

The Behavioral Risk Factor Surveillance System

The Behavioral Risk Factor Surveillance System (BRFSS) is a random-digit dialed health survey that is administered each year by the Centers for Disease Control and Prevention (CDC) in collaboration with participating states and territories. Utah has participated in the BRFSS since its inception in 1984. Interviews are collected monthly from the Utah Department of Health (UDOH) Survey Center by professional interviewers. The Survey Center uses a Computer-Assisted Telephone Interviewing (CATI) system to administer the appropriate questions and record respondent answers in the survey directly to a computerized database. Data are weighted to account for differences in the probability of selection and to adjust the sample to the age-sex distribution and geographic location of the population of Utah. The SAS® statistical package with SAS-callable SUDAAN® computer software was used to compute prevalence estimates (both crude and age-adjusted) and associated 95 percent confidence intervals. Logistic regression was used to obtain the adjusted odds-ratios used in the report.

Patient Health Questionnaire (PHQ-9)

The Patient Health Questionnaire (PHQ) was developed for making criteria-based diagnoses of depressive disorders commonly encountered in primary care. The PHQ-9 is comprised of nine criteria upon which the diagnosis of DSM-IV (Diagnostic and Statistical Manual of Mental Disorders) depressive disorders is based. The PHQ-9, developed to be used in a clinical setting, can establish depressive disorders diagnoses and grade the severity of depressive symptoms. This three-page questionnaire is self-administered by the patient, with subsequent review by a clinician. The clinician verifies the response and applies a diagnostic algorithm to determine one of eight diagnoses which are divided into threshold disorders and sub-threshold disorders. The PHQ-9 score ranges from 0 to 27; since each of the nine items can be scored from 0 (not at all) to 3 (nearly every day). The results of the PHQ-9 are categorized into mild or minimal depressive disorder, other depressive disorder, and major depressive disorder. The PHQ-9 instrument has been validated to be carried out over the telephone.²³

2005 Utah BRFSS Questionnaire

The PHQ-9 was included as a series of state-added questions for the 2005 BRFSS questionnaire (see *Appendix C: Depression Modules*). The nine questions were answered with the original PHQ response categories of: “not at all,” “several days,” “more than half the days,” and “nearly every day.” If the respondent answered by specifying the number of days in the past two weeks, interviewers coded according to the following rule: 0–1 days = “not at all,” 2–6 days = “several days,” 7–11 days = “more than half the days,” and 12–14 days = “nearly every day.”

2006–2007 Utah BRFSS Questionnaire

The PHQ-9 was made available as an optional module for state BRFSS surveys in 2006. It was included in the 2006 and 2007 Utah BRFSS surveys (see *Appendix C: Depression Modules*). The response categories in the CDC optional module required the respondent to identify the number of days in the past two weeks for each of the nine questions.

Scoring the PHQ-9

For the 2005 instrument, scores were assigned as 0, 1, 2, and 3 to the response categories of: “not at all,” “several days,” “more than half the days,” and “nearly every day,” respectively. For the 2006 and 2007 instruments, scores were assigned as 0, 1, 2, and 3 when the responses fell into the following ranges: 0–1 day, 2–6 days, 7–11 days,

and 12–14 days, respectively. An individual was categorized with major depression if five or more of the nine questions have a score ≥ 2 (or ≥ 1 for question 9 on suicide ideation). See *Appendix D: PHQ-9 Instrument*.

The PHQ-8

In 2006, 34 states included some version of the PHQ-9 in the survey. However, due to the sensitive nature of question 9 on suicide ideation, most states did not include this question. The resulting eight questions were considered as the “PHQ-8.” In order to be consistent among all the participating states, the analysis by state was done with only the eight questions. A statistical comparison between the PHQ-9 and the PHQ-8 showed no significant difference in rates of major depression in Utah. Major depression as measured by the PHQ-9 in 2006 was 4.4%. The PHQ-8 estimate was 4.2%. However it should be noted that the PHQ was validated as a nine-question instrument and removing one question does not necessarily result in a validated eight-question instrument.