and local health policy decisions.

In 2009, 45 states will begin using the pandemic influenza module. Monitoring the availability of influenza vaccination coverage is a critical element of CDC's response to a pandemic influenza outbreak. In the event of a pandemic flu outbreak, BRFSS will be prepared to provide local, state, and federal public health officials with vital information to help guide decision making and planning.

As telecommunication technology evolves, CDC is implementing the use of multimode data collection for BRFSS. CDC is also working to make the BRFSS more representative by exploring new ways to reach hard-to-find populations. The challenge

for BRFSS is to effectively manage an increasingly complex surveillance system, while adapting to changes in communications technology (increased use of cellular telephones and call-screening devices), societal behaviors (concerns about privacy and declining participation in surveys), and population diversity (increasing number of languages spoken in the United States and greater cultural and ethnic diversity). To address these challenges, BRFSS plans to

- Design and conduct innovative pilot studies to advance the current BRFSS methodology and prepare to incorporate future methodologies, such as cell phone and mail surveys.
- Identify and address potential threats to the validity and reliability of BRFSS data that might affect survey participations and data quality.
- Expand the use of the system through special projects, such as rapid response surveillance efforts, and follow-up surveys of subpopulations identified by the BRFSS, such as people with asthma.

**For more information, please contact the Centers for Disease Control and Prevention
National Center for Chronic Disease Prevention and Health Promotion
4770 Buford Highway NE, Mail Stop K-29, Atlanta, GA 30341-3717
Telephone: 800-CDC-INFO (232-4636) • TTY: 888-232-6348
E-mail: cdcinfo@cdc.gov • Web: <http://www.cdc.gov/brfss>**