BRFSS

Behavioral Risk Factor Surveillance System

2003

Year-to-Date Data Quality Report Handbook

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Behavioral Risk Factor Surveillance System
2003 Year-to-Date Data Quality Report Handbook

Contents

Introduction

This document discusses the tables presented in the BRFSS 2003 *Year-to-Date Data Quality Report*. The target readership is the state[1] BRFSS coordinators, especially those who do not have day-to-day responsibility for data collection. The data may be collected by a contractor or by staff in the state health department.

This document is divided into four sections. The section *Definitions of Variables* defines unfamiliar variables. *General Questions the Year-to-Date Data Quality Report Tables Can Help Answer* lists several general questions and identifies the tables that can help answer them. *Standards of Comparison* identifies standards that can be used to evaluate the data in the tables. Finally, *Specific Guidelines for Interpretation of Tables* identifies things to look for and, as far as possible, standards for comparison for each table. The appendices list the full titles of all tables in the report, explain the charts in the report, and define outcome rates.

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[1] "State" refers to the 50 states, the District of Columbia, Guam, Puerto Rico, and the Virgin Islands.

Definitions of Variables

Assigned Month. BRFSS protocol calls for states to submit related prescreened sample records numbers they never called along with sample records for numbers they did call. Sometimes states fail to do so. For states that receive their sample through the Behavioral Surveillance Branch (BSB), we are able to identify related prescreened records they may have failed to send and to add them to their data files. Assigned month is the month of the file in which a record was submitted or the month of the file in which a related prescreened record should have been submitted but was not.

File Month. Each data file submitted to CDC contains the name of a month in the filename. The file month of a record is the month of the file in which it was submitted.

Household Roster Status.
None = Number of adults, number of men, and number of women are all missing.
Partial = One or two of number of adults, number of men, and number of women are missing.
Inconsistent (But Complete) = Number of adults, number of men, and number of women are all
     nonmissing, but number of adults does not equal the sum of number of men and number of
     women.
Consistent (And Complete) = Number of adults, number of men, and number of women are all
     nonmissing, and number of adults equals the sum of number of men and number of women.

Number of Residential Telephone Numbers.
Missing = The question "Do you have more than one telephone number in your household?" or "How
     many residential telephone numbers do you have?" was refused.
Otherwise, the reported number of residential telephone numbers.

Density Status. Categorized as Listed or Not listed one-plus block.

Disposition Codes

The 2003 final BRFSS disposition codes are as follows.

1. Interview
    - 110   Complete
    - 120   Partial Complete

2. Eligible, Non-Interview
    - 210   Termination within questionnaire
    - 220   Refusal after respondent selection
    - 230   Selected respondent was never reached or was reached but did not begin interview during interviewing period
    - 240   Selected respondent away from residence during the entire interviewing period
    - 250   Language problem after respondent selection
    - 260   Selected respondent physically or mentally unable to complete an interview during the entire interviewing period
    - 270   Hang-up or termination after number of adults recorded but before respondent selection
    - 280   Household contact after number of adults recorded but before respondent selection

3. Unknown Eligibility, Non-Interview
    - 305   Household members away from residence during entire interviewing period
    - 310   Hang-up or termination, housing unit, unknown if eligible respondent
    - 315   Household contact, eligibility undetermined
    - 320   Language problem before respondent selection
    - 325   Physical or mental impairment before respondent selection
    - 330   Hang-up or termination, unknown if private residence
    - 332   Contact, unknown if private residence
    - 335   Telephone answering device, message confirms private residence
    - 340   Telecommunication technological barrier, message confirms private residence
    - 345   Telephone answering device, not sure if private residence
    - 350   Telecommunication technological barrier, not sure if private residence
    - 355   Telephone number no longer in service or has been changed
    - 360   No answer
    - 365   Busy
    - 370   On never call list

4. Not Eligible
    - 405   Out-of-state
    - 410   Household, no eligible respondent
    - 420   Not a private residence
    - 430   Dedicated fax/data/modem line with no human contact
    - 440   Fast busy
    - 450   Nonworking/disconnected number

5. Interim Disposition Codes
    - 505   Refusal: hang-up or termination
    - 510   Appointment
    - 515   Language problem
    - 520   Physical or mental impairment
    - 525   Answering machine, message confirms private residence
    - 530   Technological barrier other than answering machine, message confirms private residence
    - 535   Answering machine, not sure if private residence
    - 540   Technological barrier other than answering machine, not sure if private residence

545	Telephone number temporarily out of service
550	No answer
555	Busy
560	Fax/data/modem
565	Fast busy
570	Possible nonworking number
575	Circuit busy
580	Null attempt
585	Requires supervisor attention

In the tables below, these codes are categorized as follows:

<u>Household</u> records are records that have disposition codes of 110, 120, 210, 220, 230, 240, 250, 260, 270, 280, 305, 310, 315, 320, 325, 330, 332, 335, 340, 355, 370, or 410.

Definitions and Labels for Disposition Code Categories

Category	Definition	Format in Tables
Completed Interview	Disposition Codes 110, 120	Completed Interview
Terminations and Refusals	Disposition Codes 210, 220	Terminate, Refusal
Known Household, Possible Eligible, Non-Interview	Disposition Codes 230, 240, 250, 260, 270, 280, 305, 310, 315, 335	Known HH
Probable Households	Disposition Codes 320, 325, 330, 332, 340, 355, 370	Prob HH
Answering Machine Unknown	Disposition Codes 345, 350	Machine Unknown
Ineligible Household	Disposition Code 410	HH, No Elig Resp
Non-Contact	Disposition Codes 360, 365	Non-Contact
Business Non-Residential	Disposition Code 420	Business
Non-Working Out-of-Scope	Disposition Codes 405, 430, 440, 450	Non-Working

General Questions the Year-to-Date Data Quality Report Tables Can Help Answer

The tables are generally organized around questions that a state BRFSS coordinator, as the person ultimately responsible for ensuring and assessing the quality of BRFSS data, should ask.

Is there evidence of significant bias in the data? The tables in Section II address this question. Specific guidelines for assessing biases are given in this handbook in the section *Specific Guidelines for Interpretation*.

Is the data collector calling numbers frequently enough and according to the BRFSS callback rules? Tables III.1 to III.5 address these questions. The discussion for these tables in the *Specific Guidelines for Interpretation* section, below, identifies patterns to seek out.

How consistent is the data collection effort from month to month? Every table that is run by month can help answer this question. The primary ones to look at are Tables III.09, III.11, and III.13. The percentage of records in each disposition code category in Table III.13 should vary by less than two points from month to month. If this measure shows less consistency than you think appropriate, verify that the same patterns exist in Tables III.09 and III.11, although these tables should show more month-to-month variability because their bases are smaller.

Is the data collector dispositioning numbers according to their definitions? This question can be approached in a number of ways. The first place to look is in Section IV, Proper Assignment of Disposition Codes. By looking at the disposition codes of various sets of numbers, you can identify codes that are being assigned to more or fewer records than they should be. Another way to assess whether disposition codes are being appropriately assigned is to assess the consistency between the household roster status and the disposition code. A third way is to assess the consistency between the number of attempts and the disposition code.

Disposition code 410, "No eligible respondent at this number," is especially likely to be assigned when another code would be more appropriate. This code should be applied to well under 2% of households. Also, all records assigned a disposition code of 410 should have no household roster.

Are the interviewers adequately trained, supervised, and monitored? Sections VI and IX can be used to address this question. The standards for comparison in this case are standing relative to other states. Other indications that interviewers are not adequately trained, supervised, or monitored are (1) relatively large percentages of records with data on income or weight missing in Section VI, and (2) a relatively large percentage of Hispanics coded as "other" race and relatively large biases in Section IX.

Are there particular interviewers who seem to be deviating from sound practices? The tables in Section IX can be used in addressing this question. The easiest approach is first to look for flagged outliers (Tables IX.01, IX.02, and IX.03, and interviewers with zeros or asterisks next to their records in the boxplots). However, because a flat distribution can mask true outliers, you should also look for records that have values that do not cluster with the others, even if they are not marked as outliers. Of course, there may be valid reasons for deviations from a statistical norm, so these findings should be treated more as indicators of a need for further investigation than as proof of inappropriate interviewer practices.

Standards of Comparison

Various standards of comparison are appropriate for different tables.

In many cases, the standard is defined by **BRFSS protocol.** For example, 100% of records dispositioned "No answer" should have received at least 15 call attempts.

In other cases, a standard cannot be exactly determined but **logic or data indicate that only values within a fairly narrow range seem reasonable**. In most such cases, a precise standard has been formulated as a guideline, using a defined threshold based on knowledge about the population of households that have telephones.

An **outside standard** is appropriate in bias measures. Bias is measured by the difference between a sample value and a population value. For example, a sample in which 60% of respondents are female drawn from a population in which 52% are female shows a selection bias of eight percentage points. The 2003 *Year-to-Date Data Quality Report* contains population data that serve as comparison standards for selection bias measures.

In some cases the best that can be done is to determine whether a state is an **outlier** in a distribution. For example, no particular standard can be determined for the percentage of completed interviews among household records by examining the BRFSS calling rules and protocols. The best approach in this case is to determine whether a given state is an outlier compared with other states.

Finally, regardless of how a standard is determined for an individual measure, **consistency** in that measure **is important**. A measure may or may not be consistent at an acceptable level, but inconsistency itself can be an indicator of inconsistent or poor-quality data **collection** practices.

Specific Guidelines for Interpretation of Tables

In this section, standards are indicated by **boldface**.

I. Sample Generation, Release, and Submission

Table I.1. Density Status, by Assigned Month. This table presents the percentages of listed and not-listed one-plus block numbers in the sample. Efficiency refers to the yield in number of completed interviews as a proportion of all cases in the sample. Other things being equal, increases in the percentages listed should increase efficiency because a higher percentage of listed numbers are eligible. This table will help in assessing the extent to which changes in sample composition may be responsible for changes in efficiency.

Table I.2. Number of Records in Replicate.
Standard: All replicates should contain 50 records. This table is generated only when this standard has not been met.
Telephone sample records should be released by replicate, and all records, including those that have been prescreened as nonworking or business numbers, should be sent to BSB. Large numbers of replicates with fewer than 50 records indicate that one or the other protocol is not being followed. Small numbers of replicates with fewer than 50 records probably indicate processing problems, either in the CATI software or in post–data collection processing.

Table I.3. Interview Month, by File Month. BRFSS protocol states that data collectors should attempt to complete a monthly survey within the prescribed month but that it is more important to make calls in full accordance with the BRFSS callback rules than it is to finish within a prescribed month. **The BRFSS standard is that 100% of records in a given file month should be in the identical interview month. Cells in this table that contain records that do not meet this standard are shown in boldface.** Nevertheless, because of the priority of adhering fully to the callback rules, an occasional table entry that is a few percentage points below 100% is not a matter for concern. A substantial deviation from the 100% standard, however, should occasion an inquiry. A chronic deviation from the 100% standard is an indicator that the data collector needs to devote more resources (for example, more hours of calling per month or more interviewers) to the BRFSS to complete the survey on time.

Table I.4. File Month, by Assigned Month. This table shows whether the data collector is submitting sample records prescreened by GENESYS Sampling Systems as nonworking or business. BRFSS Policy Memo 98-3 specifies that such records should be submitted to BSB.
Standard: 100% of the records in an assigned month should be in the identical file month. This table is generated only when this standard has not been met.

II. Bias

Is there evidence of significant bias in the data?

Tables II.1, II.2, II.3. Discrepancy in Sex, Age, and Race/Ethnicity between 2003 Claritas Population Estimates and Unweighted BRFSS Data, Year-to-Date. These tables show the unweighted percentages of sex, age, and race/ethnicity classifications among completed interviews, compared with the 2003 population estimates from Claritas. Prior to the availability of 2003 population estimates, 2002 Claritas Population Estimates were used in these tables. The numbers and percentages for the BRFSS sample are presented in the second and third columns with the population numbers and percentages in the fourth and fifth columns. The last column shows the percentage point difference between the two values. Large selection biases are an indicator of possible biases in the data. They do not indicate anything about the source of the possible biases, however. Bias may stem from any non-sampling error that results in data that is not representative of the sample. Examples of non-sampling errors that are under the control of

the data collector are these: not assigning enough qualified interviewers to the survey, not following BRFSS protocol, interviewer misconduct (for example, fabricating interviews or recording one adult in a household to be able to interview the person on the phone), or insufficient training or skill among interviewer staff to induce hard-to-interview respondents to complete an interview.

Standards: Acceptable ranges for biases in sex, age, and race/ethnicity classifications are listed below. A value above or below the acceptable range should trigger a search for possible causes and remedies. These ranges are based on observed biases in 2000. Cells in Tables II.1, II.2, and II.3 that contain values that do not meet these standards are shown in boldface.

Variable	Category	Acceptable Bias Range
Sex	Female	3% to 9%
Age	18–24	–4% to 1%
Age	25–34	–5% to 3%
Age	35–44	–1% to 3%
Age	45–54	–1% to 3%
Age	55–64	–1% to 3%
Age	65+	–3% to 1%
Race/Ethnicity	White/Non-Hispanic	–2% to 3%

Table II.4. Race by Hispanic Origin. Hispanics tend to approach race from a different perspective than non-Hispanics and thus are sometimes reluctant to name one of the standard race categories as their race. As a result, many Hispanics are coded as "other" race. In the 2000 census, about 42% of Hispanics indicated their race as other.

Standard: If more than 50% of Hispanics are coded as having a race of other, interviewers may not have received appropriate training on probing for the race of Hispanic respondents. If less than 20% of Hispanics are coded as having a race of other, interviewers may be imputing the race of Hispanics. Cells in this table that contain values that do not meet this standard are shown in boldface.

Table II.5. Geo-Stratum, by Month. This table presents the number of interviews for each geographic stratum for each month.

III. Sample Management: Magnitude and Consistency of Effort

Is the data collector calling numbers frequently enough and according to the BRFSS callback rules?

Tables III.1 to III.4. Date, Day of Week, and Final Disposition Code, by File Month and Minimum, Mean, and Maximum Number of Attempts for Completes and One-Plus Block Numbers, Respectively. **A rule of thumb is that about 85% of the completed interviews and 75% of one-plus block numbers should receive a final disposition in the first half of the interviewing days. In Tables III.2 and III.4, a month row is printed in boldface if the cumulative percentage is less than 80% as of the 15th day of the month. In Table III.1, a date row is printed in boldface when the cumulative percentage increases by more than 3% in the last four interviewing days of the month. In Tables III.1 and III.3, any date row indicating interviewing beyond the source month is printed in boldface.** A spike in the number of dispositions after the beginning of the interviewing period could indicate that additional telephone numbers were released. This should occur early enough in the interviewing period that there is time to complete calls to all the released numbers according to the BRFSS callback rules. A relatively large number of dispositions per day well into the interviewing period or, worse, an increase in the number of dispositions per day at the end of the interviewing period is probably an indication that the data collector needs to devote more resources (for example, more hours of calling per month or more interviewers) to the BRFSS to complete calls to all the released numbers according to the BRFSS callback rules. The tables also list the day of the week on which numbers receive a final disposition. The day of the week can be used to check on weekend calling. During the last half of the interviewing period, or at least the last several days, the number of final dispositions by day should be in the single digits.

In Table III.3, after about the third interviewing day, the minimum number of attempts should exceed one and continue rising until it levels off at nearly 15 toward the end of the interviewing period. (There may be an occasional record for which only a few call attempts were made, but most records dispositioned close to the end of the interviewing period should have close to 15 call attempts.) **Similarly, the mean number of attempts should be in the range of six to eight by the fifth interviewing day. In Table III.3, any date row after the fifth interviewing day and before the 10th interviewing day in which the mean number of attempts is less than seven is printed in boldface.**

Table III.5. Date and Day of Week of First and Last Dispositions in Replicate and File Month, Number of Days since First Disposition Date in File Month, Number of Days to Last Disposition Date in File Month, and Number of Days in Field for Replicate and File Month, by File Month for Replicates in Play Fourteen or Fewer Days.

The frequencies of completed interviews and of households whose status is incomplete should be heavily concentrated in the first half of the interviewing days. The frequencies of nonworking numbers and non–private residences should be heavily concentrated in the first two or three days of the interviewing period. The frequencies of noncontacts should be concentrated toward the end, but not the very end, of the interviewing period. You should also look at the extent and pattern of weekend interviewing. Fewer hours are available for weekend interviewing than for weekday and weeknight interviewing, yet more people are at home during the weekend. Thus, weekend calling should be approached strategically. **In particular, weekend calling should be heavy enough to call all available numbers during a weekend, but it should not be wasted on numbers that have not been called before. This table prints only if a replicate has been in play 14 or fewer days.**

How consistent is the data collection effort from month to month?

Tables III.08 to III.13. Disposition Code. The even-numbered tables (III.08, III.10, and III.12) present year-to-date data, which provides baseline percentages for the year. The odd-numbered tables present data by month, which allows you to assess the monthly variability in the distributions. You can use these disposition codes to measure consistency and, to some extent, the quality of the data collection effort. **In Table III.09, cells are printed in boldface when a disposition code category changes by 10 or more percentage points from one month to the next. In Table III.11, cells are printed in boldface when a disposition code category changes five or more percentage points from one month to the next.** Because the base of the percentages in Tables III.12 and III.13 comprises all records, a difference of even two percentage points from one month to the next could be meaningful. **In Table III.13, cells are printed in boldface when a disposition code category changes by more than two percentage points from one month to the next.**

IV. Proper Assignment of Disposition Codes

Is the data collector dispositioning numbers according to their definitions?

Tables IV.1 to IV.5. Household Roster Status or Number of Attempts. The standards for these tables are indicated in the titles. **These tables are generated only when these standards have not been met. Cells in these tables that contain values that do not meet their standards are shown in boldface.**

V. Unit Nonresponse

Table V.1. Resolution, Screening Completion, Interview Completion, Cooperation, Overall Response, and CASRO Response Rates.

The resolution rate is the proportion of all telephone numbers in the sample for which the status of the cases as households with working numbers has been resolved. Cases for which household status remains unknown are excluded from the numerator. The screening completion rate is the proportion of all known households in which the presence of an eligible respondent has been determined. Households in which the presence or absence of an adult is unknown are excluded. The interview completion rate is the proportion of contacted eligible respondents who successfully completed an interview. This rate is a type of cooperation rate. **As a guideline, consider the minimum values for these completion rates to be 75% for the resolution rate, 45% for the screening completion rate, and 67% for the interview completion rate. Cells in this table that contain values that do not meet these standards are shown in boldface.**

The CASRO rate is a measure of respondent cooperation and is generally defined as the proportion of all eligible respondents in the sample for whom an interview has been completed. The numerator for this rate includes completed interviews and partial interviews in which at least 50% of the core questionnaire has been completed. The proportion of cases of unknown eligibility that are actually eligible is estimated to be the same as the proportion of cases of known eligibility that are eligible. The overall response rate is a conservative response rate that includes a higher percentage of all households in the denominator.

A CASRO rate below 40% or an overall response rate below 30% should trigger a review of any data collection practices that could affect the rates, especially sample management and interviewer recruitment, retention, training, supervision, and monitoring. **Cells in this table that contain values that do not meet these standards are shown in boldface.** Fluctuations of more than about five percentage points in these rates or a downward trend for three or more months should occasion an inquiry into the data collection practices.

The cooperation rate is the proportion of all cases interviewed of all eligible units that were actually contacted. Noncontacts are excluded from the denominator. This rate is based on contacts with households that contain an eligible respondent. The denominator includes completed interviews plus the number of cases for which no interview was conducted but for which an eligible respondent was identified and contacted. The refusal rate is the percentage of all eligible respondents who refused to be interviewed or who terminated an interview early in the core questionnaire. **A cooperation rate below 65% or a refusal rate of 35% or less indicates some problem with interviewing techniques. Cells in this table that contain values that do not meet these standards are shown in boldface.**

Table V.2. Percent with Known Eligible Households. **Cells in this table are printed in boldface if less than 45% of cases are determined to be eligible or if this percentage changes by five or more percentage points from one month to the next.**

Table V.3. Percent with Selected Respondent. This table lists the percentage of households for which a respondent is selected once a household roster is begun. **This percentage should be 100% or very close to it. Cells are printed in boldface if less than 99% are selected.**

Table V.4. Percent Began Interview. **Cells are printed in boldface if 60% or less began interviews.**

Table V.5. Percent Complete or Partial Complete. **Cells are printed in boldface if less than 95% are complete.**

Table V.6. Percent Complete. **Cells are printed in boldface if less than 92% complete or if 100% are complete.**

VI. Item Nonresponse

Are the interviewers adequately trained, supervised, and monitored?

Tables VI.1A. to VI.3. Income Missing Values.

Try to keep the proportion of missing values for income below 15% for male respondents and below 20% for female respondents. If missing values exceed 15% for male respondents or 20% for female respondents, the training and monitoring of interviewers with respect to collection of income data should be reviewed. Cells in these tables that contain values that do not meet these standards are shown in boldface.

VII. Household Rosters, Number of Adults, and Number of Phones

Table VII.1. Household Roster Status, Records with Partial or Complete Household Rosters. **The proportion of records with a partial household status should be well under 1%, and no records should have an inconsistent household status. Cells in this table that contain values that do not meet these standards are shown in boldface.**

Table VII.2. Number of Adults, Records with Non-Missing Number of Adults.
Generally, 25% to 40% of records should indicate one adult, and 45% to 60% should indicate two adults. Records with six or more adults should be reviewed. Cells in this table are shown in boldface if they contain values outside of these ranges.

Table VII.3. Number of Phones. **Generally, 85% to 90% of records should indicate one phone line. Records that indicate three or more phone lines should be reviewed. Cells in this table are shown in boldface if they contain values outside of these ranges.**

Table VII.4. Number of Phones, By Number of Adults. **The percentage of households with one phone line should decrease as the number of adults increases. Improbable combinations, such as one adult and five phone lines, should be investigated. Cells in this table are shown in boldface if there are four or more telephone lines or six or more adults in a household.**

VIII. Recruitment, Retention, and Assignment of Interviewers

Tables VIII.1 and VIII.2. Recruitment and Retention of Interviewers. These tables will give you an idea of the stability of the interviewer workforce. **If the turnover seems excessive, you should inquire about the data collector's recruitment base and practices and about the working conditions for interviewers.**

Table VIII.3. Minimum, Median, Mean, and Maximum Numbers of Completed Interviews per Interviewer. This table will give you an indication of how much data interviewers are getting with the current year's BRFSS survey. **Continuing small median and mean numbers of completed interviews per interviewer as the interviewer year progresses indicates that interviewers are not assigned enough interviews to gain experience with the survey.** This could indicate either high turnover or an excessively large number of interviewers assigned to the BRFSS.

Table VIII.4. Number of Completed Interviews, by Interviewer.

IX. Interviewer Outliers

Are there particular interviewers who seem to be deviating from sound practices?

Tables IX.01 to IX.20. These tables should be approached from both a systemic and an individual perspective. From a systemic perspective, the question is whether appropriate training, supervision, and monitoring of interviewers is provided. For several variables, one indication that this might not be the case would be a poor showing on a global measure from an earlier section coupled with a flat distribution and a large standard deviation among interviewers. For example, **a value that exceeds 15% for missing income in Table VI.1A coupled with a standard deviation of more than five percentage points in**

Table IX.9 should trigger a review of the training, supervision, and monitoring of interviewers with respect to asking about and probing for income.

From an individual perspective, the question is whether particular interviewers are following protocol. In this approach, **the data should be examined for interviewers who are outliers**. Tables IX.01, IX.02, and IX.03 are particularly useful for identifying outliers. Interviewers who are outliers on several measures should be monitored carefully, especially if they consistently beat the norm. Appendix B of this document explains how to read the graphs shown in Tables IX.06 to IX.20.

Appendix A: List of Tables in the 2003 BRFSS Year-to-Date Data Quality Report

Note: Table titles have three sections: the name of the dependent variable (with categories in parentheses, if appropriate), either the phrase Year-to-Date or the name of a By-variable, and a description of the records in the table (the base).

I. Sample Generation, Release, and Submission

Table I.1. Density Status, By Assigned Month, Base = All Records

Table I.2. Number of Records in Replicate, By Assigned Month, Base = All Records

Table I.3. Interview Month, By File Month, Base = Completes Only

Table I.4. File Month, By Assigned Month, Base = All Records

II. Bias

Table II.1. Discrepancy in Sex Between 2003 Claritas Population Estimates and Unweighted BRFSS Data, Year-to-Date, Base = Completes Only

Table II.2. Discrepancy in Age Between 2003 Claritas Population Estimates and Unweighted BRFSS Data, Year-to-Date, Base = Completes Only

Table II.3. Discrepancy in Race/Ethnicity Between 2003 Claritas Population Estimates and Unweighted BRFSS Data, Year-to-Date, Base = Completes Only

Table II.4. Race, by Hispanic Origin, Year-to-Date, Base = Completes Only

Table II.5. Geo-Stratum, by Month, Year-to-Date, Base = Completes Only

III. Sample Management: Magnitude and Consistency of Effort

Table III.1. Date, Day of Week, and Final Disposition Code, By File Month, Base = Records with One or More Attempts

Table III.2. Number and Percent of Completes in the First Fifteen Days of the Interview Month

Table III.3. Date and Day of Week of Final Disposition and Minimum, Mean, and Maximum Number of Attempts, By File Month, Base = One-Plus Block Numbers with One or More Attempts

Table III.4. Date and Day of Week of Final Disposition and Minimum, Mean, and Maximum Number of Attempts, By File Month, Base = Zero Block Numbers with One or More Attempts

Table III.5. Date and Day of Week of First and Last Dispositions in Replicate and File Month, Number of Days Since First Disposition Date in File Month, Number of Days to Last

Disposition Date in File Month, and Number of Days in Field for Replicate and File Month, By File Month, Base = Replicates in Play Fourteen or Fewer Days

Table III.08. Disposition Code (Categorized as Completed Interview; Eligible Household; Household or Probable Household, Eligibility Unknown; Household, No Eligible Respondent; Non-Contact; Non-Household), Year-to-Date, Base = Listed Records

Table III.09. Disposition Code (Categorized as Completed Interview; Eligible Household; Household or Probable Household, Eligibility Unknown; Household, No Eligible Respondent; Non-Contact; Non-Household), By File Month, Base = Listed Records

Table III.10. Disposition Code (Categorized as Completed Interview; Eligible Household; Household or Probable Household, Eligibility Unknown; Household, No Eligible Respondent; Non-Contact; Non-Household), Year-to-Date, Base = All Records

Table III.11. Disposition Code (Categorized as Completed Interview; Eligible Household; Household or Probable Household, Eligibility Unknown; Household, No Eligible Respondent; Non-Contact; Non-Household), By File Month, Base = All Records

Table III.12. Disposition Code (Categorized as Completed Interview; Eligible Household; Household or Probable Household, Eligibility Unknown; Household, No Eligible Respondent; Non-Contact; Non-Household), Year-to-Date, Base = All Records

Table III.13. Disposition Code (Categorized as Completed Interview; Eligible Household; Household or Probable Household, Eligibility Unknown; Household, No Eligible Respondent; Non-Contact; Non-Household), By File Month, Base = All Records

IV. Proper Assignment of Disposition Codes

Table IV.1. Disposition Code (Categorized as Completed Interview; Eligible Household; Household or Probable Household, Eligibility Unknown; Household, No Eligible Respondent), By Density Status, Base = Household or Probable Household Records

Table IV.2. Disposition Code (Categorized as Completed Interview; Eligible Household; Household or Probable Household, Eligibility Unknown; Household, No Eligible Respondent; Non-Contact; Non-Household), By Density Status, Base = All Records

Table IV.3. Household Roster Status, By Assigned Month, Base = Records with Final Disposition Codes of 110 to 260 (should have only consistent household roster)

Table IV.4. Number of Attempts, By Assigned Month, Base = Records with Final Disposition Codes of 315, 332, 325, 340, 345, 350, 360, 365 (should be 15+ attempts)

Table IV.5. Number of Attempts, By Assigned Month, Base = Records with Final Disposition Code of 370 (should be 0 attempts)

V. Unit Nonresponse

Table V.1. Resolution, Screening Completion, Interview Completion, Cooperation, Refusal, Overall Response, and CASRO Response Rates, Year-to-Date and by Assigned Month, Base = All Records

VI. Item Nonresponse

VII. Household Rosters, Number of Adults, and Number of Phones

VIII. Recruitment, Retention, and Assignment of Interviewers

IX. Interviewer Outliers

A. Bias

B. Item Nonresponse

Table IX.20. Distribution of Percent Income Refused (99), By Interviewer ID, Base = Men Only

Appendix B: Explanations of Stem-and-Leaf Displays and Boxplots

Stem-and-leaf displays and boxplots allow distributions to be examined for extreme values, or outliers. These **figures** are presented in the output of Section IX.

In a stem-and-leaf display, the first column of numbers is the stem, and the second sets of numbers are the leaves. The stem usually represents a whole percentage number. Each observation is represented by one digit (leaf). The leaves usually represent rounded tenths of a percent. As a whole, a stem-and-leaf display can be thought of as a vertical histogram in that the lengths of the leaves are proportional to the relative frequencies in an interval. Immediately to the right of the stem-and-leaf display is a column showing the number of observations in each interval. Observations toward the ends of a distribution that are separated from other observations by one or more blank intervals are candidates to be considered as outliers.

A boxplot provides a more formal statistical approach to identifying outliers. "The bottom and top edges of the box correspond to the sample 25th (Q1) and 75th (Q3) percentiles. The box length is one interquartile range (Q3–Q1). The center horizontal line with asterisk endpoints corresponds to the sample median. The central plus sign (+) corresponds to the sample mean. If the mean and median are equal, the plus sign falls on the line inside the box. The vertical lines that project out from the box, called whiskers, extend as far as the data extend, up to a distance of 1.5 interquartile ranges. Values farther away are potential outliers. The procedure identifies the extreme values with a zero or an asterisk (*). If zero appears, the value is between 1.5 and 3 interquartile ranges from the top or bottom edge of the box. If an asterisk appears, the value is more extreme" (SAS Institute Inc., SAS Procedures Guide, Version 8, Cary, NC: SAS Institute Inc., 1999, p. 1389).

Appendix C: BRFSS CASRO Response Rate Formula

Completes = Completed or Partially Completed Interviews
Completes = (110+120+(210*P))
Where P = the proportion of 210 cases for which more than 50% of the core questions are complete

Eligible = All respondents with known eligibility status categorized as eligible
Eligible = (110+120+210+220+230+240+250+260+270+280)

Ineligible = All respondents with known eligibility status categorized as ineligible
Ineligible = (405+410+420+430+440+450)

Unknown = All respondents with unknown eligibility status
Unknown = (305+310+315+320+325+330+332+335+340+345+350+355+360+365+370)

UNKNDNOM = Unknown respondents added to the denominator
UNKNDNOM = (Eligible / (Eligible + Ineligible)) * Unknown

CASRO = (Completes / (Eligible + UNKNDNOM))

Appendix D: BRFSS Overall Response Rate Formula

Completes = Completed or Partially Completed Interviews
Completes = (110+120+(210*P))

Break-offs and Refusals = ((210*(1-P))+220)
Known Households = (230+240+250+260+270+280+305+310+315+335)
Ineligible Households = 410
All Likely Households = (345+350+320+325+330+332+340+370+355)

Households = (Known Households + Ineligible Households + Completes + Break-offs and Refusals + (.90*All Likely Households))
Eligible Households = (.98*Households)

Overall Response Rate = (Completes / Eligible Households)

Appendix E: BRFSS Cooperation Rate Formula

Completes = Completed or Partially Completed Interviews
Completes = (110+120+(210*P))

Break-offs and Refusals = ((210*(1-P))+220)

Cooperation Rate = (Completes / (Completes + Break-offs and Refusals +250+260))