National Immunization Survey-Teen

A User's Guide for the 2008 Public-Use Data File

Centers for Disease Control and Prevention

National Center for Immunization and Respiratory Diseases

and

National Center for Health Statistics

Presented by:

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The development and production of the 2008 NIS-Teen public-use data files is a team effort that has included contributions from many individuals (listed in alphabetical order) in the three organizations:

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1. Introduction

In 1992 the Childhood Immunization Initiative (CII) (CDC 1994) was established to 1) improve the delivery of vaccines to children; 2) reduce the cost of vaccines for parents; 3) enhance awareness, partnerships, and community participation; 4) improve vaccinations and their use; and 5) monitor vaccination coverage and occurrences of disease. Subsequently, the Healthy People 2010 objectives established the goal of having at least 90 percent of children aged 13-15 years fully vaccinated with recommended and catch-up vaccines. To fulfill the CII mandate of monitoring vaccination coverage and marking progress toward achieving those goals, the National Immunization Survey (NIS) has been implemented by the National Center for Immunization and Respiratory Diseases (NCIRD) and the National Center for Health Statistics (NCHS) of the Centers for Disease Control and Prevention (CDC) http://www.cdc.gov/nis.

The target population for the NIS-Teen is children ages 13 to 17 years living in non-institutionalized households in the United States at the time of the interview. The official coverage estimates reported from the NIS-Teen are rates of being up-to-date with respect to the recommended numbers of doses of all recommended and catch-up vaccines (CDC 2008). These vaccines and their recommended numbers of doses are:

- Tetanus-diphtheria-accellular-pertussis vaccine (Tdap) – 1 dose;
- Meningococcal vaccine (MCV4) – 1 dose;
- Quadrivalent human papillomavirus vaccine (HPV4) – 3 doses;
- measles/mumps/rubella vaccine (MMR) – 2 doses;
- hepatitis B vaccine (Hep B) – 3 doses;
- varicella zoster (chicken pox) vaccine, – 2 doses;
- hepatitis A vaccine (Hep A), 2 doses; and
- influenza vaccine – 1 dose annually

The NIS-Teen survey is conducted as an add-on to the National Immunization Survey (NIS), which seeks to estimate vaccination coverage rates among 19 to 35 month-old children. The NIS uses a random digit dialing (RDD) telephone survey to identify households containing children aged 19 to 35 months and interviews the adult who is most knowledgeable about the child's vaccinations. If such a household is identified and the NIS interview is completed, the household is then screened for the presence of 13 to 17 year-old children. Households that do not contain a 19 to 35 month old child are not administered the NIS interview but are immediately screened for the presence of 13 to 17 year-old children. If a household containing one or more children aged 13 to 17 years is identified, a 13 to 17 year-old child is randomly chosen and the adult who is most knowledgeable about the teen's vaccinations is interviewed. With consent of the teen's parent or guardian, the NIS-Teen also contacts (by mail) the teen's health care provider(s) to request information on vaccinations from the teen's medical records.

Samples of telephone numbers are drawn independently, for each calendar quarter, within selected geographical areas, or strata. **For the 2008 NIS-Teen, there are 56 geographic strata for which vaccine coverage levels can be estimated, including 6 primarily urban city/county areas (including the District of Columbia); the remaining 50 are either an entire state or a "rest of state" area. This design makes it possible to produce annual estimates of vaccination coverage levels within each of the 56 estimation areas with a specified degree of precision (a coefficient of variation of approximately 7.5 percent).** Further, by using the same data collection methodology and survey instruments in all estimation areas, the NIS-Teen produces comparable vaccination coverage levels among estimation areas and over time.

When the NIS-Teen was first conducted in Quarter 4 of 2006 and Quarter 4 of 2007, the survey was designed to produce estimates at the national level only. **Starting in 2008, the NIS-Teen was expanded to produce estimates in 56 areas, including the 50 states and 6 urban areas that receive federal Section 317 immunization grants (Bexar County, TX; Chicago, IL; District of Columbia; Houston, TX; New York City; Philadelphia County, PA). These areas are called *estimation areas*, or simply *strata*.**

For the 2008 NIS-Teen, the household interviews began on January 3, 2008 and ended on February 4, 2009. Provider data collection extended from February 2008 to May 2009. A total sample of approximately 2.5 million telephone numbers yielded household interviews for 30,681 teens, 17,835 of whom had provider data adequate to determine whether the teen was up-to-date with respect to the recommended immunization schedule. The 2008 NIS-Teen public-use data file contains data for the 30,681 teens with completed household interviews, and more extensive data for the 17,835 teens with adequate provider data (including 64 zero-shot teens).

Published tables of vaccination coverage estimates for 2008 will be available on the National Center for Immunization and Respiratory Diseases website, http://www.cdc.gov/vaccines/stats-surv/imz-coverage.htm

The accompanying code book (NCHS 2010) documents the contents of the 2008 NIS-Teen public-use data file, and Section 7 of this user's guide describes these contents in detail. For reference, Appendix F (Alphabetical Listing of Variables that are in the 2008 Public-Use Data Files) provides a full list of variables in the 2008 public-use data file.

Additional information on the NIS-Teen is available at:

http://www.cdc.gov/nis/

For additional information on the NIS-Teen public-use data file, please contact the NCHS Information Dissemination Staff:

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2. Sample Design

The NIS-Teen uses two phases of data collection to obtain vaccination information for a large national probability sample of teens: an RDD telephone survey designed to identify households with children 13 to 17 years of age, followed by the Provider Record Check Study, a mailed survey to teens' immunization providers. This section summarizes these two phases of data collection. Other descriptions of the sample design are given by Ezzati-Rice et al. (1995), Zell et al. (2000), Smith et al. (2001a, 2005), Jain et al. (2009), and NORC (2009).

2.1. The NIS RDD Telephone Survey

The NIS-Teen RDD telephone survey phase uses independent, quarterly samples of telephone numbers in 56 estimation areas. Table G.1 (in Appendix G) lists the 56 estimation areas by state and shows the estimated number of teens living in each state and estimation area in 2008.

Because the NIS-Teen is an add-on survey to the NIS, the NIS-Teen uses the same sampling frame and sampling methodology as the NIS. The NIS uses the list-assisted method of RDD (Lepkowski 1988). This method selects a random sample of telephone numbers from "banks" of 100 consecutive telephone numbers (e.g., 773-256-0000 to 773-256-0099) that contain at least one directory-listed residential telephone number. The sampling frame of telephone numbers is updated each quarter to reflect new telephone exchanges and area codes. Although the number of cellular telephone users in the U.S. has increased rapidly, most households with children continue to maintain land-line telephone service (Blumberg and Luke, 2009). Preliminary results from the July-December 2008 National Health Interview Survey (NHIS) indicate that the number of households with only wireless telephones continues to increase. Approximately 18.7 percent of all children—more than 13 million children—live in households with only wireless telephones (Blumberg and Luke, 2009). Also, most cellular telephone users have to pay for incoming calls, which makes it burdensome for respondents to participate in the survey. While research is underway on sampling households via cell telephone, the NIS frame excluded cellular telephone exchanges in 2008.

The target sample size of completed telephone interviews in each estimation area is designed to achieve an approximately equal coefficient of variation of 7.5 percent for an estimator of immunization coverage derived from provider-reported immunization histories, given a true coverage parameter of 50 percent. The percentage of teens with completed telephone interviews that have adequate provider data is 58.1 percent. The phrase "adequate provider data" means that sufficient vaccination history information was obtained from the provider(s) to determine whether the teen is up-to-date with respect to the recommended vaccination schedule. The percentage of teens with adequate provider data varies among estimation areas (47.4 percent in City of Houston, TX to 70.2 percent in North Dakota). The definition of teens with adequate provider data includes unvaccinated teens. These are teens for whom the respondent reported, during the household interview, either that the teen had received no vaccinations and has no immunization providers; or that the teen has one or more immunization providers, but those providers all reported administering no vaccinations. The number of unvaccinated teens in the sample is very small (only 64 in 2008).

The design and implementation of the NIS-Teen sample involve four procedures. First, statistical models predict the number of sample telephone numbers needed in each estimation area to meet the target precision requirements, and, from among the entire NIS sample of telephone numbers, this number of telephone numbers are "flagged" to be part of the NIS-Teen sample. Second, the sample for an estimation area is divided into random sub-samples called replicates. By releasing replicates as needed, it is possible to spread the interviews for each sampling area evenly across the entire calendar quarter. Third, an automated procedure eliminates a portion of the non-working and non-residential telephone numbers from the sample before the interviewers dial them. Fourth, the sample telephone numbers are matched against a national database of residential telephone numbers in order to obtain usable mailing addresses for as many sample households as possible. To promote participation in the NIS and NIS-Teen, an advance letter is sent to these addresses approximately two weeks prior to the household interview.

2.2. The NIS-Teen Provider Record Check Study

At the end of the household interview, consent to contact the teen's vaccination provider(s) is requested from the parent/guardian. When oral consent is obtained, each provider is mailed an immunization history questionnaire (IHQ). This mail survey portion of the NIS-Teen is the Provider Record Check Study.

The instructions ask vaccination providers to mail or fax the immunization history questionnaire back upon completion. Two weeks after the initial mailing, a thank you/reminder letter is sent to each provider. If no response has been received, another questionnaire packet is mailed five weeks after the initial mailing. Finally, seven weeks after the initial mailing, a telephone call is made to providers who have still not responded, to remind and encourage them to complete the form and either mail or fax the information back. In some instances, provider-reported vaccination histories are completed over the telephone. In certain key periods during the year, the above seven-week schedule is accelerated in order to obtain as many questionnaires as possible prior to the closing date for accepting questionnaires. In the accelerated schedule, telephone calls are made to providers two weeks after the initial mailout, timed to coincide with receipt of the thank you/reminder letter. The data from the questionnaires are edited, entered, cleaned, and merged with the household information from the RDD survey to produce a teen-level record.

2.3. Summary of Data Collection

Table 1 presents selected operational results of NIS-Teen data collection for calendar year 2008 for the entire NIS-Teen sample. Children ages 13 to 17 years during 2008 data collection were born between January 1990 and February 1996. The original sample (in replicates that were released for use) consisted of 2,481,132 telephone numbers. Of those, 1,091,342 were eliminated before release to the telephone centers by the automated procedure as non-working, non-residential, cell telephone, or "take me off the list" numbers. The remaining 1,389,790 numbers were sent to the telephone centers to be dialed, and 481,056 households were identified, as shown in Rows 3 and 6. Among the identified households, 403,134 (83.8 percent) were successfully screened. Of these, 367,063 did not contain an age-eligible teen, and 36,071 (8.9 percent)

contained one or more age-eligible teens. Among these households, 30,725 (85.2 percent) completed the household interview.

Table 1: Selected Operational Results of Data Collection, National Immunization Survey - Teen, 2008

Row	Key Indicator	Number	Percent
	RDD Phase		
1	Total selected telephone numbers in released replicates	2,481,132	–
2	Telephone numbers resolved before release to the telephone centers	1,091,342	44.0% (Row 2/Row 1)
3	Total telephone numbers released to the telephone centers	1,389,790	–
4	Advance letters mailed	756,176	54.4% (Row 4/Row 3)
5	Resolved telephone numbers* – *Resolution rate*	2,040,314	82.2% (Row 5/Row 1)
6	Households identified – *Working residential number rate*	481,056	23.6% (Row 6/Row 5)
7	Households successfully screened for presence of age-eligible teens – *Screening completion rate*	403,134	83.8% (Row 7/Row 6)
8	Households with no age-eligible teens	367,063	91.1% (Row 8/Row 7)
9	Households with age-eligible teens – *Eligibility rate*	36,071	8.9% (Row 9/Row 7)
10	Households with age-eligible teens with completed household interviews – *Interview completion rate*	30,725	85.2% (Row 10/Row 9)
11	CASRO response rate**	--	58.7% (Row 5 x Row 7 x Row 10)
12	Age-eligible teens with completed household interviews***	30,681	–
	Provider Record Check Phase		
13	Teens with consent to contact vaccination providers – *Consent rate*	23,561	76.8% (Row 13/Row 12)
14	Immunization history questionnaires mailed to providers	33,817	–
15	Immunization history questionnaires returned from providers	31,750	93.9% (Row 15/Row14)

Table 1: Selected Operational Results of Data Collection, National Immunization Survey - Teen, 2008

Row	Key Indicator	Number	Percent
16	Teens with adequate provider data – *Unconditional adequacy rate*	17,835 (includes 64 unvaccinated children)	58.1% (Row 16/Row 12)
17	Age-Eligible Teens with Completed Household Interview and Completed HIM	24,668	80.4% (Row 17/Row 12)

*Includes telephone numbers resolved before release to the telephone centers (Row 2).
**CASRO, Council of American Survey Research Organizations.
***Rows 12 through 17 exclude teens found to be ineligible based on the "best" date of birth.

A standard approach for measuring response rates in telephone surveys has been defined by the Council of American Survey Research Organizations (CASRO 1982). The CASRO response rate is equivalent to "RR3" of AAPOR Standard Definitions (AAPOR, 2006). In 2008, the CASRO response rate (Row 11) was 58.7 percent. The CASRO response rate equals the product of the resolution rate (82.2 percent, Row 5), the screening completion rate (83.8 percent, Row 7), and the interview completion rate among eligible households (85.2 percent, Row 10). The resolution rate is the percentage of the total telephone numbers selected that are classifiable as non-working, non-residential, or residential. The screening completion rate is the percentage of known households that are successfully screened for the presence of age-eligible teens. The interview completion rate is the percentage of households with one or more age-eligible teen that complete the household interview.

Row 12 of Table 1 shows that household interviews were completed for 30,681 age-eligible teens. Rows 13 through 16 give results for the Provider Record Check phase. Specifically, Row 13 gives the rate of obtaining oral consent from household respondents to contact their teen's vaccination providers – 76.8 percent in 2008. The number of immunization history questionnaires mailed to vaccination providers exceeds the number of completed interviews for teens with consent, because some teens have more than one vaccination provider.

Of the questionnaires mailed to providers, 31,750 (93.9 percent, Row 15) were returned. Among the teens with completed household interviews, 17,835 (58.1 percent, Row 16) had adequate vaccination histories based on provider reporting (17,771) or had no vaccinations based on household reporting (64). The other 41.9 percent of teens lacked adequate provider data for a variety of reasons, such as the parent did not give consent to contact the teen's provider(s), or the provider(s) did not have medical records for the teen.

In 2008, data from the Health Insurance Module (HIM) were collected. Among the 30,681 age-eligible teens with completed household interviews, 24,668 (80.4 percent, Row 17) completed the HIM.

For each estimation area and each state, Table G.1 (see Appendix G) shows the number of teens with completed household interviews and the number of teens with adequate provider data.

2.4. Informed Consent, Security, and Confidentiality of Information

The advance letter, introduction to the telephone survey, and oral consent assure the respondent of the confidentiality of his/her responses and the voluntary nature of the survey. Informed consent is obtained from the person in the household most knowledgeable about the eligible teen's immunization history (generally the parent or guardian of the teen). Informed consent to contact the teen's vaccination provider(s) is obtained at the end of the interview.

Information in the NIS-Teen is collected and processed under high security. To ensure privacy of the respondents and confidentiality of sensitive information, NCHS has established standards for release of data from all NCHS surveys. All CDC staff and contractor staff involved with the NIS-Teen sign the NCHS confidentiality agreement and follow instructions to prevent disclosure.

All information in the NIS-Teen is collected under strict confidentiality and can be used only for research [Section 308(d) of the Public Health Service Act, 42 U.S. Code 242m(d), the Privacy Act of 1974 (5 U.S. Code

552a), and the Confidential Information Protection and Statistical Efficiency Act (5 U.S. Code). Prior to public release, the contents of the public-use data file go through extensive review by the NCHS Disclosure Review Board to protect participant privacy as well as data confidentiality.

3. Content of NIS Questionnaires

This section describes the questionnaires used in the 2008 NIS-Teen telephone interview of households and in the NIS-Teen Provider Record Check Study.

3.1. Content of the Household Questionnaire

The computer-assisted telephone interview (CATI) questionnaire used in the RDD phase of NIS-Teen data collection (Appendix B) consists of two parts: a screener to identify households with children ages 13 to 17 years and an interview portion. The questionnaire is modeled on the Immunization Supplement to the National Health Interview Survey (NHIS) (NCHS 1999). The NIS-Teen CATI questionnaire has been translated into Spanish, and Language Line Services (formerly part of AT&T) is used for real-time translation into many other languages (Wall et al. 1995). Table 2 summarizes the content of each section of the 2008 NIS-Teen household interview.

The household is first screened for the presence of children ages 19 to 35 months. If the household contains such a child, the NIS interview is conducted before the household is screened for the NIS-Teen survey; if the household does not contain such a child, the household immediately proceeds to the NIS-Teen screener.

In the NIS-Teen screener, the purpose of the survey is explained to the respondent, and the ages of all the children in the household are obtained. If the household contains one or more children age 13 to 17 years, a 13 to 17 year-old child is randomly chosen to be the subject of the interview, this teen's date of birth is collected, and the respondent is asked whether he/she is the most knowledgeable person for this teen's vaccination history. If the respondent indicates that another person in the household is more knowledgeable, the interviewer asks to speak to him/her at that time. If that person is unavailable to be interviewed, the interview proceeds to Section MR, the name of the most knowledgeable person is recorded, and a "callback" is scheduled for a later date.

Table 2: Content of the Household Interview, National Immunization Survey - Teen, 2008

Questionnaire Section	Content of Section
Section S	Screening questions to determine NIS eligibility
Teen Screener	Screening questions to roster children and to determine NIS-Teen eligibility and the availability of shot records
Section A	Vaccination history (asked if shot records are available)
Section B	Vaccination history (asked if shot records are not available)
Health	Teen and household health questions
Demographics	Demographic and socioeconomic questions
Provider	Provider information and request for consent to contact the teen's vaccination provider(s)
HIM	Health Insurance Module

During the screener section, the person being interviewed is also asked whether he/she has a written record (shot card) of the teen's vaccination history, and whether it is easily accessible. If a shot card is available, the respondent is asked to provide information directly from it in Section A. If the child does not have a shot card or the shot card is not easily accessible, the interview proceeds with Section B, which asks the respondent to recall from memory information about the teen's vaccinations.

The Health Section collects information about the health of the selected teen, including recent doctor visits and history of chicken pox disease, asthma, and other health conditions. This section is asked of all respondents upon completion of Section A or Section B.

The Demographics Section obtains information that includes relationship of respondent to the teen, race of the teen, household income, educational attainment of the mother, and other information on the

socioeconomic characteristics of the household and the teen. This section is asked of all respondents upon completion of the Health Section.

In the Provider Section of the NIS-Teen household interview, identifying information (such as name, address, and telephone number) for the teen's vaccination provider(s) is requested, as well as the full names of the teen and the respondent, so that NIS-Teen personnel can contact the provider(s) and identify the teen whose immunization information the NIS-Teen is requesting. After this information is obtained, consent to contact the teen's vaccination provider(s) is requested. When oral consent and sufficient identifying information are obtained, the immunization history questionnaire is mailed to the teen's vaccination provider(s).

A Health Insurance Module (HIM) is administered upon completion of the Provider Section to collect data regarding the types of medical insurance coverage the teen has had since age 11 years. If a respondent provided consent to contact medical providers and completed the Provider Section, he/she flowed directly into the HIM. If, however, consent or any other critical provider question was refused, the call was terminated; only upon callback on which consent was granted or a second refusal given within the Provider Section was the respondent asked the HIM.

The household questionnaire used in Quarter 4 of 2008 is included in Appendix B.

3.2. Content of the Immunization History Questionnaire

The 2008 immunization history questionnaire administered to the vaccination providers is designed to be simple and brief, to minimize provider burden and encourage survey participation. The structure and content of this form were initially derived from the National Immunization Provider Record Check Study (NHIS/NIPRCS), which collected and reconciled immunization data from the providers of respondents to the Immunization Supplement to the National Health Interview Survey. The immunization history questionnaire consists of two double-sided pages (see Appendix C). Page 1 includes space for the label that gives the teen's name, date of birth, and gender. The remainder of page 1 contains questions about the

facility and vaccination provider. Page 2 gives instructions for filling out the shot grid, which appears on page 3. Page 4 thanks the vaccination provider for providing the information, and lists websites and telephone numbers that can be used to obtain more information about the NIS-Teen and the National Center for Immunization and Respiratory Diseases.

4. Data Preparation and Processing Procedures

The household data collection and provider data collection in the NIS-Teen incorporate extensive data preparation and processing procedures. During the household interview, the CATI system supports reconciliation of critical errors as interviewers enter the data. After completion of interviewing for a quarter, post-CATI editing and data cleaning produce a final interview data file. The editing of the provider data begins with a manual review of returned immunization history questionnaires, data entry of the questionnaires, and cleaning of the provider data file. After the provider data are merged with the household interview data and responses from multiple providers for a teen are consolidated into a single vaccination history, the editing continues. A quality assurance check is performed based on the name, gender, and date of birth of the teen to ensure that the provider completed the questionnaire for the correct teen and to confirm age-eligibility of 13-17 years of age at time of interview. Editing of the provider-reported vaccination dates then attempts to resolve specific types of discrepancies in the provider data. The end product is an analytic file containing household and provider data for use in estimating vaccination coverage.

4.1. Data Preparation

The editing and cleaning of NIS-Teen data involve several steps. First, the CATI system enables interviewers to reconcile potential errors while the respondent is on the telephone. Further cleaning and editing take place in a post-CATI clean-up stage, involving an extensive review of data values, cross tabulations, and the recoding of verbatim responses for race, ethnicity, and vaccinations. The next step involves the creation of numerous composite variables. Provider data are cleaned in a separate step. After these steps have been completed, imputations are performed for item non-response on selected variables, and weights are calculated. The procedures and rules of the National Health Interview Survey serve as the standard in all stages of data editing and cleaning (http://www.cdc.gov/nchs/nhis.htm).

4.1.1. Editing in the CATI System

The CATI software checks consistency across data elements and does not allow interviewers to enter invalid values. Catching potential errors early increases the efficiency of post-survey data cleaning and processing.

To prevent an overly complicated CATI system, out-of-range and inconsistent responses produce a warning screen, allowing the interviewer to correct errors in real time. This allows the interviewer to reconcile errors while the respondent is on the telephone. CATI warning screens focus on items critical to the survey, such as those that determine a teen's eligibility (e.g., date of birth).

A CATI system cannot simultaneously incorporate every possible type of error check and maximize system performance. To reconcile this trade-off, post-CATI edits are used to resolve problems that do not require access to the respondent, as well as unanticipated logic problems that appear in the data.

4.1.2. Post-CATI Edits

The post-CATI editing process produces final, cleaned data files for each quarter. The steps in this process, implemented after all data collection activities for a quarter are completed, are described below.

Initial Post-CATI Edits and File Creation

After completion of interviewing each quarter, the raw data are extracted from the CATI data system and used to create two files: the sample file and the interview data file. The sample file contains one record for each sampled telephone number and summary information for telephone numbers and households. The interview data file contains one record for each eligible sampled teen and all vaccination data the household reported for the teen.

Following creation of these two files, a preliminary analysis of each file identifies out-of-range values and extraneous codes. The first check verifies the eligibility status of teens, based on date of birth and date of

interview. Once the required corrections are verified, invalid values are replaced with either an appropriate data value or a missing value code.

Frequency Review

After the pre-programmed edits are run, frequency distributions of all variables in each file are produced and reviewed. Each variable's range of values is examined for any invalid values or unusual distributions. If blank values exist for a variable, they are checked to see whether they are allowable and whether they occur in excessive numbers. Any problems are investigated and corrected as appropriate.

File Crosschecks

Crosscheck programs ensure that cases exist across files in a consistent manner. Specifically, checks ensure that each case in the interview data file is also present in the sample file and that each case in the sample file was released to the telephone center. Checks also ensure that no duplicate households exist in the sample file and no duplicate teens exist in the interview data file.

When all checks have been performed, the final quarterly interview data file is created. Programmers and statisticians then create composite variables constructed from basic variables for each teen. Sampling weights (described in Section 6 of this Guide) are added to each record.

4.1.3. Editing of Provider Data

Six to eight weeks after the close of household data collection for a quarter, the majority of the immunization history questionnaires have been collected from providers. The data from the hard-copy questionnaires are entered and independently re-entered to provide 100 percent verification. The provider data file is cleaned, in a similar fashion to the household data file, for out-of-range values and consistency. A computer program back-codes all "other shot" verbatim responses into the proper vaccine category (e.g., Recombivax counts as Hep B). These translations come from a file that contains all such verbatim responses ever encountered in the NIS-Teen. Also, the provider data file is checked for duplicate records, and exact duplicates are removed.

If the provider data contain a date of birth of the teen, gender of the teen, or teen name that differs from the household interview for that teen, the questionnaire is re-examined to determine whether it may have been filled out for the incorrect teen. Provider data that appear to have been filled out for the wrong teen are removed from the provider database. When a teen has data from multiple providers, decision rules are applied to produce the most complete picture of the teen's immunization history.

Once these data have been cleaned, they are combined with the household data file. Information from up to eight providers can be added to a teen's record. If more than one provider reported vaccination data for the teen, the data from the multiple provider reports are combined into a single history for the teen, called the "synthesized provider-reported vaccination history". The determination of whether the teen is up-to-date for recommended vaccines and vaccine series is based on the teen's synthesized provider-reported vaccination history.

Many variables in the household data file are checked against or verified with the provider data file. For example, a teen's date of birth as recorded by the provider is checked against the date of birth as given by the household, to verify that the provider was reporting for that specific teen and to form a "best" date of birth for the teen. Vaccination dates are also compared, and any discrepancies are examined by hand. In most instances, the provider data are used in preference to the household data.

4.2. Limitations of Data Editing Procedures

Although data editing procedures were used for the 2008 NIS-Teen, the data user should be aware that some inconsistent data might remain in the 2008 public-use data file. The variables that indicate whether a teen is up-to-date on each vaccine or series (on which the estimates of vaccination coverage are based) are derived from provider-reported data. Hence, the household-reported vaccination dates (from interviews conducted with a shot card) are not edited for discrepancies beyond the built-in checks in the CATI system.

The NIS-Teen does not re-contact households or providers to attempt to reconcile potential discrepancies in provider-reported vaccination dates or to resolve date-of-birth reporting errors. However, the provider-reported data are manually reviewed and edited to correct specific reporting errors. Some children considered to have adequate provider data may have incomplete vaccination histories. These incomplete histories arise from three primary sources: 1) the household does not identify all vaccination providers, 2) some but not all providers respond with vaccination data, and 3) all identified providers respond with vaccination data but fail to list all the vaccinations in the teen's medical record. Even with these limitations, the NIS-Teen overall is a rich source of data for assessment of up-to-date status and age-appropriate immunization. Also, NIS-Teen is the only source to provide comparable vaccination data across states and local areas in the US.

4.3. Variable-Naming Conventions

The names of variables follow a systematic pattern as much as possible. The code book for the public-use data file groups the variables into ten broad categories according to the source of the data (household or provider) and the content of the variable (NCHS 2010). See Section 7 of this report for detailed information on the contents of the public-use data file.

4.4. Missing Value Codes

Missing value codes for each variable can be found in the code book (NCHS 2010). For household variables, the missing value codes usually are 77 for DON'T KNOW and 99 for REFUSED. Some household variables may also contain blanks, if the question was not asked. The variables developed from the immunization history questionnaire generally do not have specific missing value codes.

4.5. Imputation for Item Non-Response

The NIS-Teen uses imputation primarily to replace missing values in the socioeconomic and demographic variables used in weighting. A sequential hot-deck method is used to assign imputed values (Ford 1983). Class variables separate respondents into cells. Donors and recipients must agree on the class variables, which include estimation area. Within classes, respondents are sorted by variables related to the variable to be

imputed. The last case with an observed value is used as the donor for up to four recipients. The variable labels in the code book (NCHS 2010) identify variables that contain imputed values. These variables include the gender, Hispanic origin, and race of the teen, and the education level, age group, marital status, and mobility status of the mother.

4.6. Sub-Sets of the NIS-Teen Data

The NIS-Teen public-use data file contains data for all children ages 13 to 17 years who have a completed household interview. An interview is considered complete if the respondent completed the Demographics Section of the questionnaire. As explained in Section 6 of this guide, each teen with a completed household interview is assigned a weight (RDDWT) for use in estimation.

The NIS-Teen uses the synthesized provider-reported vaccination histories to form the estimates of vaccination coverage because the provider data are considered more accurate than household-reported data. Thus, the most important sub-set of the data consists of teens with adequate provider data. For these teens, one or more providers returned the immunization history questionnaire, and the vaccination information reported by those providers is deemed sufficient to determine whether the teen is up-to-date on the recommended vaccinations. Unvaccinated teens are also considered to have adequate provider data. As discussed in Section 7 below, the PDAT variable identifies the teens with adequate provider data (PDAT=1). These teens have a separate weight (PROVWT), which should be used to form estimates of vaccination coverage (see Section 6).

4.7. Confidentiality and Disclosure Avoidance

To prevent identification of participants in the NIS-Teen and the resulting disclosure of information, certain items from the questionnaires are not included in the public-use data file. In addition, some of the released variables either are top- or bottom-coded, or have their categories collapsed. Variable labels indicate which variables have been top-coded, bottom-coded, or collapsed.

5. Quality Control and Quality Assurance Procedures

A major contributor to NIS-Teen data quality is its sample management system, which in 2008 managed 224 RDD samples (56 estimation areas times 4 quarters) and used a number of performance measures to track their progress toward completion. Important aspects of the quality assurance program for the RDD component of the NIS-Teen included on-line interviewer monitoring; on-line provider look-ups in a database system integrated with the CATI system, including names, addresses, and telephone numbers of vaccination providers; and automated range-edits and consistency checks. These and other quality assurance procedures contributed to a reduction in total data collection cost by minimizing interviewer labor and overall burden to respondents. Khare et al. (2000), Khare et al. (2001), and the *National Immunization Survey: Guide to Quality Control Procedures* (CDC 2002) address quality assurance procedures.

The Provider Record Check component used quality control measures at four junctions: prior to mailing packets to providers; during the telephone prompting effort; during the editing of returned questionnaires; and during and after their data entry. The final quality assurance activities were implemented during post-processing of the returned questionnaires or vaccination records. All returned questionnaires were examined to identify and correct any obvious errors prior to data entry and then key-entered with 100 percent verification. The keying error rate is estimated, by way of a second verification process, to be less than 1 percent.

6. Sampling Weights

The two phases (RDD-phase and provider-phase) of data collection result in a separate sampling weight for each teen that has data at that phase. The RDD-phase sampling weights permit analyses of data from teens with completed household interviews. Each teen with adequate provider data (the sub-set on which official estimates of vaccination coverage are based) has a provider-phase sampling weight. In 2008, the RDD-phase sampling weights are called RDDWT, and the provider-phase sampling weights of teens with adequate provider data are called PROVWT.

A sampling weight may be interpreted as the approximate number of teens in the target population that a teen in the sample represents. Thus, for example, the sum of the sampling weights of teens that are up-to-date (on a particular vaccine or series of vaccines) yields an estimate of the total number of teens in the target population who are up-to-date. Dividing this sum by the total of the sampling weights for all teens gives an estimate of the corresponding vaccination coverage rate.

This section describes how these weights are developed and adjusted so as to achieve an accurate representation of the target population. The base weights reflect each teen's probability of being selected into the sample; the adjustments take into account non-resolution of residential/non-residential/non-working status of a telephone number, non-response to the screener, subsampling of one eligible teen in the household, non-response to the household interview, number of telephone lines in the household, non-coverage of households that do not have landline telephones, poststratification for differential coverage rates, raking, non-response by providers, and a final raking adjustment.

6.1. Base Sampling Weight

In each quarterly NIS-Teen sample, each teen with a completed household interview receives a base sampling weight. This weight is equal to the total number of telephone numbers in the sampling frame for the

estimation area divided by the total of telephone numbers that were randomly sampled from that sampling frame and released for interview during that quarter.

6.2. Adjustments for Non-Resolution of Telephone Numbers and Screener Non-Response

Non-response occurs in population-based surveys when respondents refuse to participate, are not available at the time of the interview, or could not be reached during the survey period. Thus, the sum of the base sampling weights of teens with completed household interviews will underestimate the size of the target population in the estimation area, because not all sampled households respond to all stages of data collection up to the household interview. As a result, the base sampling weights must be adjusted so they accurately reflect the number of teens in the target population that each sampled teen with a completed household interview represents.

Some sampled households with age-eligible teens fail to complete the household interview because of unit non-response; some telephone numbers are never determined to be residential despite multiple call attempts; and some households cannot be determined to have age-eligible teens. To compensate for these two types of unit non-response, the sampling weights of teens with a completed household interview are adjusted to account for the estimated number of age-eligible teens in households whose telephone numbers are never determined to be residential and the estimated number of age-eligible teens in households that fail to complete the screening interview. Each of these adjustments is carried out within estimation areas by forming weighting cells based on the residential directory-listed status of the sample telephone number, percent of the population that is white in the telephone exchange, and MSA status of the telephone exchange (e.g., weighting cells were formed from directory-listed versus non-directory-listed telephone number; by telephone exchanges with 75 percent or higher white population versus telephone exchanges with less than 75 percent white population; and MSA/non-MSA status). Each cell in each stage of adjustment is assured of having sufficient resolved/responding cases (usually 20) at that stage of adjustment. The cells with a deficient number of responding cases are collapsed with neighboring cells. The order of the variables in cell collapsing

is MSA status, percent of population that is white, and directory listed status of the telephone number. Once the adjustment cells are formed, the weights of the unresolved/non-responding records from the previous adjustment step are distributed to the weights of the resolved/responding records within each cell.

6.3. Adjustment for Subsampling of One Teen per Household

In households with more than one teen, only one teen is selected randomly per household for the NIS-Teen interview. The non-response adjusted age screener weight is adjusted to account for the teens that are not selected. Each household's age screener weight is adjusted by multiplying it by the total number of eligible teens reported in the household (up to a maximum of 3).

6.4. Adjustment for Interview Non-Response

Some households that are determined to be eligible fail to complete the household interview for the selected teen. To compensate for this third type of unit non-response, the sampling weights of teens with a completed household interview are adjusted to account for teens who live in households that failed to complete the household interview. Similar to the first two types of unit non-response, the adjustment is carried out within estimation areas by forming weighting cells based on the residential directory-listed status of the sample telephone number, percent of the population that is white in the telephone exchange, and MSA status of the telephone exchange. Each cell is assured of having sufficient responding cases (usually 15). The cells with a deficient number of responding cases are collapsed with neighboring cells. The priority of the variables in cell collapsing is MSA status, percent of population that is white, and directory listed status of the telephone number. Once the adjustment cells are formed, the weights of the non-responding records from the previous adjustment step are distributed to the weights of the responding records within each cell.

6.5. Adjustment for Multiple Telephone Lines and Deriving Annual Weights

Once the non-response-adjusted interview weights for teens are computed, these weights are adjusted for additional telephone lines in the household. Because households with multiple telephone lines have a greater

chance of being sampled, each teen's household interview weight is adjusted by dividing it by the total number of residential telephone landlines reported in the household (up to a maximum of 3).

Up to the previous step, the sampling weights are adjusted separately for each quarter and the weights in each quarter pertain to the entire target population. However, annual vaccination coverage estimates are obtained from data for four consecutive quarters, so the weights in each quarterly file are adjusted when the data from the four quarters are combined. The adjustment factor is proportional to the number of households with completed household interviews in each quarter within an estimation area.

6.6. Post-Stratification, Including Adjustment for Households Without Landline Telephone

The NIS-Teen sampling frame includes only households that have landline telephones. Because the target population consists of all teens ages 13 to 17 years living in households, regardless of whether they have landline telephones, non-response-adjusted sampling weights need to be adjusted to compensate for the non-coverage of teens living in households without landline telephones. The non-covered teens include teens from both wireless-telephone-only and non-telephone households. Data from the NHIS suggest that, of children under the age of 18, approximately 2.4 percent lived in non-telephone households and approximately 18.7 percent lived in wireless-telephone-only households in July - December, 2008, and that this latter percentage is rapidly increasing as the number of households with wireless-telephones only increases (Blumberg and Luke, 2009). Although earlier analysis of NHIS data, which samples both "landline telephone" and "non-landline telephone" households, indicated that children living in households without telephones may have lower vaccination coverage (Bartlett et al., 2001), recent analyses of NIS and NHIS data suggest little or no difference in vaccination coverage rates has been found between children living in households with landline telephones and those living in households with wireless telephones only (Copeland et al. 2009, Molinari et al. 2008). Differences in findings may be due to the differences in what constitutes non-landline telephone households – whereas a decade ago non-landline telephone households were primarily

households with no telephone, wireless-only households now constitute the vast majority of non-landline telephone households.

The main part of the adjustment builds on findings (from other surveys) that households that have a telephone at the time of the survey but have experienced an interruption (of more than one week) in their telephone service during the previous year are often similar to households that do not have a telephone. In essence, the resulting adjustment projects from the non-interruption part of the sample to the non-interruption part of the population and from the interruption part of the sample to both the interruption and non-landline-telephone parts of the population.

The first step in adjusting for households without landline telephones involves a post-stratification adjustment where two cells within each estimation area are formed based on the interruption status in telephone service. Then the weights are adjusted to the control totals of the respective groups, defined below, within each estimation area. The weights of the teens with interruption in telephone service are adjusted to the control total representing themselves and the teens in non-landline-telephone households, while the weights of the teens without interruption in telephone service are adjusted to the control total representing themselves only, i.e., the teens in households without interruption in telephone service.

The control totals used for the NIS-Teen are derived from a combination of census population estimates and public use 2005-07 American Community Survey (ACS) data. The control total for teens in non-landline-telephone households or in landline-telephone households with interruption are derived from the estimation area-level control total by estimating the percentage of teens in non-landline-telephone households and the percentage of teens in landline telephone households with interruption within each estimation area. For 2008, data in the 5-percent Public-Use Microdata Sample (PUMS) from the 2000 Census were used to develop initial estimates of the percentage of target teens with telephone coverage for each estimation area. These initial estimates are then adjusted by the estimates of teens in landline-telephone households from the

Current Population Survey (CPS). The CPS estimates by census region for 2000 and 2008 are used to make a ratio-adjustment of the PUMS estimates of the percentage of teens in telephone households. The estimates of the percentage of teens in landline-telephone households with interruption by estimation area are obtained from the NIS-Teen sample itself. These two percentage estimates are applied to the control total for the estimation area to estimate the control totals for the two post-stratification cells within the estimation area.

The next step in the adjustment is a simple post-stratification that separates the sample of completed interviews into cells defined by characteristics related to non-coverage. The post-stratification variables are race/ethnicity of the teen, level of educational attainment of the teen's mother, and age group of the teen. The control total for each post-stratification cell is derived from a combination of Census population estimates and public use 2005-07 American Community Survey (ACS) data.

To reduce sampling variability and improve the precision of estimation, extreme weights are trimmed within an estimation area. Post-stratified sampling weight values exceeding the median weight plus six times the interquartile range of the weights within an estimation area are truncated to that threshold. This weight trimming prevents teens with unusually large weights from having an unusually large impact on immunization coverage estimates.

The final step in adjusting the RDD sampling weights is a raking adjustment (Deming 1943) of the trimmed, post-stratified weights. The raking procedure used estimation area-level control totals for maternal education categories, teen's race/ethnicity, age group of the teen, and gender of the teen. Raking makes it possible to incorporate additional variables into the weighting and to use more detailed categories for those variables. Briefly, raking takes each variable in turn and applies a proportional adjustment to the current weights of the teens who belong to the same category of the variable. After a number of iterations over all the variables, the raked weights have totals that match all the desired control totals. At this point, as before, the weights that exceed the median weight plus six times the interquartile range of the weights within an estimation area are

truncated to that threshold. The raking step is applied again after the truncation of the weights and the weights are rechecked for extreme weights and truncated as before. The process is iterated until there is no extreme weight after raking.

The sampling weights after all the foregoing adjustments constitute the "RDD sampling weights" (RDDWT).

6.7. Adjustment for Provider Non-Response

Among the 30,681 teens with a completed household interview, 17,835 (58.1 percent) had adequate provider data. The definition of teens with adequate provider data includes unvaccinated teens. These are teens for whom the respondent reported during the household interview that the teen had received no vaccination and has no immunization providers, or for whom one or more immunization providers were reported but those providers reported administering no vaccinations. Among the 17,835 teens with adequate provider data, 64 were unvaccinated teens. Failure to obtain adequate provider data for the remaining 41.9 percent was attributable to:

- parent or guardian not giving consent to contact the teen's vaccination provider(s) (23.2 percent);
- teens with at most one identified provider but inadequate information to contact the provider, or the provider did not respond, or the provider responded but did not report any immunization information for the teen (12.8 percent); and
- teens with two or more identified providers but not all the providers responded, and responding providers did not report sufficient information to determine the teen's vaccination status (5.9 percent).

The 12,846 teens for whom a household interview was completed but adequate provider data were not obtained are classified as "partial non-responders" because they have only a partial response to the NIS-Teen as a whole.

Empirical results for the NIS-Child suggest that children with adequate provider data have characteristics believed to be associated with a greater likelihood of being up-to-date, compared with children who had missing provider data. Specifically, children with adequate provider data are more likely to live in households that have higher total family income, have a white mother, and live outside a central city of a Metropolitan Statistical Area. Also, a child with missing provider data is less likely to live in the state where the mother lived when the child was born and less likely to have a parent/guardian who could locate a shot card. These factors indicate a potential lack of continuity of health care, and are associated with lower vaccination rates (Coronado et al. 2000). An adjustment is made to the RDD sampling weights of the NIS-Child to account for these differences; otherwise, estimated vaccination coverage rates may be biased. A similar adjustment is also made to the RDD sampling weights of the NIS-Teen.

To reduce potential bias in estimators of vaccination coverage attributable to partial non-response, a weighting-class adjustment is used in each estimation area (NORC 2009; Brick and Kalton 1996). This adjustment involves three steps. In the first step, sampled teens are classified according to the quintile of their estimated probabilities of having adequate provider data. In the statistical literature these probabilities are called response propensities (Rosenbaum and Rubin 1983, 1984; Rosenbaum 1987). Teens that have similar response propensities will also be similar with respect to variables that are strongly associated with the probability of having adequate provider data. In this important respect, teens in each class are comparable. Because of this comparability, any sub-sample of teens in a class may represent all teens in the class. Therefore, the weighting-class adjustment uses the teens with adequate provider data to represent all teens in the class.

In the second step of this weighting-class adjustment, within each class an adjustment factor redistributes the RDD sample weights of the teens with missing provider data to the weights of the teens that have adequate provider data. These adjusted sampling weights of teens with adequate provider data are initial non-response-adjusted provider-phase weights.

Within an estimation area, the sums of non-response adjusted weights of teens with adequate provider data for the various levels of important socio-demographic variables (such as race/ethnicity) may not be equal to corresponding population totals. To reduce bias attributable to these differences, raking was used in the third step to adjust the non-response adjusted weights to match estimation area control totals. Control totals for these variables were estimated using the weighted totals from the sample of teens with completed household interviews. Smith et al. (2001b, 2005) describe the development of this approach in more detail. These raked weights of teens with adequate provider data are called "final provider-phase weights" (PROVWT). Because of the comparability of teens within each weighting class, any estimate that uses data only from the teens with adequate provider data, along with their provider-phase sampling weights, will have less bias attributable to differences between teens with adequate provider data and teens with missing provider data.

Appendix D summarizes the distribution of the sampling weights (RDDWT and PROVWT) in each estimation area.

7. Contents of the Public-Use Data File

The NIS-Teen public-use data file contains a record for each eligible teen for whom the demographics section of the household interview was completed, along with household-reported vaccination information and demographic information about the teen and the teen's mother. For teens with IHQs containing vaccination data returned by one or more providers, the file also contains provider characteristic variables, as well as variables based on the teen's synthesized provider-reported vaccination history: the age of the teen at each vaccination, the number of each type of vaccination received, and indicators of whether the teen is up-to-date with respect to various recommended vaccines and vaccine series.

The public-use data file consists of ten sections, the contents of which are described below in detail. For additional information, users are encouraged to consult the code book (NCHS 2010). The code book is divided into the ten sections described below and contains variable names, labels, and response frequencies (for categorical variables). The code book also indicates the questionnaire item or items that serve as the ultimate source for each variable and, for select variables, gives additional information about the variable in the "Notes" field.

7.1. Section 1: ID, Weight, and Flag Variables

SEQNUMT is the unique teen identifier. (Because only one teen is selected per household, SEQNUMT is also a unique household identifier.) **PDAT** indicates which teens are considered to have adequate provider data. As described in Section 6 of this report, **RDDWT** and **PROVWT** are the final household- and provider-phase weights, respectively, with each teen on the file assigned an RDDWT and teens with adequate provider data (PDAT=1) assigned a PROVWT. PROVWT should be used when analyzing the provider-reported data, i.e., the variables in Sections 7, 8, and 9 of the public-use data file.

7.2. Section 2: Household-Reported Vaccination and Health Information

Respondents who have a shot card available for the selected teen are administered Section A of the household questionnaire; for each type of vaccine they are asked for the number of vaccinations listed on the shot card and the dates of those vaccinations. If no vaccinations of that type are on the shot card, or if there are fewer vaccinations on the shot card than the recommended number of doses of that type, the respondent is asked if he or she recalls the teen getting any vaccinations of that type that are not listed on the shot card and the number of such vaccinations.

Respondents who do not have a shot card available are administered Section B of the household questionnaire, where they are asked whether they recall the teen getting each type of vaccination and the number of such vaccinations.

Both Section A and Section B respondents are then administered the Health Section of the household interview, wherein information about health of the selected teen and the teen's family is collected.

Section 2 of the public-use data file contains all of the information collected in Section A, Section B, and the Health Section of the household questionnaire. Variable **SHOTCARD** indicates whether the respondent had a shot card available for the selected teen (i.e., SHOTCARD indicates whether Section A or Section B of the household questionnaire was administered). **SHOTCARD_ALL** indicates whether the respondent believes the shot card contains all of the vaccinations the teen has received, and **IMM_ANY** indicates whether the respondent reported that the teen has had a vaccination of any type. For each type of vaccine asked about in Sections A and B, a set of variables stores the information collected about that vaccine type; additional variables store the responses to the questions in the Health Section. Respondents are administered either Section A or Section B of the household questionnaire, but not both; in order to limit the number of variables on the public-use data file, the information collected in Sections A and B has been placed into the

same variable where possible. In such instances, users should refer to variable SHOTCARD to tell whether Section A or Section B was administered for a particular teen.

The household-reported vaccination and health variables are described in more detail below.

7.2.1. Household-Reported Measles or MMR Variables

Section A respondents (i.e., SHOTCARD=1) are asked for the number of Measles or MMR vaccinations on the shot card. Variable **MCV_ANY_SC** indicates whether there were any Measles or MMR vaccinations listed on the shot card and variable **MCV_NUM_SC** gives the number of Measles or MMR vaccinations on the shot card. If there are one or more Measles or MMR vaccinations on the shot card, the dates of these vaccination are requested. The dates of the vaccinations are used in conjunction with the teen's best date of birth to calculate the age of the teen in years at the time of the vaccinations listed on the shot card (**MCV_AGE_SC1 - MCV_AGE_SC8**). If the shot card shows fewer than two Measles or MMR vaccinations, the respondent is asked if he or she recalls the teen getting Measles or MMR vaccinations that are not on the shot card (**MCV_ANY_REC**), and if so, the respondent is asked for the number of Measles or MMR vaccinations not on the shot card (**MCV_NUM_REC**). Variable **MCV_NUM_TOT** stores the total number of Measles or MMR vaccines reported by the respondent, both from the shot card and from recall.

Section B respondents (i.e., SHOTCARD=2) that said the teen has received a vaccination of any type (IMM_ANY=1) are asked whether they recall the teen getting any Measles or MMR vaccinations (**MCV_ANY_REC**), and if so, they are asked for the number of Measles or MMR vaccinations they recall (**MCV_NUM_REC**).

7.2.2. Household-Reported Hepatitis B Variables

Section A respondents (i.e., SHOTCARD=1) are asked for the number of Hepatitis B vaccinations on the shot card. Variable **HEPB_ANY_SC** indicates whether there were any Hepatitis B vaccinations listed on the shot card and variable **HEPB_NUM_SC** gives the number of Hepatitis B vaccinations on the shot card.

If there are one or more Hepatitis B vaccinations on the shot card, the dates of these vaccinations are requested. The dates of the vaccinations are used in conjunction with the teen's best date of birth to calculate the age of the teen in years at the time of the vaccinations listed on the shot card (**HEPB_AGE_SC1 - HEPB_AGE_SC8**). If the shot card shows fewer than three Hepatitis B vaccinations, the respondent is asked if he or she recalls the teen getting Hepatitis B vaccinations that are not on the shot card (**HEPB_ANY_REC**), and if so, the respondent is asked for the number of Hepatitis B vaccinations not on the shot card (**HEPB_NUM_REC**). Variable **HEPB_NUM_TOT** stores the total number of Hepatitis B vaccines reported by the respondent, both from the shot card and from recall.

Section B respondents (i.e., SHOTCARD=2) that said the teen has received a vaccination of any type (IMM_ANY=1) are asked whether they recall the teen getting any Hepatitis B vaccinations (**HEPB_ANY_REC**), and if so, they are asked for the number of Hepatitis B vaccinations they recall (**HEPB_NUM_REC**).

All respondents reporting that the teen has received a Hepatitis B vaccination, either from the shot card or from recall, are then asked whether the teen received a Hepatitis B vaccination because of a school requirement (**HEPB_SCH**).

7.2.3. Household-Reported Hepatitis A Variables

Section A respondents (i.e., SHOTCARD=1) are asked for the number of Hepatitis A vaccinations on the shot card. Variable **HEPA_ANY_SC** indicates whether there were any Hepatitis A vaccinations listed on the shot card and variable **HEPA_NUM_SC** gives the number of Hepatitis A vaccinations on the shot card. If there are one or more Hepatitis A vaccinations on the shot card, the dates of these vaccinations are requested. The dates of the vaccinations are used in conjunction with the teen's best date of birth to calculate the age of the teen in years at the time of the vaccinations listed on the shot card (**HEPA_AGE_SC1 - HEPA_AGE_SC8**). If the shot card shows fewer than two Hepatitis A vaccinations, the respondent is asked if he or she recalls the teen getting Hepatitis A vaccinations that are not on the shot card

(**HEPA_ANY_REC**), and if so, the respondent is asked for the number of Hepatitis A vaccinations not on the shot card (**HEPA_NUM_REC**). Variable **HEPA_NUM_TOT** stores the total number of Hepatitis A vaccines reported by the respondent, both from the shot card and from recall.

Section B respondents (i.e., SHOTCARD=2) that said the teen has received a vaccination of any type (IMM_ANY=1) are asked whether they recall the teen getting any Hepatitis A vaccinations (**HEPA_ANY_REC**), and if so, they are asked for the number of Hepatitis A vaccinations they recall (**HEPA_NUM_REC**).

All respondents reporting that the teen has received a vaccination of any type (IMM_ANY=1), regardless of whether they reported the teen has received a Hepatitis A vaccination, are then asked whether a doctor or other health care professional has ever recommended that the teen receive Hepatitis A vaccinations (**HEPA_RECOM**).

7.2.4. Household-Reported Varicella Variables

Section A respondents (i.e., SHOTCARD=1) are asked for the number of Varicella vaccinations on the shot card. Variable **VRC_ANY_SC** indicates whether there were any Varicella vaccinations listed on the shot card and variable **VRC_NUM_SC** gives the number of Varicella vaccinations on the shot card. If there are one or more Varicella vaccinations on the shot card, the dates of these vaccination are requested. The dates of the vaccinations are used in conjunction with the teen's best date of birth to calculate the age of the teen in years at the time of the vaccinations listed on the shot card (**VRC_AGE_SC1 - VRC_AGE_SC8**). If the shot card shows fewer than two Varicella vaccinations, the respondent is asked if he or she recalls the teen getting Varicella vaccinations that are not on the shot card (**VRC_ANY_REC**), and if so, the respondent is asked for the number of Varicella vaccinations not on the shot card (**VRC_NUM_REC**). Variable **VRC_NUM_TOT** stores the total number of Varicella vaccines reported by the respondent, both from the shot card and from recall.

Section B respondents (i.e., SHOTCARD=2) that said the teen has received a vaccination of any type (IMM_ANY=1) are asked whether they recall the teen getting any Varicella vaccinations (**VRC_ANY_REC**), and if so, they are asked for the number of Varicella vaccinations they recall (**VRC_NUM_REC**).

7.2.5. Household-Reported Influenza Variables

Section A respondents (i.e., SHOTCARD=1) are asked whether the shot card indicates the teen has received an influenza vaccination in the past 12 months (**FLU_ANY_SC**), and if so, the date (**FLU_MONTH**, **FLU_YEAR**) and type (**FLU_TYPE**) -- shot or spray -- of that vaccination is requested. The date of the vaccination is also used in conjunction with the teen's best date of birth to calculate the age of the teen in years at the time of the vaccination (**FLU_AGE**). If the shot card doesn't show an influenza vaccination in the past 12 months, the respondent is asked if he or she recalls the teen getting an influenza vaccination in the past 12 months (**FLU_ANY_REC**), and if so, the month and year (**FLU_MONTH**, **FLU_YEAR**) -- but not the type -- of that vaccination is requested. The month and year of the vaccination is also used in conjunction with the teen's best date of birth to calculate the age of the teen in years at the time of the vaccination (**FLU_AGE**).

Section B respondents (i.e., SHOTCARD=2) that said the teen has received a vaccination of any type (IMM_ANY=1) are asked whether they recall the teen getting an influenza vaccination in the past 12 months (**FLU_ANY_REC**), and if so, the month, year, and type (**FLU_MONTH**, **FLU_YEAR**, **FLU_TYPE**) of that vaccination is requested. The month and year of the vaccination is also used in conjunction with the teen's best date of birth to calculate the age of the teen in years at the time of the vaccination (**FLU_AGE**).

All respondents reporting an influenza vaccination in the past 12 months, either from a shot card or from recall, are then asked for the place that the influenza vaccination was given (**FLU_PLACE**).

7.2.6. Household-Reported Tetanus Variables

Section A respondents (i.e., SHOTCARD=1) are asked for the number of Tetanus booster vaccinations on the shot card. Variable **TET_ANY_SC** indicates whether there were any Tetanus booster vaccinations

listed on the shot card and variable **TET_NUM_SC** gives the number of Tetanus booster vaccinations on the shot card. If there are one or more Tetanus booster vaccinations on the shot card, the dates and types (**TET_TYPE1** - **TET_TYPE8**) of these vaccinations are requested. The dates of the vaccinations are used in conjunction with the teen's best date of birth to calculate the age of the teen in years at the time of the vaccinations listed on the shot card (**TET_AGE_SC1 - TET_AGE_SC8**). If there are no Tetanus booster vaccinations on the shot card, the respondent is asked if he or she recalls the teen getting Tetanus booster vaccinations that are not on the shot card (**TET_ANY_REC**), and if so, the respondent is asked for the teen's age in years at the time of the most recent Tetanus booster vaccination (**TET_LAST_AGE**) and the type of that vaccination -- Td vs. Tdap (**TET_LAST_TYPE**).

Section B respondents (i.e., SHOTCARD=2) that said the teen has received a vaccination of any type (IMM_ANY=1) are asked whether they recall the teen getting any Tetanus booster vaccinations (**TET_ANY_REC**), and if so, they are asked for the teen's age in years at the time of the most recent Tetanus booster vaccination (**TET_LAST_AGE**) and the type of that vaccination -- Td vs. Tdap (**TET_LAST_TYPE**).

All respondents reporting that the teen has not received any Tetanus booster vaccinations (both from the shot card and from recall), are then asked the reason the teen didn't receive Tetanus booster vaccinations. Variables **TET_REAS_1**-**TET_REAS_5**, **TET_REAS_7**, and **TET_REAS_10**-**TET_REAS_24** store the answers to this choose-all-that-apply question and reflect the coding of open-ended responses into the reason categories existing on the questionnaire as well as into newly-created reason categories.

All respondents reporting that the teen has received a vaccination of any type (IMM_ANY=1), regardless of whether they reported the teen has received an Tetanus booster vaccination, are then asked whether a doctor or other health care professional has ever recommended that the teen receive Tetanus booster vaccinations (**TET_RECOM**).

All respondents reporting that the teen has received a Tetanus booster vaccination, either from a shot card or from recall, are asked for the place or places that the Tetanus booster vaccination was given. Variables **TET_PLACE_1** - **TET_PLACE_9** store the answers to this choose-all-that-apply question.

7.2.7. Household-Reported Meningitis Variables

Section A respondents (i.e., SHOTCARD=1) are asked for the number of Meningitis vaccinations on the shot card. Variable **MEN_ANY_SC** indicates whether there were any Meningitis vaccinations listed on the shot card and variable **MEN_NUM_SC** gives the number of Meningitis vaccinations on the shot card. If there are one or more Meningitis vaccinations on the shot card, the dates of these vaccinations are requested. The dates of the vaccinations are used in conjunction with the teen's best date of birth to calculate the age of the teen in years at the time of the vaccinations listed on the shot card (**MEN_AGE_SC1 - MEN_AGE_SC8**). If there are no Meningitis vaccinations on the shot card, the respondent is asked if he or she recalls the teen getting Meningitis vaccinations that are not on the shot card (**MEN_ANY_REC**), and if so, the respondent is asked for the number of Meningitis vaccinations not on the shot card (**MEN_NUM_REC**). Variable **MEN_NUM_TOT** stores the total number of Meningitis vaccines reported by the respondent, both from the shot card and from recall.

Section B respondents (i.e., SHOTCARD=2) that said the teen has received a vaccination of any type (IMM_ANY=1) are asked whether they recall the teen getting any Meningitis vaccinations (**MEN_ANY_REC**), and if so, they are asked for the number of Meningitis vaccinations they recall (**MEN_NUM_REC**).

All respondents reporting that the teen has not received any Meningitis vaccinations (both from the shot card and from recall), are then asked the reason the teen didn't receive Meningitis vaccinations. Variables **MEN_REAS_1**-**MEN_REAS_7**, and **TET_REAS_10**-**TET_REAS_23** store the answers to this choose-

all-that-apply question and reflect the coding of open-ended responses into the reason categories existing on the questionnaire as well as into newly-created reason categories.

7.2.8. Household-Reported Human Papillomavirus (HPV) Variables

Section A respondents (i.e., SHOTCARD=1) are asked whether they have heard of HPV (**HPVI_HEARD**) and whether they have heard of the HPV vaccine (**HPVI_KNOW**). Respondents who have heard of the vaccine and are reporting for a female teen are then asked for the number of HPV vaccinations on the shot card. Variable **HPVI_ANY_SC** indicates whether there were any HPV vaccinations listed on the shot card, and variable **HPVI_NUM_SC** gives the number of HPV vaccinations on the shot card. If there are one or more HPV vaccinations on the shot card, the dates of these vaccinations are requested. The dates of the vaccinations are used in conjunction with the teen's best date of birth to calculate the age of the teen in years at the time of the vaccinations listed on the shot card (**HPVI_AGE_SC1 - HPVI_AGE_SC8**). If there are no HPV vaccinations on the shot card, the respondent is asked if he or she recalls the teen getting HPV vaccinations that are not on the shot card (**HPVI_ANY_REC**), and if so, the respondent is asked for the number of HPV vaccinations not on the shot card (**HPVI_NUM_REC**). Variable **HPVI_NUM_TOT** stores the total number of HPV vaccines reported by the respondent, both from the shot card and from recall.

Section B respondents (i.e., SHOTCARD=2) that said the teen has received a vaccination of any type (IMM_ANY=1) are asked whether they have heard of HPV (**HPVI_HEARD**) and whether they have heard of the HPV vaccine (**HPVI_KNOW**). Respondents who have heard of the vaccine and are reporting for a female teen are then asked whether they recall the teen getting any HPV vaccinations (**HPVI_ANY_REC**), and if so, they are asked for the number of HPV vaccinations they recall (**HPVI_NUM_REC**).

All respondents reporting for female teens that reported fewer than three HPV vaccinations in total (both from shot card and from recall), are then asked how likely it is that the teen will receive HPV vaccinations in the next twelve months (**HPVI_INTENT**). Those responding "Not too likely" or "Not likely at all" are

asked the reason the teen won't receive HPV vaccinations in the next twelve months. Variables **HPVI_REAS_1**-**HPVI_REAS_3**, **HPVI_REAS_5**-**HPVI_REAS_6**, and **HPVI_REAS_9**-**HPVI_REAS_28** store the answers to this choose-all-that-apply question and reflect the coding of open-ended responses into the reason categories existing on the questionnaire as well as into newly-created reason categories.

All respondents reporting for a female teen and reporting that the teen has received a vaccination of any type (IMM_ANY=1), regardless of whether they reported the teen has received an HPV vaccination, are then asked whether a doctor or other health care professional has ever recommended that the teen receive HPV vaccinations (**HPVI_RECOM**).

7.2.9. Household-Reported Health Variables

All respondents are asked whether the selected teen has ever had the chicken pox (**CPOX_HAD**) and, if so, they are asked the age of the teen in years at the time when the teen had the chicken pox (**CPOX_AGE**). Those unable to give an exact age are asked to report an age range (**CPOX_AGER**).

All respondents are then asked the age of the teen at the time of his or her last check-up (**CKUP_AGE**). If the teen's age at the last check up was 13 years or more, the respondent is asked whether the teen had an 11-12 year old well-child exam (**CKUP_11_12**); if the respondent is unable or unwilling to answer this question he or she is asked whether or not the teen's last check-up was more than, exactly, or less than [age of teen - 12] years ago (**CKUP_LAST**).

All respondents are asked the number of times the teen has seen a health care professional in the last 12 months (**VISITS**); whether the teen has been told by a health professional that he or she has asthma (**ASTHMA**); whether the teen has ever been told by a health professional that he or she has a lung condition other than asthma, a heart condition, diabetes, a kidney condition, sickle cell anemia or other anemia, or a weakened immune system caused by a chronic illness or by medicines taken for a chronic illness

(**RISK_EVER**); whether the teen currently has any of these conditions (**RISK_NOW**); and whether any other members of the teen's household currently have any of these conditions (**RISK_HH**). Finally, the respondent is asked the number of times in the past 12 months the teen has missed school due to illness or injury (**NOSCHOOLR**).

7.3. Section 3: Demographic, Socio-Economic, and Other Household/Teen Information

Section 3 of the public-use data file consists of information collected during the household screening interview and the demographics section of the household main interview. To protect confidentiality, many of these variables have been collapsed, top-coded, or bottom-coded from the original, fully-detailed versions; the variable labels (see the public-use date file codebook) indicate which variables have had such actions taken.

AGE is the age of the selected teen in years based on the teen's best date of birth and the screener completion date, and **SEX** gives the gender of the selected teen, with missing values imputed. The language in which the interview was conducted is stored in variable **LANGUAGE**, and **C5R** gives the relationship of the respondent to the selected teen.

C1R and **CHILDNM** give the number of people and children, respectively, in the household.

The teen's Hispanic origin indicator, race with three categories, and race/ethnicity with four categories are presented in variables **I_HISP_K**, **RACE_K**, and **RACEETHK**, respectively; for each of these variables, missing values have been imputed. **EDUC_TR** gives the teen's grade in school at the time of the interview.

The age, education level, and marital status of the mother of the selected teen are stored in variables **AGEGRP_M_I**, **EDUC1**, and **MARITAL**, with missing values imputed.

The categorized total combined income for the teen's family is given by **INCQ298A**; **INCPOV1** gives the family's poverty status (at or above poverty, income > $75,000; at or above poverty, income <= $75,000; below poverty; unknown), and **INCPORAR** gives the ratio of the family's income to the poverty level.

Variable **CEN_REG** gives the census region of the respondent's current residence, and **MOBIL_I** indicates whether the mother's current state of residence is the same as her state of residence at the time of the teen's birth.

7.4. Section 4: Geographic Variables

Variables **ESTIAPT08** and **STATE** give the 2008 estimation area and state of residence, respectively, for each teen.

7.5. Section 5: Number of Providers Identified and Consent Variables

Variable **D7** indicates whether the respondent gave consent to contact the teen's providers. If D7=1, then consent was granted; if D7=2 then consent was explicitly denied; and if D7 is missing, consent was not granted because the respondent broke off the interview before being explicitly asked for consent.

Variable **D6R** gives the number of providers identified by the respondent. Note that sometimes respondents report erroneous provider counts and sometimes report the same provider more than one time, and D6R does not reflect the cleaning or de-duplication of the initially-reported provider count. Variable **NUM_PROVR** gives the number of providers identified for teens with consent to contact the providers and reflects the cleaning and de-duplication of the initially-reported provider count. For teens without consent, NUM_PROVR is set to 0.

7.6. Section 6: Number of Responding Providers Variables

Variable **N_PRVR** indicates the number of providers returning IHQs with vaccination information for the teen. That is, N_PRVR is the number of IHQs that were returned for the teen that contain information on the IHQ shot grid.

7.7. Section 7: Characteristics of Providers Variables

This section summarizes the information collected in IHQ questions 6, 7, and 8 across the teen's providers who returned IHQs containing vaccination (i.e., shot grid) data.

FACILITY indicates the facility type of the teen's vaccination providers based on responses to IHQ question 6. If all of the teen's providers that returned IHQs containing shot grid data (see Section 6 variable N_PRVR) reported their facility type to be:

- a federally-qualified health center or a public health department-operated clinic, then FACILITY=1 (all public facilities);
- a hospital, then FACILITY=2 (all hospital facilities);
- a private practice, then FACILITY=3 (all private facilities);
- an STD clinic, school clinic, teen clinic, or other type of facility, then FACILITY=4 (all STD/school/teen clinics or other facilities)

If the responses of providers that returned IHQs containing shot grid data fell into more than one of the above bulleted categories, FACILITY=5 (mixed); otherwise, if at least one of the teen's providers returned an IHQ containing shot grid data, FACILITY=6 (unknown). If none of the teen's providers returned an IHQ containing shot grid data, FACILITY is set to missing.

VFC_ORDER, based on responses to IHQ question 7, indicates whether the teen's vaccination providers order vaccines from a state or local health department to administer to children. If all of the teen's providers that returned IHQs containing shot grid data (see Section 6 variable N_PRVR) reported that they order

vaccines from a state or local health department to administer to children, then VFC_ORDER=1 (all providers); if at least one of the teen's providers that returned an IHQ containing shot grid data reported that the practice orders vaccines from a state or local health department to administer to children and the teen's other providers that returned IHQs containing shot grid data reported either that they did not order such vaccines or that they did not know whether or not they did, then VFC_ORDER=2 (some but possibly or definitely not all providers); if all of the teen's providers that returned IHQs containing shot grid data reported that they do not order vaccines from a state or local health department to administer to children, then VFC_ORDER=3 (no providers); if none of the conditions for VFC_ORDER=1, 2, or 3 was met but at least one of the teen's providers returned an IHQ containing shot grid data, VFC_ORDER=4 (unknown). If none of the teen's providers returned an IHQ containing shot grid data, VFC_ORDER is set to missing.

REGISTRY is based on responses to IHQ question 8 and indicates whether the teen's vaccination providers reported the teen's vaccinations to a community or state registry. If all of the teen's providers that returned IHQs containing shot grid data (see Section 6 variable N_PRVR) indicated that they reported to a registry, then REGISTRY=1 (all providers); if at least one of the teen's providers that returned an IHQ containing shot grid data indicated that the practice reported to a registry and the teen's other providers that returned IHQs containing shot grid data indicated that they did not report to a registry, that they did not know whether or not they reported to a registry, or that the question is not applicable, then REGISTRY=2 (some but possibly or definitely not all providers); if all of the teen's providers that returned IHQs containing shot grid data indicated that they did not report to a registry or that the question is not applicable, then REGISTRY=3 (no providers); if none of the conditions for REGISTRY=1, 2, or 3 was met but at least one of the teen's providers returned an IHQ containing shot grid data, REGISTRY=4 (unknown). If none of the teen's providers returned an IHQ containing shot grid data, REGISTRY is set to missing.

7.8. Section 8: Provider-Reported Up-To-Date Vaccination Variables

This section contains vaccination count and up-to-date variables based on the teen's synthesized provider-reported vaccination history. To facilitate data processing and to accommodate the large and continually growing number of vaccination types covered by the NIS-Teen, the provider-reported vaccination data are organized around the concept of vaccine categories and vaccine types within vaccine category. The vaccine categories correspond to the sections of the IHQ shot grid, and the vaccine types correspond to the type boxes on the IHQ shot grid. (For each vaccine category, an "unknown" vaccine type is created for vaccinations that are reported without a type box being checked. Also, a few vaccine types, such as Measles/Mumps, arise through the backcoding of shots initially reported in the "other" section of the IHQ shot grid.) Table 3 shows the vaccine categories and types for the 2008 NIS-Teen. Note that a single vaccination can fall into more than one vaccine category; for example, an MMR-Varicella vaccination is part of both the Measles-containing and Varicella-containing vaccine categories.

For each vaccine category, Section 8 of the public-use data file contains a variable named **P_NUM*YYY*** -- where "YYY" is the vaccine category abbreviation given in Table 3 -- that stores the number of vaccinations in that vaccine category in the teen's synthesized provider-reported vaccination history. For each vaccine category and type combination, Section 8 also contains a variable named **P_NUM*YYY_TT*** -- where "YYY" is the vaccine category abbreviation and "TT" is the vaccine type code given in Table 3 -- that stores the number of vaccinations in that vaccine category of that vaccine type in the teen's synthesized provider-reported vaccination history.

For each P_NUM*YYY* and P_NUM*YYY_TT* variable described above, there are corresponding variables of the form **P_N13*YYY*** and **P_N13*YYY_TT*** that count only vaccinations that the teen received prior to age 13 years.

This section of the public-use data file also contains up-to-date indicators for a variety of recommended vaccines and vaccine series. These variables' names begin with "**P_UTD**"; the variable labels indicate what is needed to be considered up-to-date for each variable, and the "Notes" field in the code book shows the vaccine type codes (see Table 3) being included when determining whether the teen is up-to-date. For each "P_UTD" variable there is a corresponding variable whose name begins with "**P_U13**" that indicates whether the teen was up-to-date for the particular vaccine or vaccine series by age 13 years.

Note that it is possible that the administration of the NIS-Teen interview itself prompts some respondents to vaccinate their teens following the interview; to ensure that the vaccination rate estimates aren't artificially boosted because of this, the "P_NUM", "P_N13", "P_UTD", and "P_U13" variables in this section of the public-use data file count only vaccinations received before the date the household interview was completed.

Finally, this section of the public-use data file contains variable **VRC_HIST**, which indicates whether the household respondent or any of the providers reported that the teen has had a history of chicken pox disease.

Table 3: Vaccine Categories and Vaccine Types, National Immunization Survey - Teen, 2008

Vaccine Category Abbreviation	Vaccine Category Description	Vaccine Type Code	Vaccine Type Description
TDP	Td/Tdap-containing, given after age 6 years	11	Td
		14	Tdap
		15	Td/Tdap-containing, unknown type
HEPB	Hepatitis B-containing	61	0.5 ml Recombivax
		62	1.0 ml Recombivax
		63	Engerix
		64	Hepatitis B-only, unknown type
		43	HepB-Hib
		HB	Hepatitis B-containing, unknown type
FLU	Influenza-	FZ	Fluzone

Table 3: Vaccine Categories and Vaccine Types, National Immunization Survey - Teen, 2008

Vaccine Category Abbreviation	Vaccine Category Description	Vaccine Type Code	Vaccine Type Description
	containing	FV	Fluvirin
		FN	Injected influenza, other/unknown type
		FM	Flumist
		FL	Influenza-containing, unknown type
MCV	Measles-containing	30	MMR-only
		31	Measles-only
		32	Measles-Mumps (through backcoding)
		33	Measles-Rubella (through backcoding)
		VM	MMR-Varicella
		MM	Measles-containing, unknown type
VRC	Varicella-containing	VO	Varicella-only
		VM	MMR-Varicella
		VA	Varicella-containing, unknown type
HEPA	Hepatitis A-containing	HO	HepA-only (Havrix or Vaqta)
		HA	HepA-containing, unknown type
PPS	Pneumococcal Polysaccharide	-	-
MEN	Meningococcal-containing	80	MCV4 (Menactra)
		81	MPSV4 (Menomune)
		82	Meningococcal-containing, unknown type
HPV	Human Papillomavirus	-	Gardasil

7.9. Section 9: Provider-Reported Age-At-Vaccination Variables

This section contains variables storing the teen's age in years at each vaccination in the synthesized provider-reported vaccination history, along with the vaccine types of those vaccinations.

For each vaccine category, variables ***YYY*_AGE1** - ***YYY*_AGE9** store the age in years of the teen when the vaccination was administered for up to nine vaccinations in the child's synthesized provider-reported

vaccination history, where "YYY" is the vaccine category abbreviation given in Table 3. For vaccine categories that contain multiple vaccine types, variables **X*YYY*TY1** - **X*YYY*TY9** give the corresponding vaccine type code (see Table 3).

For synthesized provider-reported influenza vaccinations, in addition to FLU_AGE1 - FLU_AGE9 which give the age of the teen in years at the time of the vaccinations, variables **FLU_MONTH1** - **FLU_MONTH9** and **FLU_YEAR1** - **FLU_YEAR9** give the month and year for each vaccination, allowing users to assign a teen's influenza vaccinations to a particular Flu season.

Unlike the vaccination count and up-to-date variables in Section 8 of the public-use data file, the variables in Section 9 include vaccinations given both before and after the household interview was completed. If desired, users can limit the Section 9 variables to only those before the household interview date by examining the corresponding Section 8 "P_NUM" variable and limiting the analysis of the Section 9 variables to only the first *n* variables, where *n* is equal to the number of vaccinations in the vaccine category before the household interview date as indicated by the corresponding "P_NUM" variable.

7.10. Section 10: Health Insurance Module Variables

The Health Insurance Module (HIM) gathers information on the health insurance coverage of the selected teen. Eight variables containing HIM data are included in the NIS-Teen public-use data file:

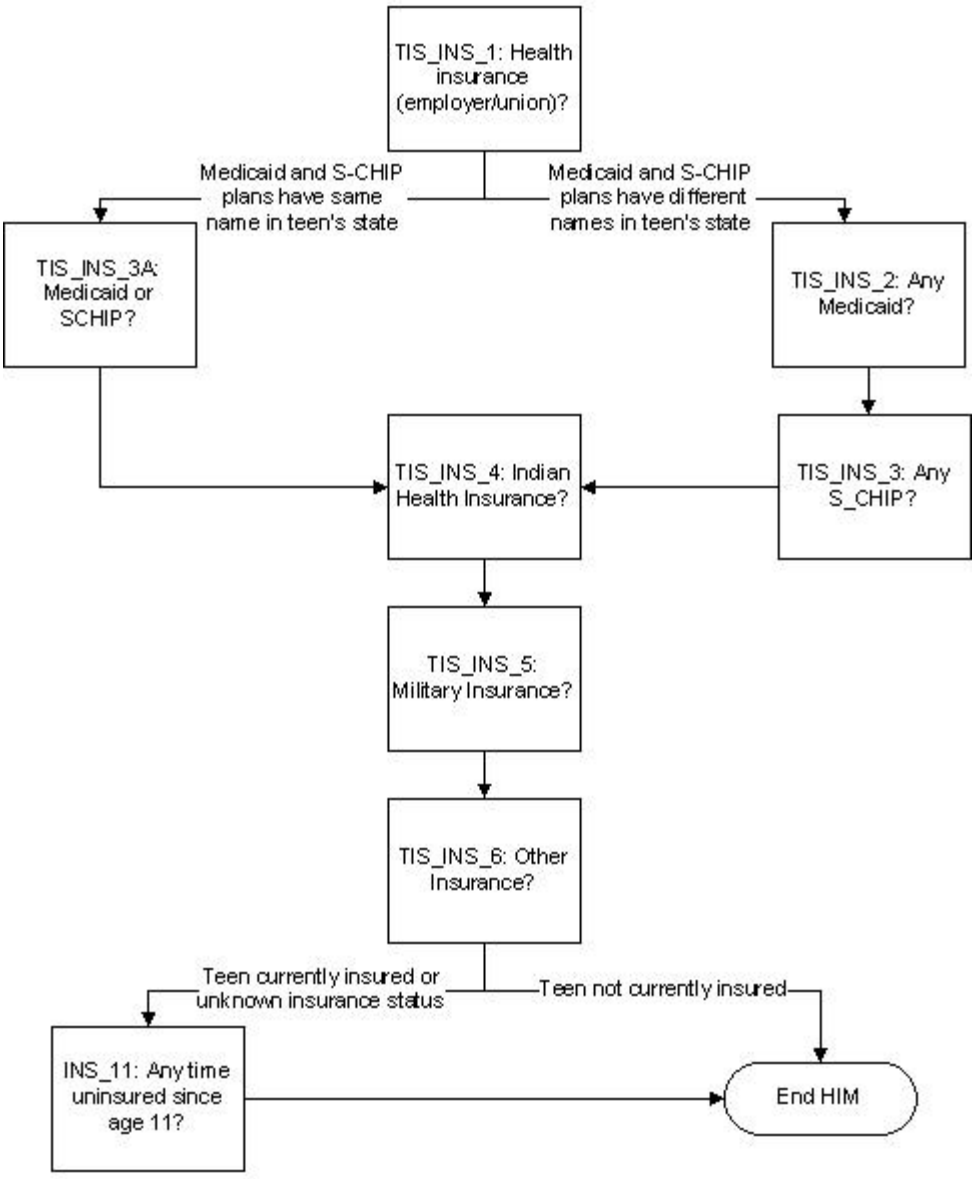
- **TIS_INS_1**: "Is the teen covered by health insurance provided through employer or union?";
- **TIS_INS_2**: "Is the teen covered by any MEDICAID plan?";
- **TIS_INS_3**: "Is the teen covered by S-CHIP?";
- **TIS_INS_3A**: "Is the teen covered by any MEDICAID plan or S-CHIP?";
- **TIS_INS_4**: "Is the teen covered by Indian Health Service?";
- **TIS_INS_5**: "Is the teen covered by Military Health Care, TRICARE, CHAMPUS, or CHAMP-VA?";

- **TIS_INS_6**: "Is the teen covered by any other health insurance or health care plan?"; and
- **TIS_INS_11**: "Since age 11, was there anytime when the teen was not covered by health insurance?"

Each question has "Yes", "No", "Don't Know", and "Refused" as response options. Also, users will encounter blanks or missing values in each variable. There are several reasons for the missingness. First, in order to reach the HIM section, the respondent must first finish Section D. Since the NIS-Teen public-use data file contains records for all respondents completing the demographics section, and because some of these demographics section respondents did not complete Section D, some records are for respondents who did not reach the HIM. Second, there is a possibility that the respondent began the HIM but broke off the interview before finishing. Finally, there are skip patterns in the module. That is, depending on the respondent's answers to previous questions, certain questions may be skipped. Figure 1 illustrates the flow of questions for the eight variables included in the NIS-Teen public-use data file.

The first question (INS_1) was asked of all respondents who reached the HIM. If the name of the Medicaid and S-CHIP programs were the same in the teen's state, the respondent skipped to INS_3A; if the names of the Medicaid and S-CHIP programs were different in the teen's state, the respondent was instead asked questions INS_2 and INS_3. Questions INS_4, INS_5, and INS_6 were asked of all HIM respondents. Based on the respondent's answers to previous HIM questions (some of which are not included in the public-use file), if it was determined that the teen currently had health insurance or if the teen's insurance status was unknown, the respondent was asked if the teen was ever uninsured at question INS_11.

Figure 1. Question Flow for the Eight Health Insurance Variables Included in the Public Use File



8. Analytic and Reporting Guidelines

Data from the NIS-Teen public-use data file can be used to produce national, state, and estimation area estimates of vaccination coverage rates using the PROVWT weight. Information in the data file can also be used to calculate standard errors of the estimated vaccination coverage rates that reflect the complex sample design of the NIS-Teen. The file includes estimation area and state identifiers (ESTIAPT08 and STATE). The sample is stratified by the 56 estimation areas and the estimation area identifier is the key variable for obtaining standard errors for estimation area, state, and national estimates of vaccination coverage rates. Demographic and socioeconomic variables in the file can be used to obtain national vaccination coverage rates for sub-groups of the population. Data users should, however, be aware that estimates for such sub-groups at the state or estimation area level will generally have large standard errors because of small sample sizes. The NCHS standard for precision of sub-group estimates is that the ratio of the standard error to the estimate should be less than or equal to 0.3, and each analytic cell should contain at least 30 respondents.

8.1. Use of NIS Sampling Weights

The NIS-Teen public-use data file contains two teen-level weights. The RDDWT variable gives the household weight for each teen. It should be used to form estimates from teens with completed household interviews. This weight reflects the stratified sample design and also adjusts for unit non-response, for the selection of one teen per household, for post-stratification to population control totals, and for the exclusion of non-telephone teens. The weight variable that applies to teens with adequate provider data is PROVWT. This weight should be used to form estimates of vaccination coverage using variables from Sections 7, 8, and 9 of the public-use data file (see Section 7 of this user's guide). Each teen with adequate provider data (PDAT = 1) has a positive value for PROVWT. The definition of children with adequate provider data includes unvaccinated children (as discussed in Section 2).

The NIS-Teen public-use data file does not contain any provider-level weights. The NIS-Teen does not sample providers directly; rather, they are included in the survey through the teens they vaccinate. A user of

the file should not attempt provider-level analyses (e.g., estimate the percentage of providers in the U.S. that are private providers), because the NIS-Teen sample was not designed for that purpose.

8.2. Estimation and Analysis

8.2.1. Estimating Vaccination Coverage Rates

Vaccination coverage rates are ratio estimators, as described in the statistical literature on methods for complex sample surveys. Because of the adjustment to the sampling weights for provider-phase non-response, statistical analyses require only data from teens with adequate provider data (PDAT = 1), along with their final provider sampling weights (PROVWT). To summarize the statistical methodology by which vaccination coverage rates and their standard errors are obtained from these data, let Y_{hi} be an indicator, for the *i*th teen with adequate provider data in the *h*th stratum of the NIS-Teen sampling design, equal to 1 if the teen is up-to-date according to the provider data and 0 otherwise. Also, let W_{hi} denote the value of PROVWT for this teen. Then, letting $\hat{Y}_h = \sum_{i=1}^{n_h} W_{hi} Y_{hi}$ and $\hat{T}_h = \sum_{i=1}^{n_h} W_{hi}$,

the national estimator of the vaccination coverage rate may be expressed as

$$\hat{\theta} = \frac{\sum_{h=1}^{L} \hat{Y}_h}{\sum_{h=1}^{L} \hat{T}_h}$$

where *L* denotes the number of strata (the 56 estimation areas), and n_h denotes the number of sampled teens with adequate provider data in the *h*th estimation area.

Letting *L* instead denote the number of estimation areas in a state, the above formula can also be used to calculate vaccination coverage rates for states (regardless of whether the state contains only one or more than one estimation area).

8.2.2. Estimating Standard Errors of Vaccination Coverage Rates

The Taylor-series method can be used to estimate the sampling variance of vaccination coverage rates for the U.S., the states, and estimation areas. Letting $Z_{hi} = \frac{W_{hi}(Y_{hi} - \hat{\theta})}{\sum_{h=1}^{L} \hat{T}_h}$ and $\bar{Z}_h = \frac{\sum_{i=1}^{n_h} Z_{hi}}{n_h}$

yields an estimator of the variance of the estimated vaccination coverage rate, $\hat{\theta}$, equal to

$$v(\hat{\theta}) = \sum_{h=1}^{L} \frac{n_h}{n_h - 1} \sum_{i=1}^{n_h} (Z_{hi} - \bar{Z}_h)^2 .$$

The standard error is the square root of the variance. The estimation of standard errors for estimates of vaccination coverage rates in the NIS-Teen can be implemented in specialized statistical software such as SUDAAN (Research Triangle Institute 2008), SAS (SAS Institute Inc. 2009), R (Lumley 2009), and Stata (Stata Corporation 2009). Appendix E gives several examples of the use of SAS, R, and SUDAAN to estimate vaccination coverage rates and their standard errors for estimation areas and states. For all procedures, the option of with-replacement sampling of primary sampling units within stratum is used, because the sampling fractions for households within an estimation area are all quite small. In these applications the estimation area (ESTIAPT08) is used as the stratum variable and the household/teen identifier (SEQNUMT) as the primary sampling unit identifier. The data file should be sorted first on ESTIAPT08 and then on SEQNUMT within ESTIAPT08 before running the programs for SUDAAN and SAS. As indicated above, PROVWT is used as the weight variable.

9. Summary Tables

Appendix G contains seven tables. Appendix Table G.1 lists the 56 estimation areas for the 2008 NIS-Teen by state. For the U.S. and for each state and estimation area, it provides the estimated population total of teens 13 to 17 months of age in 2008 and (from 2008 NIS-Teen data collection) number of teens with completed household interviews and number of teens with adequate provider data.

Appendix Tables G.2 through G.5 summarize pairs of variables: age of teen by maternal education (Appendix Table G.2), age of teen by family poverty status (Appendix Table G.3), race/ethnicity of teen by family poverty status (Appendix Table G.4), age of teen by race/ethnicity of teen (Appendix Table G.5), and age of teen by gender of teen (Appendix Table G.6). Each of these tables gives the unweighted and weighted counts of teens for whom the household interview was completed and the unweighted and weighted counts of teens with adequate provider data.

Appendix Table G.7 presents unweighted counts of teens by shot card use by presence of adequate provider data.

Appendix Table G.8 presents estimates of vaccination coverage and 95-percent confidence intervals obtained from SAS. The data user should obtain the same estimates from the 2008 public-use data file.

10. Limitations

The findings in this report are subject to at least three limitations. First, because NIS-Teen is a telephone survey, results are weighted to be representative of all children aged 13-17 years. Although statistical adjustments were made to account for nonresponse and households without landline telephones, some bias might remain. Second, underestimates of vaccination coverage might have resulted from the exclusive use of provider-reported vaccination histories because completeness of these records is unknown. Finally, although national estimates of vaccination coverage are precise, estimates for state and local areas should be interpreted with caution because their sample sizes are smaller and their confidence intervals generally are wider than those for national estimates.

11. Citations for NIS-Teen Data

In publications please acknowledge the original data source. The citation for the 2008 NIS-Teen public-use data file is:

U.S. Department of Health and Human Services (DHHS). National Center for Health Statistics. The 2008 National Immunization Survey - Teen, Hyattsville, MD: Centers for Disease Control and Prevention, 2009.

Information about the NIS-Teen is located at http://www.cdc.gov/nis/

The NIS-Teen public-use data file is located at http://www.cdc.gov/nis/datafiles.htm.

Please place the acronym "NIS-Teen" in the titles, keywords, or abstracts of journal articles and other publications in order to facilitate retrieval of such materials in bibliographic searches.

11.1. Publications Using Past and Current NIS-Teen Data

Centers for Disease Control and Prevention. National, state, and local area vaccination coverage among adolescents aged 13-17 years - United States, 2008. MMWR 2009;58(36):997-1001. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5836a2.htm

Centers for Disease Control and Prevention. National vaccination coverage among adolescents aged 13-17 years – United States, 2006. MMWR 2007;56:885-8. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5634a3.htm

Centers for Disease Control and Prevention. Vaccination coverage among adolescents aged 13-17 years-United States, 2007. MMWR. 2008:57(40):1100-1103. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5740a2.htm

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Appendix A

Glossary of Abbreviations and Terms

1:3:2:1	The series of 1 or more Td/Tdap vaccinations, 3 or more Hep B vaccinations (or 2 or more Hep B 1.0 ml Recombivax vaccinations), 2 or more MMR vaccinations, and 1 or more VRC vaccinations (or a history of chicken pox disease)
1:3:2:1:2	The series of 1 or more Td/Tdap vaccinations, 3 or more Hep B vaccinations (or 2 or more Hep B 1.0 ml Recombivax vaccinations), 2 or more MMR vaccinations, 1 or more MEN vaccinations, and 2 or more VRC vaccinations (or a history of chicken pox disease)
AAPOR	American Association for Public Opinion Research
ACS	American Community Survey
CASRO	Council of American Survey Research Organizations
CATI	Computer-assisted telephone interviewing
CDC	Centers for Disease Control and Prevention
CII	Childhood Immunization Initiative
CPS	Current Population Survey
DHHS	U.S. Department of Health and Human Services
DOB	Date of birth
FLU	Influenza vaccine
Hep A	Hepatitis A vaccine
Hep B	Hepatitis B vaccine
HIM	Health insurance module
HPV	Human papillomavirus vaccine
IAP	Immunization Action Plan
IHQ	Immunization history questionnaire
MCV	Measles-containing vaccine
MEN	Meningococcal vaccine

MMR	Measles, mumps, and rubella vaccine
MSA	Metropolitan Statistical Area
NCHS	National Center for Health Statistics
NCIRD	National Center for Immunization and Respiratory Diseases
NIPRCS	National Immunization Provider Record Check Study
NIS	National Immunization Survey
NIS-Teen	National Immunization Survey - Teen
NHIS	National Health Interview Survey
NIP	National Immunization Program
PPS	Pneumococcal polysaccharide vaccine
PRC	Provider Record Check Study
PUF	Public-use file
PUMS	Public-Use Microdata Sample
RDD	Random digit dialing
SC	Shot card
Td	Tetanus and diphtheria vaccine
Tdap	Tetanus, diphtheria, and acellular pertussis vaccine
UTD	Up-to-date
VFC	Vaccines for Children program
VRC	Varicella vaccine

Appendix B

NIS-Teen Household Questionnaire

NIS-TEEN Hard Copy Questionnaire

Q4/2008

Section S – Screener

Section MR – Most Knowledgeable Respondent Callback

Section A – Available Shot Records

Section B – No Shot Records

Section C – Demographics

Section D – Provider

Section E- Health Insurance Module

Confidential Information

Information contained on this form which would permit identification of any individual or establishment has been collected with a guarantee that it will be held in strict confidence by NORC and CDC, will be used only for purposes states in this study, and will not be disclosed or released to anyone other than authorized staff of CDC without the consent of the individual or establishment in accordance with Section 308(d) of the Public Health Service Act
(42 U.S.C. 242.m)

SECTION S

Screener

Instruction1 (1) IF ANY S3_3M/D/Y_x=77 OR 99 GO TO INSRUCTION2

(2) ELSE IF (S_NUMB=C_TMP AND ALL YAGE_x ne 13, 14, 15, 16 OR 17) AND SAMPLE_USE_CODE=1 THEN FILL TIS_UNDER18 AND GO TO TIS_S1AQT

(3) ELSE IF (S_NUMB=C_TMP AND >=1 YAGE_x = 13, 14, 15, 16 OR 17) THEN GO TO CP_TISMULTIAGE.

(4) ELSE GO TO INSTRUCTION2

Instruction2 (1) IF HOUSEHOLD COMPLETED NIS INTERVIEW, THEN FILL TIS_UNDER18 WITH C_TMP AND GO TO TIS_C2Q0A

(2) ELSE SKIP TO TIS_UNDER18

TIS_Under18 How many people less than 18 years old live in this household?

IF ONE OR MORE,

ENTER # OF CHILDREN.....___ (ENTER 01 to 76)

(1) IF S_NUMB > TIS_UNDER18, THEN GO TO TIS_UNDER18_CONF

(2) IF TIS_UNDER18=1-76 AND (S_NUMB>0 AND ELIG_X=0), THEN GO TO TIS_C2Q0A

(3) IF TIS_UNDER18=1-76 AND (S_NUMB>0 AND ELIG_X=1), THEN GO TO TIS_S3AGE_x

(4) IF TIS_UNDER18=1-76 AND S3_INTRO=null, THEN GO TO TIS_S3AGE_x

(5) IF TIS_UNDER18=1-76 AND TIS_UNDER18<=S_NUMB, THEN GO TO TIS_AGE_CONFIRM

IF NO CHILDREN

ENTER 0	00	GO TO TIS_S1AQT
Don't Know	77	GO TO TIS_S1ADK
Refused	99	GO TO TIS_S1AREF

TIS_Under18_Conf

The total number of children in the household is less than the number of children entered for NIS. Please confirm the value you just entered is correct.

YES	1	Continue with TIS_Under18 skip logic
NO	2	GO TO TIS_Under18

TIS_C2Q0A You have already given me (NAME OF NIS-ELIGIBLE CHILD OR CHILDREN from S3_5_x)'s birth date(s). Now, would you please tell me the age(s) of your other (IF C_TMP - S_NUMB = 1; INSERT 'child'/ IF C_TMP - S_NUMB > 1; INSERT 'children') under the age of 18?

YES	1	GO TO TIS_S3AGE_X
Wrong # of Children	2	GO TO TIS_UNDER18 AND IF TIS_UNDER18=1-76, THEN RETURN TO TIS_C2Q0A

TIS_S1ADK Is there anyone in your household who knows how many people in this household who are less than 18 years old?

New Person Comes to Phone	1	GO TO TIS_UNDER18
NO	2	GO TO TIS_S1TERM

TIS_S1TERM Thank you, we'll try back another time.

TIS_S1AREF The only reason we need to know how many children in this household are in this age group is to determine if you're eligible to participate in this study.

CONTINUE	1	GO TO TIS_Under18
R Still Refuses	2	GO TO TIS_REFKID

TIS_REFKID [IF INCENTIVE>0, THEN GO TO ADDRESS_CONF1 / ELSE DISPLAY TIS_REFKID]

Since we need to know how many children are in this age group in order to continue, these are all the questions I have at this time. I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time you have spent answering these questions.

TIS_S3AGE_X What is the age of the [FILL1] child under 18?

ENTER AGE	___	GO TO TIS_S3AGE1_X
Don't Know	77	GO TO TIS_AGEDK
Refused	99	GO TO TIS_AGEREF

TIS_S3AGE1_X

MONTHS	1	GO TO TIS_AGE_CONFIRM
YEARS	2	GO TO TIS_AGE_CONFIRM

TIS_AGE_REF I understand you may be uncomfortable, however, all information is confidential under Federal Law.

Return to Questionnaire	1	GO TO TIS_S3AGE_X
R Still Refuses	99	GO TO AGE LOOP FOR REMAINING CHILDREN/ ELSE GO TO TIS_AGEQUIT

TIS_AGEQUIT [IF INCENTIVE>0, THEN GO TO ADDRESS_CONF1 / ELSE DISPLAY TIS_AGEQUIT]

Since we need an age in order to continue, these are all the questions I have at this time. I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time you spent answering these questions.

TIS_AGEDK Is there anyone available who would know the child's age?

New Person Comes to Phone	1	GO TO TIS_S3AGE_X
NO	2	GO TO AGE LOOP FOR REMAINING CHILDREN/ ELSE GO TO TIS_S1TERM

TIS_AGE_CONFIRM

So, you have a (FILL) [IF Count DK/REF Ages >=1: and (# of children with AGE DK/REF) other child(ren)]. Is that correct?

YES	1	GO TO CP_TISMULTIAGE
NO, Wrong ages of Children	2	GO TO TIS_S3AGE_X
NO, Wrong # of Children	3	GO TO TIS_UNDER18
Don't Know	77	GO TO CP_TISMULTIAGE
Refused	99	GO TO CP_TISMULTIAGE

CP_TISMULTIAGE

(1) IF THERE ARE CHILDREN WITH THE SAME AGE AND ALL TIS_S3AGE_x NOT IN (13, 14, 15, 16, 17) AND SUC = 1, GO TO TIS_S1AQT
(2) ELSE IF THERE ARE CHILDREN WITH THE SAME AGE AND SUC <> 1, GO TO TIS_MULTIAGE
(3) ELSEIF ALL TIS_S3AGE_x = 77 and/or 99 AND SUM(ELIG_X = 1 FROM NIS) > 0, GO TO INSTRUCTION1
(4) ELSE GO TO TIS_SELECTION_INSTRUCTIONS1

TIS_MULTIAGE

Since you have more than one child who is [FILL DUPLICATE AGES], I need a way to refer to each of them during the interview.

CONTINUE	1	RECORD NAMES IN TIS_NAME_1 – TIS_NAME_9]

TIS_NAME_X What is the (other) [FILL AGE] year old child's name or initials?

CONTINUE	1	RECORD NAMES IN TIS_NAME_1 – TIS_NAME_9]

TIS_SELECTION_INSTRUCTIONS1

(1) IF YAGE_x >12 months and < 3 years THEN GO TO TIS_S2Q02A before going to S3_INTRO in NIS

(2) ELSEIF ANY YAGE_x >12 and <18, THEN RANDOMLY SELECT ONE OF THE CHILDREN BETWEEN 13 AND 17 TO BE THE SELECTED CHILD FOR THE TEEN SURVEY AND GO TO TIS_S3INTRO

(3) ELSE GO TO INSTRUCTION1

TIS_S2Q02A Based on the ages you have given me, I now have some questions about your [FILL YAGE] old.

CONTINUE	1	GO TO S3_INTRO in NIS

TIS_S3INELG The child who was selected is [FILL YAGE] years old. This survey is about adolescents who are between the ages 13 and 17 years old. The computer will now select another child.

CONTINUE	1	GO TO TIS_S3INTRO

TIS_S3INTRO [If TIS_UNDER18 > 1, then "The computer randomly chose the child for the interview who is [FILL YAGE] years old."] Most of the remaining questions will be about immunizations or shots [If TIS_UNDER18>1 then "he/she", ELSE Fill YAGE] may have received.

CONTINUE .....1 GO TO CP_INTRO

CP_INTRO (1) IF TIS_S3INELG HAS BEEN READ, GO TO TIS_S3

(2) ELSEIF NIS INFORMED CONSENT (S3_INTRO) HAS BEEN READ, GO TO TIS_INTRO2

(3) ELSE NIS INFORMED CONSENT (S3_INTRO) HAS NOT BEEN READ, GO TO TIS_INTRO1

TIS_INTRO1 Before we continue, I'd like you to know that taking part in this research is voluntary. You may choose not to answer any questions you don't wish to answer, or end the interview at any time. We are required by Federal law to develop and follow strict procedures to protect your information and use your answers only for statistical research. I can describe these laws if you wish. In order to review my work, my calls are recorded and my supervisor may listen as I ask the questions. . I'd like to continue now unless you have any questions.

Continue .....1 GO TO TIS_S3_EVAL_R

Respondent asks for description of law .....1 GO TO TIS_S3_LAW

TIS_S3_EVAL_R

Yes, respondent agrees to recording/listening.....1 GO TO TIS_S3

No, the respondent does not agree to recording/listening.....2 GO TO TIS_S3

TIS_S3_LAW The Public Health Service Act is Volume 42 of the US Code, Section 242k. The collection of information in this survey is authorized by Section 306 of this Act. The confidentiality of your responses is assured by Section 308d of this Act, and the Confidential Information Protection and Statistical Efficiency Act. Would you like me to read the Confidential Information Protection provisions to you?

IF RESPONDENT WOULD LIKE TO HEAR PROVISIONS, READ: The information you provide will be used for statistical purposes only. In accordance with the Confidential Information Protection provisions of Title V, Subtitle A, Public Law 107-347 and other applicable Federal laws, your responses will be kept confidential and will not be disclosed in identifiable form to anyone other than employees or agents. By law, every employee of the National Center for Health Statistics, the National Center for Immunization and Respiratory Diseases, and its agent, the National Opinion Research Center who works on this survey has taken an oath and is subject to a jail term of up to 5 years, a fine of up to $250,000, or both, if he or she willingly discloses ANY identifiable information about you or your household members.

Continue ..... GO TO TIS_S3_EVAL_R

TIS_INTRO2 As we said earlier, you may choose not to answer any question you don't want to answer or stop at any time. I'd like to continue now unless you have any questions.

Continue .....1 GO TO TIS_S3

TIS_S3 So I'll know which vaccination questions to ask, please tell me the month, day, and year of birth of [FILL] is.

MONTH	DAY	YEAR
_ _	_ _	_ _ _ _

DATE ..... GO TO TIS3CONF

DON'T KNOW .....77 GO TO TISYRDK

REFUSED .....99 GO TO TISYRREF

TIS3CONF That would make this child [FILL YAGE] years old; is that correct?

YES.....1 GO TO:

(1) IF (TIS3CONF=1 AND YAGE OF SELECTED CHILD = 13, 14, 15, 16, or 17), THEN GO TO TIS_S4

(2) IF (TIS3CONF=1 AND YAGE OF SELECTED CHILD ne 13, 14, 15, 16, or 17) AND OTHER YAGE = (13, 14, 15, 16, 17), THEN GO TO TIS_S3INELG

(3) IF (TIS3CONF=1 AND YAGE OF SELECTED CHILD ne 13, 14, 15, 16, or 17) AND OTHER YAGE <> (13, 14, 15, 16, 17), THEN GO TO TIS_SELECTION_INSTRUCTION

NO .....2 GO TO TIS_S3

TIS_S1AQT [IF INCENTIVE>0, THEN GO TO ADDRESS_CONF1 / ELSE DISPLAY TIS_S1AQT (using rules below)]

[IF NIS INTERVIEW COMPLETED, READ]

Those are all the questions I have. You may be re-contacted in the future to participate in related studies. If you are contacted to participate in future surveys, you have the right to refuse. I'd like to thank you again on behalf of the Centers for Disease Control and Prevention for the time and effort you've spent answering these questions. If you would like more information about the National Immunization Study, please call the study's toll-free number, 1-866-999-3340. If you have questions about your rights as a study participant, you may call 1-800-223-8118, toll-free, and leave a message asking to speak to the Chairperson of the Ethics Review Board.

[ELSE READ]

Those are all the questions I have. This survey is collecting information on the health of children 19 months to 35 months old and teenagers 13 to 17 years old. I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time you spent answering these questions.

TISYRREF I understand you may be uncomfortable, however, all information is confidential under Federal Law. The only reason we need your child's birth date is to know which immunization questions to ask.

(READ IF NECESSARY: If you would feel more comfortable, I can enter only a month and year of birth.)

Return to Questionnaire	1	GO TO TIS_S3
R Still Refuses	2	GO TO TISYRQUIT

TISYRDK The reason we need your child's birth date is to know which immunization questions to ask. Is there anyone available who would know the child's month, day, and year of birth?

New Person Comes to Phone	1	GO TO TIS_S3
RETURN TO QUESTIONNAIRE	2	GO TO TIS_S1TERM

TISYRQUIT [IF INCENTIVE>0, THEN GO TO ADDRESS_CONF1 / ELSE DISPLAY TISYRQUIT]

Since we need a birth date in order to continue, these are all the questions I have at this time. I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time you spent answering these questions.

TIS_S4 Is the child born [insert month and year of birth] male or female?

MALE	1	GO TO CP_TISS5
FEMALE	2	GO TO CP_TISS5
DON'T KNOW	77	GO TO CP_TISS5
REFUSED	99	GO TO CP_TISS5

CP_TISS5

(1) IF TIS_NAME IS NOT FILLED, GO TO TIS_S5

(2) ELSEIF TIS_NAME IS FILLED, GO TO TIS_S4A

TIS_S5 So I'll know how to refer to [him/her] during the interview, please tell me [his/her] first name or initials

_____ GO TO TIS_S4A

TIS_S4A Since this survey asks about immunizations children may have received, I need to speak to the person living in your household who knows the most about the immunizations or shots that [TEEN] has received. Are you this person?

YES.	1	GO TO TIS_SR1
NO	2	GO TO TIS_S5A

TIS_S5A May I speak with this person now?

YES.	1	GO TO TIS_S5BOX
NO	2	GO TO CB1

TIS_S5BOX Before we continue, I'd like you to know that taking part in this research is voluntary. You may choose not to answer any questions you don't wish to answer, or end the interview at any time. We are required by Federal law to develop and follow strict procedures to protect your information and use your answers only for statistical research. I can describe these laws if you wish. In order to review my work, my calls are recorded and my supervisor may listen as I ask the questions. I'd like to continue now unless you have any questions.

CONTINUE.	1	GO TO TIS_S5EVAL_BOX
R Asks for Description of Law	2	GO TO TIS_S5LAW_BOX

TIS_S5LAW_BOX

The Public Health Service Act is Volume 42 of the US Code, Section 242k. The collection of information in this survey is authorized by Section 306 of this Act. The confidentiality of your responses is assured by Section 308d of this Act, and the Confidential Information Protection and Statistical Efficiency Act. Would you like me to read the Confidential Information Protection provisions to you?

IF RESPONDENT WOULD LIKE TO HEAR PROVISIONS, READ:

The information you provide will be used for statistical purposes only. In accordance with the Confidential Information Protection provisions of Title V, Subtitle A, Public Law 107-347 and other applicable Federal laws, your responses will be kept confidential and will not be disclosed in identifiable form to anyone other than employees or agents. By law, every employee of the National Center for Health Statistics, the National Center for Immunization and Respiratory Diseases, and its agent, the National Opinion Research Center who works on this survey has taken an oath and is subject to a jail term of up to 5 years, a fine of up to $250,000, or both, if he or she willingly discloses ANY identifiable information about you or your household members.

TIS_S5EVAL_BOX

Yes, respondent agrees to recording/listening	1	GO TO TIS_SR1
No, the respondent does not agree to recording/listening	2	GO TO TIS_SR1

TIS_SR1 Because the Centers for Disease Control and Prevention needs accurate information on immunizations children receive, we would like you to refer to shot records. Do you have any shot records for [TEEN]?

YES	1	GO TO TIS_SR2
NO	2	GO TO TIS_BINTRO
Don't Know	1	GO TO TIS_SR2
Refused	2	GO TO TIS_SR2

TIS_SR2 Some children receive many shots, and the names and dates of those shots can be difficult to remember. It would be helpful if you could bring TEEN]'s shot record(s) to the phone. (READ IF NECESSARY: I'll be happy to wait while you go get it/them)

Has Shot Records	1	GO TO TIS_SR3
Can't/Won't Get Shot Records	2	GO TO TIS_BINTRO

TIS_SR3 Since this survey asks about immunizations children may have received, I need to speak to the person living in your household who knows the most about the immunizations or shots that [FIRST NAMES/INITIALS OF ELIGIBLE CHILD(REN) FROM S3.5] (has/have) received. Are you this person?

YES	1	GO TO TIS_AINTRO
NO	2	GO TO TIS_AINTRO
Don't Know	77	GO TO TIS_AINTRO
Refused	99	GO TO TIS_AINTRO

SECTION A

Available Shot Records

TIS_AINTRO Thank you for getting the shot records. The remainder of the survey will take about 20 minutes.

SHOT RECORD FOR MEASLES/MMR

TIS_AMMR Looking at the shot record, please tell me how many times [TEEN] has received a measles shot or an M-M-R shot, that is, a measles, mumps, and rubella shot.

Shots……	___	GO TO TIS_AMMR_DATE_X
NONE…….	0	GO TO TIS_AMMR_RECALL
DON'T KNOW….	77	GO TO TIS_AMMR_RECALL
REFUSED…….	99	GO TO TIS_AMMR_RECALL

TIS_AMMR_DATE_X

What is the date (on the record) for the [FILL VAR: (First/Second/…)] measles shot or M-M-R shot?

MONTH	DAY	YEAR
_ _	_	_

DATE	__/__/____	GO TO:
DON'T KNOW		GO TO:
REFUSED		GO TO:

(1) IF FEWER THAN 2 DATES (INCLUDING DON'T KNOW OR REFUSED) PROVIDED SKIP TO TIS_AMMR_RECALL

(2) ELSE SKIP TO TIS_AHEPB

TIS_AMMR_RECALL

Did [TEEN] ever receive a measles or MMR shot that is not on the shot record?

YES……	1	GO TO TIS_AMMR_DOSE
NO…….	2	GO TO TIS_AHEPB
DON'T KNOW….	77	GO TO TIS_AHEPB
REFUSED…….	99	GO TO TIS_AHEPB

TIS_AMMR_DOSE

How many measles or MMR shots did [TEEN] receive that are not on the shot record?

Shots……	___	GO TO TIS_AHEPB
All Shots……	50	GO TO TIS_AHEPB
DON'T KNOW….	77	GO TO TIS_AHEPB
REFUSED…….	99	GO TO TIS_AHEPB

SHOT RECORD FOR HEPATITIS B

TIS_AHEPB Looking at the shot record, please tell me how many times [TEEN] has received a hepatitis B shot?

Shots……	___	GO TO TIS_AHEPB_DATE_X
NONE…….	0	GO TO TIS_AHEPB_RECALL
DON'T KNOW….	77	GO TO TIS_AHEPB_RECALL
REFUSED…….	99	GO TO TIS_AHEPB_RECALL

TIS_AHEPB_DATE_X

What is the date (on the record) for the [FILL VAR: (First/Second/third…)] hepatitis B shot?

MONTH	DAY	YEAR
_ _	_	_

DATE	__/__/____	GO TO:
DON'T KNOW		GO TO:
REFUSED		GO TO:

(1) IF FEWER THAN 3 DATES (INCLUDING DON'T KNOW OR REFUSED) PROVIDED SKIP TO TIS_AHEPB_RECALL

(2) ELSE SKIP TO TIS_AHEPB_MAN

TIS_AHEPB_RECALL

Did [TEEN] ever receive a hepatitis B shot that is not on the shot record?

YES……	1	GO TO TIS_AHEPB_DOSE
NO…….	2	GO TO:
DON'T KNOW….	77	GO TO:
REFUSED…….	99	GO TO:

(1)IF 2, 77, or 99 AND TIS_AHEPB=1-9 GO TO TIS_AHEPB_MAN

(2)ELSE SKIP TO TIS_AHEPA

TIS_AHEPB_DOSE

How many hepatitis B shots did [TEEN] receive that are not on the shot record?

Shots……	___	GO TO TIS_AHEPB_MAN
All Shots…….	50	GO TO TIS_AHEPB_MAN
DON'T KNOW….	77	GO TO:
REFUSED…….	99	GO TO:

(1)IF 0, 77, or 99 AND TIS_AHEPB=1-9 GO TO TIS_AHEPB_MAN

(2)ELSE SKIP TO TIS_AHEPA

TIS_AHEPB_MAN

Did [TEEN] receive hepatitis B shots because of a school requirement?

YES	1	GO TO TIS_AHEPA
NO	2	GO TO TIS_AHEPA
Don't Know	77	GO TO TIS_AHEPA
Refused	99	GO TO TIS_AHEPA

SHOT RECORD FOR HEPATITIS A

TIS_AHEPA Looking at the shot record, please tell me how many times [TEEN] has received a hepatitis A shot?

Shots……	___	GO TO TIS_AHEPA_DATE_X
NONE…….	0	GO TO TIS_AHEPA_RECALL
DON'T KNOW….	77	GO TO TIS_AHEPB_RECALL
REFUSED…….	99	GO TO TIS_AHEPB_RECALL

TIS_AHEPA_DATE_X

What is the date (on the record) for the [FILL VAR: (First/Second/third…)] hepatitis A shot?

MONTH	DAY	YEAR
_ _	_	_

DATE	__/__/____	GO TO:
DON'T KNOW		GO TO:
REFUSED		GO TO:

(1) IF FEWER THAN 2 DATES (INCLUDING DON'T KNOW OR REFUSED) PROVIDED SKIP TO TIS_AHEPA_RECALL

(2) ELSE SKIP TO TIS_AHEPA_RECOM

TIS_AHEPA_RECALL

Did [TEEN] ever receive a hepatitis A shot that is not on the shot record?

YES……	1	GO TO TIS_AHEPA_DOSE
NO…….	2	GO TO TIS_AHEPA_RECOM
DON'T KNOW….	77	GO TO TIS_AHEPA_RECOM
REFUSED…….	99	GO TO TIS_AHEPA_RECOM

TIS_AHEPA_DOSE

How many hepatitis A shots did [TEEN] receive that are not on the shot record?

Shots……	___	GO TO TIS_AHEPA_RECOM
All Shots…….	50	GO TO TIS_AHEPA_RECOM
DON'T KNOW….	77	GO TO TIS_AHEPA_RECOM
REFUSED…….	99	GO TO TIS_AHEPA_RECOM

TIS_AHEPA_RECOM

Has a doctor or other health care professional ever recommended that [TEEN] receive hepatitis A shots?

YES	1	GO TO TIS_AVAR
NO	2	GO TO TIS_AVAR
Don't Know	77	GO TO TIS_AVAR
Refused	99	GO TO TIS_AVAR

SHOT RECORD FOR VARICELLA/ CHICKEN POX

TIS_AVAR Looking at the shot record, please tell me how many times [TEEN] has received a varicella shot, or chicken pox shot?

Shots……	___	GO TO TIS_AVAR_DATE_X
NONE…….	0	GO TO TIS_AVAR_RECALL
DON'T KNOW….	77	GO TO TIS_AVAR_RECALL
REFUSED…….	99	GO TO TIS_AVAR_RECALL

TIS_AVAR_DATE_X

What is the date (on the record) for the [FILL VAR: (First/Second/third…)] varicella or chicken pox shot?

MONTH	DAY	YEAR
_ _	_	_

DATE ..... __/__/____ GO TO:

DON'T KNOW ..... GO TO:

REFUSED ..... GO TO:

(1) IF FEWER THAN 2 DATES (INCLUDING DON'T KNOW OR REFUSED) PROVIDED SKIP TO TIS_AVAR_RECALL

(2) ELSE SKIP TO TIS_AINFLU

TIS_AVAR_RECALL

Did [TEEN] ever receive varicella or chicken pox shots that are not on the shot record?

YES……	1	GO TO TIS_AVAR_DOSE
NO…….	2	GO TO TIS_AINFLU
DON'T KNOW….	77	GO TO TIS_ AINFLU
REFUSED…….	99	GO TO TIS_ AINFLU

TIS_AVAR_DOSE

How many varicella or chicken pox shots did [TEEN] receive that are not on the shot record?

Shots……	___	GO TO TIS_AINFLU
All Shots…….....	50	GO TO TIS_AINFLU
DON'T KNOW….....	77	GO TO TIS_AINFLU
REFUSED…….	99	GO TO TIS_AINFLU

SHOT RECORD FOR INFLUENZA (SHOT or SPRAY)

TIS_AINFLU Looking at the shot record, during the past 12 months has [TEEN] had a flu shot or a flu vaccine sprayed in [GENDER2] nose by a doctor or other health professional? A flu shot or nasal spray is usually given in the fall and protects against influenza for the flu season.

READ IF NECESSARY: A flu shot is injected in the arm. The flu nasal spray vaccine is called Flumist®.

YES……	1	GO TO TIS_AINFLU_DATE
NO…….	2	GO TO TIS_AINFLU_RECALL
DON'T KNOW….	77	GO TO TIS_AINFLU_RECALL
REFUSED…….	99	GO TO TIS_AINFLU_RECALL

TIS_AINFLU_DATE

What was the date of that flu shot or flu nasal spray?

MONTH	DAY	YEAR
_ _	_	_

DATE	__/__/____	GO TO TIS_AINFLU_TYPE
Don't Know		GO TO TIS_AINFLU_TYPE
Refused		GO TO TIS_AINFLU_TYPE

TIS_AINFLU_TYPE

Which type of flu vaccine did [TEEN] receive?

Flu Shot……	1	GO TO TIS_AFLUPLACE
Flu Nasal Spray…….	2	GO TO TIS_AFLUPLACE
Don't Know….	77	GO TO TIS_AFLUPLACE
Refused…….	99	GO TO TIS_AFLUPLACE

TIS_AINFLU_RECALL

Did [TEEN] receive an influenza shot or flu nasal spray in the past 12 months that is not on the shot record?

YES……	1	GO TO TIS_AINFLU_DATE2
NO…….	2	GO TO TIS_ATET
DON'T KNOW….	77	GO TO TIS_ATET
REFUSED…….	99	GO TO TIS_ATET

TIS_AINFLU_DATE2

What was the date of that flu shot or flu nasal spray?

MONTH	DAY	YEAR
_ _	_	_

DATE	__/__/____	GO TO TIS_AFLUPLACE
DON'T KNOW		GO TO TIS_AFLUPLACE
REFUSED		GO TO TIS_AFLUPLACE

TIS_AINFLUPLACE

At what kind of place did [TEEN] get [GENDER2] most recent flu [shot/spray/vaccination]?

Doctor's Office	1	GO TO TIS_ATET
Health Department…	2	GO TO TIS_ATET
Clinic or Health Center	3	GO TO TIS_ATET
Hospital	4	GO TO TIS_ATET
Other Medically Related Place	5	GO TO TIS_ATET
Pharmacy or Drug Store	6	GO TO TIS_ATET
Workplace	7	GO TO TIS_ATET
Other Non-Medically Related Place	8	GO TO TIS_ATET
Don't Know	77	GO TO TIS_ATET
Refused	99	GO TO TIS_ATET

SHOT RECORD FOR TETANUS

TIS_ATET Looking at the shot record, please tell me how many times [TEEN] has received a tetanus booster shot. There are two main types of tetanus booster shots, Td and Tdap. The Tdap booster shot also protects against pertussis or whooping cough and has been available since 2005.

Shots……	___	GO TO TIS_ATET_DATE_X
NONE…….	0	GO TO TIS_ATET_RECALL
DON'T KNOW….	77	GO TO TIS_ATET_RECALL
REFUSED…….	99	GO TO TIS_ATET_RECALL

TIS_ATET_DATE_X

What is the date (on the record) for the [FILL VAR: (First/Second/...Eighth)] tetanus booster?

MONTH	DAY	YEAR
_ _	_	_

DATE	__/__/____	GO TO TIS_ATET_TYPE_X
DON'T KNOW		GO TO TIS_ATET_TYPE_X
REFUSED		GO TO TIS_ATET_TYPE_X

TIS_ATET_TYPE_X

Which type of tetanus booster shot did [TEEN] receive?

Td Only……	1	GO TO CP_ATET_RECOM
Tdap Only…….	2	GO TO CP_ATET_RECOM
Don't Know….	77	GO TO CP_ATET_RECOM
Refused…….	99	GO TO CP_ATET_RECOM

TIS_ATET_RECALL

Did [TEEN] ever receive a tetanus booster shot, also called Td or Tdap shot that is not on the shot record?

YES……	1	GO TO TIS_ATET_AGE
NO…….	2	GO TO TIS_ATET_REASON
DON'T KNOW….	77	GO TO TIS_ATET_RECOM
REFUSED…….	99	GO TO TIS_ATET_RECOM

TIS_ATET_AGE

At what age did [TEEN] receive the last tetanus booster shot? The first booster shot is usually given around 11 or 12 years of age.

Years…….	___	GO TO CP_ATET_TYPE
DON'T KNOW….	77	GO TO CP_ATET_TYPE
REFUSED…….	99	GO TO CP_ATET_TYPE

CP_ATET_RECOM

(1) IF ANY AGE (TIS_ATET_DATE_X) OF VACCINATIONS ARE BEFORE AGE 6 [SKIP TO TIS_ATET_CONF]

(2) ELSE [SKIP TO SKIP TO TIS_ATET_RECOM]

CP_ATET_TYPE

(1) IF AGE (TIS_ATET_AGE) OF VACCINATIONS ARE AFTER OR ON AGE 6 [SKIP TO TIS_ATET_TYPE]

(2) IF AGE (TIS_ATET_AGE) OF VACCINATIONS ARE BEFORE AGE 6 [SKIP TO TIS_ATET_CONF]

TIS_ATET_CONF

Are you sure these are tetanus booster shots? The first tetanus booster is usually given at 11 - 12 years of age.

YES……	1	GO TO:
NO…….	1	GO TO TIS_ATET
DON'T KNOW….	77	GO TO:
REFUSED…….	99	GO TO:

(1) IF RESPONSE IN (1, 77, 99) AND TIS_ATET = 1-9 GO TO TIS_ATET_RECOM

(3) IF RESPONSE IN (1, 77, 99) AND TIS_ATET <> 1-9 GO TO TIS_ATET_TYPE

TIS_ATET_TYPE

Which type of tetanus booster shot did [TEEN] receive?

Td Only……	1	GO TO CP_ATET_RECOM
Tdap Only…….	2	GO TO CP_ATET_RECOM
Don't Know….	77	GO TO CP_ATET_RECOM
Refused…….	99	GO TO CP_ATET_RECOM

TIS_ATET_REASON

What is the MAIN reason [TEEN] did not receive tetanus booster shots? [MULTIPLE RESPONSES ARE ALLOWED]

Provider did not Recommend	1	GO TO…
Knowledge – Did not know about disease/ booster shot/ that my child needed it ….	2	GO TO…
Vaccine is not needed or necessary	3	GO TO…
Does not have doctor or doctor's visit scheduled	4	GO TO…
Child not appropriate age	5	GO TO…
Other: specify	6	GO TO…
Don't Know	77	GO TO…
Refused	99	GO TO…

(1) IF Response includes 7 THEN GO TO TIS_ATET_OTHER

(2) ELSEIF Response includes 1 THEN GO TO TIS_AMEN

(3) ELSE (Response does not include 1 and/or 7) THEN GO TO TIS_ATET_RECOM

TIS_ATET_OTHER

Other Reason:_____

(1) IF TIS_ATET_REASON includes 1 Then [SKIP TO TIS_AMEN]

(2) ELSEIF TIS_ATET_REASON does not include 1 Then [SKIP TO TIS_ATET_RECOM]

TIS_ATET_RECOM

Has a doctor or other health care professional ever recommended that [TEEN] receive tetanus booster shots?

YES…….....	1	GO TO CP_TIS_ATETPLACE
NO…….....	2	GO TO CP_TIS_ATETPLACE
DON'T KNOW….....77		GO TO CP_TIS_ATETPLACE
REFUSED…….....	99	GO TO CP_TIS_ATETPLACE

CP_TIS_ATETPLACE

(1) IF (TIS_ATET=1 to 76) or (TIS_ATET_RECALL=1) GO TO TIS_ATETPLACE
(2) ELSE GO TO TIS_AMEN

TIS_ATETPLACE

After the age of 7 years, at what kind of place(s) did [TEEN] ever get a Td or Tdap booster shot?

Doctor's Office.....	1	GO TO TIS_AMEN
Emergency Room.....	2	GO TO TIS_AMEN
Health Department…	3	GO TO TIS_AMEN
Clinic or Health Center	4	GO TO TIS_AMEN
Hospital	5	GO TO TIS_AMEN
Other Medically Related Place.....	6	GO TO TIS_AMEN
Pharmacy or Drug Store.....	7	GO TO TIS_AMEN
Workplace	8	GO TO TIS_AMEN
Other Non-Medically Related Place.....	9	GO TO TIS_AMEN
Don't Know.....	77	GO TO TIS_AMEN
Refused.....	99	GO TO TIS_AMEN

SHOT RECORD FOR MENINGITIS

TIS_AMEN Looking at the shot record, please tell me how many times [TEEN] has received a meningitis shot, sometimes called MENACTRA or MENOMUNE? It is sometimes abbreviated as MCV4 or MPSV4.

Shots……	___	GO TO TIS_AMEN_DATE_X
NONE…….	0	GO TO TIS_AMEN_RECALL
DON'T KNOW….	77	GO TO TIS_AMEN_RECALL
REFUSED…….	99	GO TO TIS_AMEN_RECALL

TIS_AMEN_DATE_X

What is the date (on the record) for the [FILL VAR: (First/Second/…)] meningitis shot?

MONTH	DAY	YEAR
_ _	_	_

DATE	__/__/____	GO TO TIS_AMEN_RECOM
DON'T KNOW		GO TO TIS_AMEN_RECOM
REFUSED		GO TO TIS_AMEN_RECOM

TIS_AMEN_RECALL

Did [TEEN] ever receive a meningitis shot that is not on the shot record?

YES……	1	GO TO TIS_AMEN_DOSE
NO…….	2	GO TO TIS_AMEN_REASON
DON'T KNOW….	77	GO TO TIS_ AMEN_RECOM
REFUSED…….	99	GO TO TIS_ AMEN_RECOM

TIS_AMEN_DOSE

How many meningitis shots did [TEEN] receive that are not on the shot record?

Shots……	___	GO TO TIS_AMEN_RECOM
All Shots…….	50	GO TO TIS_AMEN_RECOM
DON'T KNOW….	77	GO TO TIS_AMEN_RECOM
REFUSED…….	99	GO TO TIS_AMEN_RECOM

TIS_AMEN_REASON

What is the MAIN reason [TEEN] did not receive meningitis shots? [MULTIPLE RESPONSES ARE ALLOWED]

Provider did not Recommend	1	GO TO:
Knowledge – Did not know about disease/ that my child needed it ….	2	GO TO:
Vaccine is not needed or necessary	3	GO TO:
School Requirement	4	GO TO:
Vaccine not available in provider's office	5	GO TO:
Child not appropriate age	6	GO TO:
Other: specify	7	GO TO:
Don't Know	77	GO TO:
Refused	99	GO TO:

(1) IF Response includes 7 THEN GO TO TIS_AMEN_OTHER

(2) ELSE IF Response includes 1 THEN GO TO TIS_AHPV

(3) ELSE (Response does not include 1 and/or 7) THEN GO TO TIS_AMEN_RECOM

TIS_AMEN_OTHER

Other Reason:_____

(1) IF TIS_AMEN_REASON includes 1 THEN GO TO TIS_AHPV

(2) ELSE IF TIS_AMEN_REASON does not include 1 THEN GO TO TIS_AMEN_RECOM

TIS_AMEN_RECOM

Has a doctor or other health care professional ever recommended that [TEEN] receive meningitis shots?

YES……	1	GO TO CP_TIS_AHPV
NO…….	2	GO TO CP_TIS_AHPV
DON'T KNOW….	77	GO TO CP_TIS_AHPV
REFUSED…….	99	GO TO CP_TIS_AHPV

SHOT RECORD FOR HPV SHOT

TIS_AHPV Have you ever heard of Human Papillomavirus or HPV? This is different from Human Immunodeficiency virus or HIV, which you may have heard of.

YES……	1	GO TO TIS_AHPV_KNOWLEDGE
NO…….	2	GO TO TIS_AHPV_KNOWLEDGE
DON'T KNOW….	77	GO TO TIS_AHPV_KNOWLEDGE
REFUSED…….	99	GO TO TIS_AHPV_KNOWLEDGE

TIS_AHPV_KNOWLEDGE

The human papillomavirus is a common virus known to cause genital warts and some cancers, such as cervical cancer in women. A vaccine to prevent HPV infection is available and is called the cervical cancer vaccine, HPV shot, or GARDASIL.

Before today, have you ever heard of the cervical cancer vaccine, HPV shot, or Gardasil?

YES……	1	GO TO…
NO…….	2	GO TO…
DON'T KNOW….	77	GO TO…
REFUSED…….	99	GO TO…

(1) IF TIS_S4 = FEMALE AND Response = 1 CONTINUE TO TIS_AHPV2

(2) ELSEIF TIS_S4 = FEMALE AND Response = 2 GO TO TIS_AHPV_INTENT

(3) ELSEIF TIS_S4 = FEMALE AND Response = 77 or 99 GO TO TIS_AHPV_INTENT

(4) ELSE TIS_S4 = MALE SKIP TO TIS_HEALTH_VAR

TIS_AHPV2 Looking at the shot record, please tell me how many times [TEEN] has received HPV shots?

Shots……	___	GO TO TIS_AHPV_DATE_X
NONE…….	0	GO TO TIS_AHPV_RECALL
DON'T KNOW….	77	GO TO TIS_AHPV_RECALL
REFUSED…….	99	GO TO TIS_AHPV_RECALL

TIS_AHPV_DATE_X

What is the date (on the record) for the [FILL VAR: (First/Second/...)] HPV shot?

MONTH	DAY	YEAR
_ _	_	_

DATE	__/__/____	GO TO:
DON'T KNOW		GO TO:
REFUSED		GO TO:

(1) IF FEWER THAN 2 DATES (INCLUDING DON'T KNOW OR REFUSED) PROVIDED SKIP TO TIS_AHPV_RECALL

(2) ELSE SKIP TO TIS_AHPV_RECOM

TIS_AHPV_RECALL

Did [TEEN] ever receive an HPV shot that is not on the shot record?

YES……	1	GO TO TIS_AHPV_DOSE
NO…….	2	GO TO TIS_AHPV_INTENT
DON'T KNOW….	77	GO TO TIS_ AHPV_INTENT
REFUSED…….	99	GO TO TIS_ AHPV_INTENT

TIS_AHPV_DOSE

How many HPV shots did [TEEN] receive that are not on the shot record?

Shots……	___	GO TO TIS_AHPV_RECOM
All Shots……	50	GO TO TIS_AHPV_RECOM
DON'T KNOW….	77	GO TO TIS_AHPV_RECOM
REFUSED…….	99	GO TO TIS_AHPV_RECOM

TIS_AHPV_INTENT

How likely is it that [TEEN] will receive HPV shots in the next 12 months?

Very Likely……	1	GO TO TIS_AHPV_RECOM
Somewhat Likely…….	2	GO TO TIS_AHPV_RECOM
Not too likely…….	3	GO TO TIS_AHPV_REASON
Not likely at all…….	4	GO TO TIS_AHPV_REASON
Not Sure/ Don't Know….	77	GO TO TIS_AHPV_REASON
Refused…….	99	GO TO TIS_AHPV_RECOM

TIS_AHPV_REASON

What is the MAIN reason [TEEN] will not receive HPV shots in the next 12 months? [MULTIPLE RESPONSES ARE ALLOWED]

Provider did not Recommend	1	GO TO…
Vaccine is not needed or not necessary	2	GO TO…
Knowledge – Did not know much about HPV or HPV vaccine…	3	GO TO…
Not Sexually Active	5	GO TO…
Child not appropriate age	6	GO TO…
Other: specify	9	GO TO…
Don't Know	77	GO TO…
Refused	99	GO TO…

(1) IF Response includes 9 THEN GO TO TIS_AHPV_OTHER

(2) ELSE IF Response includes 1 THEN GO TO TIS_HEALTH_VAR

(3) ELSE (Response does not include 1 and/or 9) THEN GO TO TIS_AHPV_RECOM

TIS_AHPV_OTHER

Other Reason:_____

(1) IF TIS_AHPV_REASON includes 1 THEN GO TO TIS_HEALTH_VAR

(2) ELSE IF TIS_AHPV_REASON does not include 1 THEN GO TO TIS_AHPV_RECOM

TIS_AHPV_RECOM

Has a doctor or other health care professional ever recommended that [TEEN] receive HPV shots?

YES…….....	1	GO TO TIS_HEALTH_VAR
NO…….....	2	GO TO TIS_HEALTH_VAR
DON'T KNOW….....77		GO TO TIS_HEALTH_VAR
REFUSED…….....	99	GO TO TIS_HEALTH_VAR

SECTION B

No Shot Records

TIS_BINTRO That's fine. It is common for households not to have the shot records on hand. Let's continue with the interview. The remainder of the survey will take about 10 minutes.

TIS_B1 Has [TEEN] ever received an immunization that is a shot or drops?

YES	1	GO TO TIS_BMMR
NO	2	GO TO TIS_HEALTH_VAR
DON'T KNOW	77	GO TO TIS_HEALTH_VAR
REFUSED	99	GO TO TIS_HEALTH_VAR

TIS_BMMR Has [TEEN] ever received a measles shot or MMR (measles-mumps-rubella) shot?

YES	1	GO TO TIS_BMMR_DOSE
NO	2	GO TO TIS_BHEPB
DON'T KNOW	77	GO TO TIS_BHEPB
REFUSED	99	GO TO TIS_BHEPB

TIS_BMMR_DOSE

How many measles or MMR shots did [TEEN] ever receive?

Shots……	___	GO TO TIS_BHEPB
All Shots……	50	GO TO TIS_ BHEPB
DON'T KNOW….	77	GO TO TIS_BHEPB
REFUSED…….	99	GO TO TIS_BHEPB

TIS_BHEPB Has [TEEN] ever received a hepatitis B shot?

YES……	1	GO TO TIS_BHEPB_DOSE
NO…….	2	GO TO TIS_BHEPA
DON'T KNOW….	77	GO TO TIS_BHEPA
REFUSED…….	99	GO TO TIS_BHEPA

TIS_BHEPB_DOSE

How many hepatitis B shots did [TEEN] receive?

Shots……	___	GO TO TIS_BHEPB_MAN
All Shots……	50	GO TO TIS_BHEPB_MAN
DON'T KNOW….	77	GO TO TIS_BHEPA
REFUSED…….	99	GO TO TIS_BHEPA

TIS_BHEPB_MAN

Did [TEEN] receive hepatitis B shots because of a school requirement?

YES	1	GO TO TIS_BHEPA
NO	2	GO TO TIS_BHEPA
Don't Know	77	GO TO TIS_BHEPA
Refused	99	GO TO TIS_BHEPA

TIS_BHEPA Has [TEEN] ever received a hepatitis A shot?

YES	1	GO TO TIS_BHEPA_DOSE
NO…….	2	GO TO TIS_BHEPA_RECOM
DON'T KNOW….	77	GO TO TIS_BHEPB_RECOM
REFUSED…….	99	GO TO TIS_BHEPB_RECOM

TIS_BHEPA_DOSE

How many hepatitis A shots did [TEEN] ever receive?

Shots……	___	GO TO TIS_BHEPA_RECOM
All Shots……	50	GO TO TIS_BHEPA_RECOM
DON'T KNOW….	77	GO TO TIS_BHEPA_RECOM
REFUSED…….	99	GO TO TIS_BHEPA_RECOM

TIS_BHEPA_RECOM

Has a doctor or other health care professional ever recommended that [TEEN] receive hepatitis A shots?

YES	1	GO TO TIS_BVAR
NO	2	GO TO TIS_BVAR
Don't Know	77	GO TO TIS_BVAR
Refused	99	GO TO TIS_BVAR

TIS_BVAR Has [TEEN] ever received a varicella shot, or chicken pox shot?

Shots	___	GO TO TIS_BVAR_DOSE
NONE	0	GO TO TIS_BINFLU
DON'T KNOW	77	GO TO TIS_BINFLU
REFUSED	99	GO TO TIS_BINFLU

TIS_BVAR_DOSE

How many varicella or chicken pox shots did [TEEN] ever receive?

Shots	___	GO TO TIS_BINFLU
All Shots	50	GO TO TIS_BINFLU
DON'T KNOW	77	GO TO TIS_BINFLU
REFUSED	99	GO TO TIS_BINFLU

TIS_BINFLU During the past 12 months has (FILL) had a flu shot? A flu shot is usually given in the fall and protects against influenza for the flu season.

READ IF NECESSARY: A flu shot is injected in the arm. Do not include an influenza vaccine sprayed in the nose.

YES	1	GO TO TIS_BINFLU_DATE
NO	2	GO TO TIS_BFLUSPRAY
DON'T KNOW	77	GO TO TIS_BFLUSPRAY
REFUSED	99	GO TO TIS_BFLUSPRAY

TIS_BINFLU_DATE

During what month and year did [TEEN] receive the most recent flu shot?

MONTH	YEAR
_ _	_

DATE .....__/____ GO TO TIS_BINFLU_PLACE

Don't Know..... GO TO TIS_ BINFLU_PLACE

Refused..... GO TO TIS_ BINFLU_PLACE

TIS_BINFLUSPRAY

During the past 12 months has [TEEN] had a flu vaccine sprayed in [GENDER2] nose by a doctor or other health professional? This vaccine is usually given in the fall and protects against influenza for the flu season.

READ IF NECESSARY: This influenza vaccine is called FluMist®

YES…… .....1 GO TO TIS_BINFLUSPRAY_DATE

NO……. .....2 GO TO TIS_BTET

DON'T KNOW…. .....77 GO TO TIS_ BTET

REFUSED……. .....99 GO TO TIS_ BTET

TIS_BINFLUSPRAY_DATE

During what month and year did [TEEN] receive the most recent flu nasal spray?

MONTH	YEAR
_ _	_

DATE .....__/____ GO TO TIS_BINFLU_PLACE

Don't Know..... GO TO TIS_ BINFLU_PLACE

Refused..... GO TO TIS_ BINFLU_PLACE

TIS_BINFLUPLACE

At what kind of place did [TEEN] get [GENDER2] most recent flu [shot/spray/vaccination]?

Doctor's Office	1	GO TO TIS_BTET
Health Department…	2	GO TO TIS_BTET
Clinic or Health Center	3	GO TO TIS_BTET
Hospital	4	GO TO TIS_BTET
Other Medically Related Place	5	GO TO TIS_BTET
Pharmacy or Drug Store	6	GO TO TIS_BTET
Workplace	7	GO TO TIS_BTET
Other Non-Medically Related Place	8	GO TO TIS_BTET
Don't Know	77	GO TO TIS_BTET
Refused	99	GO TO TIS_BTET

TIS_BTET Has [TEEN] ever received a tetanus booster shot? There are two main types of tetanus booster shots, Td and Tdap. The Tdap booster shot also protects against pertussis or whooping cough and has been available since 2005.

YES……	1	GO TO TIS_BTET_AGE
NO…….	2	GO TO TIS_BTET_REASON
DON'T KNOW….	77	GO TO TIS_BTET_RECOM
REFUSED…….	99	GO TO TIS_BTET_RECOM

TIS_BTET_AGE

At what age did [TEEN] receive the last tetanus booster shot? The first booster shot is usually given around 11 or 12 years of age.

Years…….	___	GO TO…
(1) IF YEARS < 6 GO TO TIS_BTET_CONF		
(2) ELSE YEARS >= 6 GO TO TIS_BTET_TYPE		
DON'T KNOW….	77	GO TO TIS_BTET_TYPE
REFUSED…….	99	GO TO TIS_BTET_TYPE

TIS_BTET_CONF

Are you sure these are tetanus booster shots? The first tetanus booster is usually given at 11 - 12 years of age.

YES……	1	GO TO TIS_BTET_TYPE
NO…….	1	GO TO TIS_BTET
DON'T KNOW….	77	GO TO TIS_BTET_RECOM
REFUSED…….	99	GO TO TIS_BTET_RECOM

TIS_BTET_TYPE

Which type of tetanus booster shot did [TEEN] receive?

Td Only……	1	GO TO CP_BTET_RECOM
Tdap Only…….	2	GO TO CP_BTET_RECOM
Don't Know….	77	GO TO CP_BTET_RECOM
Refused…….	99	GO TO CP_BTET_RECOM

TIS_BTET_REASON

What is the MAIN reason [TEEN] did not receive tetanus booster shots? [MULTIPLE RESPONSES ARE ALLOWED]

Provider did not Recommend	1	GO TO…
Knowledge – Did not know about disease/ booster shot/ that my child needed it ….	2	GO TO…
Vaccine is not needed or necessary	3	GO TO…
Does not have doctor or doctor's visit scheduled	4	GO TO…
Child not appropriate age	5	GO TO…
Other: specify	6	GO TO…
Don't Know	77	GO TO…
Refused	99	GO TO…

(1) IF Response includes 7 THEN GO TO TIS_BTET_OTHER

(2) ELSE IF Response includes 1 THEN GO TO TIS_BMEN

(3) ELSE (Response does not include 1 and/or 7) THEN GO TO TIS_BTET_RECOM

TIS_BTET_OTHER

Other Reason:_____

(1) IF TIS_BTET_REASON includes 1 GO TO TIS_BMEN
(2) ELSEIF TIS_BTET_REASON does not include 1 GO TO TIS_BTET_RECOM]

TIS_BTET_RECOM

Has a doctor or other health care professional ever recommended that [TEEN] receive tetanus booster shots?

YES…….....	1	GO TO CP_TIS_BTETPLACE
NO…….....	2	GO TO CP_TIS_BTETPLACE
DON'T KNOW….....	77	GO TO CP_TIS_BTETPLACE
REFUSED…….....	99	GO TO CP_TIS_BTETPLACE

CP_TIS_BTETPLACE

(1) IF TIS_BTET=1 GO TO TIS_BTETPLACE
(2) ELSE GO TO TIS_BMEN

TIS_BTETPLACE

After the age of 7 years, at what kind of place(s) did [TEEN] ever get a Td or Tdap booster shot?

Doctor's Office.....	1	GO TO TIS_BMEN
Emergency Room.....	2	GO TO TIS_BMEN
Health Department…	3	GO TO TIS_BMEN
Clinic or Health Center	4	GO TO TIS_BMEN
Hospital	5	GO TO TIS_BMEN
Other Medically Related Place.....	6	GO TO TIS_BMEN
Pharmacy or Drug Store.....	7	GO TO TIS_BMEN
Workplace	8	GO TO TIS_BMEN
Other Non-Medically Related Place.....	9	GO TO TIS_BMEN
Don't Know.....	77	GO TO TIS_BMEN
Refused.....	99	GO TO TIS_BMEN

TIS_BMEN Has [TEEN] ever received a meningitis shot, sometimes called MENACTRA or MENOMUNE?

Shots……	___	GO TO TIS_BMEN_DOSE
NONE…….	0	GO TO TIS_BMEN_REASON
DON'T KNOW….	77	GO TO TIS_BMEN_RECOM
REFUSED…….	99	GO TO TIS_BMEN_RECOM

TIS_BMEN_DOSE

How many meningitis shots did [TEEN] ever receive?

Shots……	___	GO TO TIS_BMEN_RECOM
All Shots…….	50	GO TO TIS_BMEN_RECOM
DON'T KNOW….	77	GO TO TIS_BMEN_RECOM
REFUSED…….	99	GO TO TIS_BMEN_RECOM

TIS_BMEN_REASON

What is the MAIN reason [TEEN] did not receive meningitis shots? [MULTIPLE RESPONSES ARE ALLOWED]

Provider did not Recommend	1	GO TO:
Knowledge – Did not know about disease/ that my child needed it ….	2	GO TO:
Vaccine is not needed or necessary	3	GO TO:
School Requirement	4	GO TO:
Vaccine not available in provider's office	5	GO TO:
Child not appropriate age	6	GO TO:
Other: specify	7	GO TO:
Don't Know	77	GO TO:
Refused	99	GO TO:

(1) IF Response includes 7 THEN GO TO TIS_BMEN_OTHER

(2) ELSE IF Response includes 1 THEN GO TO TIS_BHPV

(3) ELSE (Response does not include 1 and/or 7) THEN GO TO TIS_BMEN_RECOM

TIS_BMEN_OTHER

Other Reason:_____

(1) IF TIS_BMEN_REASON includes 1 THEN GO TO TIS_BHPV

(2) ELSE IF TIS_BMEN_REASON does not include 1 THEN GO TO TIS_BMEN_RECOM

TIS_BMEN_RECOM

Has a doctor or other health care professional ever recommended that [TEEN] receive meningitis shots?

YES…….	1	GO TO CP_TIS_BHPV
NO…….	2	GO TO CP_TIS_BHPV
DON'T KNOW….	77	GO TO CP_TIS_BHPV
REFUSED…….	99	GO TO CP_TIS_BHPV

TIS_BHPV Have you ever heard of Human Papillomavirus or HPV? This is different from Human Immunodeficiency virus or HIV, which you may have heard of.

YES…….	1	GO TO TIS_BHPV_KNOWLEDGE
NO…….	2	GO TO TIS_BHPV_KNOWLEDGE
DON'T KNOW….	77	GO TO TIS_BHPV_KNOWLEDGE
REFUSED…….	99	GO TO TIS_BHPV_KNOWLEDGE

TIS_BHPV_KNOWLEDGE

The human papillomavirus is a common virus known to cause genital warts and some cancers, such as cervical cancer in women. A vaccine to prevent HPV infection is available and is called the cervical cancer vaccine, HPV shot, or GARDASIL.

Before today, have you ever heard of the cervical cancer vaccine, HPV shot, or Gardasil?

YES……	1	GO TO…
NO…….	2	GO TO…
DON'T KNOW….	77	GO TO…
REFUSED…….	99	GO TO…

(1) IF TIS_S4 = FEMALE AND Response = 1 CONTINUE TO TIS_BHPV2

(2) ELSE IF TIS_S4 = FEMALE AND Response = 2 GO TO TIS_BHPV_INTENT

(3) ELSE IF TIS_S4 = FEMALE AND Response = 77 or 99 GO TO TIS_BHPV_INTENT

(4) ELSE TIS_S4 = MALE SKIP TO TIS_HEALTH_VAR

TIS_BHPV2 Has [TEEN] ever received HPV shots?

YES……	1	GO TO TIS_BHPV_DOSE
NO…….	2	GO TO TIS_BHPV_INTENT
DON'T KNOW….	77	GO TO TIS_BHPV_INTENT
REFUSED…….	99	GO TO TIS_BHPV_INTENT

TIS_BHPV_DOSE

How many HPV shots did [TEEN] ever receive?

Shots…… ___

(1) IF (0, 1, 2) GO TO TIS_BHPV_INTENT
(2) ELSE IF (3-9) GO TO TIS_BHPV_RECOM

All Shots…….	50	GO TO TIS_BHPV_RECOM
DON'T KNOW….	77	GO TO TIS_BHPV_RECOM
REFUSED…….	99	GO TO TIS_BHPV_RECOM

TIS_BHPV_INTENT

How likely is it that [TEEN] will receive HPV shots in the next 12 months?

Very Likely……	1	GO TO TIS_BHPV_RECOM
Somewhat Likely…….	2	GO TO TIS_BHPV_RECOM
Not too likely……	3	GO TO TIS_BHPV_REASON
Not likely at all…….	4	GO TO TIS_ BHPV_REASON
Not Sure/ Don't Know….	77	GO TO TIS_ BHPV_REASON
Refused…….	99	GO TO TIS_BHPV_RECOM

TIS_BHPV_REASON

What is the MAIN reason [TEEN] will not receive HPV shots in the next 12 months? [MULTIPLE RESPONSES ARE ALLOWED]

Provider did not Recommend	1	GO TO…
Vaccine is not needed or not necessary	2	GO TO…
Knowledge – Did not know much about HPV or HPV vaccine…	3	GO TO…
Not Sexually Active	5	GO TO…
Child not appropriate age	6	GO TO…
Other: specify	9	GO TO…
Don't Know	77	GO TO…
Refused	99	GO TO…

(1) IF Response includes 9 THEN GO TO TIS_BHPV_OTHER

(2) ELSE IF Response includes 1 THEN GO TO TIS_HEALTH_VAR

(3) ELSE (Response does not include 1 and/or 9) THEN GO TO TIS_BHPV_RECOM

TIS_BHPV_OTHER

Other Reason:_____

(1) IF TIS_BHPV_REASON includes 1 THEN GO TO TIS_HEALTH_VAR

(2) ELSE IF TIS_BHPV_REASON does not include 1 THEN GO TO TIS_BHPV_RECOM

TIS_BHPV_RECOM

Has a doctor or other health care professional ever recommended that [TEEN] receive HPV shots?

YES…….	1	GO TO TIS_HEALTH_VAR
NO…….	2	GO TO TIS_HEALTH_VAR
DON'T KNOW….	77	GO TO TIS_HEALTH_VAR
REFUSED…….	99	GO TO TIS_HEALTH_VAR

SECTION C
Demographics

TIS_HEALTH_VAR

I've been asking about shots received by [TEEN]. Now I would like to ask, has [TEEN] ever had chicken pox or varicella?

YES	1	GO TO TIS_HEALTH_VAR_AGE
NO	2	GO TO TIS_HEALTH_CHECKUPA
DON'T KNOW	77	GO TO TIS_HEALTH_CHECKUPA
REFUSED	99	GO TO TIS_HEALTH_CHECKUPA

TIS_HEALTH_VAR_AGE

How old was [TEEN], in years, when (GENDER3) had chicken pox?

AGE:_____

(1) IF TIS_Health_Var_Age > TIS_S3, DISPLAY WARNING: "AGE CANNOT BE OLDER THAN AGE OF CHILD", IF AGE UNCHANGED GO TO TIS_Health_CHECKUPA

(2) IF TIS_HEALTH_VAR_AGE=77, THEN GO TO TIS_Health_Var_Age2

(3) IF TIS_HEALTH_VAR_AGE=99, THEN GO TO TIS_Health_CHECKUPA

(4) ELSE GO TO TIS_HEALTH_CHECKUPA

TIS_HEALTH_VAR_AGE2

Was [TEEN]…

…less than one year old?	1	GO TO TIS_HEALTH_CHECKUPA
…one to five years old?	2	GO TO TIS_HEALTH_CHECKUPA
…five to ten years old?	3	GO TO TIS_HEALTH_CHECKUPA
…over ten years old?	4	GO TO TIS_HEALTH_CHECKUPA
DON'T KNOW	77	GO TO TIS_HEALTH_CHECKUPA
REFUSED	99	GO TO TIS_HEALTH_CHECKUPA

TIS_HEALTH_CHECKUPA

How old was [TEEN] at the time of [GENDER2] last check-up? Please do not include visits for medical treatment or illness.

AGE:_____

. (1) IF <=10 YEARS, GO TO TIS_HEALTH_VISITS

(2) IF 11-12 YEARS, GO TO TIS_HEALTH_VISITS

(3) IF 13-age of child, GO TO CHECKUP2A

(4) IF >Age of child, THEN DISPLAY WARING "CAN NOT BE OLDER THAN CHILD", THEN ASK QUESTION AGAIN

(5) IF 77 OR 99, GOTO TIS_Health_CHECKUP2A

TIS_HEALTH_CHECKUP2A

Did [TEEN] have an 11-12 year old well child exam or check-up?

YES	1	GO TO TIS_HEALTH_VISITS
NO	2	GO TO TIS_ HEALTH_VISITS
DON'T KNOW	77	GO TO TIS_HEALTH_CHECKUP 3A
REFUSED	99	GO TO TIS_HEALTH_CHECKUP 3A

TIS_HEALTH_CHECKUP3A

Was [TEEN]'s last check-up more than [FILL1] years ago or less than [FILL1] years ago?

MORE THAN [YAGE_x minus 12] YEARS AGO	1	GO TO TIS_HEALTH_VISITS
EXACTLY [YAGE_x minus 12] YEARS AGO	2	GO TO TIS_ HEALTH_VISITS
LESS THAN [YAGE_x minus 12] YEARS AGO	3	GO TO TIS_ HEALTH_VISITS
DON'T KNOW	77	GO TO TIS_HEALTH_VISITS
REFUSED	99	GO TO TIS_HEALTH_VISITS

TIS_HEALTH_VISITS

During the past 12 months, how many times has [TEEN] seen a doctor or other health care professional about [GENDER2] health at a doctor's office, a clinic, or some other place? Do not include times [TEEN] was hospitalized overnight, visits to hospital emergency rooms, home visits, dental visits, or telephone calls.

None	1	GO TO TIS_HEALTHASTHMA_A
1	2	GO TO TIS_HEALTHASTHMA_A
2-3	3	GO TO TIS_HEALTHASTHMA_A
4-5	4	GO TO TIS_HEALTHASTHMA_A
6-7	5	GO TO TIS_HEALTHASTHMA_A
8-9	6	GO TO TIS_HEALTHASTHMA_A
10-12	7	GO TO TIS_HEALTHASTHMA_A
13-15	8	GO TO TIS_HEALTHASTHMA_A
16+	9	GO TO TIS_HEALTHASTHMA_A
DON'T KNOW	77	GO TO TIS_HEALTHASTHMA_A
REFUSED	99	GO TO TIS_HEALTHASTHMA_A

TIS_HEALTHASTHMA_A

Has [TEEN] ever been told by a doctor or other health professional that [GENDER3] has asthma?

YES	1	GO TO TIS_HIRISK
NO	2	GO TO TIS_HIRISK
DON'T KNOW	77	GO TO TIS_HIRISK
REFUSED	99	GO TO TIS_HIRISK

TIS_HIRISK Next I am going to read a list of health conditions. Please listen to the entire list and then respond 'yes' or 'no'. Has a doctor, nurse, or other health professional ever said that [TEEN] has had any of the following health conditions? A lung condition other than asthma, a heart condition, diabetes, a kidney condition, sickle cell anemia or other anemia, or a weakened immune system caused by a chronic illness or by medicines taken for a chronic illness? Please tell me if [TEEN] had had any of the listed conditions.

[INTERVIEWER INSTRUCTION: IF RESPONDENT MENTIONS HIGH BLOOD PRESSURE, HEART MURMUR, OR MITRALVALVE PROLAPSE AS THE ONLY CONDITION, CODE AS 'NO']

[READ IF NECESSARY]: BY "OTHER HEALTH PROFESSIONAL" WE MEAN A NURSE PRACTITIONER, A PHYSICIAN'S ASSISTANT, OR SOME OTHER LICENSED PROFESSIONAL.]

[READ IF RESPONDENT SAYS DK, OR NOT SURE]: ILLNESSES SUCH AS CANCER OR HIV/AIDS CAN CAUSE A PERSON TO HAVE A WEAKENED IMMUNE SYSTEM. MEDICINES SUCH AS STEROIDS OR TRANSPLANT MEDICATIONS CAN CAUSE A PERSON TO HAVE A WEAKENED IMMUNE SYSTEM. WOULD YOU LIKE ME TO REPEAT THE QUESTION?

YES	1	GO TO TIS_HIRISK_NOW
NO	2	GO TO TIS_HIRISK_ANY
DON'T KNOW	3	GO TO TIS_HIRISK_ANY
REFUSED	4	GO TO TIS_HIRISK_ANY

TIS_HIRISK_NOW

Does [TEEN] still have any of these conditions?

YES	1	GO TO TIS_HIRISK_ANY
NO	2	GO TO TIS_HIRISK_ANY
DON'T KNOW	3	GO TO TIS_HIRISK_ANY
REFUSED	4	GO TO TIS_HIRISK_ANY

TIS_HIRISK_ANY

Do any other members of [TEEN]'s household have any of the following health conditions? Asthma, a lung condition other than asthma, a heart condition, diabetes, a kidney condition, sickle cell anemia or other anemia, or a weakened immune system caused by a chronic illness or by medicines taken for a chronic illness? Please tell me if any other household members had any of the listed conditions.

[INTERVIEWER INSTRUCTION: IF RESPONDENT MENTIONS HIGH BLOOD PRESSURE, HEART MURMUR, OR MITRAL VALVE PROLAPSE AS THE ONLY CONDITION, CODE AS 'NO']

[READ IF RESPONDENT SAYS DK, OR NOT SURE: ILLNESSES SUCH AS CANCER OR HIV/AIDS CAN CAUSE A PERSON TO HAVE A WEAKENED IMMUNE SYSTEM. MEDICINES SUCH AS STEROIDS OR TRANSPLANT MEDICATIONS CAN CAUSE A PERSON TO HAVE A WEAKENED IMMUNE SYSTEM. WOULD YOU LIKE ME TO REPEAT THE QUESTION?]

YES	1	GO TO TIS_NOSCHOOL
NO	2	GO TO TIS_NOSCHOOL
DON'T KNOW	3	GO TO TIS_NOSCHOOL
REFUSED	4	GO TO TIS_NOSCHOOL

TIS_NOSCHOOL

During the past 12 months, that is, since [FILL1], about how many days did [TEEN] miss school because of illness or injury?

Number of Days	___	GO TO TIS_GRADE
None	000	GO TO TIS_GRADE
Child did not go to school	996	GO TO TIS_GRADE
Don't Know	777	GO TO TIS_GRADE
Refused	999	GO TO TIS_GRADE

TIS_GRADE

What is [TEEN]'s current grade level in school?

6th Grade	6	GO TO TIS_CINTRO
7th Grade	7	GO TO TIS_CINTRO
8th Grade	8	GO TO TIS_CINTRO
9th Grade	9	GO TO TIS_CINTRO
10th Grade	10	GO TO TIS_CINTRO
11th Grade	11	GO TO TIS_CINTRO
12th Grade	12	GO TO TIS_CINTRO
Graduated from HS	13	GO TO TIS_CINTRO
Enrolled in GED program	14	GO TO TIS_CINTRO
Completed GED program	15	GO TO TIS_CINTRO
Not in School	16	GO TO TIS_CINTRO
Other	17	GO TO TIS_GRADE_SPECIFY
DON'T KNOW	77	GO TO TIS_CINTRO A
REFUSED	99	GO TO TIS_CINTRO A

TIS_GRADE_SPECIFY

ENTER [TEEN]'S CURRENT GRADE IN SCHOOL

TIS_GRADE_OTH _____

TIS_CINTRO The next few questions ask for some background information about [TEEN]. Please know we are asking them because they're important for the survey. (READ IF NECESSARY: If you feel uncomfortable answering any of these questions, please let me know and I will move on to the next question.

TIS_C1 Including the adults and all the children, how many people live in this household? ENTER 77 FOR DON'T KNOW AND 99 FOR REFUSED

NUMBER OF PEOPLE _____

TIS_C2 Is [TEEN] Hispanic or Latino? (INCLUDES MEXICAN, MEXICAN-AMERICAN, CENTRAL AMERICAN, SOUTH AMERICAN OR PUERTO RICAN, CUBAN, OR OTHER SPANISH-CARIBBEAN)

YES	1	GO TO TIS_C3
NO	2	GO TO TIS_C4
DON'T KNOW	77	GO TO TIS_C4
REFUSED	99	GO TO TIS_C4

TIS_C3 Is [TEEN] Mexican, Mexican-American, Central American, South American, Puerto Rican, Cuban, or other Spanish-Caribbean?

CLICK ALL THAT APPLY

MEXICAN/MEXICANO.....1
MEXICAN-AMERICAN.....2
CENTRAL AMERICAN.....3
SOUTH AMERICAN.....4
PUERTO RICAN.....5
CUBAN/CUBAN AMERICAN.....6
SPANISH-CARIBBEAN.....7
OTHER SPANISH/HISPANIC (SPECIFY).....10 GO TO TIS_C3_OTHR
DON'T KNOW.....77
REFUSED.....99

TIS_C3_OTHR ENTER OTHER SPECIFY

_____

TIS_C4 Now, I am going to read a list of categories. Please choose one or more of the following categories to describe [TEEN]'s race. Is [TEEN] White, Black or African American, American Indian, Alaska Native, Asian, Native Hawaiian or other Pacific Islander?

CLICK ALL THAT APPLY

WHITE..... 1
BLACK/AFRICAN AMERICAN..... 2
AMERICAN INDIAN..... 3
ALASKA NATIVE..... 4
ASIAN..... 5
NATIVE HAWAIIAN..... 6
PACIFIC ISLANDER..... 7
OTHER..... 8 GO TO TIS_C4_OTHER
DON'T KNOW..... 77
REFUSED..... 99

(1) IF 8, GO TO TIS_C4_OTHR

(2) ELSEIF 1 THRU 7 OR 77 OR 99, THEN GO TO TIS_C5

[MORE THAN ONE OPTION CAN BE SELECTED IF BETWEEN 1 AND 8, BUT 77 AND 99 MUST BE SELECTED ALONE]

TIS_C4_OTHER

ENTER OTHER SPECIFY

_____

TIS_C5 What is your relationship to [TEEN]?

MOTHER (STEP, FOSTER, ADOPTIVE) OR
FEMALE GUARDIAN.....1
FATHER (STEP, FOSTER, ADOPTIVE) OR
MALE GUARDIAN 2
SISTER OR BROTHER (STEP/FOSTER/
HALF/ADOPTIVE).....3
IN-LAW OF ANY TYPE 4
AUNT/UNCLE 5
GRANDPARENT 6
OTHER FAMILY MEMBER.....7
FRIEND 8
DON'T KNOW.....77
REFUSED.....99

(1) IF C5_x (IN NIS) FILLED, THEN GO TO TIS_C5A
(2) ELSE GO TO TIS_C6

TIS_C5A IF TIS_C5=01, THEN ASK: Are you also [FILL1]'s mother?

IF TIS_C5 NE 01, THEN ASK: Is [TEEN]'s mother the same as [FILL1]'s mother?

YES .....1 GO TO…
NO.....2 GO TO…
DON'T KNOW.....77 GO TO…
REFUSED.....99 GO TO…

(1) IF COMPLETED THE NIS INTERVIEW AND TIS_C5A=1, FILL IN ALL QUESTIONS FROM HERE TO TIS_C11B WITH FIRST NIS-ELIG CHILD'S DATA, THEN CONTINUE INTERVIEW AT TIS_D5
(2) ELSE GO TO TIS_C6]

TIS_C6 What is the highest grade or year of school [FILL] completed?

8th GRADE OR LESS 1
9th-12th GRADE NO DIPLOMA.....2
HIGH SCHOOL GRADUATE OR GED COMPLETED 3
COMPLETED A VOCATIONAL, TRADE, OR BUSINESS SCHOOL PROGRAM 4
SOME COLLEGE CREDIT BUT NO DEGREE.....5
ASSOCIATE DEGREE (AA, AS).....6
BACHELOR'S DEGREE (BA, BS, AB) 7
MASTER'S DEGREE (MA, MS, MSW, MBA).....8
DOCTORATE (PhD, EdD) or PROFESSIONAL DEGREE (MD, DDS, DVM, JD) 9
DON'T KNOW.....77
REFUSED.....99

TIS_C7 [FILL1] now married, widowed, divorced, separated, or [FILL2] never been married?

Married.....1
Widowed 2
Divorced.....3
Separated.....4
Never married.....5
DECEASED.....6 GO TO C8_INTRO
DON'T KNOW.....77
REFUSED.....99

TIS_C8_INTRO The next few questions ask for some background information about [TEEN]'s mother. I understand that it may be difficult to answer these questions. Please know we are asking them because they're important for the survey. (READ IF NECESSARY: If you feel uncomfortable answering any of these questions, please let me know and I will move on to the next question.)

TIS_C8

[IF TIS_C7_X= 6, THEN DISPLAY:

Was [TEEN]'s mother Hispanic or Latino? (INCLUDES MEXICAN, MEXICAN-AMERICAN, CENTRAL AMERICAN, SOUTH AMERICAN OR PUERTO RICAN, CUBAN, OR OTHER SPANISH-CARIBBEAN)?

ELSE DISPLAY

[FILL1] Hispanic or Latino? (INCLUDES MEXICAN, MEXICAN-AMERICAN, CENTRAL AMERICAN, SOUTH AMERICAN OR PUERTO RICAN, CUBAN, OR OTHER SPANISH-CARIBBEAN)

YES	1	GO TO TIS_C8_A
NO	2	GO TO TIS_C9
DON'T KNOW	77	GO TO TIS_C9
REFUSED	99	GO TO TIS_C9

TIS_C8_A [FILL] Mexican, Mexican-American, Central American, South American, Puerto Rican, Cuban, or other Spanish-Caribbean? CLICK ALL THAT APPLY

MEXICAN/MEXICANO	1	
MEXICAN-AMERICAN	2	
CENTRAL AMERICAN	3	
SOUTH AMERICAN	4	
PUERTO RICAN	5	
CUBAN/CUBAN AMERICAN	6	
SPANISH-CARIBBEAN	7	
OTHER SPANISH/HISPANIC (SPECIFY)	10	GO TO C8_OTHR1_06Q3
DON'T KNOW	77	
REFUSED	99	

(1) IF TIS_C8_A=10, THEN GO TO TIS_C8_OTHR1
(2) ELSE GO TO TIS_C9
[MORE THAN ONE OPTION CAN BE SELECTED IF BETWEEN 1 AND 10, BUT 77 AND 99 MUST BE SELECTED ALONE]

TIS_C8_OTHR1

ENTER OTHER SPECIFY

_____

TIS_C9 Now I'm going to read a list of categories. Please choose one or more of the following categories to describe [FILL1] race. [FILL2] White, Black or African American, American Indian, Alaska Native, Asian, Native Hawaiian or other Pacific Islander? [CLICK ALL THAT APPLY]

WHITE	1	
BLACK/AFRICAN AMERICAN	2	
AMERICAN INDIAN	3	
ALASKA NATIVE	4	
ASIAN	5	
NATIVE HAWAIIAN.	6	
PACIFIC ISLANDER	7	
OTHER (SPECIFY)	8	GO TO C9_OTHR1
DON'T KNOW	77	
REFUSED	99	

(1) IF TIS_C9=8, THEN GO TO TIS_C9_OTHR1
(2) ELSEIF MORE THAN ONE ANSWER AT TIS_C9 GO TO TIS_C10
(3) ELSE ONLY ONE ANSWER GO TO TIS_C10A
[MORE THAN ONE OPTION CAN BE SELECTED IF BETWEEN 1 AND 8, BUT 77 AND 99 MUST BE SELECTED ALONE]

TIS_C9_OTHR1 ENTER OTHER SPECIFY

_____

[IF MORE THAN ONE AN SWER AT TIS_C9, ASK TIS_C10; OTHERWISE SKIP TO TIS_C10A.]

TIS_C10 Which do you feel best describes [FILL] race?

WHITE	1
BLACK/AFRICAN AMERICAN	2
AMERICAN INDIAN	3
ALASKA NATIVE	4
ASIAN	5
NATIVE HAWAIIAN	6
PACIFIC ISLANDER	7
OTHER (SPECIFY)	8
C9_OTHR1	9
DON'T KNOW	77
REFUSED	99

(1) IF TIS_C10=9, THEN GO TO TIS_C10_OTHR1
(2) ELSE GO TO TIS_C10A

TIS_C10_OTHR1 ENTER OTHER SPECIFY

_____

TIS_C10A What is [FILL] month, day, and year of birth?

ENTER 77/77/7777 FOR DON'T KNOW AND 99/99/9999 FOR REFUSED

ENTER BIRTH DATE (MM/DD/YYYY)_____/_____/_____

(1) IF Any part of Date is DK or REF --> skip to C10B
(2) ELSEIF Date > if year < 1940, GO TO C10_check
(3) ELSEIF TIS_C7=6, THEN GO TO TIS_C11A
(4) ELSE GO TO TIS_C11

TIS_C10B What is [FILL] current age?

AGE ....._____
DON'T KNOW.....77
REFUSED.....99

(1) IF TIS_C7=6, THEN GO TO TIS_C11A
(2) ELSE GO TO TIS_C11

IF TIS_C10B < 14 years of age, DISPLAY WARNING: "Mother must be 14 or older."

TIS_C10_check This would make [FILL1] [FILL2] years old; is that correct?

YES	1	GO TO…
		1. IF TIS_C7=6, THEN GO TO TIS_C11A
		2. ELSE GO TO TIS_C11
NO	2	GO TO TIS_C10A

TIS_C11 [FILL1] live at the same address as [FILL2] was born?

YES	1	GO TO TIS_CFAMINC
NO	2	GO TO TIS_C11A
DON'T KNOW	77	GO TO TIS_CFAMINC
REFUSED	99	GO TO TIS_CFAMINC

TIS_C11A In what city, county, and state did [FILL2] live when [FILL1] was born?

ENTER ..CITY. _____
ENTER ...COUNTY. _____
ENTER STATE _____….

IF CHILD IS FOREIGN BORN, SELECT 'FC' (Foreign Country)

TIS_C11B What was [FILL] zip code at that time?

ENTER 77777 FOR DON'T KNOW AND 99999 FOR REFUSED

_____ _____ _____ _____ _____

TIS_CFAMINC

Please think about your total combined family income during 2007 for all members of the family. Include money for jobs, social security, retirement income, unemployment payments, public assistance, and so forth. Also include income from interest, dividends, net income from business, farm, rent, or any other money income received. Can you tell me that amount before taxes?

IF RESPONDENT GIVES INCOME RANGE READ: What amount would you like me to enter?

$ ____ ____ ____, ____ ____ ____, ____ ____ ____	GO TO TIS_CINC
DON'T KNOW.....77	GO TO TIS_ C12_DONT_KNOW
REFUSED.....99	GO TO TIS_C12_REFUSED

TIS_C12 _DONT_
KNOW You may not be able to give us an exact figure for your total combined family income, but was your total family income during 2007 more or less than $20,000?

More than $20,000. 1	GO TO TIS_C16
$20,000.....2	GO TO TIS_C19
Less than $20,000.....3	GO TO TIS_C13
DON'T KNOW.....77	GO TO TIS_C19
REFUSED.....99	GO TO TIS_C19

TIS_C12_REFUSED

Income is important in analyzing the immunization information we collect. For example, this information helps us to learn whether persons in one group use these medical services more or less than those in another group. Now you may not be able to give us an exact figure for your total combined family income, but was your total family income during 2007 more or less than $20,000?

More than $20,000. 1	GO TO TIS_ C16
$20,000.....2	GO TO TIS_C19
Less than $20,000.....3	GO TO TIS_C13
DON'T KNOW.....77	GO TO TIS_C19
REFUSED.....99	GO TO TIS_C19

TIS_C13 Was the total combined FAMILY income more or less than $10,000?

More than $10,000.	1	GO TO TIS_C15
$10,000	2	GO TO TIS_ C19
Less than $10,000	3	GO TO TIS_C14_A
DON'T KNOW	77	GO TO TIS_C19
REFUSED	99	GO TO TIS_C19

TIS_C14_A Was it more than $7,500?

YES	1	GO TO TIS_ C19
NO	2	GO TO TIS_C19
DON'T KNOW	77	GO TO TIS_C19
REFUSED	99	GO TO TIS_C19

TIS_C15 Was it more than $15,000?

YES	1	GO TO TIS_C15_A
NO.	2	GO TO TIS_C15_B
DON'T KNOW	77	GO TO TIS_C19
REFUSED	99	GO TO TIS_C19

TIS_C15_A Was it more than $17,500?

YES	1	GO TO TIS_C19
NO	2	GO TO TIS_C19
DON'T KNOW.	77	GO TO TIS_C19
REFUSED	99	GO TO TIS_C19

TIS_C15_B Was it more than $12,500?

YES	1	GO TO TIS_C19
NO	2	GO TO TIS_C19
DON'T KNOW.	77	GO TO TIS_C19
REFUSED	99	GO TO TIS_C19

TIS_C16 Was the total combined FAMILY income more or less than $40,000?

More than $40,000.	1	GO TO TIS_C16_A
$40,000	2	GO TO TIS_C19
Less than $40,000	3	GO TO TIS_C17
DON'T KNOW	77	GO TO TIS_ C19
REFUSED	99	GO TO TIS_C19

TIS_C16_A Was the total combined FAMILY income more or less than $60,000?

More than $60,000.	1	GO TO TIS_C18
$60,000	2	GO TO TIS_C19
Less than $60,000	3	GO TO TIS_C16_B
DON'T KNOW	77	GO TO TIS_C19
REFUSED	99	GO TO TIS_C19

TIS_C16_B Was the total combined FAMILY income more or less than $50,000?

More than $50,000.	1	GO TO TIS_C19
$50,000	2	GO TO TIS_C19
Less than $50,000	3	GO TO TIS_C16_C
DON'T KNOW	77	GO TO TIS_C19
REFUSED	99	GO TO TIS_C19

TIS_C16_C Was the total combined FAMILY income more or less than $45,000?

More than $45,000.	1	GO TO TIS_C19
$45,000	2	GO TO TIS_C19
Less than $45,000	3	GO TO TIS_C19
DON'T KNOW	77	GO TO TIS_C19
REFUSED	99	GO TO TIS_ C19

TIS_C17 Was the total combined FAMILY income more or less than $30,000?

More than $30,000.	1	GO TO TIS_C17_A
$30,000	2	GO TO TIS_C19
Less than $30,000	3	GO TO TIS_C17_B
DON'T KNOW	77	GO TO TIS_C19
REFUSED	99	GO TO TIS_C19

TIS_C17_A Was the total combined FAMILY income more or less than $35,000?

More than $35,000	1	GO TO TIS_ C19
$35,000	2	GO TO TIS_C19
Less than $35,000	3	GO TO TIS_C19
DON'T KNOW	77	GO TO TIS_C19
REFUSED	99	GO TO TIS_C19

TIS_C17_B Was the total combined FAMILY income more or less than $25,000?

More than $25,000	1	GO TO TIS_C19
$25,000	2	GO TO TIS_C19
Less than $25,000	3	GO TO TIS_C19
DON'T KNOW	77	GO TO TIS_C19
REFUSED	99	GO TO TIS_C19

TIS_C18 Was the total combined FAMILY income more or less than $75,000?

More than $75,000	1	GO TO TIS_C19
$75,000	2	GO TO TIS_C19
Less than $75,000	3	GO TO TIS_C19
DON'T KNOW	77	GO TO TIS_C19
REFUSED	99	GO TO TIS_C19

TIS_CINC Just to confirm that I entered the number correctly, the total combined family income was [FILL RESPONSE, TIS_CFAMINC]?

YES.	1	GO TO TIS_C19
NO	2	GO TO TIS_CFAMINC
DON'T KNOW	77	GO TO TIS_CFAMINC
REFUSED	99	GO TO TIS_CFAMINC

TIS_C19A What is your zip code?
ENTER 77777 FOR DON'T KNOW AND 99999 FOR REFUSED

___ ___ ___ ___ ___

DON'T KNOW	77777	GO TO TIS_ C19
REFUSED	99999	GO TO TIS_C19

TIS_C19A_CONF
To confirm, you live in [CITY], [COUNTY], [STATE]. Is that correct?

YES	1	GO TO TIS_C19B
NO	2	GO TO TIS_C19

TIS_C19 In what city, county and state do you live?

ENTER CITY _____ [ALL GO TO TIS_C_19 COUNTY]
ENTER COUNTY_____ [ALL GO TO TIS_ C_19 STATE]
ENTER STATE_____ [ALL GO TO TIS_C_19_ZIP_CONF]

TIS_C19_ZIP_CONF

To confirm, I have your zip code as [FILL]. Is that correct?

YES	1	GO TO TIS_C19B
NO	2	GO TO TIS_C19_NEW_ZIP
DON'T KNOW	77	GO TO TIS_C19_B
REFUSED	99	GO TO TIS_ C19B

TIS_C19_NEW_ZIP

What is your zip code?
ENTER 77777 FOR DON'T KNOW AND 99999 FOR REFUSED

___ ___ ___ ___ ___

DON'T KNOW	77777	GO TO TIS_C19B
REFUSED	99999	GO TO TIS_C19B

TIS_C19B Do you live within the city limits?

YES	1
NO	2
DON'T KNOW	77
REFUSED	99

TIS_C19C Which of the following best describes your house or apartment? Is it owned or being bought, rented, or occupied by some other arrangement by you?

Owned or being bought	1
Rented	2
Other arrangement	3
DON'T KNOW	77
REFUSED	99

TIS_C20_06Q3

The next few questions are about the telephone numbers in your household. Do you have any other home phone numbers in addition to (XXX) XXX-XXXX? Please do not include cellular phones in your answers.

INTERVIEWER INSTRUCTION: COUNT BUSINESS TELEPHONE NUMBERS THAT RING TO THE HOUSEHOLD IF THEY ARE USED OCCASIONALLY FOR HOME USE.

YES	1	
NO	2	GO TO TIS_CNOSERV
DON'T KNOW	77	GO TO TIS_CNOSERV
REFUSED	99	GO TO TIS_CNOSERV

TIS_C21_06Q3

How many telephone numbers are residential numbers?

THIS QUESTION IS ASKING FOR THE TOTAL NUMBER OF HOME TELEPHONE NUMBERS (INCLUDING THE NUMBER WE CALLED).

ONE	1	
TWO	2	
THREE OR MORE	3	
DON'T KNOW	77	
REFUSED	99	

TIS_CNOSERV During the past 12 months, has your household been without telephone service for 1 week or more? Please do not include cellular phones in your answer. Do not include interruptions of phone service due to weather or natural disasters.

YES	1	GO TO TIS_CHOWLONG1
NO	2	GO TO TIS_C11Q78
DON'T KNOW	77	GO TO TIS_C11Q78
REFUSED	99	GO TO TIS_C11Q78

TIS_CHOWLONG1

For how long was your household without telephone service in the past 12 months?
IF ONE WEEK OR LESS, ENTER 0 FOR THE NUMBER.
ENTER 77 FOR DON'T KNOW AND 99 FOR REFUSED

NUMBER _____

DON'T KNOW	77	GO TO TIS_C11Q77
REFUSED	99	GO TO TIS_C11Q77

TIS_CHOWLONG2

ENTER PERIOD _____

DAY(S)	1	GO TO TIS_C11Q77
WEEK(S)	2	GO TO TIS_C11Q77
MONTH(S)	3	GO TO TIS_C11Q77

TIS_C11Q77 When your household was without telephone service, did someone in your household have a working cell phone?

YES	1	GO TO TIS_C11Q78
NO	2	GO TO TIS_C11Q78
DON'T KNOW	77	GO TO TIS_C11Q78
REFUSED	99	GO TO TIS_C11Q78

TIS_C11Q78 Of all the telephone calls that you and your family receive, are nearly all received on cell phones, nearly all received on regular phones, or some received on cell phones and some received on regular phones?

IF ASKED ABOUT INCLUDING BUSINESS CALLS: Please do not include any business related calls in your answer.

NEARLY ALL RECEIVED ON CELL PHONES	1	GO TO TIS_D5
NEARLY ALL RECEIVED ON REGULAR PHONES.	2	GO TO TIS_D5
SOME RECEIVED ON CELL PHONES AND SOME RECEIVED ON REGULAR PHONES	3	GO TO TIS_D5
DON'T KNOW	77	GO TO TIS_D5
REFUSED	99	GO TO TIS_D5

SECTION D

Provider Questions

TIS_D5 To get a complete picture of the vaccinations received by your child, we would like to contact doctors, health clinics, or any other place where your child received vaccinations to obtain a copy of the vaccination records. These records contain only the types and dates of the immunizations for your child.

READ IF NECESSARY: Information we collect from you and your health care provider will be used to monitor and report on childhood immunizations. Last year, over 21,000 providers participated in this study. You and your provider's participation will help the CDC prevent many serious childhood diseases.

TIS_D6 How many locations have provided vaccinations for your child named [TEEN] whose birth date is [FILL1]?

ENTER 77 FOR DON'T KNOW AND 99 REFUSED

ENTER NUMBER.....__	GO TO TIS_D6A_1
ZERO 0	GO TO TIS_D6AA
DON'T KNOW.....77	GO TO TIS_D6AA
REFUSED 99	GO TO TIS_SECT_D_TERM; TIS_INS_INTRO (on callback)

TIS_D6AA How many locations have provided health care for your child? Please include the hospital and any other clinics or doctor's offices that have seen [GENDER1].
ENTER 0 IF CHILD HAS NEVER SEEN A DOCTOR OR THER HEALTH CARE PROVIDER.
ENTER 77 FOR DON'T KNOW AND 99 FOR REFUSED

ENTER NUMBER.....	GO TO D6A_1_X
ZERO 0	GO TO SECT_D_TERM; INS_INTRO (on callback)
DON'T KNOW.....77	GO TO SECT_D_TERM; INS_INTRO (on callback)
REFUSED.....99	GO TO SECT_D_TERM; INS_INTRO (on callback)

TIS_D6 A_1 Starting with the most recent, please tell me the contact information for each location. (Would you take a moment to find shot records, appointment cards, or other records you may have?)

Yes, continue on	1	GO TO PLU
No, can't find, continue	2	GO TO PLU
Refused	99	GO TO TIS_SECT_D_TERM; TIS_INS_INTRO (on callback)

NIS-TEEN PROVIDER LOOKUP
Provider Search Information Screen
Please locate the (first/second/…) provider for (child name)

In order to help me accurately record the information for your child's health care provider, I will need to try and find that provider in a "lookup" database. The most efficient search is typically the doctor's last name in combination with the city and state where the office is located. Do you have that information?

READ IF R DOESN'T HAVE THE LAST NAME: Do you have the clinic or office name?

What is the last name of the (first/next) doctor? [variable: D6B1]
Please tell me the name of the office or the clinic. [variable: D6B3]
What is the street address of the office or the clinic? [variable: D6B4]
Is there a suite, floor or room number? [variable: D6B5]
What is the zip code? [variable: D6B8]
What city is that in? [variable: D6B6]
What state is that in? [variable: D6B7]
What is their telephone number? [variable: D6B9]
Do you know the doctor's first name? [variable: D6B2]

SEARCH
DK
REF

Search Results Screen
READ IF NECESSARY: Thank you. I now have a list of possible matches and just need to find the correct listing. I can organize the list by many different categories, including the practice name, street address, telephone number and the doctor's first and last names.

SEARCH RESULTS: Name or Practice, City, State, First Name, Last Name, Phone Number, Address Information, Action
DK
REF
MODIFY SEARCH
ADD NEW PROVIDER

Provider Details Screen

To be certain I have the correct information I would like to confirm the name and mailing address of your provider:

DK	GO TO PLU FINISHED
REF	GO TO PLU FINISHED
MODIFY	GO TO MODIFY PROVIDER
MODIFY SEARCH	GO TO PROVIDER SEARCH SCREEN
CANCEL	GO TO SEARCH RESULTS
EXACT MATCH (MATCH=A)	GO TO PLU FINISHED
UPDATE ADDRESS (MATCH=B)	GO TO MODIFY PROVIDER
UPDATE PROVIDER NAME (MATCH=C)	GO TO MODIFY PROVIDER
ADD NEW PROVIDER (MATCH=D)	GO TO MODIFY PROVIDER

Modify Provider Screen:

To be certain I have the correct information I would like to confirm the name and mailing address of your provider:

First Name
Last Name
Practice
Address
Suite
City
State
Zip
Phone

New Provider Screen:
I'm still unable to find an exact match in the data base for your child's health care provider. This happens occasionally, but I can add it now. Please give me the name, address and telephone number of that provider.
To be certain I have the correct information I would like to confirm the name and mailing address of your provider:
First Name
LEAVE BLANK IF UNKNOWN
Last Name
LEAVE BLANK IF UNKNOWN
Practice
LEAVE BLANK IF UNKNOWN
Address
LEAVE BLANK IF UNKNOWN
Suite
LEAVE BLANK IF UNKNOWN
City
LEAVE BLANK IF UNKNOWN
State
LEAVE BLANK IF UNKNOWN
Zip
LEAVE BLANK IF UNKNOWN
Phone
LEAVE BLANK IF UNKNOWN

TIS_D8 In order to help the doctor or clinic locate your child's vaccination records, what is [TEEN]'s full name - first, middle, and last name? IF RESPONDENT REFUSES WE CAN ACCEPT A FIRST INITIAL AND FULL LAST NAME.

Continue	1	GOT TO TIS_D8A
Refused	99	GO TO TIS_SECT_D_TERM/ TIS_INS_INTRO

TIS_D8A What is [TEEN]'s full name - first, middle, and last name?

FIRST NAME: *IF R REFUSES LEAVE BLANK*_____

TIS_D8B (What is the [NAME OF (FIRST) ELIGIBLE CHILD]'s full name – first, middle, and last name?)

MIDDLE NAME: *IF R REFUSES LEAVE BLANK* _____

TIS_D8C (What is the [NAME OF (FIRST) ELIGIBLE CHILD]'s full name – first, middle, and last name?)

LAST NAME: *IF R REFUSES LEAVE BLANK* _____

TIS_D9 Could I know…what is your full name – first, middle, and last?

IF RESPONDENT REFUSES WE CAN ACCEPT A FIRST INITIAL AND FULL LAST NAME.

Continue	1	GO TO TIS_D9A
Refused	99	GO TO TIS_SECT_D_TERM/ TIS_INS_INTRO

TIS_D9A What is your first name?

FIRST_____

TIS_D9B What is your middle name?

MIDDLE_____

TIS_D9C What is your last name?

LAST_____

TIS_D9D. I need to verify that I am speaking with someone who can authorize the release of immunization records for [TEEN]. Are you that person?

YES	1	GO TO TIS_D6C
NO	2	GO TO TIS_D9D1
REFUSED	99	GO TO TIS_SECT_D_TERM/ TIS_INS_INTRO

TIS_D6C The vaccination records collected from the provider(s) will be kept in strict confidence.

TIS_D7_ID Capture Interviewer ID upon entering question D7

TIS_D7 Do we have your permission to contact the provider(s) named in this interview, give the provider(s) basic information that identifies your child, and request that information relevant to your child's immunization history be sent to the Centers for Disease Control and Prevention or its contractors for study purposes only?

YES	1	GO TO TIS_DCG
NO (Only choose this when you have made all appropriate aversion attempts)	2	GO TO TIS_SECT_D_TERM/ TIS_INS_INTRO

D7_DATE Capture date at the time the answer to D7 is given

D7_TIME Capture time at the time the answer to D7 is given

TIS_DCG I would like to confirm that I have the correct information for you and the children in this household.

[INTERVIEWER: CONFIRM ALL NAMES AND SPELLINGS WITH THE RESPONDENT. IF LAST NAMES ARE THE SAME, MAKE SURE THEY HAVE THE SAME SPELLING]

TIS_DCG1 I have your name as [FILL: CONSENT GIVER NAME FROM D9A-C]. Is this correct?

YES	1	GO TO DCG2_X
NO	2	GO TO D9A_C_X

TIS_D9A_C What is your full name - first, middle, and last?

FIRST NAME: *IF R REFUSES LEAVE BLANK*_____

D9B_C (What is your full name - first, middle, and last?)

MIDDLE NAME: *IF R REFUSES LEAVE BLANK* _____

D9C_C (What is your full name - first, middle, and last?)

LAST NAME: *IF R REFUSES LEAVE BLANK* _____

DCG2 The name I have for [TEEN] is [FILL1]. Is this correct?

YES	1	GO TO TIS_DCONFDOB_X
NO	2	GO TO TIS_DA_1_C

TIS_A_1_C What is [TEEN]'s full name - first, middle, and last?

FIRST NAME: *IF R REFUSES LEAVE BLANK*_____

TIS_B_1_C (What is [TEEN]'s full name - first, middle, and last?)

MIDDLE NAME: *IF R REFUSES LEAVE BLANK* _____

TIS_C_1_C (What is [TEEN]'s full name - first, middle, and last?)

LAST NAME: *IF R REFUSES LEAVE BLANK* _____

TIS_DCONF
DOB The birth date I have for [TEEN] is [FILL1]. Is this correct?

YES	1	GO TO TIS_INS INTRO
NO	2	GO TO TIS_DNEWDOB

TIS_DNEW

DOB_X What is the correct month, day and year of birth of [TEEN]?
_____/_____/_____ (mm/dd/yyyy)

ASK ONLY IF D9D=2

TIS_D9D1 Please give me the full name of someone who can authorize the release of these immunization records.

Continue	1	GO TO TIS_D9D1F
Refusal	2	GO TO TIS_SECT_D_TERM; TIS_INS_INTRO (on callback)

TIS_D9D1F What is the first name?

FIRST_____

TIS_D9D1M What is the middle name?

. MIDDLE_____

TIS_D9D1L What is the last name?

. LAST_____

TIS_D9DREL What is this person's relationship to [TEEN]?

MOTHER (STEP, FOSTER, ADOPTIVE) OR FEMALE GUARDIAN	01
FATHER (STEP, FOSTER, ADOPTIVE) OR MALE GUARDIAN	02
SISTER OR BROTHER (STEP/FOSTER/HALF/ADOPTIVE)	03
IN-LAW OF ANY TYPE	04
AUNT/UNCLE	05
GRANDPARENT	06
OTHER FAMILY MEMBER	07
FRIEND	08

TIS_D9D1A May I speak with that person now?

YES	1	GO TO TIS_D9D1NEW
NO	2	GO TO TIS_D9D2

TIS_D9D2 When would be a good time to call this person?

SELECT APPOINTMENT AND ENTER THE APPROPRIATE DATE/TIME ON THE NEXT APPOINTMENT SCREEN

IF CALLBACK SELECT CONTINUE AND READ THE NEXT SCREEN STATEMENT FOR THE MOST KNOWLEDGEABLE RESPONDENT CALLBACK INTRODUCTION

Appointment	1	GO TO UNIVERSAL EXIT-CB1
Continue	2	GO TO TIS_D9D1NEW

SECT_D_TERM Those are all the questions I have. You may be re-contacted in the future for some follow-up questions or to participate in future surveys. If you are contacted to participate in future surveys, you have the right to refuse. I'd like to thank you again on behalf of the Centers for Disease Control and Prevention for the time and effort you've spent answering these questions. If you would like more information about the National Immunization Study, please call the study's toll-free number, 1-866-999-3340. If you have questions about your rights as a study participant, you may call 1-800-223-8118, toll-free, and leave a message asking to speak to the Chairperson of the Ethics Review Board.

READ WHEN NEW PERSON COMES TO THE PHONE
OR
FOR Authorized Consent Respondent CALLBACK INTRODUCTION

D9D1NEW Hello, my name is ____. Am I speaking with [FILL]?

YES	1	GO TO TIS_D9D2ANEW
NO…..	2	GO TO TIS_D9D2

TIS_D9D2ANEW

I'm calling on behalf of the Centers for Disease Control and Prevention. We talked with [FILL1] and collected immunization and provider information for [TEEN].

We understand that you could authorize the release of immunization information for [TEEN]. This study is voluntary and is authorized by the U.S. Public Health Service Act. You may choose not to answer any question you don't want to answer or stop at any time. The information you give will be kept in strict confidence and will be summarized for research purposes only.

TIS_D9D_1 I need to verify that I am speaking with someone who can authorize the release of immunization records for [TEEN]. Are you that person?

YES	1	GO TO TIS_D6C
NO	2	RETURN TO TIS_D9D1
REFUSED	99	GO TO TIS_SECTTERM

SECTION E
HEALTH INSURANCE MODULE

TIS_INS INTRO Next I'm going to ask you a few questions about [TEEN]'s health insurance.

TIS_ INS_1 At this time, is (TEEN) covered by health insurance that is provided through an employer or union?

READ ONLY IF NECESSARY: These plans may be provided in part or fully by a current employer, a former employer, a union, or a professional organization.

IF ONLY PLAN NAME OFFERED, PROBE (READ IF NECESSARY): Is this insurance provided through an employer or union? Do not include dental, vision, school, or accident insurance.

IF NECESSARY, TO HELP THE RESPONDENT DETERMINE WHAT KIND OF INSURANCE THEY HAVE, PROBE (READ IF NECESSARY): Did you get that insurance through an employer? Does it help pay for both doctor visits and hospital stays?

Yes	1	GO TO TIS_INS_1A
No	2	GO TO TIS_INS_2
Don't Know	77	GO TO TIS_INS_2
Refused	99	GO TO TIS_INS_2

TIS_INS_1A Does this health insurance help pay for both doctor visits and hospital stays?

Yes	1	GO TO TIS_INS_2
No	2	GO TO TIS_INS_2
Don't Know	77	GO TO TIS_INS_2
Refused	99	GO TO TIS_INS_2

TIS_INS_2 [IF STATE = AK, CT, DC, FL, HI, IL, IN, LA, ME, MA, MN, MO, NE, NM, NY, OH, OK, RI, SC, SD, TN, VT, or WI, THEN SKIP TO TIS_INS_3A]

At this time, is (TEEN) covered by any Medicaid plan? Medicaid is a health insurance program for persons with certain income levels and persons with disabilities. [FILL IF APPLICABLE: In this state, the program is sometimes called [FILL NAME FROM "TEXT FILLS" SPREADSHEET].

READ IF NECESSARY: Medicaid is a federal-state medical assistance program. It serves low-income people of every age. Medical bills are paid from federal, state and local tax funds. Patients usually pay no part of costs for covered medical expenses. It is run by state and local governments within federal guidelines.

IF NECESSARY, TO HELP THE RESPONDENT DETERMINE WHAT KIND OF INSURANCE THEY HAVE, PROBE (READ IF NECESSARY): Did you get that insurance through an employer? Does it help pay for both doctor visits and hospital stays?

Yes	1	GO TO GO TO TIS_INS_3
No	2	GO TO GO TO TIS_INS_3
Don't Know	77	GO TO GO TO TIS_INS_3
Refused	99	GO TO GO TO TIS_INS_3

TIS_INS_3 At this time, is (TEEN) covered by the State Children's Health Insurance Program or S-CHIP? In this state, the program is sometimes called [FILL NAME FROM "TEXT FILLS" SPREADSHEET].

READ IF NECESSARY: The State Children's Health Insurance Program (S-CHIP), created under Title XXI of the Social Security Act, expands health coverage to uninsured children whose families earn too much for Medicaid but too little to afford private coverage.

IF NECESSARY, TO HELP THE RESPONDENT DETERMINE WHAT KIND OF INSURANCE THEY HAVE, PROBE (READ IF NECESSARY): Did you get that insurance through an employer? Does it help pay for both doctor visits and hospital stays?

Yes	1	GO TO GO TO TIS_INS_4
No	2	GO TO GO TO TIS_INS_4
Don't Know	77	GO TO GO TO TIS_INS_4
Refused	99	GO TO GO TO TIS_INS_4

TIS_INS_3A At this time, is (TEEN) covered by any Medicaid plan or the State Children's Health Insurance Program, which are health insurance programs for persons with certain income levels and persons with disabilities? In this state, it is sometimes called [FILL NAME FROM "TEXT FILLS" SPREADSHEET].

READ IF NECESSARY: Medicaid and S-CHIP are federal-state medical assistance programs. They serve low-income people of every age. Medical bills are paid from federal, state and local tax funds. Patients usually pay little or no part of costs for covered medical expenses. These programs are run by state and local governments within federal guidelines.

IF NECESSARY, TO HELP THE RESPONDENT DETERMINE WHAT KIND OF INSURANCE THEY HAVE, PROBE (READ IF NECESSARY): Did you get that insurance through an employer? Does it help pay for both doctor visits and hospital stays?

Yes.....1
No.....2
Don't Know.....77
Refused.....99

TIS_INS_4 At this time, is (TEEN) covered by the Indian Health Service?

Yes.....1
No 2
Don't Know.....77
Refused.....99

TIS_INS_5 At this time, is (TEEN) covered by military health care, TRICARE, CHAMPUS, OR CHAMP-VA?

READ IF NECESSARY: CHAMPUS, CHAMP-VA, and TRICARE are health care plans that are offered to persons in the military (and their dependents). TRICARE is a managed health care program for active duty and retired members of the uniformed services, their families, and survivors. CHAMPUS is a program of medical care for dependents of active or retired military personnel. CHAMP-VA is medical insurance for dependents or survivors of disabled veterans.

Yes.....1
No 2
Don't Know.....77
Refused.....99

TIS_INS_6 Besides what you have already told me about, is (TEEN) covered by any other health insurance or health care plan?

[IF RESPONDENT REPORTS DENTAL, VISION, SCHOOL, OR ACCIDENT INSURANCE, MARK 'NO'.]

Yes	1	GO TO TIS_INS_6A
No	2	GO TO TIS_INS_7
Don't Know	77	GO TO TIS_INS_7
Refused	99	GO TO TIS_INS_7

TIS_INS_6A Does this health insurance help pay for both doctor visits and hospital stays?

Yes	1	
No	2	GO TO TIS_INS_7
Don't Know	77	GO TO TIS_INS_7
Refused	99	GO TO TIS_INS_7

TIS_INS_6B Is this health insurance provided through an employer or union?

Yes	1	GO TO TIS_INS_11
No	2	
Don't Know	77	
Refused	99	

TIS_INS-6C Is this health insurance purchased directly from an insurance company?

Yes	1	GO TO TIS_INS_11
No	2	
Don't Know	77	
Refused	99	

TIS_INS-6D I recorded that (TEEN) was covered by some other health insurance. What is the name of the plan? ENTER 77 FOR DON'T KNOW OR 99 FOR REFUSED

CONTINUE	1	GO TO TIS_INS_6D
DON'T KNOW	77	GO TO TIS_INS_11
REFUSED	99	GO TO TIS_INS_11

TIS_INS-6D-1 Record verbatim response #1 _____
TIS_INS-6D-2 Record verbatim response #2 _____

NEXT SECTION: ASK TIS_INS-7 THROUGH TIS_INS-10 IF UNINSURED:

IF TIS_INS-1A, TIS_INS-2, TIS_INS-3, TIS_INS-3A, TIS_INS-4, TIS_INS-5, or TIS_INS-6A = 1, THEN SKIP TO TIS_INS-11

TIS_INS-7 It appears that (TEEN) does not have any health insurance coverage to pay for both hospitals and doctors and other health professionals. Is that correct?

Yes	1	GO TO TIS_INS_8
No	2	
Don't Know	77	GO TO TIS_INS_11
Refused	99	GO TO TIS_INS_11

TIS_INS-7A At this time, what kind of health coverage does (TEEN) have? Any other kind? [MARK ALL THAT APPLY. MARK "SINGLE SERVICE PLAN" ONLY IF VOLUNTEERED AS TYPE OF HEALTH INSURANCE.]

Medicaid [state Name]	1
Medicare	2
S-CHIP [state name]	3
Medigap	4
Military	5
INDIAN HEALTH SERVICE	6
Private INSURANCE	7
Single service plan (dental, vision, prescriptions, etc)	8
Other	9
DON'T KNOW	77
REFUSED	99

(1) IF TIS_INS_7A = 1, 3, 5, OR 6 [SKIP TO INS-11]
(2) ELSEIF TIS_INS_7A = 2, 4, 7, OR 9 [SKIP TO TIS_INS_7B]
(3) ELSEIF ONLY (8) IS SELECTED [SKIP TO TIS_INS_8]
(4) ELSE (77 or 99) [SKIP TO TIS_INS_8]

TIS_INS-7B Does this health insurance help pay for both doctor visits and hospital stays?

Yes	1	GO TO TIS_INS-11
No	2	
Don't Know	77	GO TO TIS_INS-11
Refused	99	GO TO TIS_INS-11

UNINSURED SUB SECTION

TIS_INS-8 Since [TEEN] was 11 years old, has [TEEN] always been uninsured?

Yes	1	GO TO TIS_INS-14
No	2	
Don't Know	77	GO TO TIS_INS-14
Refused	99	GO TO TIS_INS-14

TIS_INS-9 How old was (TEEN) THE FIRST TIME (TEEN) became uninsured?

YEARS	___	GO TO TIS_INS-10
Don't Know	77	GO TO TIS_INS-10
Refused	99	GO TO TIS_INS-10

TIS_INS-10 During the years when [TEEN] DID have health coverage, what kinds of health coverage did [TEEN] have? Medicaid, Medicare, S-CHIP, Medigap, Military, Indian Health Service, Private Health Insurance, or another insurance type?

Medicaid [Fill state program name, if applicable]	1
Medicare	2
S-CHIP [Fill state program name, if applicable]	3
Medigap	4
Military	5
Indian Health Service	6
Private Health Insurance	7
Other Insurance Type	8
DON'T KNOW	77
REFUSED	99

SKIP TO LAST SECTION (TIS_INS-14) IF TIS_INS-10 WAS ASKED

TIS_INS-11 Since age 11 was there any time when [TEEN] was not covered by any health insurance for any reason?

Yes	1	
No	2	GO TO TIS_INS-13
Don't Know	77	GO TO TIS_ INS-13
Refused	99	GO TO TIS_INS-13

TIS_INS_12 How old was [TEEN] THE FIRST TIME [TEEN] became uninsured?

YEARS ..... ___	GO TO TIS_INS-12
UNINSURED AT BIRTH 44	GO TO TIS_INS-13
Don't Know 77	GO TO TIS_INS-13
Refused 99	GO TO TIS_ INS-13

TIS_INS_13 [IF TIS_INS_2 = 1 or TIS_INS_3 = 1 OR TIS_INS_3A = 1 [SKIP TO TIS_INS_14]

Since age 11, has [TEEN] ever been covered by any Medicaid plan or the State Children's Health Insurance Program? [IF STATE = AK, CT, DC, FL, HI, IL, IN, LA, ME, MA, MN, MO, NE, NM, NY, OH, OK, RI, SC, SD, TN, VT, or WI, THEN ASK "In this state, it is sometimes called [FILL STATE PROGRAM IF APPLICABLE FROM "TEXT FILLS" SPREADSHEET, COLUMN G]."

Yes.....1
No 2
Don't Know 77
Refused 99

TIS_INS_14 Did cost of vaccinations ever cause you to delay or not get a vaccination for (TEEN)?

Yes.....1
No 2
Don't Know 77
Refused 99

(1) IF TIS_SR1=1 or TIS_B1=1 or (if D6_X ≠ 0, 77, or 99), THEN GO TO TIS_INS_15
(2) ELSE CP_TISEND

TIS_INS_15 [IF TIS_INS_8=1 SKIP TO CP_TISEND]

When [TEEN] received (GENDER2) most recent vaccination, how much of the cost of that vaccination was paid by insurance, all, some, or none of the cost? Please do not include co-pays for office visits.

All of the cost.....1
Some of the cost.....2
None of the cost.....3
DON'T KNOW.....77
REFUSED.....99

TIS_INS_16 How much of the cost of the child's vaccinations did you pay, all, some, or none of the cost?

All of the cost 1
Some of the cost 2
None of the cost 3
DON'T KNOW 77
REFUSED 99

TIS_D16 [IF INCENTIVE>0, THEN GO TO ADDRESS_CONF1 / ELSE DISPLAY TIS_D16]

Those are all the questions I have. You may be re-contacted in the future to participate in related studies. If you are contacted to participate in future surveys, you have the right to refuse. I'd like to thank you again on behalf of the Centers for Disease Control and Prevention for the time and effort you've spent answering these questions. If you would like more information about the National Immunization Study, please call the study's toll-free number, 1-866-999-3340. If you have questions about your rights as a study participant, you may call 1-800-223-8118, toll-free, and leave a message asking to speak to the Chairperson of the Ethics Review Board.

Appendix C

NIS-Teen Immunization History Questionnaire

National Immunization Survey – Teen

Teen Immunization History Questionnaire

Confidential Information. If received in error, please call 1-800-817-4316.

CDC
SAFER • HEALTHIER • PEOPLE™

START HERE → **Please review your records and complete this questionnaire for the adolescent identified on the label to the right. Complete pages 1 and 3 only. Return the questionnaire in the postage-paid envelope or fax toll-free to (866) 324-8659. This information is confidential, if faxing, please take extra care to dial the correct number.**

1. Which of the following best describes your immunization records for this adolescent?

- ☐ You have all or partial immunization records for this adolescent for vaccines given by your practice or other practices.
  - → Was any of the immunization information for this adolescent obtained from your community or state registry? ☐ Yes ☐ No ☐ Don't Know
  - Go to question 2 below.
- ☐ Other-Explain _____
- ☐ You have provided care to this adolescent, but do not have immunization records.
- ☐ You have no record of providing care to this adolescent.

Please complete item 9 and return form as instructed above.

2. According to your records, what is this adolescent's date of birth?

Month _____ Day _____ Year _____ ☐ Don't know

3. What were the dates of this adolescent's first and most recent visit, for any reason, to this place of practice?

	Month	Day	Year	
First Visit				☐ Don't know
Most Recent Visit				☐ Don't know

4. Did this adolescent receive an 11-12 year old well child exam or check-up at this place?

☐ Yes ☐ No ☐ Don't know

5. About how many physicians work at this practice, including those who work part-time?

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4-6 ☐ 7-10 ☐ 11 or more

6. Which of the following best describes this facility?

Check only one box, representing the most specific description.

- ☐ Federally-qualified health center including community/migrant/rural/Indian health center.
- ☐ Hospital-based clinic, including university clinic, or residency teaching practice.
- ☐ Private practice, including solo, group practice, or HMO.
- ☐ Public health department-operated clinic
- ☐ STD clinic/School clinic/Teen clinic
- ☐ Other-Explain _____

→ **Which of the following best describe the main specialties of this facility?**

Check all that apply.

☐ Pediatrics ☐ Family Practice ☐ General Practice
☐ Internal Medicine ☐ OB/GYN
☐ Other-Explain _____

7. Does your practice order vaccines from your state or local health department to administer to children?

☐ Yes ☐ No ☐ Don't know

8. Did you or your facility report any of this adolescent's immunizations to your community or state registry?

☐ Yes ☐ No ☐ Don't know
☐ Not applicable (No registry in my community/state)

9. Contact information for the person returning this form.

Name: _____

☐ Physician ☐ Nurse
☐ Office Manager/ Receptionist ☐ Medical Records Administrator/Technician
☐ Other

Phone: ( ) _____ _____ ext. _____
Fax: ( ) _____ _____ ext. _____

10. Go to next page →

Please review the instructions and examples below. Then complete the "Shot Grid" on the next page.

Refer to your vaccination records for the adolescent named on the labels on the front cover and next page of this form.

- **Record the month, day and year that each type of shot was given.**

EXAMPLE

Vaccine		Date Given Month	Day	Year	Given by other practice?		Type of Vaccine
Tetanus boosters	1	11	18	2002	☐ Yes	☒ No	
MMR	1	9	20	2002	☒ Yes	☐ No	
	2				☐ Yes	☐ No	

- **Be sure to mark the "Yes" or "No" box under "Given by other practice?" for vaccinations given by another practice (see example above).**
- **Use the "Other" space to enter any vaccines not listed on the next page or any additional doses of listed vaccines that were given to this adolescent (see example below)**

Other							Please do not record Polio, Hib, or Pneumococcal conjugate vaccine (Prevnar) given before 5 years old	*Please enter a description of each vaccine dose*
	1	11	20	2001	☒ Yes	☐ No		TYPHOID
	2				☐ Yes	☐ No		

- **After completing the "Shot Grid" on the next page, please return this form in the envelope provided.**

  (Optional) You may also attach a copy of your immunization history records for this adolescent to this form and send it back to the National Opinion Research Center, National Immunization Survey – Teen, 1 N State St FL 16, Chicago, IL 60602.

  Or you may fax the confidential information to (866) 324-8659. If faxing this form, cut along fold to separate pages, then fax pages 1 and 3. Do not fax this page.

National Immunization Survey – Teen

Please record all vaccination dates in your records for these vaccine types. We realize you might not have the full immunization history of this adolescent.

Vaccine		Date Given (Month / Day / Year)	Given by other practice?	Type of Vaccine
Td/Tdap boosters received after age 6	1		☐ Yes ☐ No	☐ Td ☐ Tdap (Adacel or Boostrix)
	2		☐ Yes ☐ No	☐ Td ☐ Tdap (Adacel or Boostrix)
	3		☐ Yes ☐ No	☐ Td ☐ Tdap (Adacel or Boostrix)
Hepatitis B received since birth	1		☐ Yes ☐ No	☐ 0.5 ml Recombivax ☐ 1.0 ml Recombivax ☐ Engerix ☐ HepB only - unknown type ☐ HepB-Hib
	2		☐ Yes ☐ No	☐ 0.5 ml Recombivax ☐ 1.0 ml Recombivax ☐ Engerix ☐ HepB only - unknown type ☐ HepB-Hib
	3		☐ Yes ☐ No	☐ 0.5 ml Recombivax ☐ 1.0 ml Recombivax ☐ Engerix ☐ HepB only - unknown type ☐ HepB-Hib
	4		☐ Yes ☐ No	☐ 0.5 ml Recombivax ☐ 1.0 ml Recombivax ☐ Engerix ☐ HepB only - unknown type ☐ HepB-Hib
Influenza received in the past three years	1		☐ Yes ☐ No	☐ Fluzone ☐ Fluvirin ☐ Other/Unknown — Injected flu vaccines; ☐ Flumist — Inhaled nasal flu spray
	2		☐ Yes ☐ No	☐ Fluzone ☐ Fluvirin ☐ Other/Unknown ☐ Flumist
	3		☐ Yes ☐ No	☐ Fluzone ☐ Fluvirin ☐ Other/Unknown ☐ Flumist
MMR	1		☐ Yes ☐ No	☐ MMR ☐ MMR-Varicella ☐ Measles only
	2		☐ Yes ☐ No	☐ MMR ☐ MMR-Varicella ☐ Measles only
Varicella	1		☐ Yes ☐ No	☐ Varicella only ☐ MMR-Varicella
	2		☐ Yes ☐ No	☐ Varicella only ☐ MMR-Varicella
☐ *Child has a history of chickenpox*				
Hepatitis A	1		☐ Yes ☐ No	☐ HepA only (Havrix or Vaqta)
	2		☐ Yes ☐ No	☐ HepA only (Havrix or Vaqta)
	3		☐ Yes ☐ No	☐ HepA only (Havrix or Vaqta)
Pneumococcal polysaccharide	1		☐ Yes ☐ No	
	2		☐ Yes ☐ No	
Meningococcal	1		☐ Yes ☐ No	☐ MCV4 (Menactra) ☐ MPSV4 (Menomune)
	2		☐ Yes ☐ No	☐ MCV4 (Menactra) ☐ MPSV4 (Menomune)
Human papillomavirus (HPV)	1		☐ Yes ☐ No	
	2		☐ Yes ☐ No	
	3		☐ Yes ☐ No	
Other	1		☐ Yes ☐ No	Please enter a description of each vaccine dose
	2		☐ Yes ☐ No	
	3		☐ Yes ☐ No	
	4		☐ Yes ☐ No	
	5		☐ Yes ☐ No	

Please do not record Polio, Hib, or Pneumococcal conjugate vaccine (Prevnar) given before 5 years old

Please remember to answer all questions on page 1

If you need more space to report vaccines, please attach additional sheets.

Thank you!

Centers for Disease Control and Prevention

U.S. Department of Health and Human Services

Thank you for your help with this important study!

If you would like more information about the National Center for Immunization and Respiratory Diseases, including information about vaccine recommendations or data and statistics from previous years of the National Immunization Survey, please visit the National Immunization Survey website at www.cdc.gov/vaccines.

If you would like more information about the National Immunization Survey, please visit the National Immunization Survey website at www.cdc.gov/nis. If you have any questions or comments about this study, please call (800) 817-4316 or email nis@cdc.gov.

Note: Do NOT send any confidential patient information, such as patient's name or date of birth, in an email message.

Appendix D

Summary Statistics for Sampling Weights by Estimation Area

Table D.1: Distribution of Sampling Weights for Teens with Completed Household Interviews (RDDWT), National Immunization Survey - Teen, 2008

State/Estimation Area	n	Sum	Minimum	Maximum	Mean	Coefficient of Variation
Total U.S.	30,681	21,185,559.42	9.34	26,314.84	690.51	158.28
Alabama	640	322,781.64	74.57	2,370.09	504.35	64.20
Alaska	523	53,511.22	15.73	333.73	102.32	48.32
Arizona	504	456,646.62	147.88	3,552.22	906.04	56.04
Arkansas	645	196,768.19	68.81	1,361.80	305.07	58.10
California	640	2,706,835.69	175.09	26,314.84	4,229.43	85.38
Colorado	605	329,656.05	85.05	2,260.90	544.89	85.30
Connecticut	470	245,168.59	50.00	2,457.39	521.64	66.73
Delaware	572	59,186.38	19.83	408.85	103.47	58.26
District of Columbia	573	31,467.74	9.34	239.68	54.92	61.69
Florida	532	1,153,318.04	128.89	11,582.52	2,167.89	83.12
Georgia	557	697,313.56	160.52	6,942.19	1,251.91	70.08
Hawaii	551	81,682.19	29.14	545.35	148.24	49.18
Idaho	515	112,824.06	37.78	872.65	219.08	51.86
Illinois	1,416	904,979.22	25.88	6,504.88	639.11	125.68
IL-City of Chicago	685	186,160.20	25.88	1,061.24	271.77	62.69
IL-Rest of State	731	718,819.01	28.23	6,504.88	983.34	100.58
Indiana	584	450,906.46	160.21	3,323.33	772.10	54.41
Iowa	447	208,036.51	39.23	1,686.02	465.41	51.85
Kansas	534	197,194.52	82.56	1,630.15	369.28	52.02
Kentucky	486	287,082.74	92.07	2,415.90	590.71	60.63
Louisiana	682	318,751.60	29.16	2,082.69	467.38	68.37
Maine	535	86,878.74	35.04	686.16	162.39	52.90
Maryland	651	394,176.87	22.12	2,738.28	605.49	74.47
Massachusetts	512	427,932.50	16.71	3,637.24	835.81	59.27
Michigan	523	725,758.95	287.59	6,562.15	1,387.68	58.79
Minnesota	497	363,256.26	145.53	2,517.18	730.90	53.31

Table D.1: Distribution of Sampling Weights for Teens with Completed Household Interviews (RDDWT), National Immunization Survey - Teen, 2008

Mississippi	697	217,731.55	69.35	1,257.77	312.38	59.25
Missouri	597	413,851.43	102.04	2,697.69	693.22	56.38
Montana	495	66,915.48	23.63	559.16	135.18	51.91
Nebraska	557	125,544.22	49.15	909.70	225.39	50.22
Nevada	487	180,104.17	76.30	1,532.57	369.82	54.45
New Hampshire	447	91,475.21	43.31	937.48	204.64	65.63
New Jersey	664	598,110.69	148.04	4,478.87	900.77	71.04
New Mexico	542	142,620.70	49.57	1,124.65	263.14	66.45
New York	1,095	1,318,595.34	32.02	5,591.82	1,204.20	67.18
NY-City of New York	600	532,399.44	100.44	3,211.24	887.33	60.26
NY-Rest of State	495	786,195.89	32.02	5,591.82	1,588.27	57.47
North Carolina	588	619,699.93	210.02	4,646.29	1,053.91	59.74
North Dakota	516	42,708.16	23.88	246.22	82.77	46.37
Ohio	544	804,347.57	295.74	6,322.88	1,478.58	54.39
Oklahoma	518	252,585.74	121.41	1,938.16	487.62	52.88
Oregon	382	251,350.20	158.31	2,844.30	657.98	51.69
Pennsylvania	1,208	845,530.43	19.05	5,193.32	699.94	110.41
PA-Philadelphia County	646	113,179.10	19.05	726.58	175.20	63.73
PA-Rest of State	562	732,351.33	68.74	5,193.32	1,303.12	58.90
Rhode Island	435	69,893.17	23.82	774.13	160.67	70.62
South Carolina	641	307,451.55	73.08	2,122.56	479.64	58.37
South Dakota	581	57,233.05	17.86	361.17	98.51	55.85
Tennessee	627	419,528.33	153.07	2,943.71	669.10	63.35
Texas	1,674	1,787,263.22	23.88	17,056.86	1,067.66	191.87
TX-Bexar County	539	121,531.67	23.88	1,148.90	225.48	75.67
TX-City of Houston	492	142,869.12	34.97	1,596.20	290.38	78.58
TX-Rest of State	643	1,522,862.43	52.28	17,056.86	2,368.37	120.31
Utah	412	212,406.17	127.70	1,648.81	515.55	48.65
Vermont	404	41,835.29	14.74	497.41	103.55	59.07
Virginia	495	516,735.58	31.92	4,865.52	1,043.91	58.08
Washington	461	448,997.12	96.02	3,008.87	973.96	48.59
West Virginia	555	113,520.69	41.32	740.59	204.54	52.76
Wisconsin	389	390,146.91	221.42	4,466.18	1,002.95	51.03
Wyoming	476	37,263.19	20.47	260.70	78.28	45.63

Table D.2: Distribution of Sampling Weights for Teens with Adequate Provider Data (PROVWT), National Immunization Survey - Teen, 2008

State/Estimation Area	n	Sum	Minimum	Maximum	Mean	Coefficient of Variation
Total U.S.	17,835	21,185,559.42	13.87	51,046.41	1,187.86	175.28
Alabama	406	322,781.64	122.55	3,770.67	795.03	64.83
Alaska	304	53,511.22	30.44	490.93	176.02	45.65
Arizona	250	456,646.62	502.71	9,157.99	1,826.59	60.95
Arkansas	382	196,768.19	124.83	2,041.48	515.10	58.40
California	316	2,706,835.69	417.33	51,046.41	8,565.94	93.71
Colorado	347	329,656.05	152.64	6,768.06	950.02	89.32
Connecticut	292	245,168.59	89.11	5,061.37	839.62	74.13
Delaware	334	59,186.38	33.61	909.37	177.20	66.41
District of Columbia	329	31,467.74	13.87	418.96	95.65	63.43
Florida	284	1,153,318.04	280.85	36,366.84	4,060.98	96.91
Georgia	345	697,313.56	303.70	11,286.64	2,021.20	77.46
Hawaii	317	81,682.19	70.90	897.66	257.67	50.81
Idaho	268	112,824.06	115.78	1,723.95	420.99	52.31
Illinois	783	904,979.22	40.17	10,836.76	1,155.78	125.48
IL-City of Chicago	343	186,160.20	40.17	2,336.85	542.74	65.74
IL-Rest of State	440	718,819.01	60.03	10,836.76	1,633.68	108.20
Indiana	345	450,906.46	290.58	6,744.17	1,306.98	58.28
Iowa	308	208,036.51	54.81	2,597.46	675.44	54.82
Kansas	271	197,194.52	184.53	3,050.28	727.66	56.95
Kentucky	296	287,082.74	122.70	3,872.82	969.87	61.16
Louisiana	379	318,751.60	52.11	3,847.66	841.03	71.33
Maine	333	86,878.74	73.37	1,315.36	260.90	58.98
Maryland	394	394,176.87	49.57	5,292.67	1,000.45	80.05
Massachusetts	333	427,932.50	28.32	5,379.85	1,285.08	66.64
Michigan	320	725,758.95	736.37	9,973.67	2,268.00	58.48
Minnesota	338	363,256.26	178.11	4,824.35	1,074.72	59.53
Mississippi	404	217,731.55	101.24	2,031.48	538.94	62.89
Missouri	351	413,851.43	144.22	5,304.29	1,179.06	61.33
Montana	299	66,915.48	45.27	986.09	223.80	57.05
Nebraska	365	125,544.22	77.39	1,649.32	343.96	56.03
Nevada	235	180,104.17	152.99	3,101.50	766.40	58.09
New Hampshire	300	91,475.21	55.21	1,762.60	304.92	79.03

Table D.2: Distribution of Sampling Weights for Teens with Adequate Provider Data (PROVWT), National Immunization Survey - Teen, 2008

New Jersey	390	598,110.69	251.52	7,215.88	1,533.62	76.43
New Mexico	310	142,620.70	97.36	2,350.26	460.07	66.18
New York	600	1,318,595.34	95.83	10,894.90	2,197.66	69.83
NY-City of New York	293	532,399.44	212.25	9,013.27	1,817.06	74.59
NY-Rest of State	307	786,195.89	95.83	10,894.90	2,560.90	62.80
North Carolina	326	619,699.93	434.86	8,384.05	1,900.92	66.78
North Dakota	362	42,708.16	31.82	419.92	117.98	47.94
Ohio	311	804,347.57	500.05	10,070.80	2,586.33	61.84
Oklahoma	292	252,585.74	314.59	2,804.20	865.02	48.69
Oregon	235	251,350.20	232.76	3,431.60	1,069.58	54.38
Pennsylvania	682	845,530.43	38.51	10,005.68	1,239.78	107.24
PA-Philadelphia County	345	113,179.10	38.51	1,451.23	328.06	63.80
PA-Rest of State	337	732,351.33	100.72	10,005.68	2,173.15	61.92
Rhode Island	297	69,893.17	29.87	1,682.23	235.33	78.36
South Carolina	367	307,451.55	125.24	3,650.56	837.74	58.41
South Dakota	344	57,233.05	28.50	698.40	166.38	57.72
Tennessee	360	419,528.33	256.18	6,698.48	1,165.36	70.98
Texas	840	1,787,263.22	80.98	33,375.85	2,127.69	188.11
TX-Bexar County	269	121,531.67	83.99	2,426.81	451.79	71.62
TX-City of Houston	233	142,869.12	80.98	4,574.89	613.17	98.02
TX-Rest of State	338	1,522,862.43	118.73	33,375.85	4,505.51	121.67
Utah	222	212,406.17	222.78	4,308.65	956.78	56.31
Vermont	283	41,835.29	16.39	570.49	147.83	57.68
Virginia	272	516,735.58	131.51	8,244.88	1,899.76	62.44
Washington	275	448,997.12	141.77	6,783.61	1,632.72	55.89
West Virginia	295	113,520.69	96.60	1,943.66	384.82	56.73
Wisconsin	264	390,146.91	308.07	4,893.82	1,477.83	49.17
Wyoming	280	37,263.19	31.40	387.36	133.08	49.07

Appendix E

Examples of the Use of SUDAAN, SAS and R to Estimate Vaccination Coverage Rates and their Standard Errors, and Example of the Production of a Cross-Tabulation and Chart

A. SUDAAN

```
**********************;
title1 'SUD_IAP.SAS';
*********************************************************************
THIS PROGRAM WILL PRODUCE ESTIMATION AREA ESTIMATES AND STANDARD ERRORS
FOR 2+ MMR VACCINATIONS (P_UTDMMR) USING SAS CALLABLE SUDAAN.
SUDAAN NOTES:
1. ALL VARIABLES USED MUST BE NUMERIC.
2. VARIABLES IN THE SUBGROUP STATEMENT MUST HAVE VALUES 1,2,..K
WHERE K IS THE NUMBER OF LEVELS FOR EACH VARIABLE.
3. DATA MUST BE SORTED ACCORDING TO THE SAMPLE DESIGN VARIABLES
(STRATUM AND PRIMARY SAMPLING UNIT), SPECIFIED IN THE
NEST STATEMENT.
*********************************************************************;
options ps=78 ls=90 obs= max;

libname dd 'c\nisteenpuf08'; *--- SPECIFY PATH TO SAS DATASET ---*;
libname library 'c:\nisteenpuf08'; *--- IF DATASET WAS CREATED WITH
FORMATS STORED ---*;

*--- PERMANENTLY SPECIFY PATH TO LIBRARY ---*;
*--- OTHERWISE COMMENT THIS STATEMENT OUT ---*;
%let in_file=dd.nisteenpuf08; *--- NAME OF SAS DATASET ---*;
%let estiap=estiapt08; * --- ESTIMATION AREA VARIABLE TO USE ---*;
%let wt=provwt; * --- WEIGHT TO USE ---*;

data sud_file;
set &in_file. (keep= SEQNUMT P_UTDMMR &estiap. &wt.);
if P_UTDMMR=0 then P_UTDMMR=2; *--- CONVERT P_UTDMMR=0 TO P_UTDMMR=2 ---*;
NSEQNUMT=1*SEQNUMT; *---CONVERT TEEN ID SEQNUMT FROM CHARACTER TO NUMERIC
---*;
run;
```

```
Proc format;
/*
THE FOLLOWING FORMAT WILL BE USED FOR P_UTDMMR.
ORIGINAL VALUES OF P_UTDMMR ARE 1,0.
MUST BE CONVERTED TO 1,2 IN SUDAAN.
*/
value p_utdmmrf
1='2+ MMR Up-to-Date'
2='Not 2+ MMR Up-to-Date';

/*
THE FOLLOWING FORMAT WILL BE USED FOR THE ESTIMATION AREA.
*/
value estiapf
. = "Missing"
0 = "US Total"
1 = "CT"
2 = "MA"
4 = "ME"
5 = "NH"
6 = "RI"
7 = "VT"
8 = "NJ"
10 = "NY-Rest of State"
11 = "NY-City of New York"
12 = "DC"
13 = "DE"
14 = "MD"
16 = "PA-Rest of State"
17 = "PA-Philadelphia County"
18 = "VA"
19 = "WV"
20 = "AL"
22 = "FL"
25 = "GA"
27 = "KY"
28 = "MS"
29 = "NC"
30 = "SC"
31 = "TN"
34 = "IL-Rest of State"
35 = "IL-City of Chicago"
36 = "IN"
38 = "MI"
40 = "MN"
41 = "OH"
44 = "WI"
46 = "AR"
47 = "LA"
49 = "NM"
50 = "OK"
51 = "TX-Rest of State"
54 = "TX-City of Houston"
55 = "TX-Bexar County"
56 = "IA"
```

```
57 = "KS"
58 = "MO"
59 = "NE"
60 = "CO"
61 = "MT"
62 = "ND"
63 = "SD"
64 = "UT"
65 = "WY"
66 = "AZ"
68 = "CA"
72 = "HI"
73 = "NV"
74 = "AK"
75 = "ID"
76 = "OR"
77 = "WA"
;
run;

*=== SORT BY NEST VARIABLES: ESTIAP (STRATUM) NSEQNUMT (PRIMARY SAMPLING
UNIT) ===*;
proc sort data=sud_file;
by &estiap. nseqnumt;
run;
proc crosstab data=sud_file filetype=sas design=wr;
weight &wt.;
nest &estiap. nseqnumt;
subgroup &estiap. P_UTDMMR ;
levels 100 2 ;
tables &estiap. * P_UTDMMR ;
print nsum wsum rowper serow/style=nchs ;
rtitle "2+ MMR Estimates by Estimation Area";
rformat &estiap. estiapf.;
rformat P_UTDMMR p_utdmmrf.;
output rowper serow/filename=sud_est filetype=sas;
run;
proc print data=sud_est(where=(P_UTDMMR=1 and rowper ne .)) noobs label;
format &estiap. estiapf.;
var &estiap. rowper serow ;
label
rowper='Percent 2+ MMR Up-to-Date'
serow='Standard Error'
;
title "2+ MMR Estimates by Estimation Area";
run;


**********************;
title1 'SUDSTATE.SAS';
*************************************************************************
THIS PROGRAM WILL PRODUCE STATE ESTIMATES AND STANDARD ERRORS
FOR 2+ MMR VACCINATIONS (P_UTDMMR) USING SAS CALLABLE SUDAAN.
NOTE : THE STATE VARIABLE IS BASED ON STATE FIPS CODES. THERE ARE
NO STATES WITH FIPS CODES 3,7,14,43,52.
SUDAAN NOTES:
1. ALL VARIABLES USED MUST BE NUMERIC.
```

```
2. VARIABLES IN THE SUBGROUP STATEMENT MUST HAVE VALUES 1,2,..K
WHERE K IS THE NUMBER OF LEVELS FOR EACH VARIABLE.
3. DATA MUST BE SORTED ACCORDING TO THE SAMPLE DESIGN VARIABLES
(STRATUM AND PRIMARY SAMPLING UNIT), SPECIFIED IN THE
NEST STATEMENT.
*********************************************************************;
options ps=78 ls=90 obs= max;

libname dd 'c:\nisteenpuf08'; *--- SPECIFY PATH TO SAS DATASET ---*;
libname library 'c:\nisteenpuf08'; *--- IF DATASET WAS CREATED WITH
FORMATS STORED ---*;

*--- PERMANENTLY SPECIFY PATH TO LIBRARY ---*;
*--- OTHERWISE COMMENT THIS STATEMENT OUT ---*;
%let in_file=dd.nisteenpuf08; *--- NAME OF SAS DATASET ---*;
%let estiap=estiapt08; * --- ESTIMATION AREA VARIABLE TO USE ---*;
%let wt=provwt; *--- WEIGHT TO USE ---*;

PROC FORMAT;
/*
THE FOLLOWING FORMAT WILL BE USED FOR P_UTDMMR.
ORIGINAL VALUES OF P_UTDMMR ARE 1,0.
MUST BE CONVERTED TO 1,2 IN SUDAAN.
*/
value putmmrf
1='2+ MMR Up-to-Date'
2='Not 2+ MMR Up-to-Date'
;

/*
THE FOLLOWING FORMAT WILL BE USED FOR STATE.
*/
value statef
0 ='U.S. Total'
1 ='Alabama '
2 ='Alaska '
4 ='Arizona '
5 ='Arkansas '
6 ='California '
8 ='Colorado '
9 ='Connecticut '
10 ='Delaware '
11 ='District of Columbia'
12 ='Florida '
13 ='Georgia '
15 ='Hawaii '
16 ='Idaho '
17 ='Illinois '
18 ='Indiana '
19 ='Iowa '
20 ='Kansas '
21 ='Kentucky '
22 ='Louisiana '
23 ='Maine '
24 ='Maryland '
25 ='Massachusetts '
26 ='Michigan '
```

```
27 ='Minnesota '
28 ='Mississippi '
29 ='Missouri '
30 ='Montana '
31 ='Nebraska '
32 ='Nevada '
33 ='New Hampshire '
34 ='New Jersey '
35 ='New Mexico '
36 ='New York '
37 ='North Carolina '
38 ='North Dakota '
39 ='Ohio '
40 ='Oklahoma '
41 ='Oregon '
42 ='Pennsylvania '
44 ='Rhode Island '
45 ='South Carolina '
46 ='South Dakota '
47 ='Tennessee '
48 ='Texas '
49 ='Utah '
50 ='Vermont '
51 ='Virginia '
53 ='Washington '
54 ='West Virginia '
55 ='Wisconsin '
56 ='Wyoming '
;
run;

data sud_file;
set &in_file. (keep= SEQNUMT P_UTDMMR &estiap. STATE &wt.);
if P_UTDMMR=0 then P_UTDMMR=2; *** CONVERT P_UTDMMR=0 TO P_UTDMMR=2 ***;
NSEQNUMT=1*SEQNUMT; *** CONVERT TEEN ID SEQNUMT FROM CHARACTER TO NUMERIC
***;
run;

*=== SORT BY NEST VARIABLES: ESTIAP (STRATUM) NSEQNUMT (PRIMARY SAMPLING
UNIT) ===*;
proc sort data=sud_file;
by &estiap. nseqnumt;
run;

proc crosstab data=sud_file filetype=sas design=wr;
weight &wt.;
nest &estiap. nseqnumt;
subgroup state P_UTDMMR ;
levels 56 2 ;
tables state * P_UTDMMR ;
print nsum wsum rowper serow/style=nchs ;
rtitle "2+ MMR ESTIMATES BY STATE";
rformat state statef.;
rformat P_UTDMMR p_utdmmrf.;
output rowper serow / filename=sud_est2 filetype=sas;
run;
```

```
*** EXCLUDE 3,7,14,43,52 THERE ARE NO STATES WITH THESE FIPS CODES *** ;
proc print data=sud_est2(where=(P_UTDMMR=1 and state notin
(3,7,14,43,52))) label noobs;
format state statef.;
var state rowper serow ;
label
rowper='Percent 2+ MMR Up-to-Date'
serow='Standard Error'
;
title "2+ MMR ESTIMATES BY STATE";
run;


**********************;
title1 'PROG_3.SAS';
*************************************************************************
THIS PROGRAM WILL PRODUCE A TABLE OF HOUSEHOLD REPORT OF
THE TEEN HAVING ASTHMA BY STATE FOR ALL HOUSEHOLD COMPLETES USING RDDWT.
THE PROGRAM USES SAS CALLABLE SUDAAN.
SUDAAN NOTES:
1. ALL VARIABLES USED MUST BE NUMERIC.
2. VARIABLES IN THE SUBGROUP STATEMENT MUST HAVE VALUES 1,2,..K
WHERE K IS THE NUMBER OF LEVELS FOR EACH VARIABLE.
3. DATA MUST BE SORTED ACCORDING TO THE SAMPLE DESIGN VARIABLES
(STRATUM AND PRIMARY SAMPLING UNIT), SPECIFIED IN THE
NEST STATEMENT.
*************************************************************************;
options ps=78 ls=90 obs= max;
options ps=78 ls=90 obs= max;

libname dd 'c:\nisteenpuf08'; *--- SPECIFY PATH TO SAS DATASET ---*;
libname library 'c:nisteenpuf08'; *--- IF DATASET WAS CREATED WITH FORMATS
STORED ---*;

*--- PERMANENTLY SPECIFY PATH TO LIBRARY ---*;
*--- OTHERWISE COMMENT THIS STATEMENT OUT ---*;
%let in_file=dd.nisteenpuf08; *--- NAME OF SAS DATASET ---*;
%let estiap=estiapt08; * --- ESTIMATION VARIABLE TO USE ---*;
%let wt=rddwt; *--- WEIGHT TO USE ---*;

PROC FORMAT;
/*
THE FOLLOWING FORMAT WILL BE USED FOR ASTHMA.
*/
value asthmaf
1='Yes'
2='No'
;
/*
THE FOLLOWING FORMAT WILL BE USED FOR STATE.
*/
value statef
0 ='U.S. Total '
1 ='Alabama '
2 ='Alaska '
4 ='Arizona '
5 ='Arkansas '
```

```
6 ='California '
8 ='Colorado '
9 ='Connecticut '
10 ='Delaware '
11 ='District of Columbia'
12 ='Florida '
13 ='Georgia '
15 ='Hawaii '
16 ='Idaho '
17 ='Illinois '
18 ='Indiana '
19 ='Iowa '
20 ='Kansas '
21 ='Kentucky '
22 ='Louisiana '
23 ='Maine '
24 ='Maryland '
25 ='Massachusetts '
26 ='Michigan '
27 ='Minnesota '
28 ='Mississippi '
29 ='Missouri '
30 ='Montana '
31 ='Nebraska '
32 ='Nevada '
33 ='New Hampshire '
34 ='New Jersey '
35 ='New Mexico '
36 ='New York '
37 ='North Carolina '
38 ='North Dakota '
39 ='Ohio '
40 ='Oklahoma '
41 ='Oregon '
42 ='Pennsylvania '
44 ='Rhode Island '
45 ='South Carolina '
46 ='South Dakota '
47 ='Tennessee '
48 ='Texas '
49 ='Utah '
50 ='Vermont '
51 ='Virginia '
53 ='Washington '
54 ='West Virginia '
55 ='Wisconsin '
56 ='Wyoming '
;
run;

data sud_file;
set &in_file. (keep= SEQNUMT &estiap. STATE ASTHMA &wt.);
where ASTHMA in (1,2); *** KEEP ONLY CASES WITH NON-MISSING VALUES FOR
ASTHMA ***;
NSEQNUMT=1*SEQNUMT; *** CONVERT TEEN ID SEQNUMT FROM CHARACTER TO NUMERIC
***;
run;
```

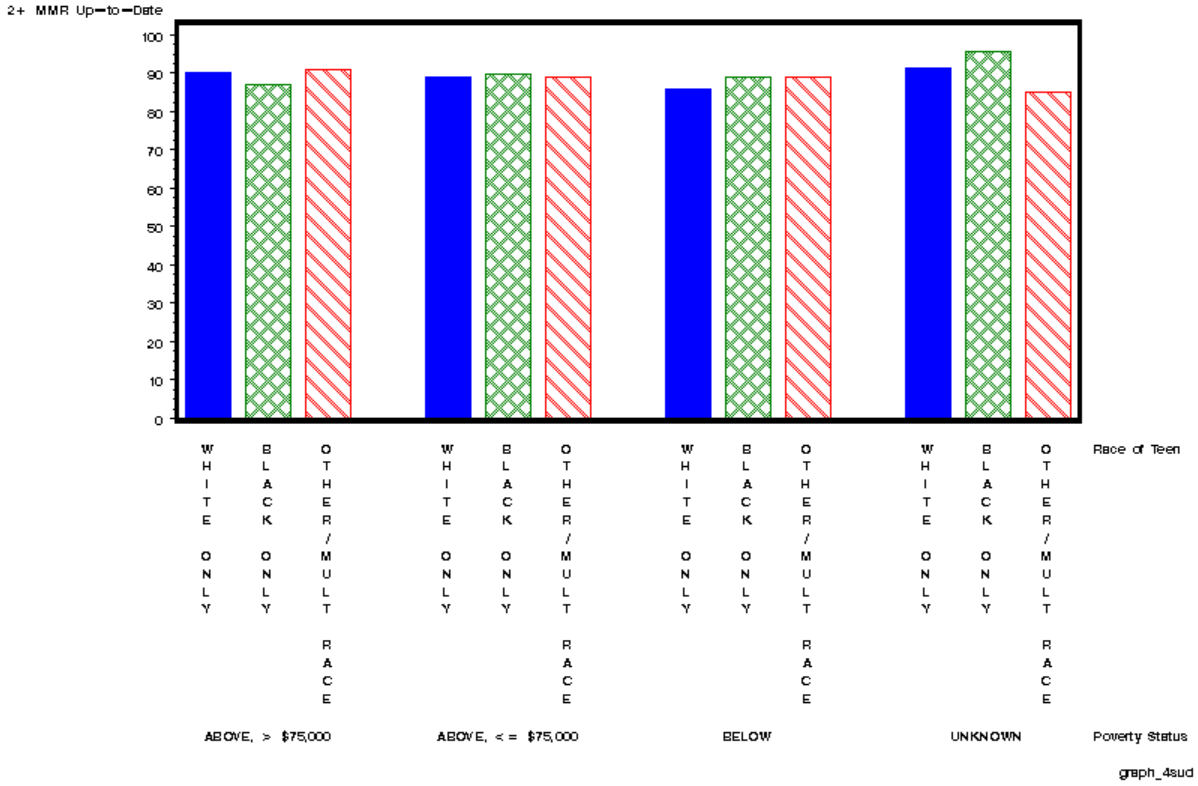
```
*=== SORT BY NEST VARIABLES: ESTIAP (STRATUM) NSEQNUMT (PRIMARY SAMPLING
UNIT) ===*;
proc sort data=sud_file;
by &estiap. NSEQNUMT;
run;

proc crosstab data=sud_file filetype=sas design=wr;
weight &wt.;
nest &estiap. NSEQNUMT;
subgroup STATE ASTHMA ;
levels 56 2 ;
tables STATE * ASTHMA ;
print nsum wsum rowper serow/style=nchs ;
rtitle "ASTHMA ESTIMATES BY STATE";
rtitle "WEIGHT = &WT.";
rformat STATE statef.;
rformat ASTHMA asthmaf.;
output rowper serow / filename=sud_est3 filetype=sas;
run;

*** EXCLUDE 3,7,14,43,52 THERE ARE NO STATES WITH THESE FIPS CODES *** ;
proc print data=sud_est3(where=(ASTHMA=1 and STATE notin (3,7,14,43,52)))
label noobs;
format STATE statef.;
var STATE rowper serow ;
label
rowper='Percent ASTHMA = Yes'
serow='Standard Error'
;
title "HH REPORT OF TEEN HAVING ASTHMA BY STATE";
run;

**********************;
title1 'PROG_4.SAS';
*************************************************************************
TABLE OF P_UTDMMR BY INCPOV1 BY RACE_K. SAVE % UTD
ESTIMATES (NOT S.E.'S) FOR USE IN THE PROGRAM CHART_4.
THIS PROGRAM WILL PRODUCE ESTIMATES USING SAS CALLABLE SUDAAN.
SUDAAN NOTES:
1. ALL VARIABLES USED MUST BE NUMERIC.
2. VARIABLES IN THE SUBGROUP STATEMENT MUST HAVE VALUES 1,2,..K
WHERE K IS THE NUMBER OF LEVELS FOR EACH VARIABLE.
3. DATA MUST BE SORTED ACCORDING TO THE SAMPLE DESIGN VARIABLES
(STRATUM AND PRIMARY SAMPLING UNIT), SPECIFIED IN THE
NEST STATEMENT.
*************************************************************************;
options ps=78 ls=90 obs= max;

libname dd 'c:\nisteenpuf08'; *--- SPECIFY PATH TO SAS DATASET ---*;
libname library 'c:\nisteenpuf08'; *--- IF DATASET WAS CREATED WITH
FORMATS STORED ---*;

*--- SPECIFY THE PATH FOR WHERE YOU WANT THE CHART OUTPUT TO GO ---*;
libname out 'c:\nisteenpuf08';

%let in_file=dd.nisteenpuf08; *--- NAME OF SAS DATASET ---*;
```

```
%let estiap=estiapt08; * --- ESTIMATION VARIABLE TO USE ---*;
%let wt=provwt; *--- WEIGHT TO USE ---*;
%let qtr_lab=Q1/2008 - Q4/2008; *--- NIS-TEEN 4 QUARTER PERIOD ---*;

PROC FORMAT;
/*
THE FOLLOWING FORMAT WILL BE USED FOR P_UTDMMR.
ORIGINAL VALUES OF P_UTDMMR ARE 1,0.
MUST BE CONVERTED TO 1,2 IN SUDAAN.
*/
value p_utdmmrf
1='2+ MMR Up-to-date'
2='Not 2+ MMR Up-to-date'
;
/*
THE FOLLOWING FORMAT WILL BE USED FOR RACE_K.
*/
VALUE RACE_KF
1 = "WHITE ONLY"
2 = "BLACK ONLY"
3 = "OTHER AND MULTIPLE RACE"
;
/*
THE FOLLOWING FORMAT WILL BE USED FOR INCPOV1.
*/
VALUE INCPVR2F
1 = "ABOVE, > $75,000"
2 = "ABOVE, <= $75,000"
3 = "BELOW"
4 = "UNKNOWN"
;
run;

data sud_file;
set &in_file. (keep= SEQNUMT P_UTDMMR &estiap. RACE_K INCPOV1 PDAT &wt.);
NSEQNUMT=1*SEQNUMT; *** CONVERT TEEN ID SEQNUMT FROM CHARACTER TO NUMERIC
***;
if P_UTDMMR=0 then P_UTDMMR=2; *** CONVERT P_UTDMMR=0 TO P_UTDMMR=2 ***;
run;

*=== SORT BY NEST VARIABLES: ESTIAP (STRATUM) NSEQNUMT (PRIMARY SAMPLING
UNIT) ===*;
proc sort data=sud_file;
by &estiap. NSEQNUMT;
run;

proc freq data=sud_file;
where PDAT=1;
tables P_UTDMMR INCPOV1 RACE_K;
title3 "Table 4A. &qtr_lab.: Unweighted Frequencies";
run;

proc crosstab data=sud_file filetype=sas design=wr;
weight &wt.;
nest &estiap. NSEQNUMT;
subgroup INCPOV1 RACE_K P_UTDMMR ;
levels 4 3 2 ;
```

```
tables (INCPOV1 * RACE_K * P_UTDMMR) ;
print nsum wsum rowper="2+ MMR Up-to-Date (ROWPER)"
serow="Standard Error (SEROW)" /style=nchs ;
rtitle "Table 4B. &qtr_lab., Percent 2+ MMR Up-to-Date and Estimated
Standard Errors";
rtitle "WEIGHT = &WT.";
rformat P_UTDMMR p_utdmmrf.;
rformat INCPOV1 incpvr2f.;
rformat RACE_K race_kf.;
output rowper / filename=sud_est4 filetype=sas;
run;

data out.sud_est4;
set sud_est4 (where=(P_UTDMMR=1 and INCPOV1 > 0 and RACE_K > 0));
keep INCPOV1 RACE_K rowper;
label rowper='2+ MMR Up-to-Date';
format rowper 5.1;
run;

proc print data=out.sud_est4 label;
format RACE_K race_kf.;
format INCPOV1 incpvr2f.;
title "&qtr_lab.: 2+ MMR ESTIMATES BY INCPOV1 BY RACE_K";
run;

**********************;
title1 'SAS_GRAPH_4.SAS';
*************************************************************************
THIS PROGRAM BUILDS OFF OF THE PROGRAM SAS_PROG_4. IT PRODUCES A CHART OF
P_UTDMMR BY INCPOV1 BY RACE_K. IT CREATES A BAR CHART IN SAS GRAPH FOR
THE 4X3 = 12 CELLS. THE OUTPUT OF THE FOLLOWING EXAMPLE IS ATTACHED AT THE
END.
*************************************************************************;
options ps=78 ls=90 obs= max;

libname dd 'c:\nisteenpuf08'; *--- SPECIFY PATH TO SAS DATASET ---*;

%let out='c:\nisteenpuf08'; *--- SPECIFY THE PATH FOR WHERE YOU WANT THE
CHART OUTPUT TO GO ---*;

%let in_file=dd.sud_est4; *--- NAME OF SAS DATASET OUTPUT FROM PROG_4 ---
*;
%let qtr_lab=Q1/2008 - Q4/2008; *--- NIS-TEEN 4 QUARTER PERIOD ---*;

PROC FORMAT;
VALUE INCPVR2F
1 = "ABOVE, > $75,000"
2 = "ABOVE, <= $75,000"
3 = "BELOW"
4 = "UNKNOWN"
;
VALUE RACE_KF
1 = "WHITE ONLY"
2 = "BLACK ONLY"
3 = "OTHER/MULT RACE"
;
run;
```

```
data sud_est4;
set &in_file.;
format rowper 3.
RACE_K race_kf.
INCPOV1 incpvr2f.
;
label
RACE_K = 'Race of Teen'
INCPOV1 = 'Poverty Status'
;
filename odsout &out.;
ods listing close;
/* SET THE GRAPHICS ENVIRONMENT */
goptions reset=global gunit=pct border
ftext=swissb htitle=4 htext=1.5
device=gif
;
ods html body='graph_4_sud.html' path=odsout;
TITLE1 HEIGHT=3 "Percentage of Teens Up-to-date with 2+ MMR";
TITLE2 HEIGHT=3 "by Race and Poverty Status, National Immunization Survey
- Teen, 2008";
footnote j=r 'graph_4sud';
pattern1 value = solid color = blue;
pattern2 value = x3 color = green;
pattern3 value = l3 color = red;
pattern4 value = empty color = lib;
axis width = 3;
run;

proc gchart data=sud_est4;
vbar RACE_K
/frame
discrete
sumvar=rowper
group=incpov1
gspace = 5
gaxis = axis
raxis = axis
name = 'graph_4_sud'
patternid = midpoint
;
run;
quit;
ods html close;
ods listing;
ods html close;
ods listing;
```

Percentage of Teens Up—to—date with 2+ MMR
by Race and Poverty Status, National Immunization Survey — Teen, 2008



B. SAS

```
**********************;
title1 'SAS_IAP.SAS';
*********************************************************************
THIS PROGRAM WILL PRODUCE ESTIMATION AREA ESTIMATES AND STANDARD ERRORS
FOR 2+ MMR VACCINATIONS (P_UTDMMR) USING SAS.
*********************************************************************;
options ps=78 ls=90 obs= max;

libname dd 'c:\nisteenpuf08'; *--- SPECIFY PATH TO SAS DATASET ---*;
libname library 'c:\nisteenpuf08'; *--- IF DATASET WAS CREATED WITH
FORMATS STORED ---*;

*--- PERMANENTLY SPECIFY PATH TO LIBRARY ---*;
*--- OTHERWISE COMMENT THIS STATEMENT OUT ---*;
%let in_file=dd.nisteenpuf08; *--- NAME OF SAS DATASET ---*;
%let estiap=estiapt08; * --- ESTIMATION AREA VARIABLE TO USE ---*;
%let wt=provwt; * --- WEIGHT TO USE ---*;

proc format;
value p_utdmmrf
0='Not 2+ MMR Up-To-Date'
1='2+ MMR Up-To-Date';

value estiapf
. = "Missing"
0 = "US Total"
1 = "CT"
2 = "MA"
4 = "ME"
5 = "NH"
6 = "RI"
7 = "VT"
8 = "NJ"
10 = "NY-Rest of State"
11 = "NY-City of New York"
12 = "DC"
13 = "DE"
14 = "MD"
16 = "PA-Rest of State"
17 = "PA-Philadelphia County"
18 = "VA"
19 = "WV"
20 = "AL"
22 = "FL"
25 = "GA"
27 = "KY"
28 = "MS"
29 = "NC"
30 = "SC"
31 = "TN"
34 = "IL-Rest of State"
35 = "IL-City of Chicago"
36 = "IN"
```

```
38 = "MI"
40 = "MN"
41 = "OH"
44 = "WI"
46 = "AR"
47 = "LA"
49 = "NM"
50 = "OK"
51 = "TX-Rest of State"
54 = "TX-City of Houston"
55 = "TX-Bexar County"
56 = "IA"
57 = "KS"
58 = "MO"
59 = "NE"
60 = "CO"
61 = "MT"
62 = "ND"
63 = "SD"
64 = "UT"
65 = "WY"
66 = "AZ"
68 = "CA"
72 = "HI"
73 = "NV"
74 = "AK"
75 = "ID"
76 = "OR"
77 = "WA"
;
run;

data sas_file;
set &in_file. (keep= SEQNUMT P_UTDMMR &estiap. &wt.);
run;

proc sort data = sas_file;
by &estiap.;
run;

title1 '2+ MMR Estimates by Estimation Area';
ods output Statistics=sas_est;
proc surveymeans data = sas_file nobs sum mean stderr;
stratum &estiap.;
cluster SEQNUMT;
weight &wt.;
class P_UTDMMR;
var P_UTDMMR;
by &estiap.;
format P_UTDMMR p_utdmmrf.;
format &estiap. estiapf.;
run;

data sas_est;
set sas_est;
mean = mean*100; *CONVERT TO PERCENT ESTIMATES;
stderr = stderr*100;
```

```
run;

proc print data=sas_est(where=(varlevel='2+ MMR Up-To-Date')) noobs
label;
format &estiap. estiapf.;
format mean stderr 5.2;
var &estiap. mean stderr;
label
mean='Percent 2+ MMR Up-to-Date'
stderr='Standard Error';
title "2+ MMR Estimates by Estimation Area";
run;


**********;
title1 'SASSTATE.SAS';
*********************************************************************
THIS PROGRAM WILL PRODUCE STATE ESTIMATES AND STANDARD ERRORS
FOR 2+ MMR VACCINATIONS (P_UTDMMR) USING SAS.
NOTE : THE STATE VARIABLE IS BASED ON STATE FIPS CODES. THERE ARE
NO STATES WITH FIPS CODES 3,7,14,43,52.
*********************************************************************;
options ps=78 ls=90 obs= max;

libname dd 'c:\nisteenpuf08'; *--- SPECIFY PATH TO SAS DATASET ---*;
libname library 'c:\nisteen puf08'; *--- IF DATASET WAS CREATED WITH
FORMATS STORED ---*;
*--- PERMANENTLY SPECIFY PATH TO LIBRARY ---*;
*--- OTHERWISE COMMENT THIS STATEMENT OUT ---*;

%let in_file=dd.nisteenpuf08; *--- NAME OF SAS DATASET ---*;
%let estiap=estiapt08; * --- ESTIMATION AREA VARIABLE TO USE ---*;
%let wt=provwt; * --- WEIGHT TO USE ---*;

proc format;
value p_utdmmrf
0='Not 2+ MMR Up-To-Date'
1='2+ MMR Up-To-Date';

value statef
. ="Missing"
0 ='U.S. Total '
1 ='Alabama '
2 ='Alaska '
4 ='Arizona '
5 ='Arkansas '
6 ='California '
8 ='Colorado '
9 ='Connecticut '
10 ='Delaware '
11 ='District of Columbia'
12 ='Florida '
13 ='Georgia '
15 ='Hawaii '
16 ='Idaho '
17 ='Illinois '
18 ='Indiana '
```

```
19 ='Iowa '
20 ='Kansas '
21 ='Kentucky '
22 ='Louisiana '
23 ='Maine '
24 ='Maryland '
25 ='Massachusetts '
26 ='Michigan '
27 ='Minnesota '
28 ='Mississippi '
29 ='Missouri '
30 ='Montana '
31 ='Nebraska '
32 ='Nevada '
33 ='New Hampshire '
34 ='New Jersey '
35 ='New Mexico '
36 ='New York '
37 ='North Carolina '
38 ='North Dakota '
39 ='Ohio '
40 ='Oklahoma '
41 ='Oregon '
42 ='Pennsylvania '
44 ='Rhode Island '
45 ='South Carolina '
46 ='South Dakota '
47 ='Tennessee '
48 ='Texas '
49 ='Utah '
50 ='Vermont '
51 ='Virginia '
53 ='Washington '
54 ='West Virginia '
55 ='Wisconsin '
56 ='Wyoming '
;
run;

data sas_file;
set &in_file. (keep= SEQNUMT P_UTDMMR &estiap. STATE &wt.);
run;

proc sort data = sas_file;
by state;
run;

title1 '2+ MMR ESTIMATES BY STATE';
ods output Statistics=sas_est2;
proc surveymeans data = sas_file nobs sum mean stderr;
stratum &estiap.;
cluster SEQNUMT;
weight &wt.;
class P_UTDMMR;
var P_UTDMMR;
by STATE;
format P_UTDMMR p_utdmmrf.;
```

```
format STATE statef.;
run;

data sas_est2;
set sas_est2;
mean = mean*100; *CONVERT TO PERCENT ESTIMATES;
stderr = stderr*100;
run;

proc print data=sas_est2(where=(varlevel='2+ MMR Up-To-Date')) noobs
label;
format STATE statef.;
format mean stderr 5.2;
var STATE mean stderr;
label
mean='Percent 2+ MMR Up-to-Date'
stderr='Standard Error';
title "2+ MMR ESTIMATES BY STATE";
run;

**********************;
title1 'SAS_PROG_3.SAS';
*************************************************************************
THIS PROGRAM WILL PRODUCE A TABLE OF HOUSEHOLD REPORT OF
THE TEEN HAVING ASTHMA BY STATE FOR ALL HOUSEHOLD
COMPLETES USING RDDWT. THE PROGRAM USES SAS.
*************************************************************************;
options ps=78 ls=90 obs= max;

libname dd 'c:\nisteenpuf08'; *--- SPECIFY PATH TO SAS DATASET ---*;
libname library 'c:\nisteenpuf08'; *--- IF DATASET WAS CREATED WITH
FORMATS STORED ---*;
*--- PERMANENTLY SPECIFY PATH TO LIBRARY ---*;
*--- OTHERWISE COMMENT THIS STATEMENT OUT ---*;

%let in_file=dd.nisteenpuf08; *--- NAME OF SAS DATASET ---*;
%let estiap=estiapt08; * --- ESTIMATION VARIABLE TO USE ---*;
%let wt=rddwt; *--- WEIGHT TO USE ---*;

PROC FORMAT;
value asthmaf
1='Yes'
2='No'
;
value statef
0 ='U.S. Total '
1 ='Alabama '
2 ='Alaska '
4 ='Arizona '
5 ='Arkansas '
6 ='California '
8 ='Colorado '
9 ='Connecticut '
10 ='Delaware '
11 ='District of Columbia'
12 ='Florida '
13 ='Georgia '
```

```
15 ='Hawaii '
16 ='Idaho '
17 ='Illinois '
18 ='Indiana '
19 ='Iowa '
20 ='Kansas '
21 ='Kentucky '
22 ='Louisiana '
23 ='Maine '
24 ='Maryland '
25 ='Massachusetts '
26 ='Michigan '
27 ='Minnesota '
28 ='Mississippi '
29 ='Missouri '
30 ='Montana '
31 ='Nebraska '
32 ='Nevada '
33 ='New Hampshire '
34 ='New Jersey '
35 ='New Mexico '
36 ='New York '
37 ='North Carolina '
38 ='North Dakota '
39 ='Ohio '
40 ='Oklahoma '
41 ='Oregon '
42 ='Pennsylvania '
44 ='Rhode Island '
45 ='South Carolina '
46 ='South Dakota '
47 ='Tennessee '
48 ='Texas '
49 ='Utah '
50 ='Vermont '
51 ='Virginia '
53 ='Washington '
54 ='West Virginia '
55 ='Wisconsin '
56 ='Wyoming '
;
run;

data sas_file;
set &in_file. (keep= SEQNUMT &estiap. STATE ASTHMA &wt.);
where ASTHMA in (1,2); *** KEEP ONLY CASES WITH NON-MISSING VALUES FOR
ASTHMA ***;
run;

proc sort data = sas_file;
by state;
run;

title1 'ASTHMA ESTIMATES BY STATE';
ods output Statistics=sas_est3;
proc surveymeans data = sas_file nobs sum mean stderr;
stratum &estiap.;
```

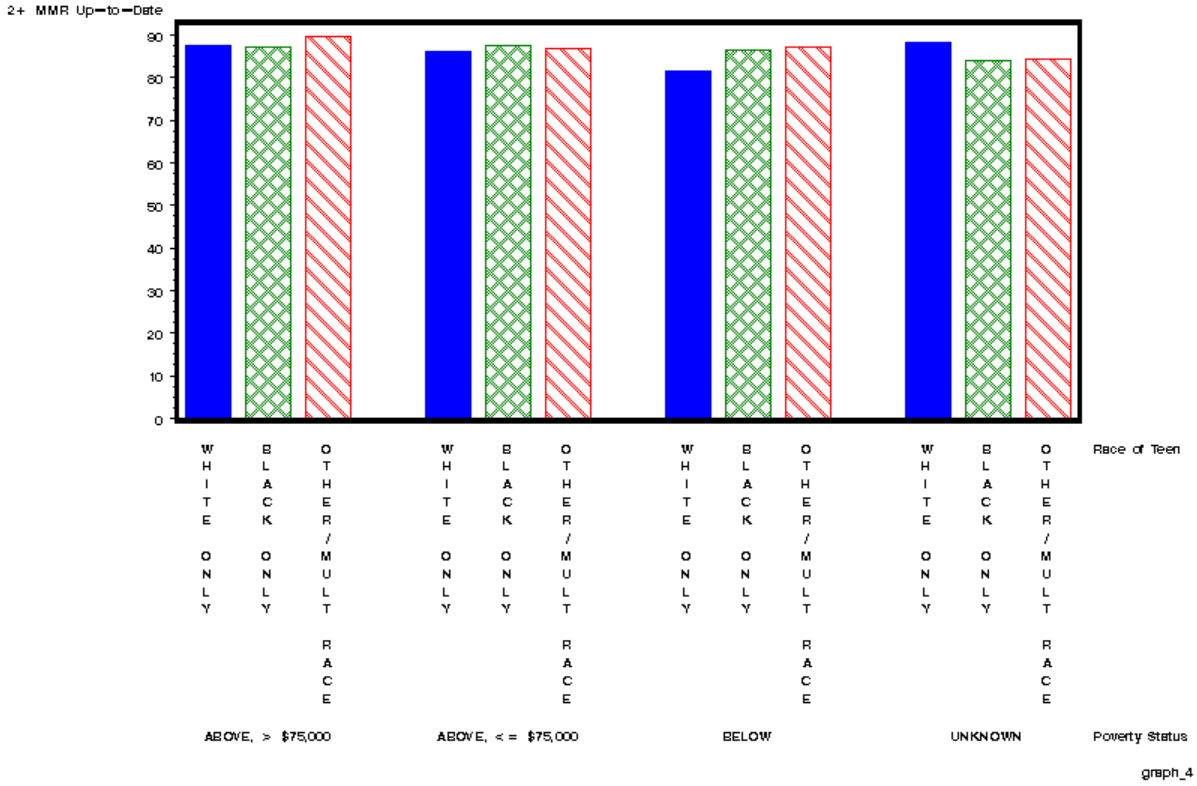
```
cluster SEQNUMT;
weight &wt.;
class ASTHMA;
var ASTHMA;
by STATE;
format ASTHMA asthmaf.;
format state statef.;
run;

data sas_est3;
set sas_est3;
mean = mean*100; *CONVERT TO PERCENT ESTIMATES;
stderr = stderr*100;
run;

proc print data=sas_est3(where=(varlevel='Yes')) noobs label;
format STATE statef.;
format mean stderr 5.2;
var STATE mean stderr;
label
mean='Percent ASTHMA = Yes'
stderr='Standard Error';
title "HH REPORT OF TEEN HAVING ASTHMA BY STATE";
run;



**********************;
title1 'SAS_PROG_4.SAS';
*************************************************************************
TABLE OF P_UTDMMR BY INCPOV1 BY RACE_K. SAVE % UTD
ESTIMATES (NOT S.E.'S) FOR USE IN THE PROGRAM SAS_GRAPH_4.
THIS PROGRAM WILL PRODUCE ESTIMATES USING SAS.
*************************************************************************;
options ps=78 ls=90 obs= max;

libname dd 'c:\nisteenpuf08'; *--- SPECIFY PATH TO SAS DATASET ---*;
libname library 'c:\nisteenpuf08'; *--- IF DATASET WAS CREATED WITH
FORMATS STORED ---*;
*--- PERMANENTLY SPECIFY PATH TO LIBRARY ---*;
*--- OTHERWISE COMMENT THIS STATEMENT OUT ---*;

libname out 'c:\nisteenpuf08'; *--- SPECIFY THE PATH FOR WHERE YOU WANT
THE CHART OUTPUT TO GO ---*;

%let in_file=dd.nisteenpuf08; *--- NAME OF SAS DATASET ---*;
%let estiap=estiapt08; * --- ESTIMATION VARIABLE TO USE ---*;
%let wt=provwt; *--- WEIGHT TO USE ---*;
%let qtr_lab=Q1/2008 - Q4/2008; *--- NIS-TEEN 4 QUARTER PERIOD ---*;

PROC FORMAT;
value p_utdmmrf
0='Not 2+ MMR Up-To-Date'
1='2+ MMR Up-To-Date'
;
VALUE RACE_KF
1 = "WHITE ONLY"
```

```
2 = "BLACK ONLY"
3 = "OTHER AND MULTIPLE RACE"
;
VALUE INCPVR2F
1 = "ABOVE, > $75,000"
2 = "ABOVE, <= $75,000"
3 = "BELOW"
4 = "UNKNOWN"
;
run;

data sas_file;
set &in_file. (keep= SEQNUMT P_UTDMMR &estiap. RACE_K INCPOV1 &wt. PDAT);
run;

proc sort data = sas_file;
by incpov1 race_k;
run;

proc freq;
where PDAT=1;
tables P_UTDMMR INCPOV1 RACE_K;
title1 "Table 4A. &qtr_lab.: Unweighted Frequencies";
run;

data sas_file;
set sas_file;
if P_UTDMMR < 0 or incpov1 < 0 or race_k < 0 or &wt. < 0 then delete;
run;

proc surveymeans data = sas_file nobs sum mean stderr;
ods output Statistics=sas_est4;
stratum &estiap.;
cluster SEQNUMT;
weight &wt.;
class P_UTDMMR;
var P_UTDMMR;
by INCPOV1 RACE_K;
format P_UTDMMR p_utdmmrf.;
format INCPOV1 incpvr2f.;
format RACE_K race_kf.;
run;

data sas_est4;
set sas_est4;
mean = mean*100; *CONVERT TO PERCENT ESTIMATES;
stderr = stderr*100;
run;

proc print data=sas_est4(where=(varlevel='2+ MMR Up-To-Date')) noobs
label;
format INCPOV1 incpvr2f.;
format RACE_K race_kf.;
format mean stderr 5.2;
var INCPOV1 RACE_K mean stderr;
label
mean='2+ MMR Up-To-Date'
```

```
stderr='Standard Error';
title1 "Table 4B. &qtr_lab., Percent 2+ MMR Up-to-Date and Estimated
Standard Errors";
run;

data out.sas_est4;
set sas_est4(where=(varlevel='2+ MMR Up-To-Date'));
keep INCPOV1 RACE_K mean;
label mean='2+ MMR Up-to-Date';
format mean 5.2;
run;



**********;
title1 'SAS_GRAPH_4.SAS';
*************************************************************************
THIS PROGRAM BUILDS OFF OF THE PROGRAM SAS_PROG_4. IT PRODUCES A CHART OF
P_UTDMMR BY INCPOV1 BY RACE_K. IT CREATES A BAR CHART IN SAS GRAPH FOR
THE 4X3 = 12 CELLS. THE OUTPUT OF THE FOLLOWING EXAMPLE IS ATTACHED AT THE
END.
*************************************************************************;
options ps=78 ls=90 obs= max;

libname dd 'c:\nisteenpuf08'; *--- SPECIFY PATH TO SAS DATASET ---*;

%let out='c:\nisteenpuf08'; *--- SPECIFY THE PATH FOR WHERE YOU WANT THE
CHART OUTPUT TO GO ---*;

%let in_file=dd.sas_est4; *--- NAME OF SAS DATASET OUTPUT FROM PROG_4 ---
*;
%let qtr_lab=Q1/2008 - Q4/2008; *--- NIS-TEEN 4 QUARTER PERIOD ---*;

PROC FORMAT;
VALUE INCPVR2F
1 = "ABOVE, > $75,000"
2 = "ABOVE, <= $75,000"
3 = "BELOW"
4 = "UNKNOWN"
;
VALUE RACE_KF
1 = "WHITE ONLY"
2 = "BLACK ONLY"
3 = "OTHER/MULT RACE"
;
run;

data sas_est4;
set &in_file.;
format mean 3.
RACE_K race_kf.
INCPOV1 incpvr2f.
;
label
RACE_K = 'Race of Teen'
INCPOV1 = 'Poverty Status'
;
```

```
filename odsout &out.;
ods listing close;
/* SET THE GRAPHICS ENVIRONMENT */
goptions reset=global gunit=pct border
ftext=swissb htitle=4 htext=1.5
device=gif
;
ods html body='graph_4.html' path=odsout;
TITLE1 HEIGHT=3 "Percentage of Teens Up-to-date with 2+ MMR";
TITLE2 HEIGHT=3 "by Race and Poverty Status, National Immunization Survey
- Teen, 2008";
footnote j=r 'graph_4';
pattern1 value = solid color = blue;
pattern2 value = x3 color = green;
pattern3 value = l3 color = red;
pattern4 value = empty color = lib;
axis width = 3;
run;

proc gchart data=sas_est4;
vbar RACE_K
/frame
discrete
sumvar=mean
group=INCPOV1
gspace = 5
gaxis = axis
raxis = axis
name = 'graph_4'
patternid = midpoint
;
run;
quit;
ods html close;
ods listing;
```

Percentage of Teens Up–to–date with 2+ MMR by Race and Poverty Status, National Immunization Survey – Teen, 2008



C. ‘R’

```
######################
title <- "R_IAP.R"
#####################################################################
#THIS PROGRAM WILL PRODUCE ESTIMATION AREA ESTIMATES AND STANDARD ERRORS
#FOR 2+ MMR VACCINATIONS (P_UTDMMR) USING R.
#
#R NOTES:
#1. R IS CASE SENSITIVE.
#2. A FILE PATH IS SEPERATED BY SLASH(/)
#####################################################################
library(survey) #TO USE svydesign(), svymean(), and svyby()
library(Hmisc) #TO USE prn()


dd <- "c:/nisteenpuf08" #"path-to-dataset"


#--- NAME OF R DATASET ---#
in.file <- paste(dd,"/NISTEENPUF08.RData",sep="")
#---READ R DATASET---#
load(in.file)
#---FORMAT---#
UTDMMRlevels=c(0,1)
UTDMMRlabels=c("NOT 2+ MMR UTD", "2+ MMR UTD")
ESTIAPlevels=c(1, 10, 11, 12, 13, 14, 16, 17, 18, 19, 2, 20, 22, 25, 27, 28, 29,
30, 31, 34, 35, 36, 38, 4, 40, 41, 44, 46, 47, 49, 5, 50, 51, 54, 55, 56, 57, 58,
59, 6, 60, 61, 62, 63, 64, 65, 66, 68, 7, 72, 73, 74, 75, 76, 77, 8)
ESTIAPlabels=c("CT", "NY-Rest of State", "NY-City of New York", "DC", "DE", "MD",
"PA-Rest of State", "PA-Philadelphia County", "VA", "WV", "MA", "AL", "FL", "GA",
"KY", "MS", "NC", "SC", "TN", "IL-Rest of State", "IL-City of Chicago", "IN", "MI",
"ME", "MN", "OH", "WI", "AR", "LA", "NM", "NH", "OK", "TX-Rest of State", "TX-City
of Houston", "TX-Bexar County", "IA", "KS", "MO", "NE", "RI", "CO", "MT", "ND",
"SD", "UT", "WY", "AZ", "CA", "VT", "HI", "NV", "AK", "ID", "OR", "WA", "NJ")

#PROVWT WILL BE USED AS A WEIGHT
R_FILE <- subset(NISTEENPUF08, select=c(SEQNUMT, P_UTDMMR, ESTIAPT08, PROVWT))
names(R_FILE) <- c("SEQNUMT", "P_UTDMMR", "ESTIAP", "WT")
R_FILE <- na.omit(R_FILE)
#---ASSIGN LABELS---#
R_FILE$P_UTDMMR <- factor(R_FILE$P_UTDMMR, levels=UTDMMRlevels,
labels=UTDMMRlabels)
R_FILE$ESTIAP <- factor(R_FILE$ESTIAP, levels=ESTIAPlevels, labels=ESTIAPlabels)

#---SPECIFY A SAMPLING DESIGN---#
svydsg <- svydesign(id=~SEQNUMT, strata=~ESTIAP, weights=~WT, data=R_FILE)

#---U.S. TOTAL ESTIMATES AND STANDARD ERRORS---#
r_nation <- svymean(~P_UTDMMR, svydsg)
PERCENT_UTD <- round(r_nation*100,2) #CONVERT INTO PERCENT ESTIMATES(MEAN)
SE_UTD <- round(SE(r_nation)*100,2) #CONVERT INTO PERCENT ESTIMATES(SE)
r_nation_est <- cbind(PERCENT_UTD, SE_UTD)
title <- "PERCENT 2+ MMR ESTIMATES AT A NATIONWIDE LEVEL"
prn(r_nation_est, title)

#---ESTIMATION AREA ESTIMATES AND STANDARD ERRORS---#
r_est <- svyby(~P_UTDMMR, ~ESTIAP, svydsg, svymean)
r_est[,-c(1)] <- round(r_est[,-c(1)]*100,2) #CONVERT INTO PERCENT ESTIMATES
r_est <- subset(r_est, select=c(1,3,5))
```

```
#SELECT ESTIMATES FOR UP-TO-DATE CASES
names(r_est) <- c("ESTIMATION AREA", "PERCENT 2+ MMR UTD", "STANDARD ERROR UTD")
title <- "PERCENT 2+ MMR ESTIMATES BY ESTIMATION AREA"
prn(r_est, title)

######################
title <- "R_STATE.R"
#########################################################################
#THIS PROGRAM WILL PRODUCE STATE ESTIMATES AND STANDARD ERRORS
#FOR 2+ MMR VACCINATIONS (P_UTDMMR) USING R.
#
#NOTE : THE STATE VARIABLE IS BASED ON STATE FIPS CODES. THERE ARE
#NO STATES WITH FIPS CODES 3,7,14,43,52.
#
#R NOTES:
#1. R IS CASE SENSITIVE.
#2. A FILE PATH IS SEPERATED BY SLASH(/)
#########################################################################
library(survey) #TO USE svydesign(), svymean(), and svyby()
library(Hmisc) #TO USE prn()


dd <- "c:/nisteenpuf08" #"path-to-data"


#--- NAME OF R DATASET ---#
in.file <- paste(dd,"/NISTEENPUF08.RData",sep="")
#---READ R DATASET---#
load(in.file)
#---FORMAT---#
UTDMMRlevels=c(0,1)
UTDMMRlabels=c("NOT 2+ MMR UTD", "2+ MMR UTD")
STATElevels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17,
18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53,
54, 55, 56)
STATElabels=c(
"ALABAMA",
"ALASKA",
" ",
"ARIZONA",
"ARKANSAS",
"CALIFORNIA",
" ",
"COLORADO",
"CONNECTICUT",
"DELAWARE",
"DISTRICT OF COLUMBIA",
"FLORIDA",
"GEORGIA",
" ",
"HAWAII",
"IDAHO",
"ILLINOIS",
"INDIANA",
"IOWA",
"KANSAS",
"KENTUCKY",
"LOUISIANA",
"MAINE",
"MARYLAND",
"MASSACHUSETTS",
"MICHIGAN",
```

```
"MINNESOTA",
"MISSISSIPPI",
"MISSOURI",
"MONTANA",
"NEBRASKA",
"NEVADA",
"NEW HAMPSHIRE",
"NEW JERSEY",
"NEW MEXICO",
"NEW YORK",
"NORTH CAROLINA",
"NORTH DAKOTA",
"OHIO",
"OKLAHOMA",
"OREGON",
"PENNSYLVANIA",
" ",
"RHODE ISLAND",
"SOUTH CAROLINA",
"SOUTH DAKOTA",
"TENNESSEE",
"TEXAS",
"UTAH",
"VERMONT",
"VIRGINIA",
" ",
"WASHINGTON",
"WEST VIRGINIA",
"WISCONSIN",
"WYOMING")
#PROVWT WILL BE USED AS A WEIGHT
R_FILE <- subset(NISTEENPUF08, select=c(SEQNUMT, P_UTDMMR, ESTIAPT08,
STATE, PROVWT))
names(R_FILE) <- c("SEQNUMT", "P_UTDMMR", "ESTIAP", "STATE", "WT")
R_FILE <- na.omit(R_FILE)
#---ASSIGN LABELS---#
R_FILE$P_UTDMMR <- factor(R_FILE$P_UTDMMR, levels=UTDMMRlevels,
labels=UTDMMRlabels)
R_FILE$STATE <- factor(R_FILE$STATE, levels=STATElevels,
labels=STATElabels)
#---SPECIFY A SAMPLING DESIGN---#
svydsg <- svydesign(id=~SEQNUMT, strata=~ESTIAP, weights=~WT, data=R_FILE)
#---STATE ESTIMATES AND STANDARD ERRORS---#
r_est2 <- svyby(~P_UTDMMR, ~STATE, svydsg, svymean)
r_est2[,-c(1)] <- round(r_est2[,-c(1)]*100,2) #CONVERT INTO PERCENT ESTIMATES
r_est2 <- subset(r_est2, select=c(1,3,5)) #SELECT ESTIMATES FOR UP-TO-DATE CASES
names(r_est2) <- c("STATE", "PERCENT 2+ MMR UTD", "STANDARD ERROR UTD")
prn(r_est2, '2+ MMR ESTIMATES BY STATE')


######################
title <- "R_PROG_3.R"
#########################################################################
#THIS PROGRAM WILL PRODUCE A TABLE OF TEEN HAVING ASTHMA BY STATE FOR
#ALL HOUSEHOLD COMPLETES USING RDDWT. THE PROGRAM USES R.
#
#R NOTES:
#1. R IS CASE SENSITIVE.
#2. A FILE PATH IS SEPERATED BY SLASH(/)
#########################################################################
library(survey) #TO USE svydesign(), svymean(), and svyby()
library(Hmisc) #TO USE prn()
library(prettyR) #TO USE freq()
```

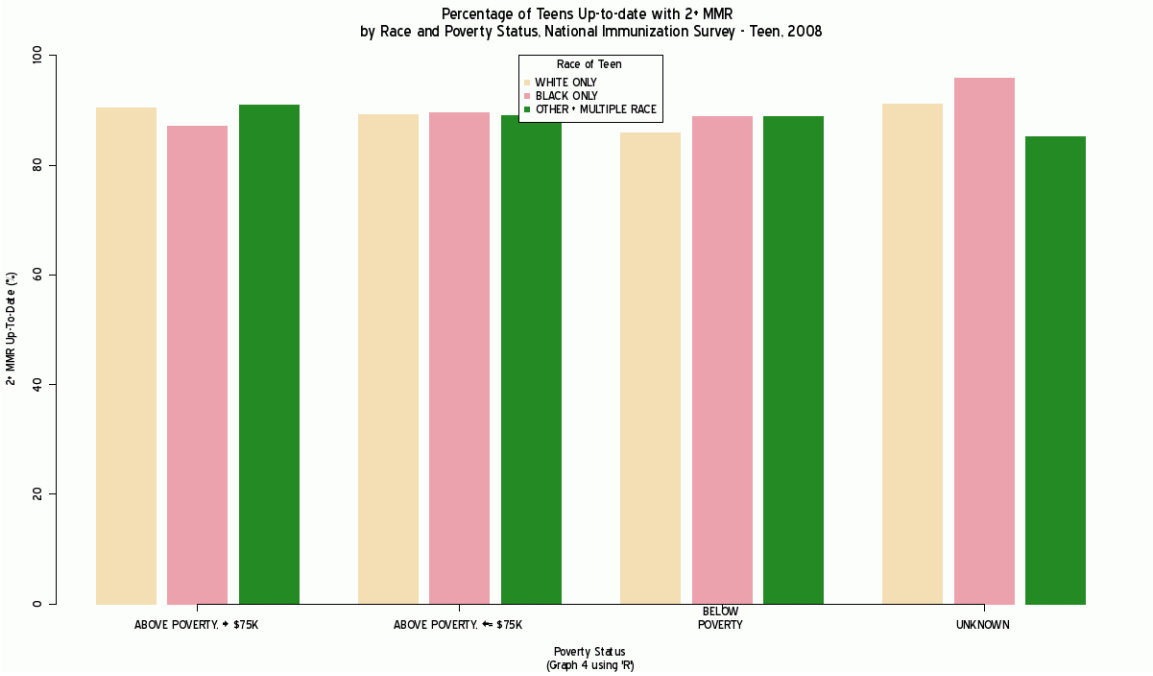
```
#dd <- "c:/nisteenpuf08" #"path-to-dataset"


#--- NAME OF R DATASET ---#
in.file <- paste(dd,"/NISTEENPUF08.RData",sep="")
#---READ R DATASET---#
load(in.file)
#---FORMAT---#
ASTHMAlevels=c(1,2,77,99)
ASTHMAlabels=c("YES", "NO", "DON'T KNOW", "REFUSED")
STATElevels=c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17,
18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35,
36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53,
54, 55, 56)
STATElabels=c(
"ALABAMA",
"ALASKA",
" ",
"ARIZONA",
"ARKANSAS",
"CALIFORNIA",
" ",
"COLORADO",
"CONNECTICUT",
"DELAWARE",
"DISTRICT OF COLUMBIA",
"FLORIDA",
"GEORGIA",
" ",
"HAWAII",
"IDAHO",
"ILLINOIS",
"INDIANA",
"IOWA",
"KANSAS",
"KENTUCKY",
"LOUISIANA",
"MAINE",
"MARYLAND",
"MASSACHUSETTS",
"MICHIGAN",
"MINNESOTA",
"MISSISSIPPI",
"MISSOURI",
"MONTANA",
"NEBRASKA",
"NEVADA",
"NEW HAMPSHIRE",
"NEW JERSEY",
"NEW MEXICO",
"NEW YORK",
"NORTH CAROLINA",
"NORTH DAKOTA",
"OHIO",
"OKLAHOMA",
"OREGON",
"PENNSYLVANIA",
" ",
"RHODE ISLAND",
"SOUTH CAROLINA",
"SOUTH DAKOTA",
"TENNESSEE",
```

```
"TEXAS",
"UTAH",
"VERMONT",
"VIRGINIA",
" ",
"WASHINGTON",
"WEST VIRGINIA",
"WISCONSIN",
"WYOMING")

#RDDWT WILL BE USED AS A WEIGHT
R_FILE <- subset(NISTEENPUF08, select=c(SEQNUMT, ESTIAPT08, STATE, ASTHMA, RDDWT))
names(R_FILE) <- c("SEQNUMT", "ESTIAP", "STATE", "ASTHMA", "WT")

#LIMIT FILE TO CASES WITH NON-MISSING VALUES OF ASTHMA
R_FILE <- subset(R_FILE, ASTHMA %in% c(1,2))

#---ASSIGN LABELS---#
R_FILE$ASTHMA <- factor(R_FILE$ASTHMA, levels=ASTHMAlevels, labels=ASTHMAlabels)
R_FILE$STATE <- factor(R_FILE$STATE, levels=STATElevels, labels=STATElabels)
R_FILE <- na.omit(R_FILE)
summary(R_FILE$ASTHMA)

#---SPECIFY A SAMPLING DESIGN---#
svydsg <- svydesign(id=~SEQNUMT, strata=~ESTIAP, weights=~WT, data=R_FILE)

#---U.S. TOTAL ESTIMATES AND STANDARD ERRORS---#
r_nation <- svymean(~ASTHMA, svydsg)
PERCENT_UTD <- round(r_nation*100,2) #CONVERT INTO PERCENT ESTIMATES(MEAN)
SE_UTD <- round(SE(r_nation)*100,2) #CONVERT INTO PERCENT ESTIMATES(SE)
r_nation_est3 <- cbind(PERCENT_UTD, SE_UTD)
prn(r_nation_est3, "PERCENT ASTHMA = YES ESTIMATES AT A NATIONWIDE LEVEL\n")

#---ASTHMA = YES ESTIMATES BY STATE---#
r_est3 <- svyby(~ASTHMA, ~STATE, svydsg, svymean)
r_est3[,-c(1)] <- round(r_est3[,-c(1)]*100,2) #CONVERT INTO PERCENT ESTIMATES
r_est3 <- subset(r_est3, select=c(1,2,6)) #SELECT ESTIMATES FOR ASTHMA=YES
names(r_est3) <- c("STATE", "PERCENT ASTHMA=YES", "STANDARD ERROR ASTHMA=Y")
prn(r_est3, 'PERCENT ASTHMA ESTIMATES BY STATE')
```

```
######################
title <- "PROG_4.R"
#########################################################################
#TABLE OF P_UTDMMR BY INCPOV1 BY RACE_K. SAVE % UTD
#ESTIMATES (NOT S.E.'S) FOR USE IN THE PROGRAM GRAPH_4.
#
#THIS PROGRAM WILL PRODUCE ESTIMATES USING R.
#
#R NOTES:
#1. R IS CASE SENSITIVE.
#2. A FILE PATH IS SEPERATED BY SLASH(/)
#########################################################################
library(survey) #TO USE svydesign(), svymean(), and svyby()
library(Hmisc) #TO USE prn()


dd <- "c:/nisteenpuf08" #"path-to-dataset"

out <-"c:/nisteenpuf08" #"path where output will go"


#--- NAME OF R DATASET ---#
in.file <- paste(dd,"/NISTEENPUF08.RData",sep="")
#---READ R DATASET---#
load(in.file)
#---FORMAT---#
UTDMMRlevels=c(0,1)
UTDMMRlabels=c("NOT 2+ MMR UTD", "2+ MMR UTD")
RACE_PUFlevels=c(1,2,3)
RACE_PUFlabels=c("WHITE ONLY", "BLACK ONLY", "OTHER + MULTIPLE RACE")
INCPOVlevels=c(1,2,3,4)
INCPOVlabels=c("ABOVE POVERTY, > $75K", "ABOVE POVERTY, <= $75K", "BELOW
POVERTY", "UNKNOWN")
#PROVWT WILL BE USED AS A WEIGHT
R_FILE <- subset(NISTEENPUF08, select=c(SEQNUMT, P_UTDMMR, ESTIAPT08, RACE_K,
INCPOV1, PROVWT))
names(R_FILE) <- c("SEQNUMT", "P_UTDMMR", "ESTIAP", "RACE_K", "INCPOV1", "WT")
#---ASSIGN LABELS---#
R_FILE$P_UTDMMR <- factor(R_FILE$P_UTDMMR, levels=UTDMMRlevels,
labels=UTDMMRlabels, exclude=NULL)
R_FILE$RACE_K <- factor(R_FILE$RACE_K, levels=RACE_PUFlevels,
labels=RACE_PUFlabels, exclude=NULL)
R_FILE$INCPOV1 <- factor(R_FILE$INCPOV1, levels=INCPOVlevels,labels=INCPOVlabels,
exclude=NULL)
#---UNWEIGHTED FREQUENCIES---#
unwt_freq <- function(UNWT.VAR){#FUNCTION TO PRINT UNWEIGHTED FREQUENCIES
unwt.tab <- wtd.table(UNWT.VAR, weights= NULL, type='table')
unwtd.freq <- data.frame(cbind(
unwt.tab, round(unwt.tab/sum(unwt.tab)*100,2),
cumsum(unwt.tab), cumsum(round(unwt.tab/sum(unwt.tab)*100,2))))
names(unwtd.freq) <- c("Frequency", "Percent", "Cumulative Frequency", "Cumulative
Percent")
unwtd.title <- paste('Table 4A. Q1/2008 - Q4/2008', 'UNWEIGHTED FREQUENCIES',
label(UNWT.VAR), sep="\n")
label(unwtd.freq) <- unwtd.title
print(unwtd.freq)
}
unwt_freq(R_FILE$P_UTDMMR)
unwt_freq(R_FILE$INCPOV1)
unwt_freq(R_FILE$RACE_K)
R_FILE <- na.omit(R_FILE)
#---SPECIFY A SAMPLING DESIGN---#
```

```
svydsg <- svydesign(id=~SEQNUMT, strata=~ESTIAP, weights=~WT, data=R_FILE)
#---PERCENT 2+ MMR UP-TO-DATE AND ESTIMATED STANDARD ERRORS---#
r_est4 <- svyby(~P_UTDMMR, ~RACE_K+INCPOV1, svydsg, svymean)
r_est4[,-c(1,2)] <- round(r_est4[,-c(1,2)]*100,2) #CONVERT INTO PERCENT ESTIMATES
r_est4 <- subset(r_est4, select=c(1,2,4,6)) #SELECT ESTIMATES FOR UP-TODATE CASES
names(r_est4) <- c("RACE", "INCOME", "PERCENT_UTD", "STANDARD_ERROR_UTD")
title <- "Table 4B. Q1/2008 - Q4/2008, Percent 2+ MMR UTD and Estimated Standard
Errors"
prn(r_est4, title)
#---SAVE PERCENT UP-TO-DATE ESTIMATES FOR USE IN THE PROGRAM GRAPH_4---#
r_est4 <- subset(r_est4, select=c(RACE, INCOME, PERCENT_UTD))
title <- "2+ MMR ESTIMATES BY INCPOV1 BY RACE_K"
prn(r_est4, title)
save(r_est4, file=paste(out, "/r_est4_08", sep=""))
```

```
######################
title <- "GRAPH_4.R"
#########################################################################
#THIS PROGRAM BUILDS OFF OF THE PROGRAM PROG_4. IT PRODUCES A CHART OF
#P_UTDMMR BY INCPOV1 BY RACE_K. IT CREATES A BAR GRAPH IN R
#FOR THE 4X3 = 12 CELLS.
#R NOTES:
#1. R IS CASE SENSITIVE.
#2. A FILE PATH IS SEPERATED BY SLASH(/)
#########################################################################
library(survey) #TO USE svydesign(), svymean(), and svyby()
library(Hmisc) #TO USE prn()
library(GDD) # TO USE GDD()

#dd <- "path-to-dataset" #---SPECIFY PATH TO R DATASET THAT WAS THE OUTPUT OF
R_PROG_4---#

dd <- "c:/nisteenpuf08"

#out <- "path-to-dataset" #---SPECIFY THE PATH FOR WHERE YOU WANT THE CHART OUTPUT
TO GO---#

out <- "c:/nisteenpuf08"

#---NAME OF R DATASET OUTPUT FROM R_PROG_4---#
in.file <- paste(dd,"/r_est4_08",sep="")
#---READ R DATASET---#
load(in.file)
#---BARCHART---#
#NOTE:R DOES NOT SUPPORT CREATING A HTML FILE CONTAINING A BARCHART#
#CREATE A DATA MATRIX FOR DRAWING A BARCHART#
utdmmr <- matrix(r_est4$PERCENT_UTD, nrow=3, ncol=4, byrow=F,
dimnames=list(levels(r_est4$RACE), levels(r_est4$INCOME)))
#CREATE GRAPH_4.GIF#
GDD(paste(out,"/graph_4_08R.gif",sep=""), type="gif", width=1200, height=700)
barplot(utdmmr, beside=TRUE, space=c(0.2,1),
col = c("wheat", "lightpink2", "forestgreen"),
axis.lty = 1,
sub="(Graph 4 using 'R')", cex.sub=1, ylim=c(0,100),
xlab="Poverty Status",
ylab="2+ MMR Up-To-Date (%)", cex=1, cex.names=1, border=NA)
legend("top", rownames(utdmmr), col=c("wheat", "lightpink2",
"forestgreen"), title="Race of Teen", pch=15, cex=1)
title1 <- "Percentage of Teens Up-to-date with 2+ MMR \n"
title2 <- "by Race and Poverty Status, National Immunization Survey - Teen, 2008\n"
mtext(paste(title1,title2), cex=1.3)
dev.off()
```


Percentage of Teens Up-to-date with 2+ MMR
by Race and Poverty Status, National Immunization Survey - Teen, 2008
Race of Teen
WHITE ONLY
BLACK ONLY
OTHER + MULTIPLE RACE
2+ MMR Up-To-Date (%)
0
20
40
60
80
100
ABOVE POVERTY, >= $75K
ABOVE POVERTY, =< $75K
BELOW POVERTY
UNKNOWN
Poverty Status
(Graph 4 using 'R')

Appendix F

Alphabetical Listing of Variables in the 2008 Public-Use Data File

Appendix F

Alphabetical Listing of Variables in the 2008 Public-Use Data File

Table F.1 **Alphabetical Listing of Variables in the 2008 Public-Use Data File**

Variable Name	Variable Label	Notes
		2008
AGE	AGE IN YEARS OF SELECTED TEEN	Y
AGEGRP_M_I	MOTHER'S AGE CATEGORIES: IMPUTED (COLLAPSED)	Y
ASTHMA	HAS TEEN BEEN TOLD BY DOCTOR OR OTHER HEALTH PROFESSIONAL THAT HE/SHE HAS ASTHMA?	Y
C1R	NUMBER OF PEOPLE IN HOUSEHOLD (TOP-CODED)	Y
C5R	RELATIONSHIP OF RESPONDENT TO TEEN (COLLAPSED)	Y
CEN_REG	CENSUS REGION BASED ON TRUE STATE OF RESIDENCE	Y
CHILDNM	NUMBER OF CHILDREN UNDER 18 YEARS OF AGE IN HH (COLLAPSED)	Y
CKUP_11_12	DID TEEN HAVE AN 11-12 YEAR OLD WELL-CHILD EXAM OR CHECK-UP?	Y
CKUP_AGE	AGE IN YEARS AT LAST CHECK-UP	Y
CKUP_LAST	WAS TEEN'S LAST CHECK-UP MORE OR LESS THAN (AGE - 12) YEARS AGO?	Y
CPOX_AGE	AGE IN YEARS WHEN HAD CHICKEN POX DISEASE	Y
CPOX_AGER	AGE RANGE WHEN HAD CHICKEN POX DISEASE	Y
CPOX_HAD	TEEN EVER HAD CHICKEN POX DISEASE?	Y
D6R	NUMBER OF PROVIDERS IDENTIFIED BY RESPONDENT (NOT DE-DUPLICATED) (TOP-CODED)	Y
D7	CONSENT TO OBTAIN VACCINATION RECORDS FROM PROVIDERS	Y
EDUC_TR	TEEN'S CURRENT GRADE IN SCHOOL (COLLAPSED)	Y
EDUC1	EDUCATION LEVEL OF MOTHER WITH 4 CATEGORIES: IMPUTED (COLLAPSED)	Y
ESTIAPT08	ESTIMATION AREA OF RESIDENCE	Y
FACILITY	FACILITY TYPES FOR TEEN'S PROVIDERS	Y
FLU_AGE	AGE OF TEEN IN YEARS AT HH-REPORTED INFLUENZA VACCINATION RECEIVED MOST RECENTLY	Y
FLU_AGE1	AGE IN YEARS OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #1	Y
FLU_AGE2	AGE IN YEARS OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #2	Y
FLU_AGE3	AGE IN YEARS OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #3	Y
FLU_AGE4	AGE IN YEARS OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #4	Y
FLU_AGE5	AGE IN YEARS OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #5	Y
FLU_AGE6	AGE IN YEARS OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #6	Y
FLU_AGE7	AGE IN YEARS OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #7	Y
FLU_AGE8	AGE IN YEARS OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #8	Y
FLU_AGE9	AGE IN YEARS OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #9	Y
FLU_ANY_REC	HH-REPORT: HAS TEEN RECEIVED ANY INFLUENZA VACCINATIONS IN PAST 12 MONTHS? (RECALL)	Y
FLU_ANY_SC	HH-REPORT: HAS TEEN RECEIVED ANY INFLUENZA VACCINATIONS IN PAST 12 MONTHS? (SHOTCARD)	Y
FLU_MONTH	MONTH OF HH-REPORTED INFLUENZA VACCINATION RECEIVED MOST RECENTLY	Y
FLU_MONTH1	MONTH OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #1	Y
FLU_MONTH2	MONTH OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #2	Y
FLU_MONTH3	MONTH OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #3	Y
FLU_MONTH4	MONTH OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #4	Y
FLU_MONTH5	MONTH OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #5	Y
FLU_MONTH6	MONTH OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #6	Y
FLU_MONTH7	MONTH OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #7	Y
FLU_MONTH8	MONTH OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #8	Y
FLU_MONTH9	MONTH OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #9	Y
FLU_PLACE	KIND OF PLACE TEEN RECEIVED MOST RECENT FLU SHOT OR SPRAY	Y
FLU_TYPE	TYPE OF HH-REPORTED INFLUENZA VACCINATION RECEIVED MOST RECENTLY	Y
FLU_YEAR	YEAR OF HH-REPORTED INFLUENZA VACCINATION RECEIVED MOST RECENTLY	Y
FLU_YEAR1	YEAR OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #1	Y
FLU_YEAR2	YEAR OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #2	Y
FLU_YEAR3	YEAR OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #3	Y
FLU_YEAR4	YEAR OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #4	Y
FLU_YEAR5	YEAR OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #5	Y
FLU_YEAR6	YEAR OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #6	Y
FLU_YEAR7	YEAR OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #7	Y
FLU_YEAR8	YEAR OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #8	Y
FLU_YEAR9	YEAR OF PROV-REPORTED INFLUENZA VACCINATION IN PAST THREE YEARS #9	Y
HEPA_AGE_SC1	AGE OF TEEN IN YEARS AT HH-REPORTED HEPATITIS A SHOT #1 (SHOTCARD)	Y
HEPA_AGE_SC2	AGE OF TEEN IN YEARS AT HH-REPORTED HEPATITIS A SHOT #2 (SHOTCARD)	Y
HEPA_AGE_SC3	AGE OF TEEN IN YEARS AT HH-REPORTED HEPATITIS A SHOT #3 (SHOTCARD)	Y
HEPA_AGE_SC4	AGE OF TEEN IN YEARS AT HH-REPORTED HEPATITIS A SHOT #4 (SHOTCARD)	Y
HEPA_AGE_SC5	AGE OF TEEN IN YEARS AT HH-REPORTED HEPATITIS A SHOT #5 (SHOTCARD)	Y
HEPA_AGE_SC6	AGE OF TEEN IN YEARS AT HH-REPORTED HEPATITIS A SHOT #6 (SHOTCARD)	Y
HEPA_AGE_SC7	AGE OF TEEN IN YEARS AT HH-REPORTED HEPATITIS A SHOT #7 (SHOTCARD)	Y
HEPA_AGE_SC8	AGE OF TEEN IN YEARS AT HH-REPORTED HEPATITIS A SHOT #8 (SHOTCARD)	Y

Table F.1 **Alphabetical Listing of Variables in the 2008 Public-Use Data File**

Variable Name	Variable Label	Notes 2008
HEPA_AGE1	AGE IN YEARS OF PROV-REPORTED HEPATITIS A-CONTAINING SHOT #1	Y
HEPA_AGE2	AGE IN YEARS OF PROV-REPORTED HEPATITIS A-CONTAINING SHOT #2	Y
HEPA_AGE3	AGE IN YEARS OF PROV-REPORTED HEPATITIS A-CONTAINING SHOT #3	Y
HEPA_AGE4	AGE IN YEARS OF PROV-REPORTED HEPATITIS A-CONTAINING SHOT #4	Y
HEPA_AGE5	AGE IN YEARS OF PROV-REPORTED HEPATITIS A-CONTAINING SHOT #5	Y
HEPA_AGE6	AGE IN YEARS OF PROV-REPORTED HEPATITIS A-CONTAINING SHOT #6	Y
HEPA_AGE7	AGE IN YEARS OF PROV-REPORTED HEPATITIS A-CONTAINING SHOT #7	Y
HEPA_AGE8	AGE IN YEARS OF PROV-REPORTED HEPATITIS A-CONTAINING SHOT #8	Y
HEPA_AGE9	AGE IN YEARS OF PROV-REPORTED HEPATITIS A-CONTAINING SHOT #9	Y
HEPA_ANY_REC	HH-REPORT: HAS TEEN EVER RECEIVED ANY HEPATITIS A SHOTS? (RECALL)	Y
HEPA_ANY_SC	HH-REPORT: HAS TEEN EVER RECEIVED ANY HEPATITIS A SHOTS? (SHOTCARD)	Y
HEPA_NUM_REC	NUMBER OF HH-REPORTED HEPATITIS A SHOTS RECEIVED (RECALL)	Y
HEPA_NUM_SC	NUMBER OF HH-REPORTED HEPATITIS A SHOTS RECEIVED (SHOTCARD)	Y
HEPA_NUM_TOT	NUMBER OF HH-REPORTED HEPATITIS A SHOTS RECEIVED (TOTAL)	Y
HEPA_RECOM	HAD OR HAS DOCTOR OR OTHER HEALTH CARE PROFESSIONAL EVER RECOMMENDED HEPATITIS A SHOTS?	Y
HEPB_AGE_SC1	AGE OF TEEN IN YEARS AT HH-REPORTED HEPATITIS B SHOT #1 (SHOTCARD)	Y
HEPB_AGE_SC2	AGE OF TEEN IN YEARS AT HH-REPORTED HEPATITIS B SHOT #2 (SHOTCARD)	Y
HEPB_AGE_SC3	AGE OF TEEN IN YEARS AT HH-REPORTED HEPATITIS B SHOT #3 (SHOTCARD)	Y
HEPB_AGE_SC4	AGE OF TEEN IN YEARS AT HH-REPORTED HEPATITIS B SHOT #4 (SHOTCARD)	Y
HEPB_AGE_SC5	AGE OF TEEN IN YEARS AT HH-REPORTED HEPATITIS B SHOT #5 (SHOTCARD)	Y
HEPB_AGE_SC6	AGE OF TEEN IN YEARS AT HH-REPORTED HEPATITIS B SHOT #6 (SHOTCARD)	Y
HEPB_AGE_SC7	AGE OF TEEN IN YEARS AT HH-REPORTED HEPATITIS B SHOT #7 (SHOTCARD)	Y
HEPB_AGE_SC8	AGE OF TEEN IN YEARS AT HH-REPORTED HEPATITIS B SHOT #8 (SHOTCARD)	Y
HEPB_AGE1	AGE IN YEARS OF PROV-REPORTED HEPATITIS B-CONTAINING SHOT #1	Y
HEPB_AGE2	AGE IN YEARS OF PROV-REPORTED HEPATITIS B-CONTAINING SHOT #2	Y
HEPB_AGE3	AGE IN YEARS OF PROV-REPORTED HEPATITIS B-CONTAINING SHOT #3	Y
HEPB_AGE4	AGE IN YEARS OF PROV-REPORTED HEPATITIS B-CONTAINING SHOT #4	Y
HEPB_AGE5	AGE IN YEARS OF PROV-REPORTED HEPATITIS B-CONTAINING SHOT #5	Y
HEPB_AGE6	AGE IN YEARS OF PROV-REPORTED HEPATITIS B-CONTAINING SHOT #6	Y
HEPB_AGE7	AGE IN YEARS OF PROV-REPORTED HEPATITIS B-CONTAINING SHOT #7	Y
HEPB_AGE8	AGE IN YEARS OF PROV-REPORTED HEPATITIS B-CONTAINING SHOT #8	Y
HEPB_AGE9	AGE IN YEARS OF PROV-REPORTED HEPATITIS B-CONTAINING SHOT #9	Y
HEPB_ANY_REC	HH-REPORT: HAS TEEN EVER RECEIVED ANY HEPATITIS B SHOTS? (RECALL)	Y
HEPB_ANY_SC	HH-REPORT: HAS TEEN EVER RECEIVED ANY HEPATITIS B SHOTS? (SHOTCARD)	Y
HEPB_NUM_REC	NUMBER OF HH-REPORTED HEPATITIS B SHOTS RECEIVED (RECALL)	Y
HEPB_NUM_SC	NUMBER OF HH-REPORTED HEPATITIS B SHOTS RECEIVED (SHOTCARD)	Y
HEPB_NUM_TOT	NUMBER OF HH-REPORTED HEPATITIS B SHOTS RECEIVED (TOTAL)	Y
HEPB_SCH	DID TEEN RECEIVE HEPATITIS B SHOTS BECAUSE OF SCHOOL REQUIREMENT?	Y
HPV_AGE1	AGE IN YEARS OF PROV-REPORTED HUMAN PAPILLOMAVIRUS SHOT #1	Y
HPV_AGE2	AGE IN YEARS OF PROV-REPORTED HUMAN PAPILLOMAVIRUS SHOT #2	Y
HPV_AGE3	AGE IN YEARS OF PROV-REPORTED HUMAN PAPILLOMAVIRUS SHOT #3	Y
HPV_AGE4	AGE IN YEARS OF PROV-REPORTED HUMAN PAPILLOMAVIRUS SHOT #4	Y
HPV_AGE5	AGE IN YEARS OF PROV-REPORTED HUMAN PAPILLOMAVIRUS SHOT #5	Y
HPV_AGE6	AGE IN YEARS OF PROV-REPORTED HUMAN PAPILLOMAVIRUS SHOT #6	Y
HPV_AGE7	AGE IN YEARS OF PROV-REPORTED HUMAN PAPILLOMAVIRUS SHOT #7	Y
HPV_AGE8	AGE IN YEARS OF PROV-REPORTED HUMAN PAPILLOMAVIRUS SHOT #8	Y
HPV_AGE9	AGE IN YEARS OF PROV-REPORTED HUMAN PAPILLOMAVIRUS SHOT #9	Y
HPVI_AGE_SC1	AGE OF TEEN IN YEARS AT HH-REPORTED HUMAN PAPILLOMAVIRUS SHOT #1 (SHOTCARD)	Y
HPVI_AGE_SC2	AGE OF TEEN IN YEARS AT HH-REPORTED HUMAN PAPILLOMAVIRUS SHOT #2 (SHOTCARD)	Y
HPVI_AGE_SC3	AGE OF TEEN IN YEARS AT HH-REPORTED HUMAN PAPILLOMAVIRUS SHOT #3 (SHOTCARD)	Y
HPVI_AGE_SC4	AGE OF TEEN IN YEARS AT HH-REPORTED HUMAN PAPILLOMAVIRUS SHOT #4 (SHOTCARD)	Y
HPVI_AGE_SC5	AGE OF TEEN IN YEARS AT HH-REPORTED HUMAN PAPILLOMAVIRUS SHOT #5 (SHOTCARD)	Y
HPVI_AGE_SC6	AGE OF TEEN IN YEARS AT HH-REPORTED HUMAN PAPILLOMAVIRUS SHOT #6 (SHOTCARD)	Y
HPVI_AGE_SC7	AGE OF TEEN IN YEARS AT HH-REPORTED HUMAN PAPILLOMAVIRUS SHOT #7 (SHOTCARD)	Y
HPVI_AGE_SC8	AGE OF TEEN IN YEARS AT HH-REPORTED HUMAN PAPILLOMAVIRUS SHOT #8 (SHOTCARD)	Y
HPVI_ANY_REC	HH-REPORT: HAS TEEN EVER RECEIVED ANY HUMAN PAPILLOMAVIRUS SHOTS? (RECALL)	Y
HPVI_ANY_SC	HH-REPORT: HAS TEEN EVER RECEIVED ANY HUMAN PAPILLOMAVIRUS SHOTS? (SHOTCARD)	Y
HPVI_HEARD	HAVE YOU EVER HEARD OF HUMAN PAPILLOMAVIRUS?	Y
HPVI_INTENT	HOW LIKELY IS IT TEEN WILL RECEIVE HPV SHOTS IN NEXT 12 MONTHS?	Y
HPVI_KNOW	HAVE YOU EVER HEARD OF THE CERVICAL CANCER VACCINE, HPV SHOT, OR GARDASIL?	Y
HPVI_NUM_REC	NUMBER OF HH-REPORTED HUMAN PAPILLOMAVIRUS SHOTS RECEIVED (RECALL)	Y
HPVI_NUM_SC	NUMBER OF HH-REPORTED HUMAN PAPILLOMAVIRUS SHOTS RECEIVED (SHOTCARD)	Y
HPVI_NUM_TOT	NUMBER OF HH-REPORTED HUMAN PAPILLOMAVIRUS SHOTS RECEIVED (TOTAL)	Y
HPVI_REAS_1	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: NOT RECOMMENDED	Y
HPVI_REAS_10	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: COSTS	Y
HPVI_REAS_11	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: SAFETY CONCERN/SIDE EFFECTS	Y
HPVI_REAS_12	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: EFFECTIVENESS CONCERN	Y
HPVI_REAS_13	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: CHILD FEARFUL	Y

Table F.1 **Alphabetical Listing of Variables in the 2008 Public-Use Data File**

Variable Name	Variable Label	Notes 2008
HPVI_REAS_14	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: CHILD SHOULD MAKE DECISION	Y
HPVI_REAS_15	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: COLLEGE SHOT	Y
HPVI_REAS_16	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: DON'T BELIEVE IN VACCINATIONS	Y
HPVI_REAS_17	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: FAMILY/PARENTAL DECISION	Y
HPVI_REAS_18	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: HANDICAPPED/SPECIAL NEEDS/ILLNESS	Y
HPVI_REAS_19	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: RELIGION/ORTHODOX	Y
HPVI_REAS_2	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: NOT NEEDED OR NOT NECESSARY	Y
HPVI_REAS_20	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: TIME	Y
HPVI_REAS_21	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: MORE INFO/NEW VACCINE	Y
HPVI_REAS_22	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: ALREADY UP-TO-DATE	Y
HPVI_REAS_23	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: NOT AVAILABLE	Y
HPVI_REAS_24	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: NOT A SCHOOL REQUIREMENT	Y
HPVI_REAS_25	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: INCREASED SEXUAL ACTIVITY CONCERN	Y
HPVI_REAS_26	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: NO OB/GYN	Y
HPVI_REAS_27	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: ALREADY SEXUALLY ACTIVE	Y
HPVI_REAS_28	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: NO DOCTOR OR DOCTOR'S VISIT NOT SCHEDULED	Y
HPVI_REAS_3	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: LACK OF KNOWLEDGE	Y
HPVI_REAS_5	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: NOT SEXUALLY ACTIVE	Y
HPVI_REAS_6	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: NOT APPROPRIATE AGE	Y
HPVI_REAS_9	MAIN REASON TEEN WILL NOT RECEIVE HUMAN PAPILLOMAVIRUS SHOTS IN THE NEXT 12 MONTHS: OTHER REASON	Y
HPVI_RECOM	HAD OR HAS DOCTOR OR OTHER HEALTH CARE PROFESSIONAL EVER RECOMMENDED THAT TEEN RECEIVE HPV SHOTS?	Y
I_HISP_K	IS TEEN HISPANIC OR LATINO?: IMPUTED	Y
IMM_ANY	HH-REPORT: HAS TEEN EVER RECEIVED ANY VACCINATIONS?	Y
INCPORAR	INCOME TO POVERTY RATIO (TOP- AND BOTTOM-CODED)	Y
INCPOV1	POVERTY STATUS	Y
INCQ298A	FAMILY INCOME CATEGORIES (COLLAPSED)	Y
LANGUAGE	LANGUAGE IN WHICH INTERVIEW WAS CONDUCTED	Y
MARITAL	MARITAL STATUS OF MOTHER: IMPUTED (COLLAPSED)	Y
MCV_AGE_SC1	AGE OF TEEN IN YEARS AT HH-REPORTED MEASLES OR MMR SHOT #1 (SHOTCARD)	Y
MCV_AGE_SC2	AGE OF TEEN IN YEARS AT HH-REPORTED MEASLES OR MMR SHOT #2 (SHOTCARD)	Y
MCV_AGE_SC3	AGE OF TEEN IN YEARS AT HH-REPORTED MEASLES OR MMR SHOT #3 (SHOTCARD)	Y
MCV_AGE_SC4	AGE OF TEEN IN YEARS AT HH-REPORTED MEASLES OR MMR SHOT #4 (SHOTCARD)	Y
MCV_AGE_SC5	AGE OF TEEN IN YEARS AT HH-REPORTED MEASLES OR MMR SHOT #5 (SHOTCARD)	Y
MCV_AGE_SC6	AGE OF TEEN IN YEARS AT HH-REPORTED MEASLES OR MMR SHOT #6 (SHOTCARD)	Y
MCV_AGE_SC7	AGE OF TEEN IN YEARS AT HH-REPORTED MEASLES OR MMR SHOT #7 (SHOTCARD)	Y
MCV_AGE_SC8	AGE OF TEEN IN YEARS AT HH-REPORTED MEASLES OR MMR SHOT #8 (SHOTCARD)	Y
MCV_AGE1	AGE IN YEARS OF PROV-REPORTED MEASLES-CONTAINING SHOT #1	Y
MCV_AGE2	AGE IN YEARS OF PROV-REPORTED MEASLES-CONTAINING SHOT #2	Y
MCV_AGE3	AGE IN YEARS OF PROV-REPORTED MEASLES-CONTAINING SHOT #3	Y
MCV_AGE4	AGE IN YEARS OF PROV-REPORTED MEASLES-CONTAINING SHOT #4	Y
MCV_AGE5	AGE IN YEARS OF PROV-REPORTED MEASLES-CONTAINING SHOT #5	Y
MCV_AGE6	AGE IN YEARS OF PROV-REPORTED MEASLES-CONTAINING SHOT #6	Y
MCV_AGE7	AGE IN YEARS OF PROV-REPORTED MEASLES-CONTAINING SHOT #7	Y
MCV_AGE8	AGE IN YEARS OF PROV-REPORTED MEASLES-CONTAINING SHOT #8	Y
MCV_AGE9	AGE IN YEARS OF PROV-REPORTED MEASLES-CONTAINING SHOT #9	Y
MCV_ANY_REC	HH-REPORT: HAS TEEN EVER RECEIVED ANY MMR/MEASLES SHOTS? (RECALL)	Y
MCV_ANY_SC	HH-REPORT: HAS TEEN EVER RECEIVED ANY MMR/MEASLES SHOTS? (SHOTCARD)	Y
MCV_NUM_REC	NUMBER OF HH-REPORTED MMR/MEASLES SHOTS RECEIVED (RECALL)	Y
MCV_NUM_SC	NUMBER OF HH-REPORTED MMR/MEASLES SHOTS RECEIVED (SHOTCARD)	Y
MCV_NUM_TOT	NUMBER OF HH-REPORTED MMR/MEASLES SHOTS RECEIVED (TOTAL)	Y
MEN_AGE_SC1	AGE OF TEEN IN YEARS AT HH-REPORTED MENINGOCOCCAL SHOT #1 (SHOTCARD)	Y
MEN_AGE_SC2	AGE OF TEEN IN YEARS AT HH-REPORTED MENINGOCOCCAL SHOT #2 (SHOTCARD)	Y
MEN_AGE_SC3	AGE OF TEEN IN YEARS AT HH-REPORTED MENINGOCOCCAL SHOT #3 (SHOTCARD)	Y
MEN_AGE_SC4	AGE OF TEEN IN YEARS AT HH-REPORTED MENINGOCOCCAL SHOT #4 (SHOTCARD)	Y
MEN_AGE_SC5	AGE OF TEEN IN YEARS AT HH-REPORTED MENINGOCOCCAL SHOT #5 (SHOTCARD)	Y
MEN_AGE_SC6	AGE OF TEEN IN YEARS AT HH-REPORTED MENINGOCOCCAL SHOT #6 (SHOTCARD)	Y
MEN_AGE_SC7	AGE OF TEEN IN YEARS AT HH-REPORTED MENINGOCOCCAL SHOT #7 (SHOTCARD)	Y
MEN_AGE_SC8	AGE OF TEEN IN YEARS AT HH-REPORTED MENINGOCOCCAL SHOT #8 (SHOTCARD)	Y
MEN_AGE1	AGE IN YEARS OF PROV-REPORTED MENINGOCOCCAL-CONTAINING SHOT #1	Y
MEN_AGE2	AGE IN YEARS OF PROV-REPORTED MENINGOCOCCAL-CONTAINING SHOT #2	Y
MEN_AGE3	AGE IN YEARS OF PROV-REPORTED MENINGOCOCCAL-CONTAINING SHOT #3	Y
MEN_AGE4	AGE IN YEARS OF PROV-REPORTED MENINGOCOCCAL-CONTAINING SHOT #4	Y
MEN_AGE5	AGE IN YEARS OF PROV-REPORTED MENINGOCOCCAL-CONTAINING SHOT #5	Y
MEN_AGE6	AGE IN YEARS OF PROV-REPORTED MENINGOCOCCAL-CONTAINING SHOT #6	Y
MEN_AGE7	AGE IN YEARS OF PROV-REPORTED MENINGOCOCCAL-CONTAINING SHOT #7	Y
MEN_AGE8	AGE IN YEARS OF PROV-REPORTED MENINGOCOCCAL-CONTAINING SHOT #8	Y
MEN_AGE9	AGE IN YEARS OF PROV-REPORTED MENINGOCOCCAL-CONTAINING SHOT #9	Y
MEN_ANY_REC	HH-REPORT: HAS TEEN EVER RECEIVED ANY MENINGITIS SHOTS? (RECALL)	Y

Table F.1 Alphabetical Listing of Variables in the 2008 Public-Use Data File

Variable Name	Variable Label	Notes 2008
MEN_ANY_SC	HH-REPORT: HAS TEEN EVER RECEIVED ANY MENINGITIS SHOTS? (SHOTCARD)	Y
MEN_NUM_REC	NUMBER OF HH-REPORTED MENINGITIS SHOTS RECEIVED (RECALL)	Y
MEN_NUM_SC	NUMBER OF HH-REPORTED MENINGITIS SHOTS RECEIVED (SHOTCARD)	Y
MEN_NUM_TOT	NUMBER OF HH-REPORTED MENINGITIS SHOTS RECEIVED (TOTAL)	Y
MEN_REAS_1	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: NOT RECOMMENDED	Y
MEN_REAS_10	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: COSTS	Y
MEN_REAS_11	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: SAFETY CONCERN/SIDE EFFECTS	Y
MEN_REAS_12	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: EFFECTIVENESS CONCERN	Y
MEN_REAS_13	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: CHILD FEARFUL	Y
MEN_REAS_14	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: CHILD SHOULD MAKE DECISION	Y
MEN_REAS_15	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: COLLEGE SHOT	Y
MEN_REAS_16	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: DON'T BELIEVE IN VACCINATIONS	Y
MEN_REAS_17	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: FAMILY/PARENTAL DECISION	Y
MEN_REAS_18	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: HANDICAPPED/SPECIAL NEEDS/ILLNESS	Y
MEN_REAS_19	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: RELIGION/ORTHODOX	Y
MEN_REAS_2	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: LACK OF KNOWLEDGE	Y
MEN_REAS_20	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: TIME	Y
MEN_REAS_21	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: MORE INFO/NEW VACCINE	Y
MEN_REAS_22	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: ALREADY UP-TO-DATE	Y
MEN_REAS_23	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: NO DOCTOR OR DOCTOR'S VISIT NOT SCHEDULED	Y
MEN_REAS_3	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: NOT NEEDED OR NOT NECESSARY	Y
MEN_REAS_4	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: NOT SCHOOL REQUIREMENT	Y
MEN_REAS_5	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: NOT AVAILABLE	Y
MEN_REAS_6	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: NOT APPROPRIATE AGE	Y
MEN_REAS_7	MAIN REASON TEEN DID NOT RECEIVE MENINGITIS SHOTS: OTHER REASON	Y
MEN_RECOM	HAD OR HAS DOCTOR OR OTHER HEALTH CARE PROFESSIONAL EVER RECOMMENDED THAT TEEN RECEIVE MENINGITIS SHOTS?	Y
MOBIL_I	GEOGRAPHIC MOBILITY STATUS: STATE OF RESIDENCE AT BIRTH VERSUS CURRENT STATE: IMPUTED	Y
N_PRVR	NUMBER OF IHQS WITH VACCINATION INFORMATION FOR THE TEEN (TOP-CODED)	Y
NOSCHOOLR	DURING PAST 12 MONTHS, ABOUT HOW MANY DAYS DID TEEN MISS SCHOOL BECAUSE OF ILLNESS OR INJURY? (COLLAPSED)	Y
NUM_PROVR	NUMBER OF VALID, UNIQUE PROVIDERS IDENTIFIED BY RESPONDENT (FOR TEENS WITH CONSENT) (TOP-CODED)	Y
P_N13FLU	NUMBER OF INFLUENZA VACCINATIONS IN THE PAST THREE YEARS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13FLU_FL	NUMBER OF INFLUENZA VACCINATIONS OF UNKNOWN TYPE IN PAST THREE YEARS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13FLU_FM	NUMBER OF FLUMIST VACCINATIONS IN PAST THREE YEARS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13FLU_FN	NUMBER OF INJECTED INFLUENZA SHOTS OF OTHER/UNKNOWN TYPE IN PAST THREE YEARS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13FLU_FV	NUMBER OF FLUVIRIN SHOTS IN PAST THREE YEARS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13FLU_FZ	NUMBER OF FLUZONE SHOTS IN PAST THREE YEARS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13HEPA	NUMBER OF HEPATITIS A-CONTAINING SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13HEPA_HA	NUMBER OF HEPATITIS A-CONTAINING SHOTS OF UNKNOWN TYPE BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13HEPA_HO	NUMBER OF HEPATITIS A-ONLY SHOTS DETERMINED BY AGE 13 YEARS FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13HEPB	NUMBER OF HEPATITIS B-CONTAINING SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13HEPB_43	NUMBER OF HEPB/HIB COMBO SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13HEPB_61	NUMBER OF HEPATITIS B 0.5 ML RECOMBIVAX SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13HEPB_62	NUMBER OF HEPATITIS B 1.0 ML RECOMBIVAX SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13HEPB_63	NUMBER OF HEPATITIS B ENGERIX SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13HEPB_64	NUMBER OF HEPATITIS B-ONLY SHOTS OF UNKNOWN TYPE BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13HEPB_HB	NUMBER OF HEPATITIS B-CONTAINING SHOTS OF UNKNOWN TYPE BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13HPV	NUMBER OF HUMAN PAPILLOMAVIRUS SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y

Table F.1 **Alphabetical Listing of Variables in the 2008 Public-Use Data File**

Variable Name	Variable Label	Notes 2008
P_N13MCV	NUMBER OF MEASLES-CONTAINING SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13MCV_30	NUMBER OF MMR-ONLY SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13MCV_31	NUMBER OF MEASLES-ONLY SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13MCV_32	NUMBER OF MEASLES-MUMPS SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13MCV_33	NUMBER OF MEASLES-RUBELLA SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13MCV_MM	NUMBER OF MEASLES-CONTAINING SHOTS OF UNKNOWN TYPE BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13MCV_VM	NUMBER OF MMR/VARICELLA SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13MEN	NUMBER OF MENINGOCOCCAL-CONTAINING SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13MEN_80	NUMBER OF MENINGOCOCCAL MCV4 SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13MEN_81	NUMBER OF MENINGOCOCCAL MPSV4 SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13MEN_82	NUMBER OF MENINGOCOCCAL-CONTAINING SHOTS OF UNKNOWN TYPE BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13MMR	NUMBER OF MMR-CONTAINING SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13PPS	NUMBER OF PNEUMOCOCCAL POLYSACCHARIDE SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13TDAP_POST10	NUMBER OF TDAP SHOTS SINCE AGE 10 YEARS AND BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13TDP	NUMBER OF TD/TDAP-CONTAINING SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13TDP_11	NUMBER OF TD-ONLY SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13TDP_14	NUMBER OF TDAP-ONLY SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13TDP_15	NUMBER OF TD/TDAP-CONTAINING SHOTS OF UNKNOWN TYPE BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13TDP_POST10	NUMBER OF TD/TDAP-CONTAINING SHOTS SINCE AGE 10 YEARS AND BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13VRC	NUMBER OF VARICELLA-CONTAINING SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13VRC_POST1	NUMBER OF VARICELLA-CONTAINING SHOTS AT 12+ MONTHS OF AGE AND BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13VRC_VA	NUMBER OF VARICELLA-CONTAINING SHOTS OF UNKNOWN TYPE BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13VRC_VM	NUMBER OF MMR/VARICELLA SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_N13VRC_VO	NUMBER OF VARICELLA-ONLY SHOTS BY AGE 13 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMFLU	NUMBER OF INFLUENZA VACCINATIONS IN THE PAST THREE YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMFLU_FL	NUMBER OF INFLUENZA VACCINATIONS OF UNKNOWN TYPE IN PAST THREE YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMFLU_FM	NUMBER OF FLUMIST VACCINATIONS IN PAST THREE YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMFLU_FN	NUMBER OF INJECTED INFLUENZA SHOTS OF OTHER/UNKNOWN TYPE IN PAST THREE YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMFLU_FV	NUMBER OF FLUVIRIN SHOTS IN PAST THREE YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMFLU_FZ	NUMBER OF FLUZONE SHOTS IN PAST THREE YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMHEPA	NUMBER OF HEPATITIS A-CONTAINING SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMHEPA_HA	NUMBER OF HEPATITIS A-CONTAINING SHOTS OF UNKNOWN TYPE DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMHEPA_HO	NUMBER OF HEPATITIS A-ONLY SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMHEPB	NUMBER OF HEPATITIS B-CONTAINING SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y

Table F.1 **Alphabetical Listing of Variables in the 2008 Public-Use Data File**

Variable Name	Variable Label	Notes 2008
P_NUMHEPB_43	NUMBER OF HEPB/HIB COMBO SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMHEPB_61	NUMBER OF HEPATITIS B 0.5 ML RECOMBIVAX SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMHEPB_62	NUMBER OF HEPATITIS B 1.0 ML RECOMBIVAX SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMHEPB_63	NUMBER OF HEPATITIS B ENGERIX SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMHEPB_64	NUMBER OF HEPATITIS B-ONLY SHOTS OF UNKNOWN TYPE DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMHEPB_HB	NUMBER OF HEPATITIS B-CONTAINING SHOTS OF UNKNOWN TYPE DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMHPV	NUMBER OF HUMAN PAPILLOMAVIRUS SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMMCV	NUMBER OF MEASLES-CONTAINING SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMMCV_30	NUMBER OF MMR-ONLY SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMMCV_31	NUMBER OF MEASLES-ONLY SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMMCV_32	NUMBER OF MEASLES-MUMPS SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMMCV_33	NUMBER OF MEASLES-RUBELLA SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMMCV_MM	NUMBER OF MEASLES-CONTAINING SHOTS OF UNKNOWN TYPE DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMMCV_VM	NUMBER OF MMR/VARICELLA SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMMEN	NUMBER OF MENINGOCOCCAL-CONTAINING SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMMEN_80	NUMBER OF MENINGOCOCCAL MCV4 SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMMEN_81	NUMBER OF MENINGOCOCCAL MPSV4 SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMMEN_82	NUMBER OF MENINGOCOCCAL-CONTAINING SHOTS OF UNKNOWN TYPE DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMMMR	NUMBER OF MMR-CONTAINING SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMPPS	NUMBER OF PNEUMOCOCCAL POLYSACCHARIDE SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMTDAP_POST10	NUMBER OF TDAP SHOTS SINCE AGE 10 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMTDP	NUMBER OF TD/TDAP-CONTAINING SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMTDP_11	NUMBER OF TD-ONLY SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMTDP_14	NUMBER OF TDAP-ONLY SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMTDP_15	NUMBER OF TD/TDAP-CONTAINING SHOTS OF UNKNOWN TYPE DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMTDP_POST10	NUMBER OF TD/TDAP-CONTAINING SHOTS SINCE AGE 10 YEARS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMVRC	NUMBER OF VARICELLA-CONTAINING SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMVRC_POST1	NUMBER OF VARICELLA-CONTAINING SHOTS AT 12+ MONTHS OF AGE DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMVRC_VA	NUMBER OF VARICELLA-CONTAINING SHOTS OF UNKNOWN TYPE DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMVRC_VM	NUMBER OF MMR/VARICELLA SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_NUMVRC_VO	NUMBER OF VARICELLA-ONLY SHOTS DETERMINED FROM PROVIDER INFO, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_U131321	UP-TO-DATE FLAG (PROV INFO): 1:3:2:1 SERIES BEFORE AGE 13 YEARS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_U1313212	UP-TO-DATE FLAG (PROV INFO): 1:3:2:1:2 SERIES BEFORE AGE 13 YEARS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_U13FLU0506	UP-TO-DATE FLAG (PROV INFO): 1+ INFLUENZA VACCINATION BETWEEN SEPT 1, 2005 AND JAN 31, 2006, BEFORE AGE 13 YEARS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y

Table F.1 **Alphabetical Listing of Variables in the 2008 Public-Use Data File**

Variable Name	Variable Label	Notes 2008
P_U13FLU0607	UP-TO-DATE FLAG (PROV INFO): 1+ INFLUENZA VACCINATION BETWEEN SEPT 1, 2006 AND JAN 31, 2007, BEFORE AGE 13 YEARS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_U13FLU0708	UP-TO-DATE FLAG (PROV INFO): 1+ INFLUENZA VACCINATION BETWEEN SEPT 1, 2007 AND JAN 31, 2008, BEFORE AGE 13 YEARS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_U13HEPA	UP-TO-DATE FLAG (PROV INFO): 2+ HEPATITIS A-CONTAINING SHOTS BEFORE AGE 13 YEARS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_U13HEPB	UP-TO-DATE FLAG (PROV INFO): 2+ HEPB 1.0 ML RECOMBIVAX SHOTS BEFORE AGE 13 YEARS, OR 3+ ANY COMBINATION OF HEPATITIS B-CONTAINING SHOTS BEFORE AGE 13 YEARS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_U13HPV	UP-TO-DATE FLAG (PROV INFO): 1+ HUMAN PAPILLOMAVIRUS SHOT BEFORE AGE 13 YEARS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_U13MCV	UP-TO-DATE FLAG (PROV INFO): 2+ MEASLES-CONTAINING SHOTS BEFORE AGE 13 YEARS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_U13MEN	UP-TO-DATE FLAG (PROV INFO): 1+ MENINGOCOCCAL-CONTAINING SHOT BEFORE AGE 13 YEARS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_U13MMR	UP-TO-DATE FLAG (PROV INFO): 2+ MMR-CONTAINING SHOTS BEFORE AGE 13 YEARS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_U13PPS	UP-TO-DATE FLAG (PROV INFO): 1+ PNEUMOCOCCAL POLYSACCHARIDE SHOT BEFORE AGE 13 YEARS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_U13TD	UP-TO-DATE FLAG (PROV INFO) FOR TD/TDAP BEFORE AGE 13 YEARS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_U13TDAP	UP-TO-DATE FLAG (PROV INFO): 1+ TDAP-ONLY SHOT SINCE AGE 10 YEARS AND BEFORE AGE 13 YEARS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_U13VRC	UP-TO-DATE FLAG (PROV INFO): 1+ VARICELLA-CONTAINING SHOT AT 12+ MONTHS OF AGE AND BEFORE AGE 13 YEARS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_U13VRC2	UP-TO-DATE FLAG (PROV INFO): 2+ VARICELLA-CONTAINING SHOTS AT 12+ MONTHS OF AGE AND BEFORE AGE 13 YEARS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_UTD1321	UP-TO-DATE FLAG (PROV INFO): 1:3:2:1 SERIES, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_UTD13212	UP-TO-DATE FLAG (PROV INFO): 1:3:2:1:2 SERIES, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_UTDFLU0506	UP-TO-DATE FLAG (PROV INFO): 1+ INFLUENZA VACCINATION BETWEEN SEPT 1, 2005 AND JAN 31, 2006, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_UTDFLU0607	UP-TO-DATE FLAG (PROV INFO): 1+ INFLUENZA VACCINATION BETWEEN SEPT 1, 2006 AND JAN 31, 2007, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_UTDFLU0708	UP-TO-DATE FLAG (PROV INFO): 1+ INFLUENZA VACCINATION BETWEEN SEPT 1, 2007 AND JAN 31, 2008, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_UTDHEPA	UP-TO-DATE FLAG (PROV INFO): 2+ HEPATITIS A-CONTAINING SHOTS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_UTDHEPB	UP-TO-DATE FLAG (PROV INFO): 2+ HEPB 1.0 ML RECOMBIVAX SHOTS, OR 3+ ANY COMBINATION OF HEPATITIS B-CONTAINING SHOTS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_UTDHPV	UP-TO-DATE FLAG (PROV INFO): 1+ HUMAN PAPILLOMAVIRUS SHOT, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_UTDMCV	UP-TO-DATE FLAG (PROV INFO): 2+ MEASLES-CONTAINING SHOTS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_UTDMEN	UP-TO-DATE FLAG (PROV INFO): 1+ MENINGOCOCCAL-CONTAINING SHOT, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_UTDMMR	UP-TO-DATE FLAG (PROV INFO): 2+ MMR-CONTAINING SHOTS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_UTDPPS	UP-TO-DATE FLAG (PROV INFO): 1+ PNEUMOCOCCAL POLYSACCHARIDE SHOT, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_UTDTD	UP-TO-DATE FLAG (PROV INFO) FOR TD/TDAP, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_UTDTDAP	UP-TO-DATE FLAG (PROV INFO): 1+ TDAP-ONLY SHOT SINCE AGE 10 YEARS, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_UTDVRC	UP-TO-DATE FLAG (PROV INFO): 1+ VARICELLA-CONTAINING SHOT AT 12+ MONTHS OF AGE, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
P_UTDVRC2	UP-TO-DATE FLAG (PROV INFO): 2+ VARICELLA-CONTAINING SHOTS AT 12+ MONTHS OF AGE, EXCLUDING ANY VACCINATIONS AFTER THE RDD INTERVIEW DATE.	Y
PDAT	ADEQUATE PROVIDER DATA FLAG	Y
PPS_AGE1	AGE IN YEARS OF PROV-REPORTED PNEUMOCOCCAL POLYSACCHARIDE SHOT #1	Y
PPS_AGE2	AGE IN YEARS OF PROV-REPORTED PNEUMOCOCCAL POLYSACCHARIDE SHOT #2	Y
PPS_AGE3	AGE IN YEARS OF PROV-REPORTED PNEUMOCOCCAL POLYSACCHARIDE SHOT #3	Y
PPS_AGE4	AGE IN YEARS OF PROV-REPORTED PNEUMOCOCCAL POLYSACCHARIDE SHOT #4	Y
PPS_AGE5	AGE IN YEARS OF PROV-REPORTED PNEUMOCOCCAL POLYSACCHARIDE SHOT #5	Y
PPS_AGE6	AGE IN YEARS OF PROV-REPORTED PNEUMOCOCCAL POLYSACCHARIDE SHOT #6	Y
PPS_AGE7	AGE IN YEARS OF PROV-REPORTED PNEUMOCOCCAL POLYSACCHARIDE SHOT #7	Y
PPS_AGE8	AGE IN YEARS OF PROV-REPORTED PNEUMOCOCCAL POLYSACCHARIDE SHOT #8	Y

Table F.1 **Alphabetical Listing of Variables in the 2008 Public-Use Data File**

Variable Name	Variable Label	Notes 2008
PPS_AGE9	AGE IN YEARS OF PROV-REPORTED PNEUMOCOCCAL POLYSACCHARIDE SHOT #9	Y
PROVWT	FINAL PROVIDER-PHASE WEIGHT	Y
RACE_K	RACE OF TEEN WITH MULTIRACE CATEGORY: IMPUTED (COLLAPSED)	Y
RACEETHK	RACE/ETHNICITY OF TEEN WITH MULTIRACE CATEGORY: IMPUTED (COLLAPSED)	Y
RDDWT	FINAL RDD-PHASE WEIGHT	Y
REGISTRY	DID TEEN'S PROVIDERS REPORT TEEN'S IMMUNIZATIONS TO IMMUNIZATION REGISTRY?	Y
RISK_EVER	HAS DOCTOR, NURSE, OR OTHER HEALTH CARE PROFESSIONAL EVER SAID THAT TEEN HAS HAD ANY OF THE FOLLOWING HEALTH CONDITIONS?	Y
RISK_HH	DO ANY OTHER MEMBERS OF TEEN'S HOUSEHOLD HAVE ANY OF THE FOLLOWING HEALTH CONDITIONS?	Y
RISK_NOW	DOES TEEN STILL HAVE ANY OF THESE CONDITIONS?	Y
SEQNUMT	UNIQUE TEEN IDENTIFIER	Y
SEX	GENDER OF CHILD: IMPUTED	Y
SHOTCARD	SHOT CARD FLAG	Y
SHOTCARD_ALL	HH-REPORT: DOES SHOT RECORD INCLUDE ALL VACCINATIONS?	Y
STATE	TRUE STATE OF RESIDENCE (STATE FIPS CODE)	Y
TDP_AGE1	AGE IN YEARS OF PROV-REPORTED TD/TDAP-CONTAINING SHOT #1	Y
TDP_AGE2	AGE IN YEARS OF PROV-REPORTED TD/TDAP-CONTAINING SHOT #2	Y
TDP_AGE3	AGE IN YEARS OF PROV-REPORTED TD/TDAP-CONTAINING SHOT #3	Y
TDP_AGE4	AGE IN YEARS OF PROV-REPORTED TD/TDAP-CONTAINING SHOT #4	Y
TDP_AGE5	AGE IN YEARS OF PROV-REPORTED TD/TDAP-CONTAINING SHOT #5	Y
TDP_AGE6	AGE IN YEARS OF PROV-REPORTED TD/TDAP-CONTAINING SHOT #6	Y
TDP_AGE7	AGE IN YEARS OF PROV-REPORTED TD/TDAP-CONTAINING SHOT #7	Y
TDP_AGE8	AGE IN YEARS OF PROV-REPORTED TD/TDAP-CONTAINING SHOT #8	Y
TDP_AGE9	AGE IN YEARS OF PROV-REPORTED TD/TDAP-CONTAINING SHOT #9	Y
TET_AGE_SC1	AGE OF TEEN IN YEARS AT HH-REPORTED TETANUS BOOSTER SHOT #1 (SHOTCARD)	Y
TET_AGE_SC2	AGE OF TEEN IN YEARS AT HH-REPORTED TETANUS BOOSTER SHOT #2 (SHOTCARD)	Y
TET_AGE_SC3	AGE OF TEEN IN YEARS AT HH-REPORTED TETANUS BOOSTER SHOT #3 (SHOTCARD)	Y
TET_AGE_SC4	AGE OF TEEN IN YEARS AT HH-REPORTED TETANUS BOOSTER SHOT #4 (SHOTCARD)	Y
TET_AGE_SC5	AGE OF TEEN IN YEARS AT HH-REPORTED TETANUS BOOSTER SHOT #5 (SHOTCARD)	Y
TET_AGE_SC6	AGE OF TEEN IN YEARS AT HH-REPORTED TETANUS BOOSTER SHOT #6 (SHOTCARD)	Y
TET_AGE_SC7	AGE OF TEEN IN YEARS AT HH-REPORTED TETANUS BOOSTER SHOT #7 (SHOTCARD)	Y
TET_AGE_SC8	AGE OF TEEN IN YEARS AT HH-REPORTED TETANUS BOOSTER SHOT #8 (SHOTCARD)	Y
TET_ANY_REC	HH-REPORT: HAS TEEN EVER RECEIVED ANY TETANUS BOOSTER SHOTS? (RECALL)	Y
TET_ANY_SC	HH-REPORT: HAS TEEN EVER RECEIVED ANY TETANUS BOOSTER SHOTS? (SHOTCARD)	Y
TET_LAST_AGE	AGE IN YEARS AT LAST TETANUS BOOSTER SHOT (RECALL)	Y
TET_LAST_TYPE	TYPE OF LAST TETANUS BOOSTER SHOT (RECALL)	Y
TET_NUM_SC	NUMBER OF HH-REPORTED TETANUS BOOSTER SHOTS RECEIVED (SHOTCARD)	Y
TET_PLACE_1	KIND OF PLACE TEEN RECEIVED TETANUS BOOSTER SHOT AFTER AGE 7 YEARS: DOCTOR'S OFFICE	Y
TET_PLACE_2	KIND OF PLACE TEEN RECEIVED TETANUS BOOSTER SHOT AFTER AGE 7 YEARS: EMERGENCY ROOM	Y
TET_PLACE_3	KIND OF PLACE TEEN RECEIVED TETANUS BOOSTER SHOT AFTER AGE 7 YEARS: HEALTH DEPARTMENT	Y
TET_PLACE_4	KIND OF PLACE TEEN RECEIVED TETANUS BOOSTER SHOT AFTER AGE 7 YEARS: CLINIC OR HEALTH CENTER	Y
TET_PLACE_5	KIND OF PLACE TEEN RECEIVED TETANUS BOOSTER SHOT AFTER AGE 7 YEARS: HOSPITAL	Y
TET_PLACE_6	KIND OF PLACE TEEN RECEIVED TETANUS BOOSTER SHOT AFTER AGE 7 YEARS: OTHER MEDICALLY-RELATED PLACE	Y
TET_PLACE_7	KIND OF PLACE TEEN RECEIVED TETANUS BOOSTER SHOT AFTER AGE 7 YEARS: PHARMACY OR DRUG STORE	Y
TET_PLACE_8	KIND OF PLACE TEEN RECEIVED TETANUS BOOSTER SHOT AFTER AGE 7 YEARS: WORKPLACE	Y
TET_PLACE_9	KIND OF PLACE TEEN RECEIVED TETANUS BOOSTER SHOT AFTER AGE 7 YEARS: OTHER NON-MEDICALLY-RELATED PLACE	Y
TET_REAS_1	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: NOT RECOMMENDED	Y
TET_REAS_10	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: COSTS	Y
TET_REAS_11	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: SAFETY CONCERN/SIDE EFFECTS	Y
TET_REAS_12	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: EFFECTIVENESS CONCERN	Y
TET_REAS_13	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: CHILD FEARFUL	Y
TET_REAS_14	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: CHILD SHOULD MAKE DECISION	Y
TET_REAS_15	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: COLLEGE SHOT	Y
TET_REAS_16	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: DON'T BELIEVE IN VACCINATIONS	Y
TET_REAS_17	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: FAMILY/PARENTAL DECISION	Y
TET_REAS_18	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: HANDICAPPED/SPECIAL NEEDS/ILLNESS	Y
TET_REAS_19	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: RELIGION/ORTHODOX	Y
TET_REAS_2	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: LACK OF KNOWLEDGE	Y
TET_REAS_20	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: TIME	Y
TET_REAS_21	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: MORE INFO/NEW VACCINE	Y
TET_REAS_22	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: ALREADY UP-TO-DATE	Y
TET_REAS_23	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: NOT AVAILABLE	Y
TET_REAS_24	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: NOT A SCHOOL REQUIREMENT	Y
TET_REAS_3	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: NOT NEEDED OR NOT NECESSARY	Y
TET_REAS_4	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: NO DOCTOR OR DOCTOR'S VISIT NOT SCHEDULED	Y

Table F.1 **Alphabetical Listing of Variables in the 2008 Public-Use Data File**

Variable Name	Variable Label	Notes 2008
TET_REAS_5	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: NOT APPROPRIATE AGE	Y
TET_REAS_7	MAIN REASON TEEN DID NOT RECEIVE TETANUS BOOSTER SHOTS: OTHER REASON	Y
TET_RECOM	HAD OR HAS DOCTOR OR OTHER HEALTH CARE PROFESSIONAL EVER RECOMMENDED THAT TEEN RECEIVE TETANUS BOOSTER SHOTS?	Y
TET_TYPE1	TYPE OF HH-REPORTED TETANUS BOOSTER SHOT #1	Y
TET_TYPE2	TYPE OF HH-REPORTED TETANUS BOOSTER SHOT #2	Y
TET_TYPE3	TYPE OF HH-REPORTED TETANUS BOOSTER SHOT #3	Y
TET_TYPE4	TYPE OF HH-REPORTED TETANUS BOOSTER SHOT #4	Y
TET_TYPE5	TYPE OF HH-REPORTED TETANUS BOOSTER SHOT #5	Y
TET_TYPE6	TYPE OF HH-REPORTED TETANUS BOOSTER SHOT #6	Y
TET_TYPE7	TYPE OF HH-REPORTED TETANUS BOOSTER SHOT #7	Y
TET_TYPE8	TYPE OF HH-REPORTED TETANUS BOOSTER SHOT #8	Y
TIS_INS_1	IS TEEN COVERED BY HEALTH INSURANCE PROVIDED THROUGH EMPLOYER OR UNION?	Y
TIS_INS_11	SINCE AGE 11, ANY TIME WHEN TEEN WAS NOT COVERED BY ANY HEALTH INSURANCE?	Y
TIS_INS_2	IS TEEN COVERED BY ANY MEDICAID PLAN?	Y
TIS_INS_3	IS TEEN COVERED BY S-CHIP?	Y
TIS_INS_3A	IS TEEN COVERED BY ANY MEDICAID PLAN OR S-CHIP?	Y
TIS_INS_4	IS TEEN COVERED BY INDIAN HEALTH SERVICE?	Y
TIS_INS_5	IS TEEN COVERED BY MILITARY HEALTH CARE, TRICARE, CHAMPUS, OR CHAMP-VA?	Y
TIS_INS_6	IS TEEN COVERED BY ANY OTHER HEALTH INSURANCE OR HEALTH CARE PLAN?	Y
VFC_ORDER	DO TEEN'S PROVIDERS ORDER VACCINES FROM STATE/LOCAL HEALTH DEPT?	Y
VISITS	IN PAST 12 MONTHS NUMBER OF TIMES TEEN HAS SEEN A DOCTOR OR OTHER HEALTH CARE PROFESSIONAL	Y
VRC_AGE_SC1	AGE OF TEEN IN YEARS AT HH-REPORTED VARICELLA SHOT #1 (SHOTCARD)	Y
VRC_AGE_SC2	AGE OF TEEN IN YEARS AT HH-REPORTED VARICELLA SHOT #2 (SHOTCARD)	Y
VRC_AGE_SC3	AGE OF TEEN IN YEARS AT HH-REPORTED VARICELLA SHOT #3 (SHOTCARD)	Y
VRC_AGE_SC4	AGE OF TEEN IN YEARS AT HH-REPORTED VARICELLA SHOT #4 (SHOTCARD)	Y
VRC_AGE_SC5	AGE OF TEEN IN YEARS AT HH-REPORTED VARICELLA SHOT #5 (SHOTCARD)	Y
VRC_AGE_SC6	AGE OF TEEN IN YEARS AT HH-REPORTED VARICELLA SHOT #6 (SHOTCARD)	Y
VRC_AGE_SC7	AGE OF TEEN IN YEARS AT HH-REPORTED VARICELLA SHOT #7 (SHOTCARD)	Y
VRC_AGE_SC8	AGE OF TEEN IN YEARS AT HH-REPORTED VARICELLA SHOT #8 (SHOTCARD)	Y
VRC_AGE1	AGE IN YEARS OF PROV-REPORTED VARICELLA-CONTAINING SHOT #1	Y
VRC_AGE2	AGE IN YEARS OF PROV-REPORTED VARICELLA-CONTAINING SHOT #2	Y
VRC_AGE3	AGE IN YEARS OF PROV-REPORTED VARICELLA-CONTAINING SHOT #3	Y
VRC_AGE4	AGE IN YEARS OF PROV-REPORTED VARICELLA-CONTAINING SHOT #4	Y
VRC_AGE5	AGE IN YEARS OF PROV-REPORTED VARICELLA-CONTAINING SHOT #5	Y
VRC_AGE6	AGE IN YEARS OF PROV-REPORTED VARICELLA-CONTAINING SHOT #6	Y
VRC_AGE7	AGE IN YEARS OF PROV-REPORTED VARICELLA-CONTAINING SHOT #7	Y
VRC_AGE8	AGE IN YEARS OF PROV-REPORTED VARICELLA-CONTAINING SHOT #8	Y
VRC_AGE9	AGE IN YEARS OF PROV-REPORTED VARICELLA-CONTAINING SHOT #9	Y
VRC_ANY_REC	HH-REPORT: HAS TEEN EVER RECEIVED ANY VARICELLA SHOTS? (RECALL)	Y
VRC_ANY_SC	HH-REPORT: HAS TEEN EVER RECEIVED ANY VARICELLA SHOTS? (SHOTCARD)	Y
VRC_HIST	HISTORY OF CHICKEN POX REPORTED BY THE HOUSEHOLD OR BY ANY PROVIDER	Y
VRC_NUM_REC	NUMBER OF HH-REPORTED VARICELLA SHOTS RECEIVED (RECALL)	Y
VRC_NUM_SC	NUMBER OF HH-REPORTED VARICELLA SHOTS RECEIVED (SHOTCARD)	Y
VRC_NUM_TOT	NUMBER OF HH-REPORTED VARICELLA SHOTS RECEIVED (TOTAL)	Y
XFLUTY1	INFLUENZA VACCINATION IN PAST THREE YEARS #1 TYPE CODE	Y
XFLUTY2	INFLUENZA VACCINATION IN PAST THREE YEARS #2 TYPE CODE	Y
XFLUTY3	INFLUENZA VACCINATION IN PAST THREE YEARS #3 TYPE CODE	Y
XFLUTY4	INFLUENZA VACCINATION IN PAST THREE YEARS #4 TYPE CODE	Y
XFLUTY5	INFLUENZA VACCINATION IN PAST THREE YEARS #5 TYPE CODE	Y
XFLUTY6	INFLUENZA VACCINATION IN PAST THREE YEARS #6 TYPE CODE	Y
XFLUTY7	INFLUENZA VACCINATION IN PAST THREE YEARS #7 TYPE CODE	Y
XFLUTY8	INFLUENZA VACCINATION IN PAST THREE YEARS #8 TYPE CODE	Y
XFLUTY9	INFLUENZA VACCINATION IN PAST THREE YEARS #9 TYPE CODE	Y
XHEPATY1	HEPATITIS A-CONTAINING VACCINATION #1 TYPE CODE	Y
XHEPATY2	HEPATITIS A-CONTAINING VACCINATION #2 TYPE CODE	Y
XHEPATY3	HEPATITIS A-CONTAINING VACCINATION #3 TYPE CODE	Y
XHEPATY4	HEPATITIS A-CONTAINING VACCINATION #4 TYPE CODE	Y
XHEPATY5	HEPATITIS A-CONTAINING VACCINATION #5 TYPE CODE	Y
XHEPATY6	HEPATITIS A-CONTAINING VACCINATION #6 TYPE CODE	Y
XHEPATY7	HEPATITIS A-CONTAINING VACCINATION #7 TYPE CODE	Y
XHEPATY8	HEPATITIS A-CONTAINING VACCINATION #8 TYPE CODE	Y
XHEPATY9	HEPATITIS A-CONTAINING VACCINATION #9 TYPE CODE	Y
XHEPBTY1	HEPATITIS B-CONTAINING VACCINATION #1 TYPE CODE	Y
XHEPBTY2	HEPATITIS B-CONTAINING VACCINATION #2 TYPE CODE	Y
XHEPBTY3	HEPATITIS B-CONTAINING VACCINATION #3 TYPE CODE	Y
XHEPBTY4	HEPATITIS B-CONTAINING VACCINATION #4 TYPE CODE	Y
XHEPBTY5	HEPATITIS B-CONTAINING VACCINATION #5 TYPE CODE	Y

Table F.1 Alphabetical Listing of Variables in the 2008 Public-Use Data File

Variable Name	Variable Label	Notes
		2008
XHEPBTY6	HEPATITIS B-CONTAINING VACCINATION #6 TYPE CODE	Y
XHEPBTY7	HEPATITIS B-CONTAINING VACCINATION #7 TYPE CODE	Y
XHEPBTY8	HEPATITIS B-CONTAINING VACCINATION #8 TYPE CODE	Y
XHEPBTY9	HEPATITIS B-CONTAINING VACCINATION #9 TYPE CODE	Y
XMCVTY1	MEASLES-CONTAINING VACCINATION #1 TYPE CODE	Y
XMCVTY2	MEASLES-CONTAINING VACCINATION #2 TYPE CODE	Y
XMCVTY3	MEASLES-CONTAINING VACCINATION #3 TYPE CODE	Y
XMCVTY4	MEASLES-CONTAINING VACCINATION #4 TYPE CODE	Y
XMCVTY5	MEASLES-CONTAINING VACCINATION #5 TYPE CODE	Y
XMCVTY6	MEASLES-CONTAINING VACCINATION #6 TYPE CODE	Y
XMCVTY7	MEASLES-CONTAINING VACCINATION #7 TYPE CODE	Y
XMCVTY8	MEASLES-CONTAINING VACCINATION #8 TYPE CODE	Y
XMCVTY9	MEASLES-CONTAINING VACCINATION #9 TYPE CODE	Y
XMENTY1	MENINGOCOCCAL-CONTAINING VACCINATION #1 TYPE CODE	Y
XMENTY2	MENINGOCOCCAL-CONTAINING VACCINATION #2 TYPE CODE	Y
XMENTY3	MENINGOCOCCAL-CONTAINING VACCINATION #3 TYPE CODE	Y
XMENTY4	MENINGOCOCCAL-CONTAINING VACCINATION #4 TYPE CODE	Y
XMENTY5	MENINGOCOCCAL-CONTAINING VACCINATION #5 TYPE CODE	Y
XMENTY6	MENINGOCOCCAL-CONTAINING VACCINATION #6 TYPE CODE	Y
XMENTY7	MENINGOCOCCAL-CONTAINING VACCINATION #7 TYPE CODE	Y
XMENTY8	MENINGOCOCCAL-CONTAINING VACCINATION #8 TYPE CODE	Y
XMENTY9	MENINGOCOCCAL-CONTAINING VACCINATION #9 TYPE CODE	Y
XTDPTY1	TD/TDAP-CONTAINING VACCINATION #1 TYPE CODE	Y
XTDPTY2	TD/TDAP-CONTAINING VACCINATION #2 TYPE CODE	Y
XTDPTY3	TD/TDAP-CONTAINING VACCINATION #3 TYPE CODE	Y
XTDPTY4	TD/TDAP-CONTAINING VACCINATION #4 TYPE CODE	Y
XTDPTY5	TD/TDAP-CONTAINING VACCINATION #5 TYPE CODE	Y
XTDPTY6	TD/TDAP-CONTAINING VACCINATION #6 TYPE CODE	Y
XTDPTY7	TD/TDAP-CONTAINING VACCINATION #7 TYPE CODE	Y
XTDPTY8	TD/TDAP-CONTAINING VACCINATION #8 TYPE CODE	Y
XTDPTY9	TD/TDAP-CONTAINING VACCINATION #9 TYPE CODE	Y
XVRCTY1	VARICELLA-CONTAINING VACCINATION #1 TYPE CODE	Y
XVRCTY2	VARICELLA-CONTAINING VACCINATION #2 TYPE CODE	Y
XVRCTY3	VARICELLA-CONTAINING VACCINATION #3 TYPE CODE	Y
XVRCTY4	VARICELLA-CONTAINING VACCINATION #4 TYPE CODE	Y
XVRCTY5	VARICELLA-CONTAINING VACCINATION #5 TYPE CODE	Y
XVRCTY6	VARICELLA-CONTAINING VACCINATION #6 TYPE CODE	Y
XVRCTY7	VARICELLA-CONTAINING VACCINATION #7 TYPE CODE	Y
XVRCTY8	VARICELLA-CONTAINING VACCINATION #8 TYPE CODE	Y
XVRCTY9	VARICELLA-CONTAINING VACCINATION #9 TYPE CODE	Y
YEAR	SAMPLING YEAR	Y

Appendix G

Summary Tables

Table G.1: Estimated Population Totals and Sample Sizes of Teens 13-17 Years of Age by State and Estimation Area, National Immunization Survey - Teen, 2008

State/Estimation Area	ESTIAPT08	Estimated Population Total of Teens	Number of Teens with Complete Household Interviews	Number of Teens with Adequate Provider Data	Percent of Teens with Adequate Provider Data
Total U.S.		21,185,559	30,681	17,835	58.13
Alabama	20	322,782	640	406	63.44
Alaska	74	53,511	523	304	58.13
Arizona	66	456,647	504	250	49.60
Arkansas	46	196,768	645	382	59.22
California	68	2,706,836	640	316	49.38
Colorado	60	329,656	605	347	57.36
Connecticut	1	245,169	470	292	62.13
Delaware	13	59,186	572	334	58.39
District of Columbia	12	31,468	573	329	57.42
Florida	22	1,153,318	532	284	53.38
Georgia	25	697,314	557	345	61.94
Hawaii	72	81,682	551	317	57.53
Idaho	75	112,824	515	268	52.04
Illinois		904,979	1,416	783	55.30
IL-City of Chicago	35	186,160	685	343	50.07
IL-Rest of State	34	718,819	731	440	60.19
Indiana	36	450,906	584	345	59.08
Iowa	56	208,037	447	308	68.90
Kansas	57	197,195	534	271	50.75
Kentucky	27	287,083	486	296	60.91
Louisiana	47	318,752	682	379	55.57
Maine	4	86,879	535	333	62.24
Maryland	14	394,177	651	394	60.52
Massachusetts	2	427,932	512	333	65.04
Michigan	38	725,759	523	320	61.19
Minnesota	40	363,256	497	338	68.01

Table G.1: Estimated Population Totals and Sample Sizes of Teens 13-17 Years of Age by State and Estimation Area, National Immunization Survey - Teen, 2008

Mississippi	28	217,732	697	404	57.96
Missouri	58	413,851	597	351	58.79
Montana	61	66,915	495	299	60.40
Nebraska	59	125,544	557	365	65.53
Nevada	73	180,104	487	235	48.25
New Hampshire	5	91,475	447	300	67.11
New Jersey	8	598,111	664	390	58.73
New Mexico	49	142,621	542	310	57.20
New York		1,318,595	1,095	600	54.79
NY-City of New York	11	532,399	600	293	48.83
NY-Rest of State	10	786,196	495	307	62.02
North Carolina	29	619,700	588	326	55.44
North Dakota	62	42,708	516	362	70.16
Ohio	41	804,348	544	311	57.17
Oklahoma	50	252,586	518	292	56.37
Oregon	76	251,350	382	235	61.52
Pennsylvania		845,530	1,208	682	56.46
PA-Philadelphia County	17	113,179	646	345	53.41
PA-Rest of State	16	732,351	562	337	59.96
Rhode Island	6	69,893	435	297	68.28
South Carolina	30	307,452	641	367	57.25
South Dakota	63	57,233	581	344	59.21
Tennessee	31	419,528	627	360	57.42
Texas		1,787,263	1,674	840	50.18
TX-Bexar County	55	121,532	539	269	49.91
TX-City of Houston	54	142,869	492	233	47.36
TX-Rest of State	51	1,522,862	643	338	52.57
Utah	64	212,406	412	222	53.88
Vermont	7	41,835	404	283	70.05
Virginia	18	516,736	495	272	54.95
Washington	77	448,997	461	275	59.65
West Virginia	19	113,521	555	295	53.15
Wisconsin	44	390,147	389	264	67.87
Wyoming	65	37,263	476	280	58.82

Table G.2: Estimated Population Totals and Sample Sizes by Age of Teen by Maternal Education, National Immunization Survey - Teen, 2008

		Teens with Completed Household Interviews		Teens with Adequate Provider Data	
Age of Teen in Years	Maternal Education	Unweighted Completes	Weighted Completes	Unweighted Completes	Weighted Completes
13	<12 Years	612	588,907	368	661,371
13	12 Years	1,207	1,096,823	680	1,035,719
13	>12, Non College Graduate	1,718	1,016,131	1,034	1,053,947
13	College Grad	2,189	1,302,407	1,373	1,316,615
14	<12 Years	629	619,613	361	572,759
14	12 Years	1,276	1,133,211	734	1,183,224
14	>12, Non College Graduate	1,878	1,135,630	1,094	1,055,499
14	College Grad	2,398	1,359,227	1,452	1,372,814
15	<12 Years	635	622,696	333	636,450
15	12 Years	1,339	1,240,449	756	1,296,876
15	>12, Non College Graduate	1,952	1,144,961	1,131	1,119,177
15	College Grad	2,363	1,356,073	1,446	1,387,617
16	<12 Years	649	647,004	355	665,978
16	12 Years	1,448	1,296,978	818	1,269,656
16	>12, Non College Graduate	2,000	1,143,903	1,157	1,150,582
16	College Grad	2,419	1,283,723	1,401	1,252,743
17	<12 Years	542	549,479	268	455,477
17	12 Years	1,360	1,232,104	732	1,249,755
17	>12, Non College Graduate	1,796	1,055,621	1,028	1,103,733
17	College Grad	2,271	1,360,619	1,314	1,345,565
Total		30,681	21,185,559	17,835	21,185,559

Table G.3: Estimated Population Totals and Sample Sizes by Age of Teen by Poverty Status, National Immunization Survey - Teen, 2008

Age of Teen in Years	Poverty Status	Teens with Completed Household Interviews		Teens with Adequate Provider Data	
		Unweighted Completes	Weighted Completes	Unweighted Completes	Weighted Completes
13	Above poverty, > $75K	2,129	1,385,794	1,361	1,392,183
13	Above poverty, <= $75K	2,494	1,667,301	1,483	1,708,070
13	Below poverty	759	737,114	468	730,427
13	Unknown	344	214,059	143	236,973
14	Above poverty, > $75K	2,332	1,450,259	1,454	1,441,688
14	Above poverty, <= $75K	2,676	1,779,803	1,570	1,719,474
14	Below poverty	768	709,720	466	745,795
14	Unknown	405	307,900	151	277,340
15	Above poverty, > $75K	2,397	1,506,503	1,532	1,527,568
15	Above poverty, <= $75K	2,685	1,744,064	1,535	1,806,519
15	Below poverty	801	832,222	446	883,849
15	Unknown	406	281,390	153	222,184
16	Above poverty, > $75K	2,490	1,440,773	1,523	1,461,792
16	Above poverty, <= $75K	2,855	1,978,716	1,633	2,042,760
16	Below poverty	748	675,961	426	644,586
16	Unknown	423	276,158	149	189,820
17	Above poverty, > $75K	2,371	1,542,064	1,437	1,587,169
17	Above poverty, <= $75K	2,559	1,702,800	1,423	1,687,872
17	Below poverty	635	630,095	334	612,828
17	Unknown	404	322,863	148	266,661
Total		30,681	21,185,559	17,835	21,185,559

Table G.4: Estimated Population Totals and Sample Sizes by Race/Ethnicity by Poverty Status, National Immunization Survey - Teen, 2008

		Teens with Completed Household Interviews		Teens with Adequate Provider Data	
Race/Ethnicity of Teen[1]	**Poverty Status**	**Unweighted Completes**	**Weighted Completes**	**Unweighted Completes**	**Weighted Completes**
Hispanic	Above poverty, > $75K	783	697,127	442	635,214
Hispanic	Above poverty, <= $75K	1,545	1,420,847	840	1,423,761
Hispanic	Below poverty	1,138	1,503,453	614	1,565,425
Hispanic	Unknown	287	261,175	121	268,444
Non-Hispanic White Only	Above poverty, > $75K	9,482	5,589,507	6,052	5,767,655
Non-Hispanic White Only	Above poverty, <= $75K	9,062	5,424,563	5,364	5,487,839
Non-Hispanic White Only	Below poverty	1,202	905,113	733	808,187
Non-Hispanic White Only	Unknown	1,266	786,518	479	689,707
Non-Hispanic Black Only	Above poverty, > $75K	673	590,963	352	567,647
Non-Hispanic Black Only	Above poverty, <= $75K	1,705	1,444,883	899	1,442,300
Non-Hispanic Black Only	Below poverty	1,047	907,231	605	1,024,778
Non-Hispanic Black Only	Unknown	272	254,672	78	140,869
Non-Hispanic Other & Multiple Race	Above poverty, > $75K	781	447,794	461	439,884
Non-Hispanic Other & Multiple Race	Above poverty, <= $75K	957	582,392	541	610,795
Non-Hispanic Other & Multiple Race	Below poverty	324	269,314	188	219,096
Non-Hispanic Other & Multiple Race	Unknown	157	100,007	66	93,958
Total		30,681	21,185,559	17,835	21,185,559

[1] Race/ethnicity is respondent-reported and the categories presented here are mutually-exclusive.

Table G.5: Estimated Population Totals and Sample Sizes by Age of Teen by Race/Ethnicity, National Immunization Survey - Teen, 2008

Age of Teen in Years	Race/Ethnicity of Teen[1]	Teens with Completed Household Interviews		Teens with Adequate Provider Data	
		Unweighted Completes	Weighted Completes	Unweighted Completes	Weighted Completes
13	Hispanic	795	796,363	448	834,359
13	Non-Hispanic White Only	3,840	2,390,753	2,392	2,421,714
13	Non-Hispanic Black Only	652	558,083	359	552,595
13	Non-Hispanic Other & Multi-Racial	439	259,069	256	258,986
14	Hispanic	811	820,863	453	810,672
14	Non-Hispanic White Only	4,158	2,463,934	2,518	2,458,049
14	Non-Hispanic Black Only	745	641,384	398	609,488
14	Non-Hispanic Other & Multi-Racial	467	321,501	272	306,088
15	Hispanic	774	866,905	421	909,266
15	Non-Hispanic White Only	4,284	2,526,093	2,575	2,539,883
15	Non-Hispanic Black Only	817	685,392	429	691,285
15	Non-Hispanic Other & Multi-Racial	414	285,788	241	299,687
16	Hispanic	751	752,902	379	713,418
16	Non-Hispanic White Only	4,507	2,669,758	2,696	2,745,651
16	Non-Hispanic Black Only	796	658,847	400	614,406
16	Non-Hispanic Other & Multi-Racial	462	290,101	256	265,484
17	Hispanic	622	645,569	316	625,130
17	Non-Hispanic White Only	4,223	2,655,162	2,447	2,588,090
17	Non-Hispanic Black Only	687	654,044	348	707,822
17	Non-Hispanic Other & Multi-Racial	437	243,047	231	233,488
Total		30,681	21,185,559	17,835	21,185,559

[1] Race/ethnicity is respondent-reported and the categories presented here are mutually-exclusive.

Table G.6: Estimated Population Totals and Sample Sizes by Age and Gender of Teen, National Immunization Survey - Teen, 2008

Age of Teen in Years	Gender	Teens with Completed Household Interviews		Teens with Adequate Provider Data	
		Unweighted Completes	Weighted Completes	Unweighted Completes	Weighted Completes
13	Male	2,939	2,092,184	1,766	2,078,036
13	Female	2,787	1,912,084	1,689	1,989,616
14	Male	3,209	2,237,433	1,892	2,192,005
14	Female	2,972	2,010,249	1,749	1,992,292
15	Male	3,235	2,246,428	1,873	2,245,742
15	Female	3,054	2,117,750	1,793	2,194,378
16	Male	3,412	2,230,789	1,944	2,283,865
16	Female	3,104	2,140,819	1,787	2,055,094
17	Male	3,149	2,046,301	1,753	2,053,487
17	Female	2,820	2,151,521	1,589	2,101,044
Total		30,681	21,185,559	17,835	21,185,559

Table G.7: Sample Sizes for Shot Card Use by Presence of Adequate Provider Data, National Immunization Survey - Teen, 2008

Shot Card Use	Presence of Adequate Provider Data	Unweighted RDD Completes	Percent	Weighted RDD Completes	Percent
Shot card	Adequate provider data	4,046	13.2	2,614,277	12.3
Shot card	Non-adequate provider data	2,719	8.9	1,946,308	9.2
Not shot card	Adequate provider data	13,789	44.9	9,162,849	43.3
Not shot card	Non-adequate provider data	10,127	33.0	7,462,126	35.2
Total		30,681	100	21,185,559	100

Appendix G.8: Estimated Vaccination Coverage* With Selected Vaccines Among Teens Aged 13-17 Years**, by State and Selected Local Areas -- National Immunization Survey-Teen, United States, 2008

State/Estimation Area	≥2 MMR†	≥ 3 HepB	≥ 1 Var§	≥ 1 Td or Tdap¶	≥ 1 MCV4††	≥ 1 HPV4§§
US National	89.3±0.9	87.9±0.9	81.9±1.7	72.2±1.3	41.8±1.4	37.2±2.1
Alabama	89.8±3.5	68.2±5.6	71.2±8.8	70.1±5.2	29.9±5.3	32.8±7.9
Alaska	84.4±4.6	86.9±4.1	NA	68.3±5.8	30.5±5.7	38.8±8.7
Arizona	82.4±5.9	83.9±5.3	85.4±8.9	74.0±7.0	51.5±7.3	NA
Arkansas	90.2±3.3	90.9±3.3	84.9±6.2	46.1±5.8	14.5±4.1	22.4±7.0
California	91.9±4.0	89.9±4.9	92.9±4.2	71.3±6.7	48.0±7.5	NA
Colorado	91.0±3.5	94.6±2.8	85.3±6.7	77.4±6.0	32.4±6.4	33.5±8.6
Connecticut	95.7±3.0	98.4±1.9	97.6±3.1	79.8±5.9	45.2±7.1	45.0±9.7
Delaware	94.8±3.2	95.2±2.6	86.1±6.2	78.6±5.2	58.6±6.3	46.8±9.1
District of Columbia	94.6±3.5	94.8±3.1	96.4±2.9	84.7±4.3	58.1±6.3	38.7±9.3
Florida	92.3±4.9	92.8±4.0	NA	79.4±7.9	33.6±7.3	NA
Georgia	92.8±4.2	91.6±3.5	91.4±6.0	70.9±6.0	41.6±6.6	18.5±6.3
Hawaii	91.4±3.7	93.1±3.4	89.7±5.8	71.6±5.6	44.1±6.1	40.2±8.2
Idaho	73.2±6.3	73.1±6.2	NA	51.3±6.8	29.9±6.2	28.4±8.8
Illinois	89.5±3.8	93.2±3.0	74.2±8.4	72.9±5.0	41.9±5.6	27.0±6.8
IL-City of Chicago	83.4±4.6	90.2±3.9	79.3±7.5	71.8±5.9	41.1±6.2	28.6±8.6
IL-Rest of State	91.0±4.6	94.0±3.7	NA	73.2±6.1	42.1±6.8	26.6±8.2
Indiana	91.7±2.9	86.2±4.2	70.4±9.7	53.6±6.2	31.8±5.7	26.1±6.9
Iowa	86.4±4.2	79.2±4.8	NA	65.9±6.2	31.9±5.8	41.9±9.8
Kansas	84.1±5.1	71.4±6.4	NA	69.9±6.1	25.6±6.2	30.1±9.2
Kentucky	96.2±2.3	93.3±3.2	74.7±9.6	82.0±5.2	30.9±5.9	26.3±8.4
Louisiana	89.0±3.6	85.1±4.2	NA	74.9±5.2	53.6±6.1	36.6±8.7
Maine	92.6±3.1	81.4±4.8	89.7±6.3	75.0±5.5	35.6±5.9	40.3±8.5
Maryland	92.3±3.4	91.2±3.4	86.7±6.7	79.0±5.5	54.6±6.3	41.1±9.1
Massachusetts	99.5±0.6	97.4±1.7	95.0±5.7	94.4±3.0	55.9±6.4	53.3±9.5
Michigan	94.6±2.6	92.8±2.9	86.8±7.3	69.9±5.7	39.9±6.2	32.3±9.2
Minnesota	90.1±3.9	89.7±3.7	84.8±7.1	88.7±3.9	38.9±6.1	33.6±7.7
Mississippi	94.5±2.4	60.8±5.6	40.0±9.5	28.7±5.3	14.8±4.4	15.8±6.2
Missouri	84.2±4.7	87.0±4.1	NA	67.9±5.8	35.3±5.9	31.6±8.5
Montana	84.1±4.8	75.2±5.4	NA	69.1±6.1	17.8±5.2	17.8±6.7
Nebraska	88.5±4.1	90.6±3.8	86.1±6.4	71.5±5.6	37.2±5.6	29.5±7.0
Nevada	88.8±4.5	82.7±5.4	NA	69.0±7.0	29.6±6.8	30.0±9.7
New Hampshire	94.9±3.5	92.7±3.5	93.2±5.2	84.2±6.1	54.6±7.2	54.4±10.0
New Jersey	91.8±3.5	94.5±2.8	86.2±6.1	78.1±5.3	60.6±6.2	43.0±9.0
New Mexico	84.2±5.2	83.1±5.8	69.0±9.7	75.1±5.9	39.6±6.6	NA
New York	92.6±2.5	93.0±2.7	88.7±4.8	85.5±3.3	56.0±4.8	50.2±7.2
NY-City of New York	89.7±4.7	90.9±4.0	85.7±8.4	85.4±4.7	53.5±7.1	NA
NY-Rest of State	94.6±2.7	94.5±3.8	90.9±5.3	85.6±4.4	57.7±6.5	51.5±9.6

Appendix G.8: Estimated Vaccination Coverage* With Selected Vaccines Among Teens Aged 13-17 Years**, by State and Selected Local Areas -- National Immunization Survey-Teen, United States, 2008

North Carolina	82.2±5.2	81.4±5.6	NA	63.6±6.4	30.7±5.9	34.4±8.7
North Dakota	93.7±2.7	87.9±3.9	76.1±8.9	75.0±5.3	47.4±5.7	28.7±7.4
Ohio	84.8±4.5	76.9±5.5	77.4±10.0	57.8±6.5	37.7±6.2	29.1±8.2
Oklahoma	90.2±3.6	88.9±4.2	83.1±8.0	59.5±6.2	25.1±5.5	35.5±8.8
Oregon	87.7±4.6	88.0±5.4	89.0±7.1	64.1±7.2	29.6±6.3	34.8±9.9
Pennsylvania	94.6±2.5	95.3±2.6	94.2±3.4	82.0±4.4	59.7±5.5	46.1±7.6
PA-Philadelphia County	89.3±3.9	93.3±3.1	91.8±4.6	79.7±5.3	66.3±6.0	51.8±8.6
PA-Rest of State	95.4±2.8	95.6±3.0	94.5±3.8	82.3±5.0	58.7±6.3	45.2±8.7
Rhode Island	96.3±2.5	98.4±1.2	97.8±3.7	91.5±4.1	62.6±7.1	NA
South Carolina	90.9±3.3	92.0±3.0	61.0±9.4	53.7±5.9	25.1±5.3	18.7±6.3
South Dakota	86.7±4.0	65.2±5.8	NA	45.3±6.1	14.0±4.3	45.9±8.2
Tennessee	85.9±4.7	82.4±5.5	72.0±8.8	50.3±6.3	36.5±6.1	29.6±9.0
Texas	81.6±5.4	86.5±4.6	NA	79.3±5.4	37.4±6.7	31.6±9.2
TX-Bexar County	82.2±5.8	83.9±6.2	NA	77.7±6.1	43.2±7.2	NA
TX-City of Houston	87.0±5.7	86.4±5.9	86.0±8.3	73.0±8.4	51.9±9.0	NA
TX-Rest of State	81.1±6.3	86.7±5.3	NA	80.1±6.3	35.6±7.8	NA
Utah	82.6±5.4	70.2±6.7	NA	62.7±7.5	31.3±6.9	17.1±8.4
Vermont	95.2±2.8	94.8±2.6	93.0±6.2	79.8±5.5	20.0±5.3	50.4±9.6
Virginia	83.0±5.6	83.7±5.9	NA	70.3±6.4	43.8±6.9	40.6±9.1
Washington	78.0±5.8	81.3±5.2	78.9±9.7	64.2±6.6	40.0±6.6	46.5±9.6
West Virginia	80.8±5.2	72.4±5.9	NA	44.7±6.5	30.2±5.9	33.6±8.5
Wisconsin	93.0±3.3	87.8±4.6	84.4±9.0	75.4±5.9	52.2±6.7	NA
Wyoming	87.3±4.4	80.9±5.3	69.5±9.9	79.1±5.5	32.8±6.0	36.2±9.1

* Estimate presented as point estimate (%) ± 95% confidence interval (CI). Estimate=NA (Not Available) if the unweighted sample size for the denominator was < 30, or (CI half width)/Estimate > 0.5, or (CI half width) > 10.

** Age determined at time of household interview. Vaccination coverage estimates include only teens who had adequately complete provider-reported immunization records.

† Includes ≥ 2 doses of measles-mumps-rubella vaccine.

§ Includes ≥ 1 dose of varicella vaccine among teens without a history of varicella disease.

¶ Includes ≥ 1 dose of tetanus toxoid-diphtheria vaccine (Td) or tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap) since the age of ten years.

†† Includes percentages receiving meningococcal conjugate vaccine (MCV4) and meningococcal -unknown type vaccine.
§§ Quadrivalent human papillomavirus vaccine. Percentages reported among females only (N=8,607) since HPV4 vaccine is only recommended for females.

Appendix H

Vaccine Type Codes

Table H.1: 2008 NIS-Teen Vaccine Type Codes

Vaccine Code	Description
11	Td
14	Tdap
15	Td/Tdap-containing, unknown subtype
30	MMR-only
31	Measles-only
32	Measles-Mumps
33	Measles-Rubella
43	HepB-Hib
61	0.5 ml Recombivax
62	1.0 ml Recombivax
63	Engerix
64	Hepatitis B-only, unknown subtype checked
80	MCV4 (Menactra)
81	MPSV4 (Menomune)
82	Meningococcal-containing, unknown subtype
FL	Flu-containing, unknown subtype
FM	Flumist
FN	Injected Flu, other/unknown subtype
FV	Fluvirin
FZ	Fluzone
HA	Hepatitis A-containing, unknown subtype
HB	Hepatitis B-containing, unknown subtype
HO	Hepatitis A-only (Havrix or Vaqta)
MM	Measles-containing, unknown subtype
VA	Varicella-containing, unknown subtype
VM	MMR-Varicella
VO	Varicella-only