Frequently Asked Questions and Answers on BRFSS Data Analysis and Methods

**BRFSS Epidemiologists and Staff**
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**PHSIP, OSELS, CDC**

**Q1: Why Is Data Analysis Important?**

A1. “The goal is to transform data into information, and information into insight.” (Carly Fiorina, HP CEO)

**Q2: How Reliable Are BRFSS Data?**

A2. Results are consistent in prevalence estimates of key health indicators of similar caliber between BRFSS and other national surveys.

**Q3: Who Uses BRFSS Data?**

- State and Local Health Departments
- CDC
- Academic Researchers
- Health Professionals
- Nonprofit Organizations
- Insurance Companies
- Managed Care Organizations
- Students
- The Media
- The Military
Uses of Data from BRFSS by the States

- BRFSS Annual Report

- BRFSS Newsletter (News Brief)

- BRFSS Reports on Special Topics

Obesity Trends Among U.S. Adults

BRFSS, 1985

- No Data
- <10%
- 10%–14%

BRFSS, 1986

- No Data
- <10%
- 10%–14%

BRFSS, 1987

- No Data
- <10%
- 10%–14%
Obesity Trends Among U.S. Adults
BRFSS, 2006

Obesity Trends Among U.S. Adults
BRFSS, 2007

Obesity Trends Among U.S. Adults
BRFSS, 2008

Obesity Trends Among U.S. Adults
BRFSS, 2009

Uses of Data from BRFSS by CDC
• Healthy People 2010 and 2020

HP 2010 Objectives Tracked by BRFSS
• Risk Factors
  ✓ Binge drinking
  ✓ Smoking
  ✓ Physical inactivity

• Use of Preventive Services
  ✓ Immunization
  ✓ Cancer screening
  ✓ Cholesterol screening

• Health Care Access
  ✓ Health insurance
  ✓ Personal health care provider

• Health Conditions
  ✓ Diabetes
  ✓ Obesity
  ✓ High blood pressure
Uses of Data from BRFSS by CDC

- Morbidity and Mortality Weekly Report
  - The MMWR series is prepared by CDC.
  - Often called “the voice of CDC.”
  - In the past 10 years, about 7% of reports published in MMWR used BRFSS data (both from CDC and states).
  - Topics include surveillance summary reports, trends in prevalence, vital signs, and many other analyses.

Publications

- From 1987 to 2010: a total of 1,450 papers published using BRFSS data (PubMed: “BRFSS” or “Behavioral Risk Factor Surveillance System” on title or abstract).
- From 1987 to 2010: 1743 papers used or mentioned BRFSS data (PubMed: all fields).

Uses of Data from BRFSS by CDC

- BRFSS Annual Conference

Popular Media

Publications Using Data from BRFSS and NHS

- Number of Publications (PubMed) by Year:
  - BRFSS (green) and NHIS (red) publications from 2000 to 2010.
Q4: Why Is Sample Weight Needed in Data Analysis?

A4. To account for the complex survey design and produce accurate estimates.

Q5: Are Sample Weights Re-adjusted When Combined Many Years of Data?

A5. It may be better to re-calculate the sample weights (weight divided by number of years). However, it may not be needed for trend analysis.

Q6: Why is age-adjustment needed even sample weight has been used?

A6. Sample weight is used to represent the target population. Age-adjustment is used to control for the possible confounding effect of age.

Q7: What standard population is recommended for age-adjustment?

A7. 2000 projected U.S. population is recommended (Klein RJ, Schoenborn CA. Statistical Notes, No. 20, 2001).

Q8: Can I make up my own age distribution?

A8. Yes. You can collapse age groups according to your data.

Q9: What statistical software programs are used in BRFSS data analysis?

A9. SUDAAN>SAS SURVEY PROCEDURES, SPSS SURVEY PACKAGE, STATA SURVEY MODULE.
Q10: Do SUDAAN and SAS produce identical estimates?
A10. Yes, when there is no single sample unit or PSU in a stage or stratum.

Q11: Is direct age-adjustment the same as predictive marginal?
A11. PM is equivalent to direct age-adjustment in the saturated model (i.e. include all-way interaction terms).

Q12: How to estimate prevalence ratios?
A12. In SUDAAN: Loglink, or rlogistic with adjrr option in the predmarg statement;
In SAS: proc gencmod (dist=Poisson, link=log).

Thank You!
For further questions, comments, and suggestions:

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