Kansas Behavioral Risk Factor Surveillance System (BRFSS) – Changes in Survey Methodology and its Impact on Prevalence Estimates Generated by the 2011 BRFSS

BRFSS is the world’s largest, annual population–based telephone survey system, tracking health conditions and risk behaviors in the U.S. since 1984. It is coordinated by the Centers for Disease Control and Prevention (CDC) and is conducted in every state and several territories. The Bureau of Health Promotion (BHP), Kansas Department of Health and Environment (KDHE) conducted the first Kansas BRFSS survey in 1990. Since 1992, BHP has conducted the Kansas BRFSS survey annually, providing data to examine and monitor the trends of various diseases and risk factors/behaviors. Kansas BRFSS is the only source of population-based data for several public health indicators in Kansas.

Changes in BRFSS Survey Methodology

Changes in BRFSS survey methodology are needed:

♦ In recent years, the proportion of U.S. households with only cellular telephone (cell phone) service has been rising steadily. The increase has been more rapid since 2009.

♦ More than 3 of every 10 American households (31.6%) had only cell phone service during the first half of 2011. In the first half of 2003 cell phone only service was only 3 percent.

♦ The percentage of households with both landline and cell phone service, receiving all or almost all calls on the cell phone is also increasing. In 2011, nearly 1 of every 6 U.S. households (16.4%) with dual phone service received all or almost all calls on cell phones.

♦ The demographic characteristics of adults living in cell phone only service households are different. These adults are more likely to be: young, males, live alone or with unrelated adults, live in poverty and near poverty, rent a home, Hispanics and non Hispanic African Americans.

♦ These changes in phone use represent a threat to the validity of traditional Random Digit Dialing landline phone surveys such as the BRFSS.

♦ To maintain representativeness, coverage and validity of data, changes in the survey methodology are needed.

Changes made by the CDC to 2011 BRFSS survey methodology:

♦ Use of dual frame sampling method (landline and cell phone samples) instead of single frame method (landline phone sample). The sample includes:
  > Adults 18 years and older living in a private residence with landline phone service
  > Adults 18 years and older living in a private residence with cell phone only service
    (at least 20% of total sample of complete interviews)

♦ Use of the Iterative Proportional Fitting weighting method (Raking method) in place of the post stratification weighting method will improve the weighting, adjustment and estimation methods to further reduce potential bias and maintain validity of the population-based estimates.

  > Addition of variables including telephone type (landline/cell) in the weighting process will assist in further reducing the potential for bias and increasing the representativeness of survey estimates for the general population.

Impact of New Survey Methodology on 2011 BRFSS Prevalence Estimates of Health Indicators

♦ Changes in the 2011 BRFSS methodology will influence the state and national-level prevalence estimates for 2011 and subsequent years.

♦ Size and direction of the effect of new methodology on the prevalence estimates varies by health indicators.

♦ Changes in the 2011 data are likely to show indications of somewhat higher occurrences of risk behaviors common to younger adults and to certain racial or ethnic minority groups.
The absolute increases or decreases in the prevalence estimates of health indicators from 2010 to 2011 BRFSS do not show any real changes in the actual prevalence of diseases, risk factors/behaviors and other health indicators in the general population. These variations in the estimates are caused by the addition of cell phone households to the survey sampling frame and adoption of new advanced statistical method for weighting the survey data.

Comparisons cannot be made between the prevalence estimates of the health indicators generated for the previous years and those generated for 2011.

The 2011 data cannot be used with the data from 2010 and preceding years to examine trends as prevalence estimates cannot be compared and interpreted using data generated from two different methodologies.

The 2011 estimates will constitute a new baseline for monitoring trends of health indicators in subsequent years.

Impact of 2011 Kansas BRFSS Methodology on Prevalence of Health Indicators:

- The new methodology adjusts for changes in the use of cell phone service in Kansas and provides prevalence estimates more representative of the Kansas adult population.
- Changes in the 2011 data are likely to show indications of somewhat higher occurrences of risk behaviors common to younger adults and to certain racial or ethnic minority groups.
- The 2011 estimates for some indicators such as fair/poor health, current smoking status, binge drinking and lack of health care coverage vary from 2010 estimates; however estimates for some indicators such as obesity, diabetes and current asthma do not vary.
- Comparisons cannot be made between the prevalence estimates generated for previous years and those generated for 2011.
- A break in trend lines for prevalence estimates will occur.

Analysis, Interpretation and Use of 2011 Kansas BRFSS Data

- For analysis, do not combine 2011 Kansas BRFSS dataset with those from previous years as sampling and weighting methods are different.
- Continue using weighted data analysis techniques for analysis of 2011 data.
- Interpretation of prevalence estimates has not changed. 2011 BRFSS provides prevalence estimates of diseases, risk factors/behaviors and other health indicators for adult Kansans 18 years and older.
- 2011 BRFSS also provides prevalence estimates of health indicators for various socio-demographic subgroups in Kansas.
- The prevalence estimates from 2011 Kansas BRFSS are representative of non-institutionalized adults ages 18 years and older living in private residences with landline and/or cell phone service.
- Use 2011 BRFSS data for: examining burden of public health issues in Kansas, planning and evaluation of public health programs to address these issues, public health decision making, leveraging funding opportunities and public education.
- Do not compare 2011 BRFSS prevalence estimates with those from 2010 and preceding years as shifts in observed prevalence of health indicators from 2010 to 2011 will likely reflect the effect of new survey methods, rather than true changes in their trends in the general population.
- A break in the trend line of health indicators estimated by 2011 BRFSS will occur. 2011 BRFSS estimates will constitute the baseline for monitoring trends in subsequent years.

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