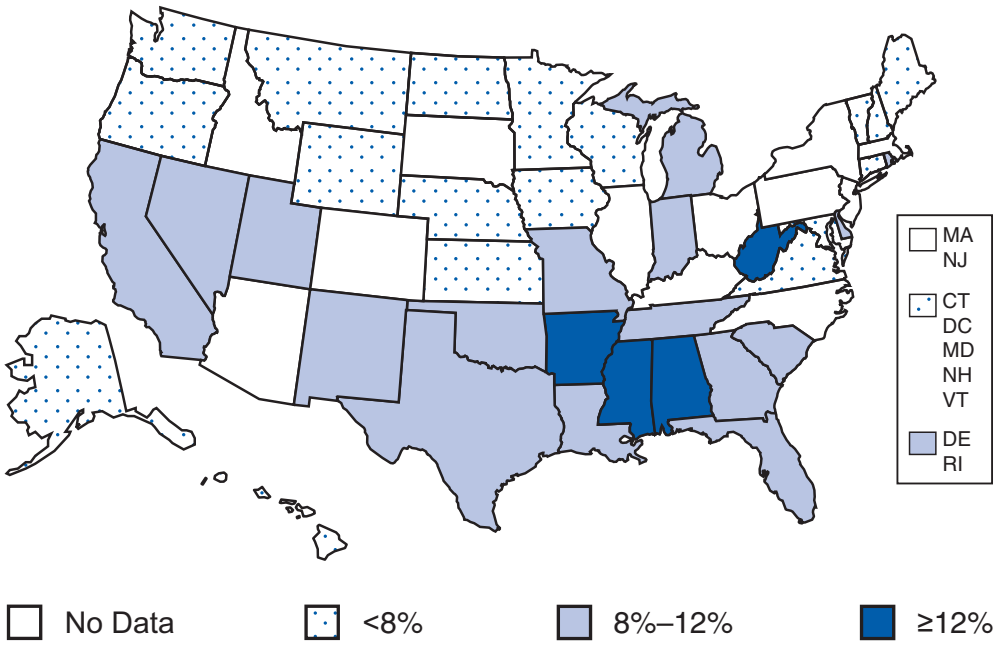
AT A GLANCE

Health Risks in the United States

Behavioral Risk Factor Surveillance System 2008

Percentage of Adults Aged ≥18 Years With Current Depression, 2006



Source: CDC, Behavioral Risk Factor Surveillance System.

"BRFSS provides a unique opportunity to look into the country's well-being and connect its physical and mental health."

Olinda Gonzalez, Public Health Advisor
Substance Abuse and Mental Health Services Administration (SAMHSA)

January 2008

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION
COORDINATING CENTER FOR HEALTH PROMOTION

Measuring Health Risks Among Adults

For more than 20 years, the 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, that can save lives.

> *"If surveillance is a snapshot of the country, then the Behavioral Risk Factor Surveillance System has given us a portfolio of our health habits."*
>
> **Marta Induni, PhD**
> **Research Program Director, Survey Research Group**
> **California Department of Public Health**

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

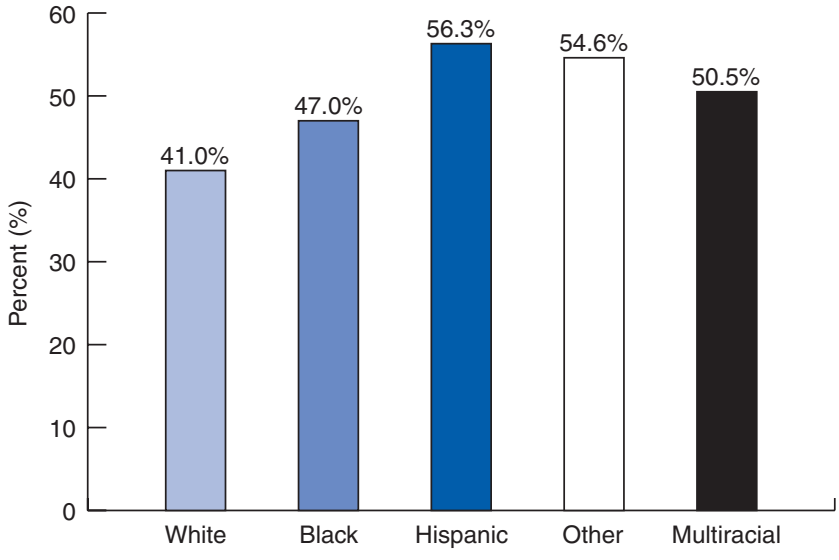
A Unique State-Based Surveillance System

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 U.S. Virgin Islands, and Guam, with assistance from CDC. The BRFSS is the world's largest continuously conducted telephone health surveillance system, with more than 350,000 interviews per year.

States use BRFSS data to identify emerging health problems, to establish health objectives and track their progress toward meeting them, and to develop and evaluate public health polices 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 adults aged 18 or older. BRFSS interviewers ask questions related to behaviors that are associated with preventable chronic diseases, injuries, and infectious diseases.

Percentage of Adults Aged ≥50 Who Have Never Had a Sigmoidoscopy or Colonoscopy, by Race/Ethnicity, 2006



Source: CDC, Behavioral Risk Factor Surveillance System.

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 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 quality assurance 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.

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, 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 national conclusions. BRFSS data have highlighted state-to-state differences in key health issues. In 2006, for example, the percentage of adults who had never had a colonoscopy or sigmoidoscopy ranged from 30.8% in Rhode Island to 62.2% in Puerto Rico and the U.S. Virgin Islands.

BRFSS data also can be used to examine smaller geographic areas within states. For example, CDC has analyzed BRFSS data for more than 170 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 health risks and behaviors varies substantially among MMSAs.

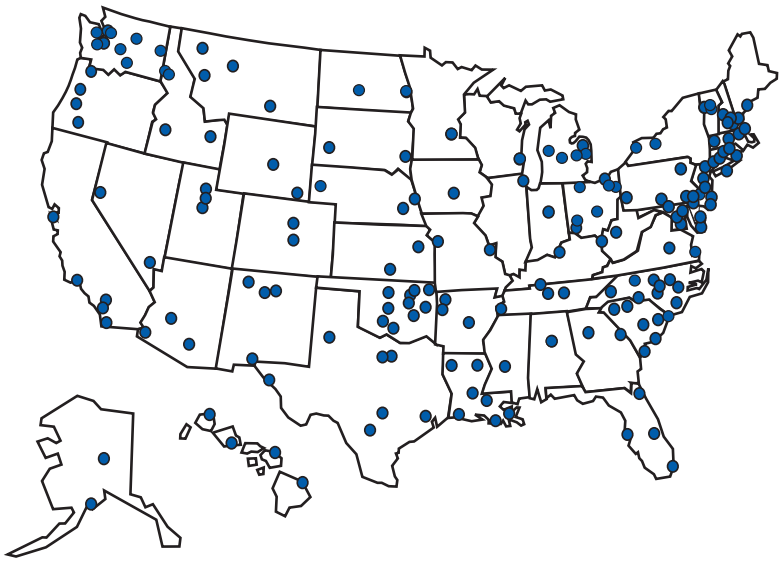
In areas analyzed for 2006,

- The prevalence of a diagnosis of diabetes ranged from 3.8% in the Kalispell, MT MMSA to 12.7% in the Huntington-Ashland, WV-KY-OH MMSA.
- The prevalence of having no health insurance ranged from 6.2% in the Nassau-Suffolk, NY MMSA to 39.1% in the El Paso, TX MMSA.
- The prevalence of pneumonia vaccination among adults aged 65 or older ranged from 52.4% in the Miami-Fort Lauderdale-Miami Beach, FL MMSA to 79.6% in the Billings, MT 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 and monitor the impact of these events.

SMART* BRFSS Sites



* Selected Metropolitan/Micropolitan Area Risk Trends. The SMART BRFSS project analyzes state BRFSS data for selected metropolitan and micropolitan statistical areas (MMSAs).

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 2006, the average number of participants was 6,712 (range: 2,113–23,760). This increase allows states to provide local-level 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 also 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 online at http://www.cdc.gov/brfss.

How Data Are Being Used

Monitoring the Flu Vaccine Shortage

When CDC learned that flu vaccine would be in short supply in 2004, public health officials needed to rapidly assess current vaccination rates among groups at highest risk for the flu. Within 1 month, new questions were temporarily added to BRFSS surveys in all states to collect information on vaccine use by all residents aged 6 months or older. The resulting data helped to shape national and state public awareness messages about the vaccine shortage and to guide how limited supplies would be distributed.

Mandating Colorectal Cancer Screening Coverage

Screening for colorectal cancer lags far behind screening for other cancers. In 2006, BRFSS data showed that New Mexico's colorectal cancer screening rates were below the national median. Citing BRFSS data showing that screening rates were significantly better in states with mandatory coverage, New Mexico's legislature passed a law requiring health insurance providers to cover colorectal screening for New Mexico residents aged 50 or older. New Mexico joined 22 other states with mandatory colorectal cancer coverage laws.

Protecting the Public from Secondhand Smoke

According to the U.S. Surgeon General, nonsmokers exposed to secondhand smoke at home or work have a 25%–30% higher risk for heart disease and a 20%–30% higher risk for lung cancer. No level of secondhand smoke exposure is safe. According to BRFSS data, current smoking prevalence among Arkansas adults was 23.5% in 2005, compared with 20.5% nationwide. In April 2006, state lawmakers passed the Arkansas Clean Indoor Air Act, which prohibits smoking in all work and public places, including bars and restaurants.

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.

As telecommunication technology evolves, CDC is exploring the use of multiple methods to collect BRFSS data. These include sending letters of notification before phone interviews and conducting surveys by landline, cell phone, mail, and Internet. In addition, CDC is exploring new ways to reach hard-to-find populations. The challenge for the BRFSS is to effectively manage an increasingly complex surveillance system that serves the needs of multiple programs while adapting to changes in communications technology, societal behaviors, and population diversity.

To address these challenges, BRFSS is continually working to

- Design and conduct innovative pilot studies to advance BRFSS methods and provide a foundation for new methods, such as using cell phone and address-based sampling.
- Identify and address potential threats to the validity and reliability of BRFSS data that might affect survey participation 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
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