

## Behavioral Risk Factor Surveillance System (BRFSS)



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<b>National Web Site:</b>	<a href="http://www.cdc.gov/BRFSS">http://www.cdc.gov/BRFSS</a>

### **Sources of Information for the Database**

The Behavioral Risk Factor Surveillance System (BRFSS) is a cross-sectional telephone health survey co-sponsored by the Centers for Disease Control and Prevention (CDC) and the Kentucky Department for Public Health. The survey is randomly administered to non-institutionalized civilian adults aged 18 or older who are living in a household with a telephone. Participation in the survey is strictly voluntary. Personal identifying information, such as name or address, is not collected. BRFSS field operations are managed by state health departments that follow guidelines provided by the CDC. State health departments participate in developing the survey instrument and conduct the interviews either in house or by using contractors. In Kentucky, BRFSS is known as KyBRFS (Kentucky Behavioral Risk Factor Surveillance). The KyBRFS has been conducted continuously since 1985 and is located organizationally in the Cabinet for Health and Family Services, Department for Public Health, Division of Prevention and Quality Improvement, Chronic Disease Prevention Branch. The surveillance is funded through a federal grant received from the CDC.

### **Description of the Data Collected**

The BRFSS is a state-based system of health surveys that collects information on health risk behaviors, preventive health practices, and health care access primarily related to chronic disease and injury. Some topics included in this survey are tobacco use, alcohol consumption, influenza, immunization, diabetes prevalence, asthma prevalence, hypertension awareness, HIV/AIDS, colorectal cancer screening, breast cancer screening, cervical cancer screening and weight control. Demographic data collected include gender, age, race, ethnicity, income, education level, employment status, zip code and county of residence. The survey has three types of questions: Core, Optional Modules, and State-Added. Core questions are asked by all states.

Optional Module questions are groups of questions on particular topics developed by the CDC that states may select to include on the questionnaire. State added questions are questions that states may develop or obtain that relate to the public health needs of their state.

### **Strengths of the Data**

The BRFSS provides data on risk behaviors, preventive health practices, and chronic disease prevalence that are not collected by other surveillance systems. For many states, the BRFSS is the only available source of timely, accurate data on health-related behaviors. In Kentucky, the KyBRFS sample size is large enough to provide yearly prevalence estimates by Area Development Districts (ADD). Data are usually available within six months of the collection year. For example, data from survey year 2010 were available by May 2011. The survey is conducted by all states, Washington D.C., Puerto Rico, U.S. Virgin Islands, and Guam; therefore, data from Kentucky may be compared to other states.

### **Data Limitations**

There are two main limitations to BRFSS data: non-coverage bias and self-report bias. These limitations should not hinder the use of BRFSS data, but should be considered.

#### **Non-Coverage Bias:**

- Since the BRFSS is a telephone survey, adults who live in households without a telephone (landline or cell phone) are not included in the sample. Households without a telephone tend to be of lower income and could have socio-economic differences from the survey population.
- The BRFSS only surveys adults living in households. Therefore, individuals living in a group setting, such as a nursing home, the military, or prison are not surveyed.

#### **Self-Report Bias:**

- The BRFSS survey relies on self-reporting. That means that the prevalence estimates are strictly based on each respondent's answers to the questions. Therefore, the tendency to report a healthier lifestyle may occur.

### **Specific Uses of BRFSS Data**

- Collect data on Adverse Childhood Experiences (ACEs) and provide data to stakeholders as fact sheets.
- Collect data on preconception health (contraception and health practices) in order to help prepare Kentuckians for any Zika virus outbreak response.
- Provide data to develop a baseline measure of Healthy Kentuckians 2030 objectives.
- Provide data to measure the goals/objectives stated in Healthy Kentuckians 2020 and Healthy People 2020.
- Collect data about health indicators of minority populations such as African Americans, Hispanics and lesbian, gay, bisexual, and transgender (LGBT) populations.
- Create a Kentucky State Health Assessment report in preparation for accreditation of the Kentucky Department for Public Health.
- To show prevalence of chronic conditions among adults with a diagnosed depressive disorder in each of the 8 Medicaid Managed Care Organization regions in Kentucky.
- Identify and address barriers to colorectal cancer screening to improve rates.
- Create a State Plan for Coordinated Chronic Disease Prevention and Health Promotion.

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- Determine the prevalence of both Chronic Obstructive Pulmonary Disease (COPD) and its comorbidities and, the risk differences of COPD comorbidities and risk differences of COPD comorbidities across Area Development Districts (ADDs).
- To identify characteristics of women of reproductive age (18-50 years old) that may influence the type of contraceptive use.

Provide data for reports such as:

- Creating Health Equity Map Series (by the Northern Kentucky Health Department).
- Health Disparities in the Commonwealth, A Report on Race and Ethnicity and Health in Kentucky, 2016 (by The Foundation for a Healthy Kentucky).
- Kentucky Diabetes Report, 2015 (Report to the LRC on diabetes-related efforts in the Department for Medicaid Services, the Department for Public Health and the Office of Health Policy within the Cabinet for Health and Family Services, and Department for Employee Insurance within the Personnel Cabinet).
- Money Matters: Health Disparities In the Commonwealth (by The Foundation for a Healthy Kentucky).
- Kentucky Asthma Surveillance Report and Asthma fact sheets (by KY Asthma Program).

### **System Evaluation**

The data collection process is routinely monitored utilizing quality control standards developed by CDC. The data collection process is also monitored remotely by the project coordinator. Evaluation of quality is determined through monthly and annual reports of these performance standards.

### **Changes in BRFSS Protocol**

In 2011, two major changes were made in BRFSS Protocol:

- The incorporation of cell phone interviews.
- The adoption of a more advanced weighting method called iterative proportional fitting or raking (Beginning with the 2011 dataset, raking replaced post-stratification as the BRFSS statistical weighting method).

Due to these significant changes, estimates of prevalence from 2011 forward cannot be directly compared to estimates from previous years. Comparing 2011 BRFSS data with BRFSS data from previous years may cause misinterpretation of trend line shifts in prevalence estimates.

Data collected in 2011 is the new baseline for BRFSS prevalence data collected in subsequent years.

These changes in BRFSS protocol are discussed in detail in the June 8, 2012, MMWR Policy Note "Methodologic Changes in the Behavioral Risk Factor Surveillance System in 2011 and Potential Effects on Prevalence Estimates." This note is available online at the CDC Surveillance Resource Center:

<https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6122a3.htm>

Additionally, the Kentucky BRFSS program released a report tailored to the changes seen in Kentucky data. It is entitled "Effect of Changes in BRFSS Protocols on 2011 Behavioral Risk Factor Surveillance Data in Kentucky" and can be obtained from the Kentucky BRFSS website:

<https://chfs.ky.gov/agencies/dph/dpqi/cdpb/Pages/brfss.aspx>.

### **Data Set Availability**

KyBRFS data from 1985 to the present are available to the public in yearly data sets. The statewide data are available in both SAS and SPSS. A weighting variable is included in the data sets so that prevalence estimates can be generalized to the statewide population. National data are available on the national CDC BRFSS web site. Contact the KyBRFS coordinator if requesting Kentucky aggregated data or raw data sets. There are two data request forms (see Appendices C and D) available on the KyBRFS website cited earlier. One is to request a data set and the other is to request analyzed data. Anyone requesting data should complete the data request form and send it to the KyBRFS epidemiologist/coordinator via e-mail or fax. If the data user is producing a report, the KyBRFS program must receive a copy of all printed and published materials using KyBRFS data. Please send copies to the address listed for the coordinator.

- **Average Yearly Sample Size (Landline: Cell Phone):** 4,200: 2,800 (60:40)
- **2015 AAPOR\* Response Rate (Landline: Cell Phone: combined):** 62.1%: 51.6%: 59%
- **2015 AAPOR Cooperation Rate (Combined):** 81.3%
- **Smallest Geographic Level Released:** Area Development District (ADD)
- **Data Format:** SAS, SPSS, asci
- **Cost of Data Set:** No Charge

AAPOR\* = American Association of Public Opinion Research  
Response rates for BRFSS are calculated using standards set by AAPOR Response Rate

Formula #4

[https://www.cdc.gov/brfss/annual\\_data/2015/pdf/2015-sdqr.pdf](https://www.cdc.gov/brfss/annual_data/2015/pdf/2015-sdqr.pdf)

[https://www.cdc.gov/brfss/annual\\_data/2015/2015\\_responserates.html](https://www.cdc.gov/brfss/annual_data/2015/2015_responserates.html)

### **Data Publications**

The KyBRFS program produces statewide summary reports on several risk factors, health behaviors, chronic conditions, and clinical preventive practices based on questions from the annual BRFSS survey. These reports include:

- Area Development District (ADD) Profiles: a summary of selected prevalence estimates for each of the 15 Kentucky Area Development Districts with comparisons to statewide and national prevalence estimates.
- KyBRFS Annual Report: a report featuring prevalence data stratified by gender, race, age, education, and household income; this report also includes a section with ArcGIS maps showing prevalence estimates at the ADD level.

The reports can be found on the KyBRFS website: <https://chfs.ky.gov/agencies/dph/dpqi/cdpb/Pages/brfss.aspx>

### **Data Release Policy**

The program does not release data for small sample sizes (i.e. county level), since estimates produced from fewer than 50 un-weighted records are not considered by the CDC to meet standards of statistical reliability. There is also a possibility of the identification of individual respondents if the sample size is very small. If data sets are released to requestors from out of state, then information about county identifiers is suppressed. It is highly recommended that 95% Confidence Intervals or standard errors be reported for all estimates produced using BRFSS data.

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### **Suggested Data Citation**

Kentucky Department for Public Health (KDPH) and Centers for Disease Control and Prevention (CDC). Kentucky Behavioral Risk Factor Survey Data. Frankfort, Kentucky: Cabinet for Health and Family Services, Kentucky Department for Public Health, [**appropriate data year or years**].

### **Contributing Author**

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