

National Immunization Survey

A User's Guide for the 2000 Public-Use Data File

Centers for Disease Control and Prevention

**National Immunization Program
and
National Center for Health Statistics**

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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 2000 and 2010 objectives established the goal of having at least 90% of 2-year-old children fully vaccinated with the recommended schedule of 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 Immunization Program and the National Center for Health Statistics, Centers for Disease Control and Prevention (CDC), and its contractor, Abt Associates Inc.

The target population for the NIS is children aged 19 to 35 months living in the United States at the time of the interview. The official coverage estimates reported from the NIS are rates of being up-to-date with respect to the recommended numbers of doses of all recommended vaccines (CDC 2000). These vaccines and their recommended numbers of doses are: diphtheria and tetanus toxoids and pertussis vaccine (DTP), 4 doses; poliovirus vaccine (polio), 3 doses; measles-containing vaccine (MCV), 1 dose; *Haemophilus influenzae* type b vaccine (Hib), 3 doses; hepatitis B vaccine (Hep B), 3 doses; and varicella zoster vaccine, 1 dose. In addition to these vaccines, interest focuses on coverage rates for vaccine series, including the 4:3:1:3 series (4 DTP, 3 polio, 1 MCV, and 3 Hib). The NIS collects data on

each of these vaccines. All except for varicella have been included in the NIS from its start in 1994. Varicella vaccine was added in the third quarter of 1996.

The NIS uses a random-digit-dialing (RDD) telephone survey to identify households containing children in the target age range and interview an adult who is most knowledgeable about the child's vaccinations. With the consent of the child's parent or guardian, the NIS also contacts (by mail) the child's health care providers to request information on vaccinations from the child's medical records.

Samples of telephone numbers are drawn independently, for each calendar quarter, within 78 Immunization Action Plan (IAP) areas. Of the 78 IAP areas, 28 (including the District of Columbia) are urban areas. The remaining 50 are either an entire state or a "rest of state" IAP area (where the state contains one or more urban IAP areas). This design makes it possible to produce annualized estimates of vaccination coverage levels within each of the 78 IAP areas with a specified degree of precision (a coefficient of variation of no more than 5%). Further, by using the same data collection methodology and survey instruments in all IAP areas, the NIS produces vaccination coverage levels that are comparable among IAP areas and over time.

For the 2000 NIS the RDD interviews of households began on January 4, 2000 and ended on March 5, 2001, and provider data collection extended from February 18, 2000 to April 27, 2001. A total sample of approximately 2.6 million telephone numbers yielded household interviews for 34,087 children, and 22,958 of those children had provider data that were

adequate to determine whether the child was up-to-date with respect to the recommended immunization schedule. The 2000 NIS public-use file (PUF) contains data for the 34,087 children with completed household interviews (and more extensive data for children with provider data). Published tables of estimates of vaccination coverage for 2000 are available on the National Immunization Program (NIP) Web site, <http://www.cdc.gov/nip/coverage>, and are discussed in an *MMWR* article (CDC 2001).

The accompanying code book (*National Immunization Survey 2000 Public-Use Data File: Documentation, Code Book and Frequencies*) documents the contents of the 2000 NIS public-use data file. For reference Appendix G reproduces the table of contents and the alphabetical index of variables from the code book.

Additional information on the NIS is available at:

www.cdc.gov/nip/coverage
www.cdc.gov/nis/
www.nisabt.org

For additional information on the NIS data file, please contact the NCHS staff:

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2. Sample Design

The NIS uses two phases of data collection to obtain vaccination information for a large national probability sample of young children: a random-digit-dialing survey designed to identify households with children 19 to 35 months of age, followed by the Provider Record Check study (PRC), which obtains provider-reported vaccination histories for these children. This section gives a summary of these two phases of data collection. Other descriptions of the sample design are given by Ezzati-Rice et al. (1995), Zell et al. (2000), and Smith et al. (2001a).

The NIS RDD Sample

The NIS RDD sampling phase uses independent quarterly samples of telephone numbers in the 78 IAP areas. Table H.1 (in Appendix H) lists the 78 IAP areas by state and shows the estimated number of children living in each state and IAP area in 2000.

The NIS uses the list-assisted method of random-digit dialing (Lepkowski 1988). This method selects a random sample of telephone numbers from “banks” of 100 consecutive telephone numbers (e.g., 617-495-0000 to 617-495-0099) that contain one or more directory-listed residential telephone numbers. The sampling frame of telephone numbers is updated each quarter in order to include new telephone exchanges and area codes. Although the number of cellular telephone users in the U.S. has increased rapidly, most households continue to maintain land-line telephone service. Also, most cellular telephone users pay for

incoming calls. Therefore, the NIS sampling frame excluded cellular telephone exchanges in 2000.

The target sample size of completed telephone interviews in each IAP area is designed to achieve an approximately equal number of children with adequate provider-reported vaccination histories. Approximately 67% of children with completed telephone interviews had adequate provider data. The phrase “adequate provider data” means that sufficient vaccination history information was obtained from the providers to determine whether the child is up-to-date with respect to the recommended vaccination schedule. The percentage of children with adequate provider data varies among the IAP areas.

The design and implementation of the NIS sample involve four procedures. First, statistical models predict the number of sample telephone numbers needed in each IAP area to meet a target number of interviews (Buckley et al. 1998). Second, the sample for an IAP area is divided into random subsamples called replicates. By administering the sample release on a replicate-by-replicate basis, it is possible to spread the interviews for each IAP area evenly across the entire calendar quarter. Third, an automated procedure eliminates a portion of the nonworking and nonresidential telephone numbers from the sample before the interviewers dial them (Battaglia et al. 1995b). Fourth, the sample telephone numbers are matched with a national database of directory-listed residential telephone numbers in order to obtain usable mailing addresses for as many sample households as possible. To promote participation in the NIS, an advance letter is sent to these addresses approximately two weeks prior to the RDD interview.

The NIS Provider Record Check Study

At the end of the NIS RDD interview, consent to contact the child's vaccination providers is requested from the parent/guardian. When verbal consent is obtained, those providers are mailed an immunization history questionnaire (IHQ). This mail survey portion of the NIS is the Provider Record Check Study (PRCS).

The IHQ is sent by mail to vaccination providers with instructions to mail or fax the questionnaire back upon completion. Two weeks later, a thank you/reminder postcard 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 accepted over the phone. The data from the IHQs are entered, cleaned, edited, and merged with the household information from the RDD survey to produce a child-level record.

Summary of Data Collection

Table 1 presents selected operational results of NIS data collection for calendar year 2000. Children who were 19 to 35 months of age during 2000 were born from February 1997 to May 1999. The original sample (in replicates that were released for use) consisted of 2,662,722 telephone numbers. Of those, 671,215 numbers were eliminated by the automated

Table 1: Selected Operational Results of NIS Data Collection for 2000

ROW	KEY INDICATOR	NUMBER	PERCENT
RDD Phase			
1	Total Selected Telephone Numbers in Released Replicates	2,662,722	--
2	Phone Numbers Resolved before CATI	671,215	25.2% (Row 2/Row 1)
3	Total Phone Numbers Called	1,991,507	--
4	Advance Letters Mailed	1,146,845	57.6% (Row 4/Row 3)
5	Resolved Phone Numbers* – <i>Resolution Rate</i>	2,345,183	88.1% (Row 5/Row 1)
6	Households Identified	1,014,714	43.3% (Row 6/Row 5)
7	Households Successfully Screened for Presence of Age-Eligible Children – <i>Screening Completion Rate</i>	973,784	96.0% (Row 7/Row 6)
8	Households with no NIS Age-Eligible Children	937,824	96.3% (Row 8/Row 7)
9	Households with NIS Age-Eligible Children – <i>Eligibility Rate</i>	35,960	3.7% (Row 9/Row 7)
10	Households with NIS Age-Eligible Children with Completed RDD Interviews– <i>Interview Completion Rate</i>	33,477	93.1% (Row 10/Row 9)
11	CASRO Response Rate**	NA	78.7% (Row 5 x Row 7 x Row 10)
12	Age-Eligible Children with Completed RDD Interviews	34,087	--
PRC Phase			
13	Children with Consent Obtained to Contact Vaccination Providers	28,402	83.3% (Row 13/Row 12)
14	Immunization History Questionnaires Mailed to Providers	37,885	--
15	Immunization History Questionnaires Returned from Providers	35,971	94.9% (Row 15/Row 14)
16	Children with Adequate Provider Data	22,958	67.4% (Row 16/Row 12)

*Includes phone numbers resolved before CATI (Row 2).

**CASRO, Council of American Survey Research Organizations.

procedure as nonworking or nonresidential numbers. The remaining 1,991,507 telephone numbers were called to identify 1,014,714 households, as shown in Rows 3 and 6 of Table 1. Among the identified households, 973,784 (96.0%) were successfully screened for age-eligible children. Of these, 937,824 did not contain an age-eligible child, and 35,960 (3.7%) contained one or more age-eligible children. Among these households 34,477 (93.1%) completed the NIS household RDD interview.

A standard approach for measuring response rates for RDD surveys, known as the CASRO household response rate, has been defined by the Council of American Survey Research Organizations (Frankel 1983). In 2000 the CASRO household response rate (Row 11) was 78.7%. The CASRO response rate equals the product of the resolution rate (88.1%, Row 5) the screening completion rate (96.0%, Row 7) and the interview completion rate among eligible households (93.1%, Row 10). The resolution rate is the percentage of the total phone numbers called that are classifiable as nonworking, nonresidential, or residential. The screening completion rate is the percentage of known households that are successfully screened for the presence of age-eligible children. The interview completion rate is the percentage of households with one or more age-eligible children that complete the NIS RDD interview.

Row 12 of Table 1 shows that 34,087 age-eligible children had completed RDD interviews. Rows 13 through 16 of Table 1 give results for the PRC phase. Specifically, Row 13 gives the rate of obtaining verbal consent from household respondents to contact their children's vaccination providers – 83.3% in 2000. The number of IHQs that were mailed to vaccination

providers exceeds the number of completed child interviews, because some children have more than one vaccination provider. In 2000 the mean number of vaccination providers identified for a child was 1.36.

Among vaccination providers who were mailed an IHQ, 94.9% returned the questionnaire or other information pertaining to the child's vaccination history. Among the children with completed household RDD interviews 22,958 (67.4%) had adequate vaccination histories returned by their vaccination provider(s). The other 32.6% of children lacked adequate provider data for a variety of reasons, such as the parent did not give consent to contact providers, or the providers did not have medical records for the child.

For each IAP area and each state Table H.1 shows the number of children with completed RDD interviews and the number of children with adequate provider data.

Informed Consent, Security, and Confidentiality of Information

The Screener Introduction, the Advance Letter, and the 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 respondent (generally the parent or guardian of the child) to participate in the household interview and also (at the end of the interview) to contact the child's vaccination providers.

Information in the NIS 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 sign the NCHS confidentiality agreement and follow instructions to prevent disclosure.

All information in the NIS is collected under strict confidentiality and can be used only for research purposes [Section 308(d) of the Public Health Service Act, 42 U.S. Code 242m(d), and the Privacy Act of 1974 (5 U.S. Code 552a)]. Prior to the public release, the contents of the PUF go through an extensive review by the NCHS Disclosure Review Board to protect confidentiality of the participants as well as the data.

3. Content of NIS Questionnaires

This section describes the questionnaires used in the 2000 NIS telephone interview of households and in the NIS PRC survey. The confidentiality of respondents and their data is required by Section 308(d) of the Public Health Service Act [42 U.S. Code 242m(d)].

Content of the NIS Household Questionnaire

The Computer-Assisted Telephone Interview (CATI) questionnaire used in the RDD phase of NIS data collection (Appendix B) consists of two parts: a screener to identify households with children aged 19 to 35 months and an interview portion. The questionnaire is modeled

on the Immunization Supplement to the National Health Interview Survey (NHIS) (NCHS 1999). The NIS CATI questionnaire has been translated into Spanish, and the AT&T Language Line is used for real-time translation into many other languages (Wall et al. 1995). Table 2 summarizes the content of each section of the 2000 NIS household interview.

In the screener the purpose of the survey is explained to the respondent, and the household is screened to determine whether it contains any children 19 to 35 months of age. If the household has an eligible child, the respondent is asked whether he/she is the most knowledgeable person (MKP) for the child’s vaccination history. If the respondent indicates that another person in the household is more knowledgeable, the interviewer asks to speak to him or her at that time. If that person is unavailable to be interviewed, the interview proceeds to Section MR, the name of the MKP is recorded, and a “callback” is scheduled for a later date.

Table 2: Content of the 2000 NIS Household Interview

Screener	Screening questions to determine eligibility, roster of eligible children, availability of shot records
Section MR	Most-knowledgeable-respondent callback questions
Section SR	Shot-record callback questions
Section A	Vaccination history, asked if shot records are available
Section B	Vaccination history, asked if shot records are not available
Section C	Demographic and socioeconomic questions
Section D	Provider information and request for consent to contact the eligible child’s vaccination providers

Also during the screener the person being interviewed is asked whether he/she has a written record (shot card) of the child's vaccination history, and whether it is easily accessible. If the 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, the interview proceeds with Section B, which asks the respondent to recall from memory information about the child's vaccinations. If the child has a shot card but it is not easily accessible, the interview proceeds to Section SR. In this section the interviewer makes an appointment to call at a later date, when the shot card will be available, and also gathers general information about the child's immunization history.

Section C obtains information that includes the relationship of the respondent to the child, the race of the child, the race of the mother, household income and educational attainment of the mother of the child, and other information on the socioeconomic characteristics of the household and its eligible children. This section is asked of all respondents upon completion of Section A, B, or SR.

At the conclusion of the NIS household interview, consent is requested to contact the child's vaccination providers (Section D). If verbal consent is obtained, identifying information (name, address, and telephone number) on the vaccination provider(s) is requested, as well as the full names of the child and the respondent, so that NIS personnel can contact the providers and identify the child whose immunization information the NIS is requesting. When verbal consent and sufficient identifying information are obtained, the IHQ is mailed to the child's vaccination provider(s).

One major change was made to the NIS CATI questionnaire in 2000. Questions were added in Q4/2000 regarding a child's immunization for the newly recommended pneumococcal vaccine. Appendix B describes this change in more detail. The 2000 public-use file does not contain the household variables for pneumococcal vaccine, because they were not collected in all four quarters.

Content of the Immunization History Questionnaire

The IHQ (Appendix C) is designed to be simple and brief, to minimize burden on the providers and to encourage participation in the survey. It consists of two pages. Page 1 includes space for a label that gives the child's name and birth date and the full name of the parent or guardian. Page 1 also includes a grid for recording dates of vaccinations. The columns of the grid correspond to recommended vaccines, and an additional column is available for recording other vaccines. Page 2 of the IHQ contains several questions about the facility and vaccination provider (for example, whether the facility is public or private).

One major change was made to the NIS IHQ in 2000. Pneumococcal vaccine was added to the shot grid in Q4/2000. Appendix C describes this change in more detail. The 2000 public-use file does not contain the provider variables for pneumococcal vaccine, because they were not collected in all four quarters.

4. Data Preparation and Processing Procedures

The household data collection and provider data collection in the NIS incorporate extensive data preparation and processing procedures. During the household interview the CATI system makes many edits as the interviewer enters the data. After the 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 IHQs, data entry of the IHQs, 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 child are consolidated into a child-level data record, the editing continues. At this point a check ensures that the IHQ was filled out for the correct child and that the child is actually 19 to 35 months of age (from all the date-of-birth information). Then editing of the provider-reported vaccination dates 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.

Data Preparation

The editing and cleaning of NIS data involve several steps. First, the CATI system incorporates an automatic editing process. Further cleaning and editing take place in a post-CATI clean-up stage, involving an extensive review of data values, crosschecks, and the recoding of verbatim responses for race, ethnicity, and vaccinations. The next step involves the creation of numerous composite variables. Finally, provider data are cleaned in a

separate step. After these steps have been completed, imputations are performed for item nonresponse on selected variables, and weights are calculated. The procedures and rules of the National Health Interview Survey served as the standard in all stages of data editing and cleaning.

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.

The CATI system makes a number of edits as an interviewer enters data. These edits correct data entry errors that can be reconciled while the respondent is on the telephone; they focus, in particular, on items critical to the conduct of the study, such as those that determine a child's eligibility (e.g., date of birth). To the extent possible without making the CATI system overly complicated, out-of-range and inconsistent responses produce a warning screen, allowing the interviewer to correct errors as they occur.

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.

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 the 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 File. The Sample File contains one record for each sample telephone number. It contains summary information for telephone numbers and households. The Interview File contains one record for each eligible sample child. It contains all vaccination data that the household reported for the child.

Following the creation of these files, a preliminary analysis of each file identifies out-of-range values and extraneous codes. The first check verifies the eligibility status of children, based on date of birth and date of interview. Once the required corrections are verified, the 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 make sure that cases exist across files in a consistent manner.

Specifically, checks ensure that each case in the Interview File is also present in the Sample File and that each case in the Sample File was released to the CATI center. Checks also ensure that no duplicate households exist in the Sample File and no duplicate children exist in the Interview File.

When all of these checks have been performed, the final quarterly Interview File is created. Programmers and statisticians then create composite variables for each child. Sampling weights (described in Section 6) are added to each record.

Editing of Provider Data

Six to eight weeks after the close of household data collection for a quarter, the collection of Immunization History Questionnaires from providers typically ends. The data from the hard-copy questionnaires are entered and independently re-entered to provide 100% verification. The Provider Data File is cleaned, in a similar fashion to the household data, for out-of-range values and consistency. A computer program back-codes all “other shot” verbatim responses into the proper vaccine category (e.g., Energix B counts as Hep B, and Tetramune counts as DTP and Hib). These translations come from a file that contains all such verbatim responses ever encountered in the NIS. Also, the Provider File is checked for duplicate records, and exact duplicates are removed from the file. If the IHQ contains a date of birth of the child, gender of the child or child name that differs from the household interview, the IHQ is examined to see whether it may have been filled out for the wrong child. IHQs that appear to

have been filled out for the wrong child are removed from the provider database. When a child has data from more than one IHQ, decision rules are applied to produce the most complete picture of the child's immunization history.

Once these data have been cleaned, they are combined with the household interview data. Information from up to five providers can be added to a child's record.

Many variables in the household data are checked against or verified with the provider data. For example, a child's birth date as recorded by the provider is checked against the birth date as given by the household, to verify that the provider was reporting for that specific child. Shot dates are also compared, and any discrepancies are examined by hand. In most instances the provider data are used if dates do not agree between the provider(s) and the household.

Limitations of Data Editing Procedures

Although data editing procedures were used for the 2000 NIS, the data user should be aware that some inconsistent data may remain in the public-use file. The variables that indicate whether a child 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 does not recontact households or providers to attempt to reconcile potential discrepancies in provider-reported vaccination dates or to resolve date-of-birth reporting errors. However, beginning with the 1999 NIS, the provider-reported data were manually reviewed and edited to correct specific reporting errors. The *National Immunization Survey: Guide to Quality Control Procedures* discusses the editing procedures in more detail. Overall, even with these minor limitations, the NIS is a rich source of data for assessment of up-to-date status and age-appropriate immunization.

Variable-Naming Conventions

To facilitate access to the contents of the PUF, the names of variables adhere to the SAS (Version 6.12) convention of having no more than 8 characters, and they follow a systematic pattern as much as possible. The code book for the PUF groups the variables into nine broad categories according to the source of the data (household or providers) and the content of the variable (see Appendix G).

The household report of vaccinations received by the child is used to create household up-to-date indicator variables. The names of these variables begin with FULL. For example, FULL_HEP indicates whether the child has received three or more hepatitis B vaccinations. Additional household up-to-date variables combine each vaccine with use of a shot card. The names of these variables begin with C_. For example, C_HEP has five values, corresponding to up-to-date on hepatitis B from a shot card, not up-to-date on hepatitis B

from a shot card, up-to-date on hepatitis B not from a shot card, not up-to-date on hepatitis B not from a shot card, and vaccination status on hepatitis B indeterminate.

The provider data from the IHQs are used to create numerous child-level composite variables, as described below. The names of the variables giving the number of doses received for each vaccine begin with P_NUM. For example, P_NUMHEP gives the number of doses of hepatitis B vaccine according to the provider data. An up-to-date indicator variable also exists for each vaccine, and these variables begin with P_UTD. For example, P_UTDHEP indicates whether the child received 3 or more doses of hepatitis B vaccine.

The provider data are also used to form variables for age in days and age in months at time of vaccination. For age in days and age in months, either 4 or 8 variables are created, depending on the vaccine. The variables for age in months end with n_AGE, where n is the dose number. For example, HEP1_AGE to HEP8_AGE give age in months for 8 possible doses of hepatitis B vaccine. Similarly, for age in days at vaccination, the variables start with D and end with the dose number. For example, DHEPB1 to DHEPB8 give age in days for 8 possible doses of hepatitis B vaccine.

Missing-Value Codes

The missing-value codes for household variables are 6 and 96 for DON'T KNOW and 7 and 97 for REFUSED. Some household variables may also contain blanks, if the question was not asked. The variables developed from the IHQ generally do not have specific missing-

value codes. For example, if a provider failed to answer the question on types of care provided, the response category variables for that question would be blank.

Imputation for Item Nonresponse

The NIS uses imputation primarily to replace missing values on selected socioeconomic and demographic variables collected in the household survey. A sequential hot-deck method is used to assign imputed values (Cox 1980). Each imputation cell has at least four donors. The Notes section of the code book identifies variables that contain imputed values. These variables include maternal education, Hispanic origin, race, race/ethnicity, firstborn status of child, WIC participation, maternal marital status, maternal age group, whether the household experienced an interruption in telephone service, and whether the child ever had chicken pox disease.

The count of vaccinations for a specific vaccine is based on the number of unique vaccination *dates* reported by the child's provider(s). In filling out the IHQ a provider may not know the date of the first dose of hepatitis B, which is typically given at birth. The provider does, however, have the option of making a check mark in the "Administered at Birth" box on the IHQ for the first dose of hepatitis B. For children with fewer than three provider-reported hepatitis B vaccinations, a program checks to see whether the "Administered at Birth" box was checked for the first dose of hepatitis B. If it was checked and the date of the birth dose of hepatitis B was not reported, the program assigns the date of the birth dose for this vaccine. If the household used a vaccination record to report

vaccination dates, those dates are examined to see whether the date of the birth dose can be taken from that record. If it is not reported in the vaccination record, a value is imputed from the distribution of provider-reported dates for the birth dose of hepatitis B in the same NIS quarter. The birth dose is defined as being between the date of birth (i.e., 0 days) and the date of birth plus 7 days. **This procedure was implemented in the first quarter of 2000 and the 2000 PUF is the first to include these data.** For Q1/2000-Q4/2000 a total of 361 children had the date of the birth dose of hepatitis B assigned using the above procedure (see HEP_FLAG). The date of the birth dose was taken from the vaccination record for 34 children. For the remaining 327 children the value was imputed from the distribution of provider-reported dates for the birth dose.

Table 3 shows the distribution of age in days at the birth dose for children in Q1/2000-Q4/2000 with a provider-reported birth dose. For 1997, 1998 and 1999, Section 5 of the Data User’s Guide provides similar information on the distribution of age in days for the birth dose of hepatitis B vaccine, and gives guidance on imputing age in days at birth dose date for children with a missing date but the provider checked a box on the IHQ indicating that a dose was administered at birth (see HEP_BRTH).

Table 3: Distribution of Age (in days) at the Birth Dose of Hepatitis B Vaccine, 2000	
Age in Days at Birth Dose	Unweighted Percentage of Birth Doses
0	44.0
1	32.7
2	12.9
3	3.6
4	2.2
5	1.7
6	1.5
7	1.5

Vaccine-Specific Recoding of Verbatim Responses

During the household interview, respondents are given the option to report vaccinations in addition to, or instead of, the categories specifically read to them. These verbatim responses are entered into the CATI system by the interviewer and stored in the Interview File. They are reviewed in the post-CATI editing process in order to reclassify the responses into the listed categories, where possible. NIP personnel manually review the verbatim responses and determine to which category or categories (for combination shots), if any, each should be recoded. Once the recoding has been completed, a quality control review ensures that the responses were correctly recoded and are consistent with one another.

Composite Variables

A number of composite variables (constructed from basic variables) are created and included in the NIS PUF. Composite variables assist users and data analysts by eliminating duplication of effort and making NIS data easier to use.

Since the initial years of NIS data collection, the household composite variables have included up-to-date status on individual vaccinations, race of child and mother, household income, and up-to-date status on several vaccination series. Many of these composite household variables are included in the NIS PUF. Table 4 lists some of the key demographic variables and their categories.

Table 4: Key Demographic Composite Variables

AGEGRP – age category of child	19-23 months 24-29 months 30-35 months
RACEKIDR – race/ethnicity of child	Hispanic White, nonHispanic Black, nonHispanic All other, nonHispanic
SEX – gender of child	Male Female
EDUC1 – education of the mother	<12 years 12 years >12 years, not a college graduate College graduate
MARITAL – marital status of mother	Widowed, divorced or separated Never married Currently married Deceased
M_AGEGRP	Under 20 years 20-29 years 30 years or older
FRSTBRN	No Yes
INCPOV1R – poverty status	At or above poverty level Below poverty level Not determined

In Q3/1999 the NIS race questions (see questions C3, C4, C9 and C10 in Appendix B) were expanded to include Alaska Native, Native Hawaiian and Pacific Islander, implementing the revised Office of Management and Budget (OMB) standards for the classification of race and ethnicity (<http://www.whitehouse.gov/omb/inforeg/statpol.html>). The composite race variables in the 2000 PUF, however, contain only three categories: white, black and all other races, because of small sample sizes and risk of disclosure within IAP areas. The “all other races” category includes Asian, American Indian or Alaska Native, Native Hawaiian or Pacific Islander, and other races. If more than one race was selected during the administration of the questions on race of child and race of mother, the respondent was asked

to select a primary race for the child and/or mother. The 2000 PUF uses the primary race questions to assign each child and mother to a single race category. Because of small sample sizes and risk of disclosure within IAP areas, the 2000 PUF does not contain any variables with multiple-race categories. As a guide to data users, information on the weighted distribution of children by the old race/ethnicity (single race only) classification versus the new race/ethnicity (single or multiple race) classification is shown in Table 5.

Table 5: Weighted Race/Ethnicity Distribution of Children Based on the Old Versus New Race Categories, National Immunization Survey, 2000

Old (single race only) race/ethnicity classification	Weighted percentage of children aged 19-35 months in U.S.	New (single or multiple) race/ethnicity classification	Weighted percentage of children aged 19-35 months in U.S.
Hispanic	21.94	Hispanic	21.94
NonHispanic White	55.60	NonHispanic White	54.57
NonHispanic Black	15.13	NonHispanic Black	14.32
NonHispanic Asian	3.72	NonHispanic Asian	3.14
NonHispanic American Indian	0.90	NonHispanic American Indian or Alaska Native (AIAN)	0.82
		NonHispanic Native Hawaiian or Pacific Islander (NHOPI)	0.29
NonHispanic Other Race	0.02	NonHispanic Other Race	0.01
		NonHispanic Multiple Races	3.20
			1. Black/White – 1.44 2. AIAN/White – 0.52 3. Asian and/or NHOPI/White – 0.79 4. Other Combination – 0.44
Unknown	2.69	Unknown	1.71

Note: The Hispanic origin, race and race/ethnicity variables in the PUF do not include a category for “unknown”. Children with an unknown Hispanic origin and/or race are imputed using the mother’s Hispanic origin and/or race or by a hot-deck method if the mother’s information is not present.

The provider data from the IHQs are used to create numerous child-level composite variables. The most important variables give the number of doses received for each type of vaccine. Up-to-date indicator variables are created for each individual vaccine and for several vaccine series. Another set of variables gives age in days at time of vaccination. For each dose of a vaccine, the age in days is constructed from the date of birth of the child and the date of the shot. Corresponding variables give exact age in months at time of vaccination.

The IHQs also contain information on provider characteristics. This information is used to create composite variables related to provider facility type (PROV_FAC), and types of care offered by the provider (NCARER1 to NCARER5), participation in the Vaccines for Children program (VFC_PRO), participation in state or community immunization registries (REGISTRY), and the clinical specialty of the person(s) who ordered the child's vaccinations (PERSP).

Subsets of the Data

The NIS PUF contains data for all children aged 19 to 35 months who have a completed household (RDD) interview. An interview is considered complete if the respondent answered either Section A or Section B of the questionnaire. **As explained in Section 6, each child with a completed household interview is assigned a weight (HY_WGT) for use in estimation.**

The NIS uses the provider-reported vaccination histories to form the estimates of vaccination coverage, because the provider data are considered much more accurate. Thus, the most important subset of the data consists of children with adequate provider data. For these children one or more providers returned the IHQ, and the vaccination information reported by those providers is sufficient to determine whether the child is up-to-date on the recommended vaccinations. **As discussed in Section 7, the PDAT variable identifies the children with adequate provider data (PDAT=1). These children have a separate weight (W0) that should be used to form estimates of vaccination coverage (see Section 6).**

Confidentiality and Disclosure Avoidance

To prevent identification of participants in the NIS and the resulting disclosure of information, certain items from the questionnaires are not included in the PUF. In addition, some of the released variables are top- or bottom-coded, or their categories are collapsed.

5. Quality Control and Quality Assurance Procedures

A major contributor to the quality of the NIS data is its sample management system, which manages 312 RDD samples annually (78 IAP areas times 4 quarters) and uses 20 performance measures to track their progress toward completion. Important aspects of the quality assurance program for the RDD component of the NIS include on-line interviewer monitoring; on-line look-ups in topic-oriented databases 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 contribute to a reduction in the total cost of the data collection, 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* discuss the procedures in more detail.

The quality assurance procedures of the PRC component follow a proven methodology documented by Dillman (1978). The most critical quality assurance activities occur during post-processing of the returned questionnaires or vaccination records. All returned IHQs are examined to identify and correct any obvious errors prior to data entry and then key-entered with 100% verification. The National Immunization Program additionally has conducted a manual quality assurance review of 10% of forms returned by providers. Resulting error rates for the edit process are estimated to be less than 1%.

6. Sampling Weights

Each of the two stages of data collection results in a sampling weight for the children who have data at that stage. The RDD sampling weights (HY_WGT) permit analyses of data from children with completed household interviews. Each child with adequate provider data (the subset on which official estimates of vaccination coverage are based) has a “partial-nonresponse-adjusted sampling weight” (W0).

A sampling weight may be interpreted as the approximate number of children in the target population that the child in the sample represents. Thus, for example, the sum of the sampling weights of children who are up-to-date (on a particular vaccine or series of vaccines) yields an estimate of the total number of children in the target population who are up-to-date. Dividing this sum by the total of the sampling weights for all children 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 weights reflect each child's probability of being selected into the sample; and the adjustments take into account the number of telephone lines in the household, nonresponse to the household interview, noncoverage of households that do not have telephones, and nonresponse by providers.

Adjusted Base Sampling Weight

In each quarterly NIS sample, each child with a completed RDD interview receives a base sampling weight. This weight is equal to the total number of telephone numbers in the sampling frame for the IAP area divided by the total number of telephone numbers that were randomly sampled from that sampling frame during that quarter. Because households with multiple telephone lines have a greater chance of being sampled, each child's base sampling weight is adjusted by dividing it by the total number of residential telephone lines reported in the household (up to a maximum of 3).

Adjustment for Interview Nonresponse

Nonresponse occurs in population-based surveys when respondents refuse to participate or are not available at the time of the interview. Thus, the sum of the adjusted base sampling weights of children with completed RDD interviews will underestimate the size of the target population in the IAP area, because some sampled households containing age-eligible children do not complete the RDD interview. As a result, the adjusted base sampling weights must be further adjusted so that they more accurately reflect the number of children in the target population that each sampled child with a completed RDD interview represents.

Some sampled households with age-eligible children fail to complete the RDD interview because of unit nonresponse: some telephone numbers are never determined to be residential despite multiple call attempts, some households cannot be determined to have age-eligible children, and some households with age-eligible children do not complete the RDD interview. To compensate for these three types of unit nonresponse, the sampling weights of children with a completed RDD interview are adjusted to account for the estimated number of age-eligible children in households whose telephone numbers are never determined to be residential, the estimated number of age-eligible children in households that fail to complete the screening interview, and the number of identified age-eligible children for whom the RDD interview is not completed. Each of these adjustments is carried out within IAP areas by forming weighting cells based on the residential directory-listed status of the sample telephone number and socioeconomic and demographic characteristics of the IAP area's telephone exchanges (e.g., 4 weighting cells formed from directory-listed versus non-

directory-listed telephone number by telephone exchanges with 75% or higher white population versus telephone exchanges with less than 75% white population).

Because the quarterly interview-nonresponse-adjusted base sampling weights pertain to the entire target population and because annualized vaccination coverage estimates are obtained from data for four consecutive quarters, the adjusted base sampling weights are divided by 4 when the data from the four quarters are combined.

Adjustment for Households That Do Not Have Telephones

The NIS sampling frame includes only households that have telephones. Because the target population consists of all children 19 to 35 months of age living in households regardless of whether they have telephones, the interview-nonresponse-adjusted base sampling weights need to be adjusted to compensate for the noncoverage of children living in households without telephones. Although national telephone coverage for age-eligible children is estimated to be 90%, telephone coverage is known to be as low as 76% in some IAP areas. Further, data from the NHIS, which samples both “telephone” and “nontelephone” households, indicate that children living in households without telephones have significantly lower vaccination coverage. Thus, the adjustment to the sampling weights to compensate for noncoverage of nontelephone households may be particularly important in IAP areas in which the percentage of households that have telephones is relatively low.

In order to reduce the impact of this potential bias, two separate adjustments to sampling weights are made. In the first adjustment, the weighted distributions of “poststratification” variables, which are known to be strongly associated with variation in vaccination coverage rates, are adjusted to agree with those obtained from Vital Statistics (NCHS 1993) compiled by the National Center for Health Statistics (NCHS). The poststratification variables are race/ethnicity of the child’s mother, the level of educational attainment of the child’s mother, and the age of the child. Because the Vital Statistics data give the counts of all live births in the U.S., regardless of whether the household has telephone service, this adjustment corrects in part for underrepresentation of children who belong to households that are less likely to have telephones (typified by racial/ethnic minorities or mothers with low educational attainment).

The second adjustment for nontelephone households in 2000 depends on whether a sample child is up-to-date on the 4:3:1:3 vaccination series and also on two other factors: the IAP-area-specific proportion of children that live in households that do not have telephones, as estimated from the 1990 Census and the Current Population Survey (Bureau of Labor Statistics 2000) for each combination of levels of the poststratification variables described above, and the ratio of the national 4:3:1:3 vaccination coverage rate among children living in nontelephone households to the national 4:3:1:3 vaccination coverage rate among children living in telephone households, as estimated using data for major race/ethnicity groups from the NHIS.

For children belonging to a specific race/ethnicity group, the adjustment to the sampling weight is larger for children who are not 4:3:1:3 up-to-date than for children who are 4:3:1:3 up-to-date when: the percentage of children living in nontelephone households in the IAP area is large and the estimated national 4:3:1:3 vaccination coverage rate among children living in nontelephone households is less than the estimated national 4:3:1:3 vaccination coverage rate among children living in telephone households. In this situation the adjustment for households that do not have telephones tends to reduce estimated vaccination coverage rates slightly. A further description is given by Battaglia et al. (1995a).

The base sampling weights after adjustment for multiple residential telephones, unit nonresponse, and nontelephone coverage constitute the “RDD sampling weights.”

Adjustment for Provider Nonresponse

Among the 34,087 children with a completed RDD interview, 22,958 (67.4%) had adequate provider data. Failure to obtain adequate provider data for the remaining 32.6% was attributable to:

- the parent or guardian not giving consent to contact the child's vaccination providers (15.1%),
- inadequate information to contact the provider, the provider did not respond, or the provider responded but did not report any immunization information for the child (16.2%), and

- children with two or more identified providers but not all of the providers responded and the responding providers did not report sufficient information to determine the child's vaccination status (1.3%).

The 11,129 (32.6%) children for whom an RDD interview was completed but adequate provider data were not obtained are “partial nonresponders” because they provide a partial response to the NIS as a whole.

Empirical results suggest that children with adequate provider data have characteristics that are believed to be associated with a greater likelihood of being up-to-date, compared to partial nonresponders. Specifically, children with adequate provider response are more likely to live in households that have higher total family income, to have a white mother, and to live outside a central city of a Metropolitan Statistical Area. Also, a partial nonresponder is less likely to live in the state where the mother resided when the child was born and less likely to have a parent/guardian who could locate a shot card. Both of these factors indicate a potential lack of continuity of health care, and are associated with lower vaccination rates (Coronado et al. 2000). If no adjustment is made to the RDD sampling weights to account for these differences, estimated vaccination coverage rates may be biased.

To reduce potential bias in estimated vaccination coverage estimates attributable to partial nonresponse, a “weighting-class adjustment” is used in each IAP area (Brick and Kalton 1996). This adjustment involves two steps. In the first step, sampled children 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). Children who 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, children in each class are comparable. Because of this comparability, any subsample of children in a class may represent all of the children in the class. Therefore, the weighting-class adjustment uses the children with adequate provider data to represent all of the children in the class.

In the second step of the weighting-class adjustment, within each class, an adjustment factor redistributes the RDD sample weights of the partial nonresponders among the children who have adequate provider data. These revised RDD sampling weights of children with adequate provider data are “partial-nonresponse-adjusted RDD sampling weights” (W0). Because of the comparability of children within each weighting class, any estimate that uses data only from the children with adequate provider data, along with their partial-nonresponse-adjusted RDD sampling weights, will have less bias attributable to differences between children with adequate provider data and partial nonresponders. Smith et al. (2001b) describe the development of this approach in more detail. Appendix D summarizes the distribution of the sampling weights (HY_WGT and W0) in each IAP area.

7. Analytic and Reporting Guidelines

The NIS PUF can be used to produce national, state and IAP area estimates of vaccination coverage rates using the W0 weight. Information in the data file can be used to calculate standard errors of the vaccination coverage rates, using the W0 weight, that

reflect the complex sample design of the NIS. **The file includes IAP area and state identifiers (ITRUEIAP and STATE).** The sample is stratified by the 78 IAP areas, and the IAP area identifier and the coded household identifier (SEQNUMHH) are key variables for obtaining standard errors for IAP 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 subgroups of the population. Data users should, however, be aware that estimates for such subgroups at the state or IAP area level will generally have large standard errors because of the small sample sizes. The NCHS standard for precision of subgroup estimates is that the ratio of the standard error to the estimate should be less than or equal to 30%, and each analytic cell should contain at least 30 respondents.

Key Variables

The variables in the NIS PUF fall into two major categories: 1) variables that apply to all children with completed household interviews (use HY_WGT), and 2) variables that apply only to children with adequate provider data (use PDAT=1 and the W0 weight).

Variables in the first group include the household report of vaccinations received by the child, and various demographic and socioeconomic characteristics of the child, the mother and the household. Because of reporting and recall errors, the household report of vaccinations is not used to produce vaccination coverage rates. As discussed below, the provider report of vaccinations received by the child is used to produce vaccination coverage rates.

Table 6 lists variables that are commonly used in analyses or for published estimates of vaccination coverage.

The SEQNUMC variable is the unique child identifier. SEQNUMHH is the unique household identifier variable. Key geographic variables include IAP area (ITRUEIAP), state (STATE), and Census Region (REGION). Key demographic variables include race/ethnicity category of the child (RACEKIDR), age category of the child (AGEGRP), age category of the mother (M_AGEGRP), marital status category of the mother (MARITAL), and first-born status of the child (FRSTBRN). Key socioeconomic variables include education category of mother (EDUC1), poverty status (INCPOV1R), income-poverty-ratio (INCPORAT), and WIC participation variables (I_CWIC01, I_CWIC03).

Selecting children with PDAT equal to 1 identifies children with adequate provider data (DISPCODE = 1 to 6 or 8 to 11). Children who do not have provider data (DISPCODE = MISSING) or who have provider data that are not adequate to determine the up-to-date vaccination status of the child (DISPCODE = 7) have PDAT equal to 2. (Appendix E gives the definition of the values of DISPCODE.) The NIS PUF contains many variables constructed from the provider data. One set of variables indicates the number of doses the child received for each of the vaccines. For example, P_NUMDTP indicates the number of doses of DTP. It counts all DTP-containing vaccines, including DTP, DTaP, DT and DTP-Hib.

Table 6: NIS Variables That Are Commonly Used in Analyses or for Published Estimates

ID variables	
SEQNUMC – unique child ID variable	
SEQNUMHH – unique household ID variable	
Geographic variables	
ITRUEIAP – IAP area	
STATE – state FIPS code	
REGION – Census Region	Northeast Midwest South West
Child demographic variables	
AGEGRP – age category of child	19-23 months 24-29 months 30-35 months
RACEKIDR – race/ethnicity of child	Hispanic White, nonHispanic Black, nonHispanic All other, nonHispanic
SEX – gender of child	Male Female
FRSTBRN – first born status of the child	No Yes
Mother demographic variables	
EDUC1 – education of the mother	<12 years 12 years >12 years, not a college graduate College graduate
MARITAL – marital status of mother	Widowed, divorced or separated Never married Currently married Deceased
M_AGEGRP – age group of mother	Under 20 years 20-29 years 30 years or older
RACEMOMR – race/ethnicity of mother	Hispanic White, nonHispanic Black, nonHispanic All other, nonHispanic
Poverty variables	
INCPOV1R – poverty status	At or above poverty level Below poverty level Not determined
INCPORAT – income to poverty ratio	

I_CWIC01 – child ever received WIC benefits	Yes No Don't know about the program
I_CWIC03 – child currently receiving WIC benefits	Yes No
Presence of provider data variables	
PDAT – adequate provider data indicator	Yes No
Number of provider-reported doses of vaccine variables	
P_NUMDTP – total number of DT/DTP/DTaP doses	
P_NUMPOL – total number of Polio doses	
P_NUMMMR – total number of MCV doses	
P_NUMHIB – total number of Hib doses	
P_NUMHEP – total number of Hep B doses	
P_NUMVRC – total number of varicella doses	
Provider characteristic variables	
PROV_FAC – provider facility type	All public facilities All hospital facilities All private facilities All military/other facilities Mixed types Unknown
VFC_PRO – participation of child's provider(s) in VFC program	All providers Some but not all providers No providers Unknown
REGISTRY – child's vaccination reported by provider(s) to state or community immunization registry	All providers Some but not all providers No providers Unknown
NCARER1 to NCARER6 – types of services offered by child's provider(s)	All providers Some but not all providers No providers/unknown
PERSP -- clinical specialty of the person(s) who ordered the child's vaccinations	Only pediatrician Only nurse or nurse practitioner Only family-practice or general-practice physician Only physician assistant or other type of practitioner Pediatrician and nurse/nurse practitioner Other combination of two or more clinical specialties Missing

Both the individual vaccines and the vaccine series have up-to-date indicator variables. For example, PUTD4313 is an indicator variable for whether the child has 4 or more DTP vaccinations, 3 or more polio vaccinations, 1 or more measles-containing vaccinations (MCV), and 3 or more Hib vaccinations. Section 4 discusses the naming conventions for these variables.

To accommodate the large and continually growing number of types of vaccinations collected in the NIS, vaccination-type indicator variables (see Table 7) are also created from information recorded by providers on the Immunization History Questionnaire.

For example, the vaccination-type indicator variable for the first dose of DTP (XDTPTY1) indicates whether that dose was a DTP, DTaP, DT, DTP-Hib, or DTaP-Hib vaccination.

Additional codes are included to cover the situation where the provider does not specify the type of DTP or type of DTP-Hib vaccine. There is a vaccination-type indicator variable for each pair of age in days and age in months at vaccination variables (e.g., XDTPTY1 is associated with DDTP1 and DTP1_AGE). More detail on the age at vaccination variables is given below.

DTP-containing vaccines have a vaccination type code of 01 to 07. Polio-containing vaccines have a vaccination type code of 20-21. Measles-containing vaccines have a vaccination type code of 20 to 22. Hib-containing vaccines have a vaccination type code of 05 to 07 or 40 to 43. Finally, Hepatitis B-containing vaccines have a vaccination type code of 43 or 60. Vaccine type codes 10 to 19 and 50 to 59 have been reserved for later use.

These vaccination-type indicator variables greatly reduce the number of vaccination date and age-at-vaccination variables that must be carried in the NIS public-use file without any loss of information. They also allow data users to more easily determine the specific type of vaccine given at each dose (e.g., the percentage of children with a DTaP vaccination for their first dose of DTP-containing vaccine). **The vaccination-type indicator variables were implemented in the first quarter of 2000 and the 2000 PUF is the first to contain these new variables.** They are located in Section 9 of the code book that accompanies the 2000 NIS PUF. Similar information is available in prior public-use files. For example, in the 2000 PUF a weighted (using the W0 weight for children with PDAT = 1) frequency distribution on XDTPTY1 would give estimates of the proportion of DTP-containing first doses that were DT, DTP, DTaP, DTP-Hib, DTaP-Hib, etc. In the 1999 PUF, as an example, one must first determine the age in days of the first DTP-containing vaccination by examining DDTP1 for each child with PDAT = 1. Next, for these children the individual DTP-containing age in days at shot #1 variables (DDTM1, DDTPM1, DDTAP1, DDTHM1, DDTAH1, etc.) must be examined to see which one has the same age in days value as DDTP1. The variable with the same value identifies the specific type of DTP-containing vaccine given at the first dose.

Table 7: Vaccination-type indicator variables for use with vaccination-date arrays and age-at-vaccination arrays

Vaccination-Type Indicator Variable Description and Variable Names	Vaccination Type Code	Specific Type of Vaccination Recorded on Immunization History Questionnaire
DTP (DTP/DT-containing vaccine): XDTPTY1 – XDTPTY8	01	DT
	02	DTP
	03	DTP - unknown type
	04	DTaP
	05	DTP/Hib
	06	DTP/Hib - unknown type
	07	DTaP/Hib
POLIO (Polio-containing vaccine): XPOLTY1 – XPOLTY8	20	OPV
	21	IPV
	22	Polio - unknown type
MCV (Measles-containing vaccine): XMMRTY1 – XMMRTY4	30	MMR
	31	Measles only
	32	Measles/Mumps
	33	Measles/Rubella
HIB (Hib-containing vaccine): XHIBTY1 – XHIBTY8	40	Pedvax Hib
	41	Other Hib
	42	Hib - unknown type
	05	DTP/Hib
	06	DTP/Hib - unknown type
	07	DTaP/Hib
	43	Hep B - Hib
HEP B (Hep B-containing vaccine): XHEPTY1 – XHEPTY8	60	Hep B only
	43	Hep B - Hib

The NIS PUF includes a set of variables for age in days at each vaccination (e.g., DDTP1 for the first dose of DTP-containing vaccine). These variables can be used to examine age at vaccination, vaccination spacing intervals, and age-appropriate immunization. Another set of variables gives age in months at time of vaccination (e.g., DTP1_AGE for the first dose of DTP-containing vaccine). They are located in Section 9 of the code book that accompanies the 2000 NIS PUF. These variables can be used to determine, for example, whether a child received at least four DTP vaccinations by the age of 19 months. Section 4 of this data user's guide discusses the naming conventions for these variables.

The final key set of provider variables relates to characteristics of the provider: provider facility type (PROV_FAC), type of care offered by the provider (NCARER1 to NCARER6), participation in the Vaccines for Children (VFC) program (VFC_PRO), an indicator of whether the child's vaccinations are reported to a community or state immunization registry (REGISTRY), and the clinical specialty of the person(s) who ordered the child's vaccinations (PERSP).

Use of the NIS Sampling Weights

The NIS PUF contains two child-level weights. The HY_WGT variable gives the household weight for each child. It should be used to form estimates from the children with completed household interviews. This weight reflects the stratified sample design and also adjusts for unit nonresponse, for poststratification to population control totals, and for the exclusion of nontelephone children from the NIS. **The weight variable that applies to children with**

adequate provider data is W0. This weight should be used to form estimates of vaccination coverage. Each child with adequate provider data (PDAT = 1) has a value of W0.

The NIS PUF does not contain any provider-level weights. The NIS does not sample providers directly; rather, they are included in the survey through the children they vaccinate. A user of the NIS PUF should not attempt provider-level analyses (e.g., estimate the percentage of providers in the U.S. that are private providers), because the NIS sample was not designed for that purpose.

Estimation and Analysis

Estimating Vaccination Coverage Rates

Vaccination coverage rates are ratio estimates, as described by the statistical literature on methods for complex sample surveys. Because of the adjustment to the sampling weights for partial nonresponse, statistical analyses require only data from children with adequate provider data (PDAT = 1), along with their partial-nonresponse-adjusted sampling weights (W0). To summarize the statistical methodology by which vaccination coverage rates and their standard errors are obtained from these data, let Y_{hij} be an indicator, for the j th child with adequate provider data in the i th sampled household in the h th stratum (IAP area) of the NIS sampling design, that is equal to 1 if the child is up-to-date according the provider data and 0 otherwise. Also, let W_{hij} denote the value of W0 for this child. Then, letting

$\hat{Y}_h = \sum_{i=1}^{n_h} \sum_{j=1}^{m_{hi}} W_{hij} Y_{hij}$ and $\hat{T}_h = \sum_{i=1}^{n_h} \sum_{j=1}^{m_{hi}} W_{hij}$, the national estimator of the vaccination coverage rate

may be expressed as

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

where L denotes the number of strata (the 78 IAP areas), n_h denotes the number of sampled households containing children with adequate provider data in the h th IAP area, and m_{hi} denotes the number of age-eligible children with adequate provider data in the i th household in the h th IAP area.

Letting L denote the number of IAP areas in a state, the above formula can also be used to calculate vaccination coverage rates for states containing two or more IAP areas and for states containing only one IAP area.

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 IAP areas. Letting $Z_{hij} = \frac{W_{hij}(Y_{hij} - \hat{q})}{\hat{T}_h}$,

$Z_{hi} = \sum_{j=1}^{m_{hi}} Z_{hij}$, and $\bar{Z}_h = \frac{\sum_{i=1}^{n_h} Z_{hi}}{n_h}$, an estimator of the variance of the vaccination coverage rate,

\hat{q} , is

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

The calculation of standard errors for estimates of vaccination coverage rates in the NIS can be implemented in statistical software such as SUDAAN (Shah et al. 1997), SAS (SAS Institute Inc. 1999) and Stata (Stata Corporation 2001). Appendix F gives examples of the use of SUDAAN to estimate vaccination coverage rates and their standard errors for IAP areas and states. For PROC CROSSTAB, the DESIGN = WR (with-replacement sampling of Primary Sampling Units within stratum) option is used, because the sampling fractions for households within an IAP area are all quite small. In these applications the IAP area (ITRUEIAP) is used as the stratum variable, and the household identifier (SEQNUMHH) is used as the Primary Sampling Unit identifier in the NEST statement. The data file should first be sorted on ITRUEIAP and then sorted on SEQNUMHH within ITRUEIAP before running SUDAAN. As indicated above, W0 is used as the weight variable.

Combining Multiple Years of NIS Data

With the release of the 2000 NIS PUF, six years of NIS data are now available. The precision of estimates of vaccination coverage for subdomains (e.g., by race/ethnicity of child) within IAP areas or states can be improved by combining pooling two or more years of NIS data. Data users should, however, be aware that estimates from combined years of NIS data represent an average over two or more years. Although combining several years of NIS data will yield a larger sample size for IAP areas and states, the composition of the population in a geographic area may change over time, making interpretation of the results

difficult. Furthermore, if vaccination administration schedules or vaccination coverage change over time, the estimate of vaccination coverage for the combined time period applies to a hypothetical population that existed at the middle of the time period, making interpretation of the results more difficult. Given the use of independent random-digit-dialing samples in the NIS, it is also possible that a household could appear in more than one public-use file.

The weights (HY_WGT and W0) in each PUF should be divided by the number of years combined. For example, if 1999 and 2000 data are combined, the weights in each PUF should be divided by 2 to obtain revised weights. It is necessary to use revised weights in order to obtain correct weighted counts of children aged 19-35 months. The child and household ID numbers (SEQNUMC and SEQNUMHH) in the PUFs are unique only within a year, but not across years. It is important that you create revised unique ID numbers when combining data for multiple years. The following SAS code should be used:

```
YRSEQC = 1 * (YEAR || SEQNUMC);
```

```
YRSEQHH = 1 * (YEAR || SEQNUMHH);
```

YEAR is the 4-digit year variable for the NIS data year (e.g., 2000).

The data file should first be sorted on YEAR, then sorted on ITRUEIAP within YEAR (the two stratum variables), and finally sorted on YRSEQHH (the PSU variable) within

ITRUEIAP before running SUDAAN. The revised weight should be used as the weight variable. The SUDAAN NEST statement should be modified to:

NEST YEAR ITRUEIAP YRSEQHH / PSULEV = 3;

8. Summary Tables

Appendix H contains seven tables. As mentioned in Section 2, **Table H.1** lists the 78 IAP areas by state. For the U.S. and for each state and IAP area, it gives the estimated population total of children 19 to 35 months of age in 2000 and (from 2000 NIS data collection) the number of children with completed household interviews and the number of children with adequate provider data.

Tables H.2 through H.5 summarize pairs of variables: age group of child by maternal education (Table H.2), age group by family income (Table H.3), age group by race/ethnicity (Table H.4), and age group by gender (Table H.5). Each of these tables gives the unweighted and weighted counts of children who have completed household interviews and the unweighted and weighted counts of children with adequate provider data.

Table H.6 gives unweighted counts of children for shot card use by the presence of adequate provider data.

Table H.7 presents estimates of vaccination coverage and 95-percent confidence-interval half-widths obtained from SUDAAN. The data user should obtain the same estimates from the public-use file.

9. Citations for NIS Data

In publications please acknowledge CDC (NCHS and NIP) as the original data source. The reference for the 2000 NIS Public-Use File is:

U.S. Department of Health and Human Services (DHHS). National Center for Health Statistics. The 2000 National Immunization Survey, CD-ROM No. 6. Hyattsville, MD: Centers for Disease Control and Prevention, 2002.

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

10. References

Battaglia, M.P., Malec, D.J., Spencer, B.D., Hoaglin, D.C., and Sedransk J. (1995a). Adjusting for noncoverage of nontelephone households in the National Immunization Survey. *1995 Proceedings of the Section on Survey Research Methods*, Alexandria: VA: American Statistical Association, pp. 678-683.

Battaglia, M.P., Starer, A., Oberkofler, J., and Zell, E.R. (1995b). Pre-identification of nonworking and business telephone numbers in list-assisted random-digit-dialing samples. *1995 Proceedings of the Section on Survey Research Methods*, Alexandria, VA: American Statistical Association, pp. 957-962.

Brick, J.M. and Kalton, G. (1996). Handling missing data in survey research. *Statistical Methods in Medical Research*, 5:215–238.

Buckley, P., Dennis, J.M., Saulsberry, C., Coronado, V.G., Ezzati-Rice, T., Maes, E., Rodén, A.-S., and Wright, R.A. (1998). Managing 78 simultaneous RDD samples. *1998 Proceedings*

of the Section on Survey Research Methods, Alexandria, VA: American Statistical Association, pp. 957-961.

Bureau of Labor Statistics, U.S. Department of Labor (2000). Current Population Survey: Design and Methodology. Technical Paper 63.

Centers for Disease Control and Prevention (1994). Reported vaccine-preventable diseases - United States, 1993, and the Childhood Immunization Initiative. *MMWR*, 43:57-60.

Centers for Disease Control and Prevention (2000). Recommended childhood immunization schedule—United States. *MMWR*, 49(02): 35-38,47.

Centers for Disease Control and Prevention (2001). National, State, and Urban Area Vaccination Coverage Levels Among Children Aged 19-35 Months—United States, 2000. *MMWR*, 50(30): 637-641.

Coronado, V.G., Maes, E.F., Rodewald, L.E., Chu, S., Battaglia, M.P., Hoaglin, D.C., Merced, N.L., Yusuf, H., Cordero, J.F., and Orenstein, W.A. (2000). Risk factors for underimmunization among 19-35 month-old children in the United States: National Immunization Survey, July 1996-June 1998. Unpublished manuscript, Centers for Disease Control and Prevention, Atlanta.

Cox, B.G. (1980). The weighted sequential hot-deck imputation procedure. *1980 Proceedings of the Section on Survey Research Methods*. Washington, DC: American Statistical Association, pp. 721-726.

Dillman, D. (1978). *Mail and Telephone Surveys: The Total Design Method*. New York: John Wiley & Sons.

Ezzati-Rice, T.M., Zell, E.R., Battaglia, M.P., Ching, P.L.Y.H. and Wright, R.A. (1995). The design of the National Immunization Survey. *1995 Proceedings of the Section on Survey Research Methods*, Alexandria, VA: American Statistical Association, pp. 668-672.

Frankel, L.R. (1983). The report of the CASRO task force on response rates. In: Wiseman, F., editor. *Improving Data Quality in Sample Surveys*. Cambridge, MA: Marketing Science Institute, pp. 1-11.

Khare, M., Battaglia, M.P., Huggins, V.J., Stokley, S., Hoaglin, D.C., Wright, R.A. and Roden, A.S. (2000). Accuracy of vaccination dates reported by immunization providers in the National Immunization Survey. *2000 Proceedings of the Section on Survey Research Methods*. Alexandria, VA: American Statistical Association, pp. 665-670.

Khare, M., Battaglia, M.P., Stokley, S., Wright, R.A. and Huggins, V.J. (2001). Quality of immunization histories reported in the National Immunization Survey. *Proceedings of the International Conference on Quality in Official Statistics (CD-ROM)*. Stockholm: Statistics Sweden.

- Lepkowski, J.M. (1988). Telephone sampling methods in the United States. *Telephone Survey Methodology*. Edited by Groves, R.M., Biemer, P.P., Lyberg, L.E., Massey, J.T., Nicholls, W.L., and Waksberg, J. New York: John Wiley & Sons, pp. 73-98.
- National Center for Health Statistics. (1993). Public Use Data Tape Documentation: 1991 Detail Natality. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Health Statistics, Hyattsville, MD.
- National Center for Health Statistics (1999). National Health Interview Survey: Research for the 1995-2004 Redesign. Vital and Health Statistics, Series 2, No. 126. (DHHS publication no. (PHS) 99-1326). Hyattsville, MD: National Center for Health Statistics.
- Rosenbaum, P.R. (1987). Model-based direct adjustment. *Journal of the American Statistical Association*, 82:387-394.
- Rosenbaum, P.R. and Rubin, D.B. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika*, 70:41-55.
- Rosenbaum, P.R. and Rubin, D.B. (1984). Reducing bias in observational studies using subclassification on the propensity score. *Journal of the American Statistical Association*, 79:516-534.
- Rust, K.F., and Rao, J.N.K. (1996). Variance estimation for complex surveys using replication techniques. *Statistical Methods in Medical Research*, 5:283-310.
- SAS Institute Inc. (1999). *SAS/STAT User's Guide, Version 8*. Cary, NC: SAS Institute Inc.
- Shah, B.V., Barnwell, B.G. and Bieler, G.S. (1997). *SUDAAN User's Manual, Release 7.5*. Research Triangle Park, NC: Research Triangle Institute.
- Smith, P.J., Battaglia, M.P., Huggins, V.J., Hoaglin, D.C., Rodén, A.-S., Khare, M., Ezzati-Rice, T.M., and Wright, R.A. (2001a). Overview of the sampling design and statistical methods used in the National Immunization Survey. *American Journal of Preventive Medicine*, Volume 20, Number 4S, pp. 17-24.
- Smith, P.J., Rao, J.N.K., Battaglia, M.P., Ezzati-Rice, T.M., Daniels, D., Khare, M. (2001b). Compensating for provider nonresponse using response propensities to form adjustment cells: The National Immunization Survey. Vital and Health Statistics, Series 2, No. 133 (DHHS publication no. (PHS) 2001-1333). Hyattsville, MD: National Center for Health Statistics.
- Stata Corporation (2001). *Stata Reference Manual*. College Station, TX: Stata Press.

Wall, T.P., Kochanek, K.M., Fitti, J.E., and Zell, E.R. (1995). The use of real time translation services in RDD telephone surveys. Presented at the 1995 Conference of the American Association for Public Opinion Research, Fort Lauderdale, FL. This paper is posted at <http://www.nisabt.org/> .

Zell, E.R., Ezzati-Rice, T.M., Battaglia, M.P., and Wright, R.A. (2000). National Immunization Survey: The methodology of a vaccination surveillance system. *Public Health Reports*, 115(1), 65-77.

Appendix A

Glossary of Abbreviations and Terms

Glossary of Commonly-Used Abbreviations and Terms

4:3:1	The series of 4 or more DTP vaccinations, 3 or more polio immunizations, and 1 or more MCV vaccinations
4:3:1:3	The series of 4 or more DTP vaccinations, 3 or more polio immunizations, 1 or more MCV vaccinations, and 3 or more Hib vaccinations
4:3:1:3:3	The series of 4 or more DTP vaccinations, 3 or more polio immunizations, 1 or more MCV vaccinations, 3 or more Hib vaccinations, and 3 or more hepatitis B vaccinations
CATI	Computer-Assisted Telephone Interviewing
CDC	Centers for Disease Control and Prevention
DOB	Date of birth
DTaP	Diphtheria and tetanus toxoids and acellular pertussis vaccine
DTP	Diphtheria and tetanus toxoids and pertussis vaccine
DT	Diphtheria and tetanus toxoids
Hep B	Hepatitis B
Hib	<i>Haemophilus influenzae</i> type b
IHQ	Immunization history questionnaire
IPV	Inactivated poliovirus vaccine
MCV	Measles-containing vaccine
MMR	Measles, mumps, and rubella
NCHS	National Center for Health Statistics
NHIS	National Health Interview Survey
NIP	National Immunization Program

NSC	Non-shot-card
OPV	Oral poliovirus vaccine
RDD	Random-digit dialing
SC	Shot card
UTD	Up-to-date
VFC	Vaccinations for Children program
VRC	Varicella
WIC	Special Supplemental Nutrition Program for Women, Infants and Children

Appendix B

NIS Household Questionnaire

For Q4/2000 Section A (shot card) was modified to include pneumococcal vaccine:

SHOT RECORD FOR PNEUMOCOCCAL	
	<p>AN8. (Looking at the shot record) Please tell me how many times [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] has received a pneumococcal shot, also called the NU-MO-COC-AL conjugate vaccine, or Prevnar.</p> <p>IF R MENTIONS A SHOT NOT LISTED ABOVE, RECORD IN "OTHER SHOTS"- QUESTION A6</p> <p>Shots <input type="checkbox"/> RECORD DATES BELOW</p> <p>de NONE 0 GO TO A5_C</p> <p>de DON'T KNOW 6 GO TO A5_C</p> <p>de REFUSED 7 GO TO A5_C</p>
	<p>AD8. What is the date (on the record) for the [FILL VAR: (First/Second/...Fourth)] (pneumococcal) shot?</p>
1st Shot AD81	<p>___ / ___ / ___ de DON'T KNOW 9996 GO TO A5_C</p> <p>MO DAY YEAR de REFUSED 9997 GO TO A5_C</p>
2nd Shot AD82	<p>___ / ___ / 19__ de DON'T KNOW 9996 GO TO A5_C</p> <p>MO DAY YEAR de REFUSED 9997 GO TO A5_C</p>
3rd Shot AD83	<p>___ / ___ / 19__ de DON'T KNOW 9996 GO TO A5_C</p> <p>MO DAY YEAR de REFUSED 9997 GO TO A5_C</p>
4th Shot AD84	<p>___ / ___ / 19__ de DON'T KNOW 9996 GO TO A5_C</p> <p>MO DAY YEAR de REFUSED 9997 GO TO A5_C</p> <p style="text-align: center;">GO TO A5_C</p>

For Q4/2000 Section B (recall) was modified to include pneumococcal vaccine:

B6_P. Has **[FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5]** ever received a pneumococcal shot, also called NU-MO-COC-AL conjugate vaccine, or Prevnar?

- YES
- NO GO TO B7
- DON'T KNOW GO TO B7
- REFUSED GO TO B7

B6_Q. How many pneumococcal shots did [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever receive?

NUMBER OF SHOTS	<input type="text"/>
ALL SHOTS	50
DON'T KNOW	96
REFUSED	97

NIS Hard Copy Questionnaire

SCREENER

(Used In Q1/2000 - Q3/2000)

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 Abt Associates and CDC, will be used only for purposes stated 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. 242m).

CASE ID _____ DATE _____

INTERVIEWER ID _____

TELEPHONE NUMBER _____

DATA ENTRY: DATE _____ ENTERED BY _____ (INTERVIEWER ID)

S1. Am I speaking to someone who lives in this household who is over 17 years old?

I AM THAT PERSON 1 GO TO S_NUMB

THIS IS A BUSINESS 2 We are interviewing only in private residences. Thank you very much.

[TERMINATE

INTERVIEW]

NEW PERSON COMES TO PHONE 3 REPEAT INTRO_1 HERE, VERIFY PERSON'S AGE AND GO TO S_NUMB

REFUSED 7 GO TO REFUSAL CONVERSION

DOESN'T LIVE IN HOUSEHOLD 8 CALLBACK

NO PERSON AT HOME WHO IS AT LEAST 17 9 GO TO S2_B

S2_B Does anyone live in your household who is over 17 years old?

YES 1 When would be a good time for me to call back and talk to that person? [SCHEDULE APPOINTMENT]

NO 2 GO TO S_NUMB

S_NUMB How many children between the ages of 12 months and 3 years old are living or staying in your household?

IF ONE OR MORE,
ENTER # OF CHILDREN _____ (01 TO 09)

NO CHILDREN 00 These are all the questions I have. This survey is collecting information about the health of children between 12 months and 3 years old only. I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time you spent answering these questions.

[TERMINATE

INTERVIEW]

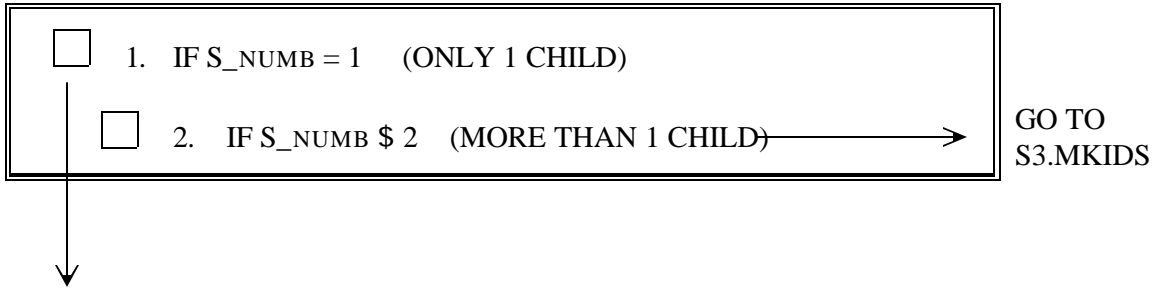
S3_LTR A letter describing this study may have been sent to your home recently. Do you remember seeing the letter?

YES 1
 NO 2
 DON'T KNOW 6
 REFUSED 7

S3_INTRO This study is voluntary and is authorized by the U.S. Public Health Service Act. The information you give will be kept in strict confidence and will be summarized for research purposes only. It's all right to skip any questions you don't want to answer.

S3_EVAL In order to evaluate my performance, my supervisor may record and listen as I ask the questions. I READ THESE STATEMENTS TO THE RESPONDENT.

YES 1



S3.1KID. So I'll know which vaccination questions to ask, please tell me the month, day and year of birth of the [child] in your household who [is] between 12 months and 3 years old.

HAS A CHILD UNDER 4 1 GO TO S3.3.

NO CHILD UNDER 4 0 **YES: REPEAT S3.1KID.**

NO: These are all the questions I have. This survey is collecting information about the health of children between 12 months and 3 years old only. I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time you spent answering these questions.

[TERMINATE

INTERVIEW]

DON'T KNOW 6 GO TO S_NODAY

REFUSED NAMES OR INITIALS 7 GO TO S_NODAY

S3.MKIDS. So I'll know which vaccination questions to ask, please tell me the month, day and year of birth of the [# from S_NUMB] child(ren) in your household who are between 12 months and 3 years old.

HAS CHILDREN UNDER 4 1 GO TO S3.3.

NO CHILDREN UNDER 4 0 **YES: REPEAT S3.MKIDS.**

NO: These are all the questions I have. This survey is collecting information about the health of children between 12 months and 3 years old only. I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time you spent answering these questions. **[TERMINATE INTERVIEW]**

DON'T KNOW 6 GO TO S_NODAY

REFUSED NAMES OR INITIALS 7 GO TO S_NODAY

S_NODAY I would like to assure you that ALL information will be kept in strict confidence and will be summarized for research purposes only. Our questions are about the vaccinations of children in a specific age range. We only ask for children's birth dates in order to determine what age range they fall with in and to help us research the numbers and types of vaccinations that children of various ages have received. [IF NECESSARY: If you could at least tell me the month and year of your child's birth that would be extremely helpful and we could proceed with that information.]

IF RESPONDENT STILL REFUSES TO PROVIDE THE BIRTH DATE, SKIP TO S_DAY_Q;
ELSE GO TO S3.3 TO CORRECT DATES.

S_DAY_Q I understand your concerns but without your child(ren)'s birth date(s) we cannot proceed any further with our survey. These are all the questions I have. I would like to thank you on behalf of the Centers for Disease Control and Prevention for the time and effort you have spent answering these questions. **[TERMINATE INTERVIEW]**

**[ASK S3.3, S3_CONF, S3.4, AND S3.5 FOR EACH RESPONSE IN S3.1KID OR S3.MKIDS;
RECORD ON ELIGIBILITY GRID]**

S3.3 ENTER BIRTH DATES (mm/dd/yyyy)
FROM S3.1KID OR S3.MKIDS IN ELIGIBILITY GRID ON PAGE 7.

S3_CONF. That would make the [ordinal # of kid derived from S_NUMB] child [age of child in months and years] old; is that correct?

- YES 1
- NO 2
- DON'T KNOW 6
- REFUSED 7

S3.4. Is the child born in [insert month and year of birth] male or female?

- MALE 1
- FEMALE 2
- DON'T KNOW 6
- REFUSED 7

S3.5. So I'll know how to refer to [him/her] during the interview, please tell me [his/her] first name or initials.

- DON'T KNOW 6
- REFUSED 7

S3_C. I have listed [NAMES FROM S3.5]. Have I missed any babies or small children between 12 months and 3 years old?

- YES 1 CONFIRM # AT S_NUMB, CHANGE
AS NECESSARY AND REPEAT S3.3,
S3_CONF, S3.4, S3.5 for missed children
- NO 2 GO TO ELIG.CHECKPOINT

ELIGIBILITY GRID

LISTING TABLE OF CHILDREN BETWEEN THE AGES OF 12 MONTHS AND 3 YEARS OLD
CHECK BELOW, WHERE APPLICABLE

COL. 1

COL. 2

COL. 3

	S3.3 Date of Birth	S3_CO NF Age Confirm	S3.4 Sex	S3.5 First Name/ Initials	Primary Eligible 19 to 35 months		Secondary Eligible 12 to 18 months 36 to 47 months	
					____/____/____ to ____/____/____	____/____/____ to ____/____/____	____/____/____ to ____/____/____	____/____/____ to ____/____/____
Child 1	____/____/____ -	Y N	M F					
Child 2	____/____/____ -	Y N	M F					
Child 3	____/____/____ -	Y N	M F					
Child 4	____/____/____ -	Y N	M F					
Child 5	____/____/____ -	Y N	M F					
Child 6	____/____/____ -	Y N	M F					

Child 7	___/___/___ -	Y N	M F	
Child 8	___/___/___ -	Y N	M F	
Child 9	___/___/___ -	Y N	M F	

ELIGIBILITY STATUS CHECKPOINT

<input type="checkbox"/>	1. ANY Checks in Column 1)))))))Q
<input type="checkbox"/>	2. NO Checks in Column 1

GO TO S4

9

<input type="checkbox"/>	1. ANY Checks in Column 2 or 3
<input type="checkbox"/>	2. NO Checks in Column 2 or 3)))))))Q

GO TO S3_TERM

[ASK S3.SEC.A THROUGH S3.SEC.D FOR EACH RESPONSE IN S3.1KID OR S3.MKIDS; RECORD ON GRID BELOW]

	S3.5 First Name	S3_SEC_A. Do you have <u>any</u> shot records for [NAME of FIRST CHILD from S3.5]?	S3_SEC_B. Are the shot records for [NAME of FIRST CHILD from S3.5] handy?	S3_SEC_C Are you the person who took [NAME of FIRST CHILD from S3.5] for most of [(his/her) from S3.4] shots? (Most means at least one-half of the shots)	S3_SEC_D In your opinion, has [NAME of FIRST CHILD from S3.5] received all of the recommended shots for [(his/her) from S3.4.]'s age?
Child 1		YES NO DK REF / _____ W GO TO S3_SEC_C	YES NO DK REF	YES NO	YES NO / _____ W Next child or S3_TERM
Child 2		YES NO DK REF / _____ W GO TO S3_SEC_C	YES NO DK REF	YES NO	YES NO / _____ W Next child or S3_TERM
Child 3		YES NO DK REF / _____ W GO TO S3_SEC_C	YES NO DK REF	YES NO	YES NO / _____ W Next child or S3_TERM

S3_TERM Those are all the questions I have. (I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time and effort you spent answering these questions.)
[TERMINATE INTERVIEW]

S4. 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 from S3.5] (has/have) received. Are you this person?

YES 1 GO TO S6_INTRO
NO 2

S5. May I speak with this person now?

YES 1 GO TO S5_BOX
NO, NOT AT HOME 2 GO TO MR1

S5_BOX READ WHEN NEW PERSON COMES TO THE PHONE
OR
FOR Most Knowledgeable Respondent CALLBACK INTRODUCTION

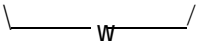

Hi. I'm calling for the Centers for Disease Control and Prevention. We're calling about an important national study of immunization. I'd like you to know that this study is voluntary and is authorized by the U.S. Public Health Service Act. The information you give will be kept in strict confidence and will be summarized for research purposes only. It's all right to skip any questions you don't want to answer.

S6_INTRO The following questions ask about immunizations or shots for [FIRST NAMES OF ALL ELIGIBLE CHILDREN, FROM S3.5]. Because the Centers for Disease Control and Prevention needs accurate information on immunizations children receive, we would like you to refer to shot records.

**THIS PAGE
SHOULD
BE BLANK**

**[ASK S6_X. THROUGH S7.B_X. FOR EACH RESPONSE IN S3.1KID OR S3.MKIDS;
RECORD ON GRID BELOW]**

	S3.5 First Name	S6_X Do you have any shot records for [NAME OF FIRST CHILD]?	S7_X Are the shot records for [NAME OF FIRST CHILD] handy?	S7.A. Can you please go get the shot records for [FIRST NAMES OF CHILD(REN) WITH SHOT RECORDS -- S7_X.=YES] while I wait on the phone?	S7.B_X Am I correct that you have the shot records for [NAMES OF ALL CHILDREN WITH SHOT RECORDS]?
CHILD 1		YES NO DK REF \-----w-----/ Repeat S6_X for next child or Go To S8	YES NO 9 9 Repeat S6_X for next child or Go To S7.A	YES NO 9 9 Repeat S6_X for next child or Go to S8	YES NO 9 Go To S8.A. ↓ Go To S8.B.
CHILD 2		YES NO DK REF \-----w-----/ Repeat S6_X for next child or Go To S8	YES NO 9 9 Repeat S6_X for next child or Go To S7.A	YES NO 9 9 Repeat S6_X for next child or go to S7.A OR S8	YES NO 9 Go To S8.A. ↓ Go To S8.B.
CHILD 3		YES NO DK REF \-----w-----/ Repeat S6_X for next child or Go To S8	YES NO 9 9 Repeat S6_X for next child or Go To S7.A	YES NO 9 9 Repeat S6_X for next child or go to S7.A OR S8	YES NO 9 Go To S8.A. ↓ Go To S8.B.
CHILD 4		YES NO DK REF \-----w-----/ Repeat S6_X for next child or Go To S8	YES NO 9 9 Repeat S6_X for next child or Go To S7.A	YES NO 9 9 Repeat S6_X for next child or go to S7.A OR S8	YES NO 9 Go To S8.A. ↓ Go To S8.B.

CHILD 5		YES NO DK REF  Repeat S6_X for next child or Go To S8	YES NO 9 9 Repeat S6_X for next child or Go To S7.A	YES NO 9 9 Repeat S6_X for next child or go to S7.A OR S8	YES NO 9 9 Go To S8.A.  Go To S8.B.
---------	--	--	---	---	--

DK = DON'T KNOW REF = REFUSAL

S8. EXISTENCE OF SHOT RECORDS CHECKPOINT

A L L S 6 _ X A N S W E R S A R E	GO TO S8.A.
"YES".....1	
A L L S 6 _ X A N S W E R S A R E	GO TO B1 AND ASK FOR EACH CHILD IN HOUSEHOLD
"NO".....2	
A L	GO TO S8.B.
OTHERS..... 3	

S8.A. CHECKPOINT FOR HOUSEHOLDS WHERE ALL CHILDREN HAVE SHOT RECORDS

ALL S7.A. AND S7.B_X ANSWERS ARE "YES".....1	GO TO SECTION A SHOT RECORD (NO CALLBACK NEEDED)
ALL S7.A AND S7.B_X ANSWERS ARE "NO".....2	GO TO SR1 (CALLBACK NEEDED)
A L	ASK SECTION A FOR CHILDREN WITH SHOT RECORDS AND SECTION B FOR CHILDREN WITHOUT SHOT RECORDS (NO CALLBACK NEEDED)
OTHERS..... 3	

S8.B. CHECKPOINT FOR HOUSEHOLDS WHERE SOME CHILDREN HAVE SHOT RECORDS AND SOME CHILDREN DO NOT HAVE SHOT RECORDS

ALL S7.A AND S7.B_X ANSWERS ARE "YES"1 ASK SECTION A FOR CHILDREN WITH SHOT RECORDS AND SECTION B FOR CHILDREN WITHOUT SHOT RECORDS
(NO CALLBACK NEEDED)

ALL S7.A AND S7.B_X ANSWERS ARE "NO"2 GO TO B1 AND ASK FOR EACH CHILD IN HOUSEHOLD
(NO CALLBACK NEEDED)

A L L O T H E R S ASK SECTION A FOR CHILDREN WITH SHOT RECORDS AND SECTION B FOR CHILDREN WITHOUT SHOT RECORDS
.....3 (NO CALLBACK NEEDED)

CASE ID _____

TELEPHONE NUMBER _____

INTERVIEW DATE _____

INTERVIEWER ID _____

DATA ENTRY: DATE _____ BY _____ (INTERVIEWER ID)

NIS Hard Copy Questionnaire

PART 2

July 11, 2000

SECTION MR - *Most Knowledgeable Respondent Callback*

SECTION SR - *Shot Record Callback*

SECTION A - *Available Shot Records*

SECTION B - *NO Shot Records*

SECTION C - *Demographics*

SECTION D - *Provider*

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 Abt Associates and CDC, will be used only for purposes stated 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. 242m).

SECTION MR

Most Knowledgeable Respondent Callback Questions

MR1. Before we hang up, please tell me the first name of the person who knows the most about (this child's/these children's) immunizations.

FIRST NAME _____

REFUSED 7

MR2. When would be a good time to call back to speak with [FILL VAR: this person/NAME FROM MR1]?

MR2 DATE_____

MR2_2 TIME_____

MR3. Would I call the same telephone number where I reached you?

YES 1 GO TO MR_TERM

NO 2

MR4. What number should I call?

AREA CODE: _____

NUMBER: _____

MR_TERM.

Those are all the questions I have. I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time and effort you spent answering these questions. [**TERMINATE INTERVIEW**]

SECTION SR

Shot Record Callback Questions

SR1. I would like to ask you a few questions now, and we can complete the rest of the questions when I call back. If I called you back (in a few minutes/later), would you be able to have shot records for [FILL VAR: FIRST NAMES OF ALL ELIGIBLE CHILDREN FROM S3.5]?

YES 1
NO 2 GO TO B1
DON'T KNOW 6 GO TO B1
REFUSED 7 GO TO B1

SR2. When is a good time to call you back?

SR2 DATE _____

SR2_2 TIME _____

SR3. And what is your first name, so that I know who to ask for?

(FIRST NAME)

REFUSED 7

SR4. Has [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] ever received an immunization, that is a shot or drops?

YES 1
NO 2 GO TO C1
DON'T KNOW 6 GO TO C1
REFUSED 7 GO TO C1

SR5. How many D-T-P or D-T shots - sometimes called a D-P-T shot, diphtheria-tetanus-pertussis shot, baby shot, or three-in-one shot - did [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] ever receive?

NUMBER OF SHOTS
ALL 50
DON'T KNOW 96
REFUSED 97

SR6. How many polio vaccines by mouth, pink drops, sometimes called O-P-V, or by a polio shot, sometimes called I-P-V did [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] ever receive?

NUMBER OF VACCINES
ALL 50
DON'T KNOW 96
REFUSED 97

SR7. How many measles or M-M-R measles-mumps-rubella shots did [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] ever receive?

NUMBER OF SHOTS
ALL 50
DON'T KNOW 96
REFUSED 97

SR8. How many H-I-B shots (this is for Meningitis and is called Haemophilus Influenzae {HA-MA-FI-LUS IN-FLU-EN-ZI}, H-I-B vaccine, or H flu vaccine) did [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] ever receive?

NUMBER OF SHOTS
ALL 50
DON'T KNOW 96
REFUSED 97

SR9. How many hepatitis B shots did [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] ever receive?

NUMBER OF SHOTS
ALL 50
DON'T KNOW 96
REFUSED 97

SR10. How many chicken pox, or varicella, shots did [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] ever receive?

NUMBER OF SHOTS
ALL 50
DON'T KNOW 96
REFUSED 97

SRV. How many rotavirus shots did [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] ever receive?

NUMBER OF SHOTS
ALL 50
DON'T KNOW 96
REFUSED 97

SR.A I've been asking about shots received by [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5]. Now I would like to ask, has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever been ill with chicken pox or varicella?

YES 1	GO TO SR.B
NO 2	GO TO SECTION C
DON'T KNOW 6	GO TO SECTION C
REFUSED 7	GO TO SECTION C

SR.B How old was ([FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]), in months, when (he/she) had chicken pox?

AGE CHILD HAD
CHICKEN POX __|__ MONTHS
REFUSED 97

IF UNABLE TO GIVE EXACT MONTHS:

SR.C Was ([FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5])...

...one to six months old? 01
...seven to twelve months old? 02
...13 to 18 months old? 03
...19 to 24 months old? 04
...25 to 30 months old? 05
...31 to 35 months old? 06
DON'T KNOW 96
REFUSAL 97

GO TO C1: DEMOGRAPHICS

SECTION A

Available Shot Records

**NOTE: SECTION A IS ASKED ONLY FOR
CHILDREN WITH SHOT RECORDS
AVAILABLE (FROM S6 AND S7)**

**NOTE: EACH SECTION (A, C AND D) IS
ASKED IN ITS ENTIRETY FOR EACH
CHILD WITH SHOT RECORDS.
EACH SECTION (A, B AND D) IS ASKED IN
ITS ENTIRETY FOR EACH CHILD
WITHOUT SHOT RECORDS.**

SHOT RECORD FOR DTP/DT SHOT

AN1. Looking at the shot record, please tell me how many times [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] has received a D-T-P or D-T shot, sometimes called a D-P-T shot, diphtheria-tetanus-pertussis shot, baby shot, or three-in-one shot.

IF R MENTIONS A SHOT NOT LISTED ABOVE, RECORD IN "OTHER SHOTS"-QUESTION A6

Shots RECORD DATES BELOW

de NONE 0 GO TO AN2

de DON'T KNOW 6 GO TO AN2

de REFUSED 7 GO TO AN2

AD1. What is the date (on the record) for the [FILL VAR: (First/Second/...Eighth)] D-T-P or D-T shot?

**1st Shot
AD11**

___ / ___ / ___
MO DAY YEAR

de DON'T KNOW 9996 GO TO AN2
de REFUSED . . . 9997 GO TO AN2

**2nd Shot
AD12**

___ / ___ / ___
MO DAY YEAR

de DON'T KNOW 9996 GO TO AN2
de REFUSED . . . 9997 GO TO AN2

**3rd Shot
AD13**

___ / ___ / ___
MO DAY YEAR

de DON'T KNOW 9996 GO TO AN2
de REFUSED . . . 9997 GO TO AN2

**4th Shot
AD14**

___ / ___ / ___
MO DAY YEAR

de DON'T KNOW 9996 GO TO AN2
de REFUSED . . . 9997 GO TO AN2

**5th Shot
AD15**

___ / ___ / ___
MO DAY YEAR

de DON'T KNOW 9996 GO TO AN2
de REFUSED . . . 9997 GO TO AN2

**6th Shot
AD16**

___ / ___ / ___
MO DAY YEAR

de DON'T KNOW 9996 GO TO AN2
de REFUSED . . . 9997 GO TO AN2

**7th Shot
AD17**

___ / ___ / ___
MO DAY YEAR

de DON'T KNOW 9996 GO TO AN2
de REFUSED . . . 9997 GO TO AN2

**8th Shot
AD18**

___ / ___ / ___
MO DAY YEAR

de DON'T KNOW 9996 GO TO AN2
de REFUSED . . . 9997 GO TO AN2

GO TO AN_2

SHOT RECORD FOR POLIO (DROPS OR SHOTS)

AN2. Looking at the shot record, please tell me how many times [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] has received a polio vaccine -- pink drops, sometimes called O-P-V -- or a polio shot, sometimes called I-P-V.

IF R MENTIONS A SHOT NOT LISTED ABOVE, RECORD IN "OTHER SHOTS"-QUESTION A6

Shots RECORD DATES BELOW

de NONE 0 GO TO AN3

de DON'T KNOW 6 GO TO AN3

de REFUSED 7 GO TO AN3

AD2. What is the date (on the record) for the [FILL VAR: (First/Second/...Eighth)] polio vaccine?

1st Shot AD21	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN3 de REFUSED 9997 GO TO AN3
2nd Shot AD22	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN3 de REFUSED 9997 GO TO AN3
3rd Shot AD23	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN3 de REFUSED 9997 GO TO AN3
4th Shot AD24	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN3 de REFUSED 9997 GO TO AN3
5th Shot AD25	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN3 de REFUSED 9997 GO TO AN3
6th Shot AD26	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN3 de REFUSED 9997 GO TO AN3
7th Shot AD27	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN3 de REFUSED 9997 GO TO AN3
8th Shot AD28	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN3 de REFUSED 9997 GO TO AN3
GO TO AN_3		

SHOT RECORD FOR MEASLES/MMR (SHOTS)

AN3. Looking at the shot record, please tell me how many times [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] has received a measles shot or an M-M-R shot, that is, a measles, mumps, and rubella shot.

IF R MENTIONS A SHOT NOT LISTED ABOVE, RECORD IN "OTHER SHOTS"-QUESTION A6

Shots RECORD DATES BELOW

- de NONE 0 GO TO AN4
- de DON'T KNOW 6 GO TO AN4
- de REFUSED 7 GO TO AN4

AD3. What is the date (on the record) for the [FILL VAR: (First/Second/...Fourth)] (measles or M-M-R) shot?

Was that shot measles only or M-M-R only?

**1st Shot
AD31**

___ / ___ / ___
MO DAY YEAR

de DON'T KNOW 9996 GO TO AN4
de REFUSED 9997 GO TO AN4

- AM31 de MEASLES ONLY 1
- AM32 de MMR ONLY 2
- AM33 de DON'T KNOW 6
- AM34 de REFUSED 7

**2nd Shot
AD32**

___ / ___ / ___
MO DAY YEAR

de DON'T KNOW 9996 GO TO AN4
de REFUSED 9997 GO TO AN4

- AM35 de MEASLES ONLY 1
- AM36 de MMR ONLY 2
- AM37 de DON'T KNOW 6
- AM38 de REFUSED 7

**3rd Shot
AD33**

___ / ___ / ___
MO DAY YEAR

de DON'T KNOW 9996 GO TO AN4
de REFUSED 9997 GO TO AN4

- AM39 de MEASLES ONLY 1
- AM40 de MMR ONLY 2
- AM41 de DON'T KNOW 6
- AM42 de REFUSED 7

**4th Shot
AD34**

___ / ___ / ___
MO DAY YEAR

de DON'T KNOW 9996 GO TO AN4
de REFUSED 9997 GO TO AN4

- AM43 de MEASLES ONLY 1
- AM44 de MMR ONLY 2
- AM45 de DON'T KNOW 6
- AM46 de REFUSED 7

GO TO AN_4

SHOT RECORD FOR HIB (SHOT)

AN4. Looking at the shot record please tell me how many times [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] has received an H-I-B shot. (This is for Meningitis and is called HA-MA-FI-LUS IN-FLU-EN-ZI , H-I-B vaccine, or H flu vaccine.)

IF R MENTIONS A SHOT NOT LISTED ABOVE, RECORD IN "OTHER SHOTS"-QUESTION A6

Shots RECORD DATES BELOW

de NONE 0 GO TO AN5

de DON'T KNOW 6 GO TO AN5

de REFUSED 7 GO TO AN5

AD4. What is the date (on the record) for the [FILL VAR: (First/Second/...Eighth)] (H-I-B) shot?

1st Shot AD41	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN5 de REFUSED 9997 GO TO AN5
2nd Shot AD42	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN5 de REFUSED 9997 GO TO AN5
3rd Shot AD43	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN5 de REFUSED 9997 GO TO AN5
4th Shot AD44	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN5 de REFUSED 9997 GO TO AN5
5th Shot AD45	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN5 de REFUSED 9997 GO TO AN5
6th Shot AD46	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN5 de REFUSED 9997 GO TO AN5
7th Shot AD47	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN5 de REFUSED 9997 GO TO AN5
8th Shot AD48	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN5 de REFUSED 9997 GO TO AN5

GO TO AN_5

SHOT RECORD FOR HEPATITIS B

AN5. (Looking at the shot record) Please tell me how many times [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] has received a hepatitis B shot.

IF R MENTIONS A SHOT NOT LISTED ABOVE, RECORD IN "OTHER SHOTS"-QUESTION A6

Shots RECORD DATES BELOW

de NONE 0 GO TO AN6
de DON'T KNOW 6 GO TO AN6
de REFUSED 7 GO TO AN6

AD5. What is the date (on the record) for the [FILL VAR: (First/Second/...Eighth)] (hepatitis B) shot?

1st Shot AD51	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN6 de REFUSED 9997 GO TO AN6
2nd Shot AD52	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN6 de REFUSED 9997 GO TO AN6
3rd Shot AD53	/ / MO DAY YEAR	de DON'T KNOW 9996 GO TO AN6 de REFUSED 9997 GO TO AN6
4th Shot AD54	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN6 de REFUSED 9997 GO TO AN6
5th Shot AD55	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN6 de REFUSED 9997 GO TO AN6
6th Shot AD56	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN6 de REFUSED 9997 GO TO AN6
7th Shot AD57	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN6 de REFUSED 9997 GO TO AN6
8th Shot AD58	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO AN6 de REFUSED 9997 GO TO AN6
GO TO AN_6		

SHOT RECORD FOR CHICKEN POX

AN6. (Looking at the shot record) Please tell me how many times [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] has received a chicken pox (or varicella) shot.

IF R MENTIONS A SHOT NOT LISTED ABOVE, RECORD IN "OTHER SHOTS"-QUESTION A6

Shots RECORD DATES BELOW

- de NONE 0 GO TO AN7
- de DON'T KNOW 6 GO TO AN7
- de REFUSED 7 GO TO AN7

AD6. What is the date (on the record) for the [FILL VAR: (First/Second/...Fourth)] (chicken pox) shot?

**1st Shot
AD61**

___ / ___ / ___
MO DAY YEAR

- de DON'T KNOW 9996 GO TO AN7
- de REFUSED 9997 GO TO AN7

**2nd Shot
AD62**

___ / ___ / 19__
MO DAY YEAR

- de DON'T KNOW 9996 GO TO AN7
- de REFUSED 9997 GO TO AN7

**3rd Shot
AD63**

___ / ___ / 19__
MO DAY YEAR

- de DON'T KNOW 9996 GO TO AN7
- de REFUSED 9997 GO TO AN7

**4th Shot
AD64**

___ / ___ / 19__
MO DAY YEAR

- de DON'T KNOW 9996 GO TO AN7
- de REFUSED 9997 GO TO AN7

GO TO AN_7

SHOT RECORD FOR ROTAVIRUS (SHOT)

AN7. (Looking at the shot record) Please tell me how many times [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] has received a rotavirus shot.

IF R MENTIONS A SHOT NOT LISTED ABOVE, RECORD IN "OTHER SHOTS"- QUESTION A6

Shots RECORD DATES BELOW

de NONE 0 GO TO A5_C

de DON'T KNOW 6 GO TO A5_C

de REFUSED 7 GO TO A5_C

AD7. What is the date (on the record) for the [FILL VAR: (First/Second/...Fourth)] (rotavirus) shot?

1st Shot AD71	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO A5C de REFUSED 9997 GO TO A5C
2nd Shot AD72	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO A5C de REFUSED 9997 GO TO A5C
3rd Shot AD73	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO A5C de REFUSED 9997 GO TO A5C
4th Shot AD74	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO A5C de REFUSED 9997 GO TO A5C

GO TO A5_C.

A5_C. I've been asking about shots received by [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5.] Now I would like to ask, has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever been ill with chicken pox or varicella?

YES 1 GO TO A5_E
 NO 2
 DON'T KNOW 6 GO TO A6
 REFUSED 7 **A**OR NEXT CHILD

A5_E. How old was ([FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]), in months, when (he/she) had chicken pox?

AGE CHILD HAD
 CHICKEN POX ___|___ MONTHS GO TO A6 OR NEXT CHILD
 REFUSED 97 **A**

IF UNABLE TO GIVE EXACT MONTHS

A5_F. Was ([FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5])...

- ...one to six months old? 01
- ...seven to twelve months old? 02
- ...13 to 18 months old? 03
- ...19 to 24 months old? 04
- ...25 to 30 months old? 05
- ...31 to 35 months old? 06
- DON'T KNOW 96
- REFUSAL 97

A6. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] received any other immunizations that are listed on the shot records that I have not asked you about?

- de YES 1
- de NO 2 GO TO A7
- de DON'T KNOW 6 GO TO A7
- de REFUSED 7 GO TO A7

A6.A. How many other shots are listed there (that I have not asked you about)?

- NUMBER RECORD NAMES AND DATES BELOW
- de REFUSED 7 GO TO A7

A6.B. What is the name of the **FIRST** other shot listed on the record?

- de FOUR-IN-ONE 02
- de BCG (TUBERCULOSIS) 03
- de TYPHOID 04
- de YELLOW FEVER 05
- de MALARIA 06
- de DTaP 07
- de DTP/HiB 08
- de DTP/HepB 09
- de OTHER (SPECIFY) 95
- _____
- de DON'T KNOW 96 GO TO A7 OR SECOND SHOT
- de REFUSED 97 GO TO A7 OR SECOND SHOT

A6.C. What is the date (on the record) for this shot?

- ____/____/____
- MO DAY YEAR
- de DON'T KNOW 9996 GO TO A7 OR SECOND SHOT
 - de REFUSED 9997 GO TO A7 OR SECOND SHOT

GO TO A7 OR SECOND SHOT (NEXT FRAME)

A6.B.2 What is the name of the **SECOND** other shot listed on the record?

- de FOUR-IN-ONE 02
- de BCG (TUBERCULOSIS) 03
- de TYPHOID 04
- de YELLOW FEVER 05
- de MALARIA 06
- de DTaP 07
- de DTP/HiB 08
- de DTP/HepB 09

- de OTHER (SPECIFY) 95

- de DON'T KNOW 96 GO TO A7 OR THIRD SHOT
- de REFUSED 97 GO TO A7 OR THIRD SHOT

A6.C.2 What is the date (on the record) for this shot?

____/____/____
MO DAY YEAR

- de DON'T KNOW 9996 GO TO A7 OR THIRD SHOT
- de REFUSED 9997 GO TO A7 OR THIRD SHOT

GO TO A7 OR THIRD SHOT (NEXT FRAME)

A6.B.3 What is the name of the **THIRD** other shot listed on the record?

- de FOUR-IN-ONE 02
- de BCG (TUBERCULOSIS) 03
- de TYPHOID 04
- de YELLOW FEVER 05
- de MALARIA 06
- de DTaP 07
- de DTP/HiB 08
- de DTP/HepB 09

- de OTHER (SPECIFY) 95

- de DON'T KNOW 96 GO TO A7 OR FOURTH SHOT
- de REFUSED 97 GO TO A7 OR FOURTH SHOT

A6.C.3 What is the date (on the record) for this shot?

____/____/____
MO DAY YEAR

- de DON'T KNOW 9996 GO TO A7 OR FOURTH SHOT
- de REFUSED 9997 GO TO A7 OR FOURTH SHOT

GO TO A7 OR FOURTH SHOT (NEXT FRAME)

A6.B.4 What is the name of the **FOURTH** other shot listed on the record?

- de FOUR-IN-ONE 02
- de BCG (TUBERCULOSIS) 03
- de TYPHOID 04
- de YELLOW FEVER 05
- de MALARIA 06
- de DTaP 07
- de DTP/HiB 08
- de DTP/HepB 09

- de OTHER (SPECIFY) 95

- de DON'T KNOW 96 GO TO A7 OR FIFTH SHOT
- de REFUSED 97 GO TO A7 OR FIFTH SHOT

A6.C.4 What is the date (on the record) for this shot?

____/____/____
MO DAY YEAR

- de DON'T KNOW 9996 GO TO A7 OR FIFTH SHOT
- de REFUSED 9997 GO TO A7 OR FIFTH SHOT

GO TO A7 OR FIFTH SHOT (NEXT FRAME)

A6.B.5 What is the name of the **FIFTH** other shot listed on the record?

- de FOUR-IN-ONE 02
- de BCG (TUBERCULOSIS) 03
- de TYPHOID 04
- de YELLOW FEVER 05
- de MALARIA 06
- de DTaP 07
- de DTP/HiB 08
- de DTP/HepB 09

- de OTHER (SPECIFY) 95

- de DON'T KNOW 96 GO TO A7
- de REFUSED 97 GO TO A7

A6.C.5 What is the date (on the record) for this shot?

____/____/____
MO DAY YEAR

- de DON'T KNOW 9996 GO TO A7
- de REFUSED 9997 GO TO A7

GO TO A7

A7. Are all the immunizations that [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever received included on this shot record?

- YES 1 GO TO A14
- NO 2
- DON'T KNOW 6
- REFUSED 7

A8. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever received an additional D-T-P shot (sometimes called D-P-T shot, diphtheria-tetanus-pertussis shot, baby shot, or three-in-one shot)?

- YES 1
- NO 2
- DON'T KNOW 6 GO TO A9
- REFUSED 7 **A**

A8.A. How many additional D-T-P shots has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] received?

- NUMBER OF SHOTS
- ALL SHOTS 50
- DON'T KNOW 96
- REFUSED 97

A9. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever received an additional polio vaccine by mouth, pink drops, sometimes called O-P-V, or by a polio shot, sometimes called I-P-V?

- YES 1
- NO 2
- DON'T KNOW 6 GO TO A10
- REFUSED 7 **A**

A9.A. How many additional polio vaccines has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] received?

- NUMBER OF VACCINES
- ALL SHOTS 50
- DON'T KNOW 96
- REFUSED 97

A10. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever received an additional measles or M-M-R, that is, measles - mumps - rubella shot?

- YES 1
- NO 2
- DON'T KNOW 6 GO TO A11
- REFUSED 7 **A**

A10.A. How many additional measles or M-M-R shots has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] received?

- NUMBER OF SHOTS
- ALL SHOTS 50
- DON'T KNOW 96
- REFUSED 97

A11. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever received an additional H-I-B shot? This shot is for meningitis and is called Haemophilus Influenzae {HA-MA-FI-LUS IN-FLU-EN-ZI}, H-I-B vaccine or H flu vaccine.

- YES 1
- NO 2
- DON'T KNOW 6 GO TO A12
- REFUSED 7 **A**

A11.A. How many additional H-I-B shots has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] received?

- NUMBER OF SHOTS
- ALL SHOTS 50
- DON'T KNOW 96
- REFUSED 97

A12. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever received an additional hepatitis B shot?

- YES 1
- NO 2
- DON'T KNOW 6 GO TO A12B

REFUSED 7 **A**

A12.A. How many additional hepatitis B shots has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] received?

NUMBER OF SHOTS
ALL SHOTS 50
DON'T KNOW 96
REFUSED 97

A12.B. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever received an additional chicken pox or varicella shot?

YES 1
NO 2
DON'T KNOW 6 GO TO A12_R
REFUSED 7 **A**

A12.C. How many additional chicken pox shots has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] received?

NUMBER OF SHOTS
ALL SHOTS 50
DON'T KNOW 96
REFUSED 97

A12_R. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever received an additional rotavirus shot?

YES 1
NO 2
DON'T KNOW 6 GO TO A13
REFUSED 7 **A**

A12_S. How many additional rotavirus shots did [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever receive?

NUMBER OF SHOTS
ALL SHOTS 50
DON'T KNOW 96
REFUSED 97

A13. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] received any other additional immunizations that are not listed on the shot records that I have not asked you about?

- de YES 1
- de NO 2 GO TO A14
- de DON'T KNOW 6 GO TO A14
- de REFUSED 7 GO TO A14

A13.A. How many other additional shots are there (that I have not asked you about)?

Number RECORD NAMES BELOW

- de REFUSED 7 GO TO A14

A13.B. What is the name of the **FIRST** additional other shot (not listed on the records)?

- de FOUR-IN-ONE 02
- de BCG (TUBERCULOSIS) 03
- de TYPHOID 04
- de YELLOW FEVER 05
- de MALARIA 06
- de DTaP 07
- de DTP/HiB 08
- de DTP/HepB 09

- de OTHER (SPECIFY) 95

- de DON'T KNOW 96 GO TO A14 OR SECOND SHOT
- de REFUSED 97 GO TO A14 OR SECOND SHOT

GO TO A14 OR SECOND SHOT (NEXT FRAME)

A13.B.2 What is the name of the **SECOND** additional other shot (not listed on the records)?

- de FOUR-IN-ONE 02
 - de BCG (TUBERCULOSIS) 03
 - de TYPHOID 04
 - de YELLOW FEVER 05
 - de MALARIA 06
 - de DTaP 07
 - de DTP/HiB 08
 - de DTP/HepB 09

 - de OTHER (SPECIFY) 95
-

- de DON'T KNOW 96 GO TO A14 OR THIRD SHOT
- de REFUSED 97 GO TO A14 OR THIRD SHOT

GO TO A14 OR THIRD SHOT (NEXT FRAME)

A13.B.3 What is the name of the **THIRD** additional other shot (not listed on the records)?

- de FOUR-IN-ONE 02
 - de BCG (TUBERCULOSIS) 03
 - de TYPHOID 04
 - de YELLOW FEVER 05
 - de MALARIA 06
 - de DTaP 07
 - de DTP/HiB 08
 - de DTP/HepB 09

 - de OTHER (SPECIFY) 95
-

- de DON'T KNOW 96 GO TO A14 OR FOURTH SHOT
- de REFUSED 97 GO TO A14 OR FOURTH SHOT

GO TO A14 OR FOURTH SHOT (NEXT FRAME)

A13.B.4 What is the name of the **FOURTH** additional other shot (not listed on the records)?

- de FOUR-IN-ONE 02
 - de BCG (TUBERCULOSIS) 03
 - de TYPHOID 04
 - de YELLOW FEVER 05
 - de MALARIA 06
 - de DTaP 07
 - de DTP/HiB 08
 - de DTP/HepB 09

 - de OTHER (SPECIFY) 95
-

- de DON'T KNOW 96 GO TO A14 OR FIFTH SHOT
- de REFUSED 97 GO TO A14 OR FIFTH SHOT

GO TO A14 OR FIFTH SHOT (NEXT FRAME)

A13.B.5 What is the name of the **FIFTH** additional other shot (not listed on the records)?

- de FOUR-IN-ONE 02
 - de BCG (TUBERCULOSIS) 03
 - de TYPHOID 04
 - de YELLOW FEVER 05
 - de MALARIA 06
 - de DTaP 07
 - de DTP/HiB 08
 - de DTP/HepB 09

 - de OTHER (SPECIFY) 95
-

- de DON'T KNOW 96 GO TO A14
- de REFUSED 97 GO TO A14

GO TO A14

A14. Are you the person who took [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] for most of [FILL VAR: (his/her) FROM S3.4] shots? (Most means at least one-half of the shots.)

- YES 1
- NO 2
- DON'T KNOW 6
- REFUSED 7

A15. In your opinion, has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] received all of the recommended shots for [FILL VAR: (his/her) FROM S3.4] age?

- YES 1
- NO 2
- DON'T KNOW 6
- REFUSED 7

A16. REPEAT A6 - A15 FOR EACH CHILD WITH AVAILABLE SHOT RECORDS ON ANOTHER HARDCOPY QUESTIONNAIRE.

A17. INTERVIEWER CHECKPOINT.

CALLBACK INTERVIEW (SR OR MR COMPLETE)	INITIAL INTERVIEW
<p>de IF CHILDREN WITH NO AVAILABLE SHOT RECORDS, GO TO B1.</p> <p>de ALL OTHERS, Those are all the questions I have. (I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time and effort you spent answering these questions.) [TERMINATE INTERVIEW]</p>	<p>de IF CHILDREN WITH NO AVAILABLE SHOT RECORDS, GO TO B1.</p> <p>de ALL OTHERS, GO TO C1</p>

SECTION B

NO Shot Records

**NOTE: SEE S6 - S8.B TO
DETERMINE WHICH CHILDREN
ARE ASKED SECTION B**

B1. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever received an immunization, that is a shot or drops?

YES	1	
NO	2	
DON'T KNOW	6	GO TO B6.D
REFUSED	7	A

B2. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever received a D-T-P or D-T shot (sometimes called a D-P-T shot, diphtheria-tetanus-pertussis shot, baby shot, or three-in-one shot)?

YES	1	
NO	2	
DON'T KNOW	6	GO TO B3
REFUSED	7	A

B2.A. How many D-T-P or D-T shots did [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever receive?

NUMBER OF SHOTS	<input type="checkbox"/>
ALL SHOTS	50
DON'T KNOW	96
REFUSED	97

B3. Has [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] ever received a polio vaccine by mouth, pink drops, sometimes called O-P-V, or by a polio shot, sometimes called I-P-V?

- YES 1
- NO 2
- DON'T KNOW 6 GO TO B4
- REFUSED 7 **A**

B3.A. How many polio vaccines did [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever receive?

- NUMBER OF VACCINES
- ALL SHOTS 50
- DON'T KNOW 96
- REFUSED 97

B4. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever received a measles or M-M-R (Measles-Mumps-Rubella) shot?

- YES 1
- NO 2
- DON'T KNOW 6 GO TO B5
- REFUSED 7 **A**

B4.A. How many measles or M-M-R shots did [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever receive?

- NUMBER OF SHOTS IF 1, GO TO B4.B
- MORE, IF 2 OR
- GO TO B5
- ALL SHOTS 50
- DON'T KNOW 96
- REFUSED 97

B4.B. Was that shot measles only or M-M-R only?

- MEASLES ONLY 1
- M-M-R ONLY 2
- DON'T KNOW 6

REFUSED 7

B5. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever received an H-I-B shot? This shot is for meningitis and is called Haemophilus Influenzae {HA-MA-FI-LUS IN-FLU-EN-ZI}, H-I-B vaccine, or H flu vaccine?

YES 1
NO 2
DON'T KNOW 6 GO TO B6
REFUSED 7 **A**

B5.A. How many H-I-B shots did [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever receive?

NUMBER OF SHOTS
ALL SHOTS 50
DON'T KNOW 96
REFUSED 97

B6. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever received a hepatitis B shot?

YES 1
NO 2
DON'T KNOW 6 GO TO B6.B.
REFUSED 7 **A**

B6.A. How many hepatitis B shots did [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever receive?

NUMBER OF SHOTS
ALL SHOTS 50
DON'T KNOW 96
REFUSED 97

B6.B. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever received a chicken pox or varicella shot?

YES 1
NO 2
DON'T KNOW 6 GO TO B6_R

REFUSED 7 **A**

B6.C. How many chicken pox shots did [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever receive?

NUMBER OF SHOTS
ALL SHOTS 50
DON'T KNOW 96
REFUSED 97

B6_R. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever received a rotavirus shot?

YES 1
NO 2
DON'T KNOW 6 GO TO B7
REFUSED 7 **A**

B6_V. How many rotavirus shots did [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever receive?

NUMBER OF SHOTS
ALL SHOTS 50
DON'T KNOW 96
REFUSED 97

B6.D I've been asking about shots received by [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5]. Now I would like to ask, has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever been ill with chicken pox or varicella?

YES 1 GO TO B6.E
NO 2
DON'T KNOW 6
REFUSED 7

IF B1 = 2 OR 6 OR 7, GO TO B10, OTHERWISE CONTINUE

B6.E How old was ([FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]), in months, when (he/she) had chicken pox?

AGE CHILD HAD
CHICKEN POX __|__ MONTHS
REFUSED 97

IF UNABLE TO GIVE EXACT MONTHS

B6.F Was ([FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5])...

- ...one to six months old? 01
- ...seven to twelve months old? 02
- ...13 to 18 months old? 03
- ...19 to 24 months old? 04
- ...25 to 30 months old? 05
- ...31 to 35 months old? 06
- DON'T KNOW 96
- REFUSAL 97

IF B1 = 2 OR 6 OR 7, GO TO B10, OTHERWISE CONTINUE

<p>B7. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] received any other immunizations that I have not asked you about?</p> <p>de YES 1</p> <p>de NO 2 GO TO B8</p> <p>de DON'T KNOW 6 GO TO B8</p> <p>de REFUSED 7 GO TO B8</p>
<p>B7.A. How many other shots are there (that I have not asked you about)?</p> <p>Number <input style="width: 40px; height: 20px;" type="text"/> RECORD NAMES IN B7.B</p> <p>de DON'T KNOW 6 GO TO B7.B</p> <p>de REFUSED 7 GO TO B8</p>
<p>B7.B.1 What is the name of the first other shot(s)?</p> <p>de FOUR-IN-ONE 02</p> <p>de BCG (TUBERCULOSIS), TB 03</p> <p>de TYPHOID 04</p> <p>de YELLOW FEVER 05</p> <p>de MALARIA 05</p> <p>de DTAP 07</p> <p>de DTP/HiB 08</p> <p>de DTP/HepB 09</p> <p>de OTHER (SPECIFY) 00</p> <p>_____</p> <p>de DON'T KNOW 96 GO TO B8 OR NEXT SHOT</p> <p>de REFUSED 97 GO TO B8 OR NEXT SHOT</p> <p style="text-align: center;">GO TO B8 OR NEXT SHOT</p>

B7.B.2 What is the name of the second other shot(s)?

- de FOUR-IN-ONE 02
- de BCG (TUBERCULOSIS), TB 03
- de TYPHOID 04
- de YELLOW FEVER 05
- de MALARIA 05
- de DTAP 07
- de DTP/HiB 08
- de DTP/HepB 09

- de OTHER (SPECIFY) 00

- de DON'T KNOW 96 GO TO B8 OR NEXT SHOT
- de REFUSED 97 GO TO B8 OR NEXT SHOT

GO TO B8 OR NEXT SHOT

B7.B.3 What is the name of the third other shot(s)?

- de FOUR-IN-ONE 02
- de BCG (TUBERCULOSIS), TB 03
- de TYPHOID 04
- de YELLOW FEVER 05
- de MALARIA 05
- de DTAP 07
- de DTP/HiB 08
- de DTP/HepB 09

- de OTHER (SPECIFY) 00

- de DON'T KNOW 96 GO TO B8 OR NEXT SHOT
- de REFUSED 97 GO TO B8 OR NEXT SHOT

GO TO B8 OR NEXT SHOT

B7.B.4 What is the name of the fourth other shot(s)?

- de FOUR-IN-ONE 02
- de BCG (TUBERCULOSIS), TB 03
- de TYPHOID 04
- de YELLOW FEVER 05
- de MALARIA 05
- de DTAP 07
- de DTP/HiB 08
- de DTP/HepB 09

- de OTHER (SPECIFY) 00

- de DON'T KNOW 96 GO TO B8 OR NEXT SHOT
- de REFUSED 97 GO TO B8 OR NEXT SHOT

GO TO B8 OR NEXT SHOT

B7.B.5 What is the name of the fifth other shot(s)?

- de FOUR-IN-ONE 02
- de BCG (TUBERCULOSIS), TB 03
- de TYPHOID 04
- de YELLOW FEVER 05
- de MALARIA 05
- de DTAP 07
- de DTP/HiB 08
- de DTP/HepB 09

- de OTHER (SPECIFY) 00

- de DON'T KNOW 96 GO TO B8
- de REFUSED 97 GO TO B8

GO TO B8

B8. Are you the person who took [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] for most of [FILL VAR: (his/her) FROM S3.4] shots? (Most means at least 1/2 of the shots.)

- YES 1
- NO 2
- DON'T KNOW 6
- REFUSED 7

B9. In your opinion, has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] received all of the recommended shots for [FILL VAR: (his/her) FROM S3.4] age?

- YES 1
- NO 2
- DON'T KNOW 6
- REFUSED 7

B10. REPEAT B1-B9 FOR EACH CHILD WITH NO AVAILABLE SHOT RECORDS.

B11. INTERVIEWER CHECKPOINT.

<p>CALLBACK INTERVIEW (SR OR MR COMPLETE)</p> <p>de Those are all the questions I have. (I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time and effort you spent answering these questions.) [TERMINATE INTERVIEW]</p>	<p>INITIAL INTERVIEW</p> <p>de GO TO C1</p>
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SECTION C

Demographics

C1. Including the adults and all the children, how many people live in this household?

NUMBER OF PEOPLE

C1.A. How many of these are adults 18 years of age or older?

NUMBER OF ADULTS

C1.B. And that means that [FILL VAR: ANSWER TO C1 - ANSWER TO C1A] of these people are under 18 years of age?

YES 1
NO 2
REFUSED 7 SKIP TO C1.C

[IF ANSWER TO C1.B IS GREATER THAN OR EQUAL TO S_NUMB + 1, THEN ASK C1.C; OTHERWISE, SKIP TO C2]

C1.C How many children less than 12 months old live in this household?

NUMBER OF CHILDREN < 12 MONTHS

DON'T KNOW 96
REFUSED 97

C2. The next questions are about [FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]'s Hispanic origin and race. Is [FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5] of Spanish, Hispanic, or Latino origin, that is Mexican, Mexican-American, Central American, South American, Chicano, or Puerto Rican, Cuban, or other Spanish-Caribbean? [CIRCLE ALL THAT APPLY]

C2_X01 NO, NOT SPANISH/HISPANIC YES
C2_X02 YES, MEXICAN/MEXICANO YES
C2_X03 YES, MEXICAN-AMERICAN YES
C2_X04 YES, CENTRAL AMERICAN YES
C2_X05 YES, SOUTH AMERICAN YES
C2_X06 YES, CHICANO YES
C2_X07 YES, PUERTO RICAN YES
C2_X08 YES, CUBAN/CUBAN AMERICAN YES
C2_X09 YES, SPANISH-CARIBBEAN YES
C2_X10 YES, OTHER SPANISH/HISPANIC (SPECIFY) YES

C2_OTHR1

DON'T KNOW 96
REFUSED 97

C3. Now, I am going to read a list of categories. Please choose one or more of the following categories to describe [FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]'s race. Is [FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5] White, Black or African American, American Indian, Alaska Native, Asian, or Native Hawaiian or other Pacific Islander? [CIRCLE ALL THAT APPLY]

C3_X01	WHITE	YES
C3_X02	BLACK/ AFRICAN AMERICAN	YES
C3_X03	AMERICAN INDIAN	YES
C3_X04	ALASKA NATIVE	YES
C3_X05	ASIAN	YES
C3_X06	NATIVE HAWAIIAN	YES
C3_X07	PACIFIC ISLANDER	YES
C3_X08	OTHER (SPECIFY)	YES

C3_OTHR1 _____

DON'T KNOW	96
REFUSED	97

[IF MORE THAN ONE ANSWER AT C3, ASK C4]

C4. Which do you feel best describes [FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]'s race?

WHITE	1
BLACK/ AFRICAN AMERICAN	2
AMERICAN INDIAN	3
ALASKA NATIVE	4
ASIAN	5
NATIVE HAWAIIAN	6
PACIFIC ISLANDER	7
OTHER (SPECIFY)	8

DON'T KNOW	96
REFUSED	97

C5. What is your relationship to [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5]?

- 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
- DON'T KNOW 96
- REFUSED 97

[RULES FOR ASKING C6 (EDUCATION), C7 (MARITAL STATUS), C8 - C10 (RACE-ETHNICITY) AND C11 (RESIDENCE AT CHILD'S BIRTH):

I. ONLY ONE CHILD IN HOUSEHOLD: ASK EACH QUESTION ONCE

II. TWO OR MORE CHILDREN IN HOUSEHOLD:

A. ASK FOR A CHILD ONLY IF THIS IS THE FIRST CHILD WHERE RESPONDENT IS MOTHER (C5 = 01)

B. ALWAYS ASK WHEN RESPONDENT IS NOT MOTHER (C5 ... 01)]

C6. What is the highest grade or year of regular school (you have/[FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]'s mother has) ever completed?

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17+
---	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	-----

NEVER ATTENDED/ KINDERGARTEN (41)	ELEMENTARY (51)	HIGH SCHOOL (61)	COLLEGE (71)	GRADUATE (81)
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- DON'T KNOW 96
- REFUSED 97

C7. (Are you/is [FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]'s mother) now married, widowed, divorced, separated, or (have you/has she) never been married?

- MARRIED 01
- WIDOWED 02
- DIVORCED 03
- SEPARATED 04
- NEVER MARRIED 05
- DECEASED 06 GO TO CWIC_I
- DON'T KNOW 96
- REFUSED 97

C8. The next questions are about (your/ [FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]'s mother's) Hispanic origin and race. First, (are you/is [FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]'s mother) of Spanish, Hispanic, or Latino origin, that is, Mexican, Mexican-American, Central American, South American, Chicano, or Puerto Rican, Cuban, or other Spanish-Caribbean? [CIRCLE ALL THAT APPLY]

- C8_X01 NO, NOT SPANISH/HISPANIC YES
- C8_X02 YES, MEXICAN/MEXICANO YES
- C8_X03 YES, MEXICAN-AMERICAN YES
- C8_X04 YES, CENTRAL AMERICAN YES
- C8_X05 YES, SOUTH AMERICAN YES
- C8_X06 YES, CHICANO YES
- C8_X07 YES, PUERTO RICAN YES
- C8_X08 YES, CUBAN/CUBAN AMERICAN YES
- C8_X09 YES, SPANISH-CARIBBEAN YES
- C8_X10 YES, OTHER SPANISH/HISPANIC (SPECIFY) YES

C8_OTHR1 _____

- DON'T KNOW 96
- REFUSED 97

C9. Now I'm going to read a list of categories. Please choose one or more of the following categories to describe (your/ [FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]'s mother's) race. (Are you/is [FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]'s mother) White, Black or African American, American Indian, Alaska Native, Asian, Native Hawaiian or other Pacific Islander? [CIRCLE ALL THAT APPLY]

- C9_X01 WHITE YES
- C9_X02 BLACK/ AFRICAN AMERICAN YES
- C9_X03 AMERICAN INDIAN YES
- C9_X04 ALASKA NATIVE YES
- C9_X05 ASIAN YES
- C9_X06 NATIVE HAWAIIAN YES
- C9_X07 PACIFIC ISLANDER YES
- C9_X08 OTHER (SPECIFY) YES

C9_OTHR1 _____

DON'T KNOW	96
REFUSED	97

[IF MORE THAN ONE ANSWER AT C9, ASK C10; OTHERWISE SKIP TO C10A.]

C10. Which do you feel best describes (your/[FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]'s mother's) race?

- WHITE 1
- BLACK/AFRICAN AMERICAN 2
- AMERICAN INDIAN 3
- ALASKA NATIVE 4
- ASIAN 5
- NATIVE HAWAIIAN 6
- PACIFIC ISLANDER 7
- OTHER (SPECIFY) 8

-
- DON'T KNOW 96
 - REFUSED 97

C10A. What is (your/[FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]'s mother's) month, day, and year of birth?

____ / ____ / _____ (mm/dd/yyyy)

[IF MONTH=DK/REF OR YEAR=DK/REF, THEN SKIP TO C10B. OTHERWISE, SKIP TO C11.]

C10B. What is (your/[FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]'s mother's) current age?

AGE

-
- DON'T KNOW 96
 - REFUSED 97

C11. (Do you/Does [FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]'s mother) live at the same address as (you/she) did when [FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5] was born?

- YES 1 GO TO CWIC_I
- NO 2
- DON'T KNOW 6 GO TO CWIC_I
- REFUSED 7 GO TO CWIC_I

C11A. In what city, county, and state did (you/[FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]'s mother) live when [FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5] was born?

CITY _____

COUNTY _____

STATE _____

OR

COUNTRY _____

GO TO CWIC_I

REFUSED 7

C11.B. What was (your/[FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]'s mother's) zipcode at that time?

DON'T KNOW 6

REFUSED 7

CWIC_I The following questions are about the WIC program, (FILL IF R IS MOTHER FROM C5: which you or your child may have been on during your pregnancy or in the last two years). WIC is a nutrition and health program for Women, Infants, and Children. WIC benefits include food, checks, or vouchers for food, health care referrals, and nutrition education.

CWIC01 Has ([FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]) ever received WIC benefits?

YES 1 GO TO WIC02

NO 2

DON'T KNOW 6

GO TO
CFAMINC

REFUSAL 7

DONT KNOW ABOUT THE PROGRAM 8

A

CWIC02 In months, about how old was ([FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]) when (he/she) first started receiving WIC benefits?

AGE CHILD FIRST RECEIVED

WIC BENEFITS __|__ MONTHS GO TO WIC03
FROM BIRTH 00 GO TO WIC03

IF UNABLE TO GIVE EXACT MONTHS

CWIC02A. Was ([FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5])...

- ...one to six months old? 01
- ...seven to twelve months old? 02
- ...13 to 18 months old? 03
- ...19 to 24 months old? 04
- ...25 to 30 months old? 05
- ...31 to 35 months old? 06
- DON'T KNOW 96
- REFUSAL 97

CWIC03. Is ([FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]) currently receiving WIC benefits?

- YES 1 GO TO WIC05
- NO 2
- DON'T KNOW 6 GO TO CWIC07
- REFUSAL 7 GO TO CWIC07

CWIC04. About how old in months was ([FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]) when (he/she) last received WIC benefits?

AGE CHILD LAST RECEIVED

WIC BENEFITS __|__ MONTHS GO TO WIC05
STILL GETTING WIC BENEFITS 97 GO TO WIC03 &
RECONCILE

IF UNABLE TO GIVE EXACT MONTHS

CWIC04A. Was ([FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5])...

- ...one to six months old? 01
- ...seven to twelve months old? 02
- ...13 to 18 months old? 03
- ...19 to 24 months old? 04
- ...25 to 30 months old? 05
- ...31 to 35 months old? 06
- DON'T KNOW 96
- REFUSAL 97

CWIC05. Was there a period when ([FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5])'s WIC benefits were interrupted for 6 months or more?

- YES 1
- NO 2

CWIC07. At ([FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5])'s last WIC certification visit, did anyone at the WIC site ask to check ([FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5])'s vaccination or shot record?

- YES 1
- NO 2
- DON'T RECALL 3
- REFUSED 7

CFAMINC Please think about your total combined family income during (LAST CALENDAR YEAR) for all members of the family. Include money from 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?

\$, ,

DON'T KNOW 6 GO TO C12 DON'TKNOW
 REFUSED 7 GO TO C12 REFUSED

C12DON'TKNOW You may not be able to give us an exact figure for your total combined family income, but was your total family income during (LAST CALENDAR YEAR) more or less than \$20,000?

MORE THAN \$20,000 1 GO TO C16
 \$20,000 2 GO TO C19
 LESS THAN \$20,000 3 GO TO C13
 DON'T KNOW 6 GO TO C19
 REFUSED 7 GO TO C19

C12REFUSED 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 (LAST CALENDAR YEAR) more or less than \$20,000?

MORE THAN \$20,000 1 GO TO C16
 \$20,000 2 GO TO C19
 LESS THAN \$20,000 3 GO TO C13
 DON'T KNOW 6 GO TO C19
 REFUSED 7 GO TO C19

C13. Was the total combined FAMILY income more or less than \$10,000?

MORE THAN \$10,000	1	GO TO C15
\$10,000	2	GO TO C19
LESS THAN \$10,000	3	GO TO C14.A
DON'T KNOW	6	GO TO C19
REFUSED	7	GO TO C19

C14.A Was it more than \$7,500?

YES	1	
NO	2	
DON'T KNOW	6	GO TO C19
REFUSED	7	A

C15. Was it more than \$15,000?

YES	1	GO TO C15.A
NO	2	GO TO C15.B
DON'T KNOW	6	
REFUSED	7	A GO TO C19

C15.A Was it more than \$17,500?

YES	1	
NO	2	
DON'T KNOW	6	GO TO C19
REFUSED	7	A

C15.B Was it more than \$12,500?

YES	1	
NO	2	
DON'T KNOW	6	GO TO C19
REFUSED	7	A

C16. Was the total combined FAMILY income more or less than \$40,000?

MORE THAN \$40,000	1	GO TO C16.A
\$40,000	2	GO TO C19
LESS THAN \$40,000	3	GO TO C17
DONT KNOW	6	GO TO C19
REFUSED	7	GO TO C19

C16.A Was the total combined FAMILY income more or less than \$60,000?

MORE THAN \$60,000	1	GO TO C18
\$60,000	2	GO TO C19
LESS THAN \$60,000	3	GO TO C16.B
DONT KNOW	6	GO TO C19
REFUSED	7	GO TO C19

C16.B Was the total combined FAMILY income more or less than \$50,000?

MORE THAN \$50,000	1	GO TO C19
\$50,000	2	GO TO C19
LESS THAN \$50,000	3	GO TO C16.C
DONT KNOW	6	GO TO C19
REFUSED	7	GO TO C19

C16.C Was the total combined FAMILY income more or less than \$45,000?

MORE THAN \$45,000	1	
LESS THAN \$45,000	2	
DONT KNOW	6	GO TO C19
REFUSED	7	A

C17. Was the total combined FAMILY income more or less than \$30,000?

MORE THAN \$30,000	1	GO TO C17.A
\$30,000	2	GO TO C19
LESS THAN \$30,000	3	GO TO C17.B
DONT KNOW	6	GO TO C19
REFUSED	7	GO TO C19

C17.A Was the total combined FAMILY income more or less than \$35,000?

MORE THAN \$35,000	1	
LESS THAN \$35,000	2	
DONT KNOW	6	GO TO C19
REFUSED	7	A

C17.B Was the total combined FAMILY income more or less than \$25,000?

MORE THAN \$25,000 1
LESS THAN \$25,000 2
DONT KNOW 6

GO TO C19

REFUSED 7

A

C18. Was the total combined FAMILY income more or less than \$75,000?

MORE THAN \$75,000 1
LESS THAN \$75,000 2
DONT KNOW 6

GO TO C19

REFUSED 7

A

C19. In what city, county and state do you live?

CITY _____

COUNTY _____

STATE _____

REFUSED 7

C19.A. What is your zip code?

DON'T KNOW 6

REFUSED 7

C19.B Do you live within the city limits?

YES 1

NO 2

REFUSED 7

C20. The next questions are about the telephone numbers in your household. Do you have any other home phone numbers in addition to [FILL VAR: AREA CODE/TELEPHONE NUMBER FROM SAMPLE TELEPHONE NUMBER].

YES 1
NO 2 GO TO CNOSERV
REFUSED 7 GO TO CNOSERV

C21. Is this second number for home use only, for business use only, or for both home and business use?

HOME ONLY 1
BUSINESS ONLY 2 GO TO C22
BOTH HOME AND BUSINESS 3
REFUSED 7 GO TO CNOSERV

C21.A. Is this second number used only for computer or fax communication?

YES 1
NO 2
DON'T KNOW 6
REFUSED 7 GO TO CNOSERV

C22. Do you have a third home phone number in addition to the two you have already told me about?

YES 1
NO 2 GO TO CNOSERV
REFUSED 7 GO TO CNOSERV

C23. Is this third number for home use only, for business use only, or for both home and business use?

HOME ONLY 1
BUSINESS ONLY 2 GO TO CNOSERV
BOTH HOME AND BUSINESS 3
REFUSED 7 GO TO CNOSERV

C23.A. Is this third number used only for computer or fax communication?

YES 1
NO 2
DON'T KNOW 6
REFUSED 7

CNOSERV

During the past 12 months, has your household been without telephone service for 1 week or more?

- YES 1
- NO 2 GO TO D5
- DON'T KNOW 6 GO TO D5
- REFUSED 7 GO TO D5

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 NUMBER, PRESS RETURN.

NUMBER _____

CHOWLONG2

ENTER PERIOD _____

- DAY(S) 1
- WEEK(S) 2
- MONTH(S) 3
- DON'T KNOW 6
- REFUSED 7

<input type="checkbox"/>	IF YOU HAVE SET A Shot Record (SR SECTION) CALLBACK → GO TO D5
<input type="checkbox"/>	ALL OTHERS → GO TO D5

SECTION D
Provider Questions

D5 To get a complete picture of the vaccinations received by your (children/child), we would like to contact doctors or health clinics to obtain a copy of the vaccination records for your (children/child). This study is voluntary and is authorized by the U.S. Public Health Service Act. It's all right to skip any questions you don't want to answer. The information you give will be kept in strict confidence and will be summarized for research purposes only.

D5_1 In order to evaluate my performance, my supervisor may record and listen as I ask the questions.

I READ THESE STATEMENTS TO THE RESPONDENT.

YES 1

D6 How many locations have provided vaccinations for your child named [NAME OF (FIRST) ELIGIBLE CHILD] whose birth date is [DATE OF BIRTH OF (FIRST) ELIGIBLE CHILD]?

NUMBER: |__|__|

D6A.1 Starting with the most recent, please tell me the name, address and telephone number for each location. (Would you take a moment to find shot-cards, appointment cards, or other records you may have?)

YES, CONTINUE ON 1
NO, CAN'T FIND, CONTINUE 2
REFUSED 7 GO TO D14

D6B.1.1.1 What is the last name of the doctor?

LAST _____

D6B.2.1.1 Do you know the doctor's first name?

FIRST _____

D6B.3.1.1 Please tell me the name of the office or the clinic.

OFFICE _____

D6B.4.1.1 What is the street address of the office or the clinic?

STREET _____

D6B.5.1.1 Is there a suite, floor, or room number?

SUITE # _____

D6B.6.1.1 What city is that in?
CITY_____

D6B.7.1.1 What state is that in?
STATE_____

D6B.8.1.1 What is the zip code?
ZIP CODE_____

D6B.9.1.1 What is their telephone number?
TELEPHONE_____

INTERVIEWER NOTE: IF MORE THAN ONE PROVIDER GO TO THE SUPPLEMENTAL PROVIDER SHEET - D6B.1.2.1

D8 In order to help the doctor or clinic locate your child's vaccination records,

D8A.1 What is [NAME OF (FIRST) ELIGIBLE CHILD]'s full name - first, middle, and last name?
FIRST_____

D8B.1 (What is the [NAME OF (FIRST) ELIGIBLE CHILD]'s full name - first, middle, and last name?)
MIDDLE_____

D8C.1 (What is the [NAME OF (FIRST) ELIGIBLE CHILD]'s full name - first, middle, and last name?)
LAST _____

D9A. What is your full name - first, middle, and last?
FIRST_____

D9B. (What is your full name - first, middle, and last?)
MIDDLE_____

D9C. (What is your full name - first, middle, and last?)
LAST _____

INTERVIEWER NOTE: IF THERE ARE ANY ADDITIONAL ELIGIBLE CHILDREN, GO TO THE SUPPLEMENTAL CHILD SHEET, D6.2.

D9D. I need to verify that I am speaking with someone who can authorize the release of immunization records for [NAME OF ELIGIBLE CHILD(REN)]. Are you that person?

- YES 1
- NO 2 GO TO D9D1
- DON'T KNOW 6 GO TO D14
- REFUSED 7 GO TO D14

D6C. The vaccination records collected from the provider(s) will be kept in strict confidence.

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(ren), and request that information relevant to your child(ren)'s immunization history be sent to the Centers for Disease Control and Prevention or its contractors for study purposes only?

- YES 1
- NO 2

D14. Those are all the questions I have. 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. [**TERMINATE INTERVIEW**]

ASK ONLY IF D9D = 2

D9D1. Please give me the full name of someone who can authorize the release of these immunization records.

D9D1F. What is the first name?

FIRST _____

D9D1M. What is the middle name?

MIDDLE _____

D9D1L. What is the last name?

LAST _____

D9DREL. What is this person's relationship to [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5]?

- 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
- DON'T KNOW 96
- REFUSED 97

D9D1A May I speak with that person now?

- YES 1
- GO TO D9D1NEW
- NO 2

D9D2. When would be a good time to call this person?

D9D2_1 DATE _____

D9D2_2 TIME _____

Those are all the questions I have. (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.) [**TERMINATE INTERVIEW**]

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

D9D1NEW Hello, my name is _____. Am I speaking with [NAME LISTED IN D9D1, WHO CAN AUTHORIZE RELEASE OF SHOT RECORDS]?

YES 1
NO 2 GO TO D9D2

D9D2ANEW I'm calling on behalf of the Centers for Disease Control and Prevention. We talked with [FILL: NAME FROM D9A] and collected immunization and provider information for [NAME OF ELIGIBLE CHILD(REN)]. We understand that you could authorize the release of immunization information for [NAME OF ELIGIBLE CHILD(REN)]. This study is voluntary and is authorized by the U.S. Public Health Service Act. It's alright to skip any questions you don't want to answer. The information you give will be kept in strict confidence and will be summarized for research purposes only.

D9DNEW I need to verify that I am speaking with someone who can authorize the release of immunization records for [NAME OF (FIRST) ELIGIBLE CHILD]. Are you that person?

YES 1
NO 2 RETURN TO D9D1
DON'T KNOW 6 GO TO D14
REFUSED 7 GO TO D14

D6C. The vaccination records collected from the provider(s) will be kept in strict confidence.

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(ren), and request that information relevant to your child(ren)'s immunization history be sent to the Centers for Disease Control and Prevention or its contractors for study purposes only?

YES 1
NO 2

D14. Those are all the questions I have. 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. **[TERMINATE INTERVIEW]**

SUPPLEMENTAL PROVIDER SHEET

CASE # |__|_|_|_|_|_|_|_|_|_|_|

ELIGIBLE CHILD'S NAME: _____ CHILD#: _____

ELIGIBLE CHILD'S BIRTH DATE: ____ / ____ / ____ PROVIDER#: _____

D6B.1.2.1 What is the last name of the next doctor?

LAST _____

D6B.2.2.1 Do you know the doctor's first name?

FIRST _____

D6B.3.2.1 Please tell me the name of the office or the clinic.

OFFICE _____

D6B.4.2.1 What is the street address of the office or the clinic?

STREET _____

D6B.5.2.1 Is there a suite, floor, or room number?

SUITE # _____

D6B.6.2.1 What city is that in?

CITY _____

D6B.7.2.1 What state is that in?

STATE _____

D6B.8.2.1 What is the zip code?

ZIP CODE _____

D6B.9.2.1 What is their telephone number?

TELEPHONE _____

INTERVIEWER NOTE: IF THERE ARE ANY ADDITIONAL PROVIDERS, OBTAIN ANOTHER SUPPLEMENTAL PROVIDER SHEET. WHEN YOU ARE FINISHED USING THE SUPPLEMENTAL PROVIDER SHEETS, RETURN TO THE QUESTIONNAIRE AT QUESTION

D6C.

SUPPLEMENTAL CHILD SHEET
PAGE 1

CASE # |__|__|__|__|__|__|__|__|__|

NEXT ELIGIBLE CHILD'S NAME: _____ CHILD#: _____

NEXT ELIGIBLE CHILD'S BIRTH DATE: ____ / ____ / ____

WHICH SHOT SECTION COMPLETED? (circle one): A / B

D6.2 How many locations have provided vaccinations for your child named [NAME OF NEXT ELIGIBLE CHILD] whose birth date is [DATE OF BIRTH OF NEXT ELIGIBLE CHILD]?

NUMBER: |__|__|

D6A.2 Starting with the most recent, please tell me the name, address and telephone number for each doctor or clinic. (Would you take a moment to find shot cards, appointment cards or other records you may have?)

- YES, CONTINUE ON 1
- NO, CAN'T FIND, CONTINUE 2
- REFUSED 7 GO TO D14B

D6B.1.1.2 What is the last name of the next doctor?

LAST _____

D6B.2.1.2 Do you know the doctor's first name?

FIRST _____

D6B.3.1.2 Please tell me the name of the office or the clinic.

OFFICE _____

D6B.4.1.2 What is the street address of the office or the clinic?

STREET _____

D6B.5.1.2 Is there a suite, floor, or room number?

SUITE # _____

D6B.6.1.2 What city is that in?

CITY _____

SUPPLEMENTAL CHILD SHEET
PAGE 2

D6B.7.1.2 What state is that in?

STATE _____

D6B.8.1.2 What is the zip code?

ZIP CODE _____

D6B.9.1.2 What is their telephone number?

TELEPHONE _____

INTERVIEWER NOTE: IF MORE THAN ONE PROVIDER GO TO AN ADDITIONAL SUPPLEMENTAL PROVIDER SHEET - D6B.1.2.1

D8A.2 In order to help the doctor or clinic locate your child's vaccination records, what is [NAME OF (NEXT) ELIGIBLE CHILD]'s full name - first, middle, and last name?

FIRST _____

D8B.2 MIDDLE _____

D8C.2 LAST _____

INTERVIEWER NOTE: IF THERE ARE ANY ADDITIONAL ELIGIBLE CHILDREN, OBTAIN ANOTHER SUPPLEMENTAL CHILD FORM.

Appendix C

NIS Provider Questionnaire

For Q4/2000 the Immunization History Questionnaire was modified to include a column under Single Vaccines for pneumococcal vaccine. Pneumococcal vaccine-type check boxes were added for Conjugate and Polysaccharide.

**NATIONAL IMMUNIZATION SURVEY PROVIDER STUDY:
IMMUNIZATION HISTORY QUESTIONNAIRE**

INSTRUCTIONS: Please Review your records and complete this Questionnaire for the child identified below. Then mail it in the postage-paid envelope provided (Victor Coronado MD, Centers for Disease Control and Prevention, P.O. Box 5517, Chicago, IL 60680-8817) or Fax it to: Victor G. Coronado, MD, MPH, Fax #: (312) 867-4419 or (800) 699-1905

1. Which of the following best describes your records of immunizations for this child? (Check only one box.)

- 1 a. Have immunization record for this child. (Go to Question 2 below.)
- 2 b. Have provided care to this child, but do not have his/her immunization record. (Go to Question 2 below.)
- 4 c. Have no record of providing care to this child. (Return questionnaire to CDC as instructed above.)
- 5 d. Other (Explain): _____

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

8 Don't Know

MM DD YYYY

Referring to all sources of immunization history, please specify below the month, day and year when each of the following immunizations was given, either by your office or by another provider (OP), as documented in your records. If you prefer, you may attach a copy of the complete immunization history record for this child and just complete Questions 2 through 12. NOTE: Circle the "OP" above the date of immunization for any immunization given by another provider; then please complete Question 12 at the end of the questionnaire.

Single Vaccines						Combination Vaccines				Other
Hib Only (check one box per date)	Hepatitis B Only (enter date or check box)	Polio (OPV or IPV) (check one box per date)	Measles Only	Varicella	Rotavirus	DT/DTp/DTap (check one box per date)	DTP-Hib (Tetanus or Aclhib/DTp) DTap-Hib (Tribib) (check one box per date)	Hep B-Hib (e.g., Comvax)	MMR	Other Vaccines (Specify)
OP	OP	OP	OP	OP	OP	OP	OP	OP	OP	OP
<input type="checkbox"/> PedvaxHIB <input type="checkbox"/> Other	<input type="checkbox"/> Administered at birth	<input type="checkbox"/> OPV <input type="checkbox"/> IPV				<input type="checkbox"/> DT <input type="checkbox"/> DTp <input type="checkbox"/> DTap	<input type="checkbox"/> DTP/Hib <input type="checkbox"/> DTap/Hib			
OP	OP	OP	OP	OP	OP	OP	OP	OP	OP	OP
<input type="checkbox"/> PedvaxHIB <input type="checkbox"/> Other		<input type="checkbox"/> OPV <input type="checkbox"/> IPV				<input type="checkbox"/> DT <input type="checkbox"/> DTp <input type="checkbox"/> DTap	<input type="checkbox"/> DTP/Hib <input type="checkbox"/> DTap/Hib			
OP	OP	OP	OP	OP	OP	OP	OP	OP	OP	OP
<input type="checkbox"/> PedvaxHIB <input type="checkbox"/> Other		<input type="checkbox"/> OPV <input type="checkbox"/> IPV				<input type="checkbox"/> DT <input type="checkbox"/> DTp <input type="checkbox"/> DTap	<input type="checkbox"/> DTP/Hib <input type="checkbox"/> DTap/Hib			
OP	OP	OP	OP	OP	OP	OP	OP	OP	OP	OP
<input type="checkbox"/> PedvaxHIB <input type="checkbox"/> Other		<input type="checkbox"/> OPV <input type="checkbox"/> IPV				<input type="checkbox"/> DT <input type="checkbox"/> DTp <input type="checkbox"/> DTap	<input type="checkbox"/> DTP/Hib <input type="checkbox"/> DTap/Hib			

3. What was the date of this child's *first* visit, for any reason, to this place of practice?

mm dd ____ or 8 Don't Know

4. What was the date of this child's most recent visit, for any reason, to this place of practice?

mm dd ____ or 8 Don't Know

5. Which types of care does this facility routinely provide? (Check all that apply.)

- 1 a. Comprehensive well-child care (examination, anticipatory guidance, screening)
- 2 b. Acute illness care
- 3 c. Follow-up visits
- 4 d. After-hours telephone coverage
- 5 e. WIC Program/services
- 6 f. Other (Describe:)

6. Which of the following best describes this facility? (Check only one box, representing the most specific description.)

- 1 a. Federally-qualified health center, including community/migrant/rural/Indian health center
- 2 b. Hospital-based clinic, including university clinic or residency teaching practice
- 3 c. Private practice, including solo, group practice or HMO
- 4 d. Public health department-operated clinic
- 5 e. Military health care facility
- 6 f. Other (Describe:)

7. Is this facility a Vaccines for Children provider?

- 1 a. Yes
- 2 b. No
- 3 c. Unknown

8. Did you or your facility report any of this child's immunizations to your community or state immunization registry?

- 1 a. Yes
- 2 b. No
- 3 c. Not applicable (There is no registry in my community/state.)

9. Please indicate the clinical specialty of the person(s) at this facility who ordered all this child's vaccination(s). (Check all that apply.)

- 1 a. Pediatrician
- 2 b. Family Physician
- 3 c. General Practitioner
- 4 d. Nurse (Specify RN, LPN, etc.)
- 5 e. Pediatric Nurse Practitioner
- 6 f. Family Nurse Practitioner
- 7 g. Physician Assistant
- 8 h. Other Practitioner (Specify:)

10. Name of person completing questionnaire: _____

Phone: (____) _____

11. According to your records, did this child ever use another last name (excluding names prior to adoption)?

- 1 Yes [Specify name(s):] _____
- 2 No

INSTRUCTIONS: If you know of other providers that may have immunization records for this child, please continue with Item 12. Otherwise, return this questionnaire to CDC. Call 1-800-886-4993 with any questions. Thank you.

12. Please enter below the names, addresses and telephone numbers of other providers who may have an immunization record for this child, and the name and address for any provider of immunizations with OP circled in the shot grid.

(1) _____ (2) _____

Appendix D

Summary Statistics for Sampling Weights by IAP Area

Q1/2000-Q4/2000 : Child Weight for Completed Household Interviews (HY_WGT)

IAP Area	N	SUM	MIN	MAX	MEAN	CV
TOTAL U.S.	34087	5679296.19	2.514	1572.44	166.612	107.899
1 CT	410	63552.70	46.867	226.66	155.007	14.693
2 MA-REST OF STATE	376	103085.11	5.209	483.90	274.163	23.761
3 MA-CITY OF BOSTON	434	11931.80	6.929	106.22	27.493	42.245
4 ME	394	20959.54	13.533	94.72	53.197	28.674
5 NH	439	21102.72	17.456	81.36	48.070	26.450
6 RI	481	17949.37	15.011	60.71	37.317	22.639
7 VT	402	9669.63	7.808	43.33	24.054	37.597
8 NJ-REST OF STATE	526	161190.82	2.514	781.06	306.446	44.947
9 NJ-CITY OF NEWARK	491	7452.83	4.108	36.39	15.179	48.597
10 NY-REST OF STATE	443	194399.25	21.652	834.62	438.824	30.459
11 NY-NYC 5 COUNTIES	495	171283.35	35.962	738.44	346.027	34.274
12 DISTRICT OF COLUMBIA	508	10069.58	5.076	41.88	19.822	37.549
13 DE	434	14261.57	8.605	52.21	32.861	28.330
14 MD-REST OF STATE	474	95539.18	8.405	375.91	201.559	33.980
15 MD-CITY OF BALTIMORE	448	15769.05	6.345	71.72	35.199	31.238
16 PA-REST OF STATE	404	176438.04	11.875	928.90	436.728	32.542
17 PA-PHILADELPHIA COUNTY	486	31673.39	18.151	101.24	65.172	21.848
18 VA	424	140378.48	6.657	595.03	331.081	31.262
19 WV	395	28498.41	18.016	117.40	72.148	30.918
20 AL-REST OF STATE	411	76776.53	13.235	479.56	186.804	36.999
21 AL-JEFFERSON COUNTY	404	13647.88	7.845	127.36	33.782	34.466
22 FL-REST OF STATE	454	229674.37	20.123	824.17	505.891	31.107
23 FL-DUVAL COUNTY	439	18392.77	10.352	104.08	41.897	37.488
24 FL-DADE COUNTY	388	48124.78	25.348	288.38	124.033	38.856
25 GA-REST OF STATE	415	142883.54	36.464	770.27	344.298	42.691
26 GA-FULTON/DEKALB COUNTIES	464	33819.91	23.690	212.64	72.888	34.066
27 KY	411	77033.09	26.411	361.11	187.428	36.570
28 MS	388	60379.12	44.121	329.40	155.616	40.972
29 NC	408	161410.12	114.046	739.66	395.613	34.863
30 SC	409	79399.43	68.775	337.39	194.131	29.674
31 TN-REST OF STATE	398	74083.81	8.857	312.45	186.140	37.291
32 TN-SHELBY COUNTY	428	21055.00	14.170	82.99	49.194	32.396
33 TN-DAVIDSON COUNTY	452	11829.50	6.870	66.58	26.171	47.272
34 IL-REST OF STATE	444	188425.97	50.179	819.62	424.383	33.198
35 IL-CITY OF CHICAGO	497	73995.48	19.904	512.31	148.884	49.861
36 IN-REST OF STATE	417	102161.48	20.435	529.56	244.992	40.266
37 IN-MARION COUNTY	372	19991.23	17.986	234.51	53.740	36.141
38 MI-REST OF STATE	458	168508.73	12.556	694.65	367.923	40.202
39 MI-CITY OF DETROIT	403	23938.29	13.667	168.06	59.400	36.307
40 MN	384	96184.54	92.241	427.87	250.481	30.930
41 OH-REST OF STATE	407	166275.00	23.302	807.95	408.538	45.801
42 OH-CUYAHOGA COUNTY	431	27401.52	19.716	106.40	63.577	21.653
43 OH-FRANKLIN COUNTY	430	23288.45	21.189	174.46	54.159	24.515
44 WI-REST OF STATE	389	76354.17	47.451	400.64	196.283	20.104
45 WI-MILWAUKEE COUNTY	380	22221.23	15.750	139.57	58.477	39.178
46 AR	410	52590.54	14.333	226.83	128.270	31.348
47 LA-REST OF STATE	524	80944.24	8.030	354.79	154.474	43.398
48 LA-ORLEANS PARISH	493	10472.79	4.873	50.29	21.243	39.038
49 NM	441	39505.89	26.356	172.54	89.583	37.669

Q1/2000-Q4/2000 : Child Weight for Completed Household Interviews (HY_WGT)

IAP Area	N	SUM	MIN	MAX	MEAN	CV
50 OK	441	70990.54	53.104	315.23	160.976	30.3320
51 TX-REST OF STATE	552	314616.42	24.717	1332.49	569.957	51.2771
52 TX-DALLAS COUNTY	502	56378.26	28.485	278.79	112.307	28.5853
53 TX-EL PASO COUNTY	460	20520.67	12.378	122.44	44.610	35.0732
54 TX-CITY OF HOUSTON	500	60161.71	32.900	579.68	120.323	47.2028
55 TX-BEXAR COUNTY	484	32986.25	20.626	134.66	68.153	31.0032
56 IA	400	52868.40	42.865	227.57	132.171	30.4051
57 KS	390	56216.72	43.722	292.83	144.145	32.1858
58 MO	385	106193.77	73.716	447.82	275.828	28.3894
59 NE	405	32712.92	25.810	131.33	80.773	20.2944
60 CO	505	81886.36	43.745	232.39	162.151	21.4829
61 MT	388	15225.62	8.176	62.62	39.241	27.7074
62 ND	406	10259.47	9.040	43.52	25.270	26.7798
63 SD	415	14774.00	8.122	63.24	35.600	35.0344
64 UT	417	59500.52	52.127	265.84	142.687	32.5771
65 WY	418	8842.30	6.612	29.88	21.154	20.4095
66 AZ-REST OF STATE	417	40889.93	23.090	193.15	98.057	38.3350
67 AZ-MARICOPA COUNTY	495	68856.79	36.739	259.38	139.105	30.3717
68 CA-REST OF STATE	491	427381.37	57.540	1572.44	870.430	28.4204
69 CA-LOS ANGELES COUNTY	532	233581.35	152.239	660.64	439.063	23.3600
70 CA-SANTA CLARA COUNTY	414	39237.85	39.058	144.01	94.777	22.4402
71 CA-SAN DIEGO COUNTY	504	63607.40	32.048	244.46	126.205	34.6799
72 HI	457	25617.25	21.623	83.95	56.055	25.9687
73 NV	487	44308.00	32.591	170.84	90.982	27.5744
74 AK	393	13833.22	8.307	63.54	35.199	31.7994
75 ID	421	27550.05	21.299	107.92	65.440	22.4011
76 OR	402	66090.32	56.826	339.19	164.404	32.0276
77 WA-REST OF STATE	420	85395.57	32.767	357.84	203.323	30.0906
78 WA-KING COUNTY	373	32838.97	25.663	236.86	88.040	26.1956

Q1/2000-Q4/2000 : Child Weight for Children with Adequate Provider Data (W0)

IAP Area	N	SUM	MIN	MAX	MEAN	CV
TOTAL U.S.	22958	5679296.20	3.472	4497.70	247.378	117.066
1 CT	280	63552.71	95.848	426.91	226.974	22.818
2 MA-REST OF STATE	267	103085.11	11.328	725.16	386.087	29.794
3 MA-CITY OF BOSTON	295	11931.80	9.401	109.89	40.447	41.449
4 ME	296	20959.54	28.047	154.55	70.809	32.099
5 NH	321	21102.72	20.508	126.97	65.741	31.458
6 RI	341	17949.37	18.214	109.37	52.637	28.415
7 VT	317	9669.63	8.772	61.61	30.504	36.174
8 NJ-REST OF STATE	341	161190.82	3.472	1466.25	472.700	57.054
9 NJ-CITY OF NEWARK	297	7452.83	4.705	90.43	25.094	60.734
10 NY-REST OF STATE	307	194399.25	35.011	2203.78	633.222	39.437
11 NY-NYC 5 COUNTIES	274	171283.35	86.903	1472.97	625.122	38.114
12 DISTRICT OF COLUMBIA	289	10069.58	8.102	109.97	34.843	53.453
13 DE	300	14261.57	11.519	102.41	47.539	37.540
14 MD-REST OF STATE	290	95539.18	16.865	892.85	329.445	47.182
15 MD-CITY OF BALTIMORE	293	15769.05	11.531	124.95	53.819	33.892
16 PA-REST OF STATE	280	176438.04	31.888	1442.06	630.136	34.327
17 PA-PHILADELPHIA COUNTY	316	31673.39	24.091	204.18	100.232	29.261
18 VA	273	140378.48	11.648	1574.70	514.207	46.111
19 WV	276	28498.41	24.659	270.85	103.255	45.000
20 AL-REST OF STATE	285	76776.53	18.331	844.99	269.391	44.309
21 AL-JEFFERSON COUNTY	293	13647.88	10.154	150.39	46.580	38.081
22 FL-REST OF STATE	287	229674.37	21.605	1823.73	800.259	39.189
23 FL-DUVAL COUNTY	284	18392.77	17.280	181.93	64.763	42.096
24 FL-DADE COUNTY	234	48124.78	37.089	778.95	205.661	56.244
25 GA-REST OF STATE	281	142883.54	47.710	1129.99	508.482	43.352
26 GA-FULTON/DEKALB COUNTIES	278	33819.91	34.927	439.26	121.654	46.159
27 KY	308	77033.09	36.647	633.21	250.107	44.979
28 MS	289	60379.12	59.948	436.41	208.924	37.828
29 NC	312	161410.12	126.899	1171.04	517.340	41.751
30 SC	309	79399.43	70.160	633.05	256.956	36.680
31 TN-REST OF STATE	295	74083.81	15.717	900.39	251.132	53.493
32 TN-SHELBY COUNTY	266	21055.00	20.948	198.00	79.154	37.126
33 TN-DAVIDSON COUNTY	293	11829.50	8.906	106.13	40.374	49.852
34 IL-REST OF STATE	304	188425.97	93.261	3021.81	619.822	46.782
35 IL-CITY OF CHICAGO	311	73995.48	39.921	967.15	237.928	55.829
36 IN-REST OF STATE	291	102161.48	29.295	1281.12	351.070	45.130
37 IN-MARION COUNTY	223	19991.23	31.512	288.79	89.647	44.493
38 MI-REST OF STATE	301	168508.73	15.963	1305.95	559.830	45.583
39 MI-CITY OF DETROIT	228	23938.29	25.433	351.14	104.993	48.714
40 MN	285	96184.54	111.081	896.16	337.490	38.137
41 OH-REST OF STATE	264	166275.00	28.327	1511.47	629.830	50.834
42 OH-CUYAHOGA COUNTY	285	27401.52	29.319	301.10	96.146	36.581
43 OH-FRANKLIN COUNTY	276	23288.45	27.821	242.60	84.378	31.213
44 WI-REST OF STATE	284	76354.17	102.332	543.76	268.853	29.322
45 WI-MILWAUKEE COUNTY	272	22221.23	22.329	227.81	81.696	43.642
46 AR	297	52590.54	21.541	425.12	177.073	37.283
47 LA-REST OF STATE	313	80944.24	11.856	811.32	258.608	51.469
48 LA-ORLEANS PARISH	258	10472.79	7.918	133.54	40.592	55.159
49 NM	309	39505.89	31.954	330.36	127.851	45.297

Q1/2000-Q4/2000 : Child Weight for Children with Adequate Provider Data (W0)

IAP Area	N	SUM	MIN	MAX	MEAN	CV
50 OK	301	70990.54	70.755	584.02	235.85	33.0853
51 TX-REST OF STATE	345	314616.42	32.209	2950.32	911.93	57.4396
52 TX-DALLAS COUNTY	313	56378.26	60.860	491.35	180.12	37.8655
53 TX-EL PASO COUNTY	311	20520.67	20.178	164.40	65.98	33.0025
54 TX-CITY OF HOUSTON	299	60161.71	57.191	1119.48	201.21	54.8760
55 TX-BEXAR COUNTY	328	32986.25	25.428	322.56	100.57	43.3455
56 IA	278	52868.40	62.422	624.97	190.17	38.8516
57 KS	281	56216.72	62.147	478.56	200.06	37.3980
58 MO	274	106193.77	127.469	851.02	387.57	36.5978
59 NE	289	32712.92	39.149	246.06	113.19	28.8140
60 CO	336	81886.36	66.846	602.07	243.71	35.1357
61 MT	288	15225.62	13.040	140.29	52.87	41.0583
62 ND	320	10259.47	11.531	83.47	32.06	35.1335
63 SD	302	14774.00	8.730	119.00	48.92	40.0250
64 UT	294	59500.52	55.759	569.95	202.38	41.1560
65 WY	326	8842.30	7.427	60.15	27.12	29.8199
66 AZ-REST OF STATE	284	40889.93	32.575	475.22	143.98	52.2547
67 AZ-MARICOPA COUNTY	306	68856.79	51.191	722.62	225.02	46.8247
68 CA-REST OF STATE	302	427381.37	104.066	4497.70	1415.17	39.1070
69 CA-LOS ANGELES COUNTY	330	233581.35	241.299	2226.32	707.82	38.3431
70 CA-SANTA CLARA COUNTY	268	39237.85	44.975	425.00	146.41	40.2844
71 CA-SAN DIEGO COUNTY	331	63607.40	45.172	675.55	192.17	47.8467
72 HI	275	25617.25	33.297	296.08	93.15	44.9203
73 NV	329	44308.00	45.477	308.74	134.67	33.2245
74 AK	292	13833.22	12.995	124.63	47.37	38.4199
75 ID	326	27550.05	24.108	197.87	84.51	31.3152
76 OR	292	66090.32	61.008	816.14	226.34	43.7263
77 WA-REST OF STATE	308	85395.57	58.354	699.48	277.26	38.0919
78 WA-KING COUNTY	262	32838.97	35.127	393.18	125.34	32.3395

Appendix E

**Disposition of Child with respect to Provider Record Check
for NIS, Q1/2000 to Q4/2000**

DISPCODE: Disposition of Child with Respect to Provider Record Check
for NIS - Q1\2000 to Q4\2000:

*Number
Of
Children* *Disposition Code Number and Definition*

- 10,501 1 = All identified providers responded,
no problems indicated in cross check between household and provider shot dates.
- 9,981 2 = All identified providers responded,
no NIS shot card to cross check.
- 841 3 = All identified providers responded,
poor immunization history matching results.
- 91 4 = All identified providers responded,
poor immunization history matching results,
additional mismatch indicators present.
- 1,047 5 = Some but not all identified providers responded,
but provider information indicates 4:3:1:3:3
up-to-date.
- 49 6 = Some but not all identified providers responded,
but provider information matches
NIS shot card immunization history.
- 458 7 = Some but not all identified providers responded,
completeness of provider immunization
history is unknown.
- 41 8 = Some but not all identified providers responded,
but provider information indicates 4:3:1:3:3
up-to-date when post-RDD-interview
immunizations are included.
- 88 9 = Some but not all identified providers responded,
but provider information indicates at least
as many doses for each vaccine as the RDD
respondent (or at least 1 dose for MCV).

177 10 = Some but not all identified providers responded, but the household reported an inexact number of vaccinations ("All", "Don't Know", "Refused" or missing) for one or more vaccines and any exact responses meet previous criteria (for DISPCODE 9).

142 11 = Some but not all identified providers responded, but definite number of shots was reported by household not from a shot card for one or more vaccines and any other vaccines meet previous criteria (for DISPCODE 9 or 10).

23,416 TOTAL

Notes: The criteria for all dispositions (except 7) were applied in order. A case where some but not all providers responded is assigned disposition 7 if it does not qualify for dispositions 5, 6, 8, 9, 10 or 11.

When checking the criteria for dispositions 10 and 11, the provider history must contain at least three distinct vaccination dates (visits) for the provider immunization count to be accepted for vaccines for which an inexact response was reported, from recall, in the household survey.

Appendix F

Examples of the Use of SUDAAN To Estimate Vaccination Coverage Rates and Their Standard Errors

```

*****;
title1 'SUD_IAP.SAS';
*****
THIS PROGRAM WILL PRODUCE IAP AREA ESTIMATES AND STANDARD ERRORS
FOR PUTD4313 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:\nispuf00'; *--- SPECIFY PATH TO SAS DATASET ---*;
libname library 'c:\nispuf00'; *--- IF DATASET WAS CREATED WITH FORMATS STORED ---*;
      *--- PERMANENTLY SPECIFY PATH TO LIBRARY ---*;
      *--- OTHERWISE COMMENT THIS STATEMENT OUT ---*;
```

```
%let in_file=dd.nispuf00; *--- NAME OF SAS DATASET ---*;
%let wt=w0; *--- WEIGHT TO USE ---*;
```

```
Proc format;
```

```
/*
```

```
THE FOLLOWING FORMAT WILL BE USED FOR PUTD4313.
ORIGINAL VALUES OF PUTD4313 ARE 1,0.
MUST BE CONVERTED TO 1,2 IN SUDAAN.
```

```
*/
```

```
value put4313f
  1='4:3:1:3 Up-to-date'
  2='Not 4:3:1:3 Up-to-date';
```

```
value itrueiaf
  0='U.S Total'
  01='Connecticut'
  02='MA-Rest of State'
  03='MA-City of Boston'
  04='Maine'
  05='New Hampshire'
  06='Rhode Island'
  07='Vermont'
  08='NJ-Rest of State'
  09='NJ-City of Newark'
  10='NY-Rest of State '
  11='NY-5 Counties '
  12='Dist of Columbia '
  13='Delaware '
  14='MD-Rest of State '
  15='MD-Baltimore City'
  16='PA -Rest of State '
  17='PA -Philadelphia '
  18='Virginia '
  19='West Virginia '
  20='AL-Rest of State '

```

21='AL-Jefferson Cnty'
22='FL-Rest of State '
23='FL-Duval County '
24='FL-Dade County '
25='GA -Rest of State'
26='GA -Fulton/Dekalb '
27='Kentucky '
28='Mississippi '
29='North Carolina '
30='South Carolina '
31='TN-Rest of State '
32='TN-Shelby County '
33='TN-Davidson Cnty '
34='IL-Rest of State '
35='IL-City Chicago '
36='IN-Rest of State '
37='IN-Marion County '
38='MI-Rest of State '
39='MI-Detroit '
40='Minnesota '
41='OH-Rest of State '
42='OH-Cuyahoga Cnty '
43='OH-Franklin Cnty '
44='WI-Rest of State '
45='WI-Milwaukee Cnty'
46='Arkansas '
47='LA -Rest of State '
48='LA -Orleans Parish'
49='New Mexico '
50='Oklahoma '
51='TX-Rest of State '
52='TX-Dallas County '
53='TX-El Paso Cnty '
54='TX-City Houston '
55='TX-Bexar County '
56='Iowa '
57='Kansas '
58='Missouri '
59='Nebraska '
60='Colorado '
61='Montana '
62='North Dakota '
63='South Dakota '
64='Utah '
65='Wyoming '
66='AZ-Rest of State '
67='AZ-Maricopa Cnty '
68='CA-Rest of State '
69='CA-Los Angeles '
70='CA-Santa Clara '
71='CA-San Diego Cnty'
72='Hawaii '
73='Nevada '
74='Alaska '
75='Idaho '
76='Oregon '

```

77='WA-Rest of State '
78='WA-King County  ';

data sud_file;
set &in_file(keep= seqnumhh seqnumc putd4313 itrueiap w0);

if putd4313=0 then putd4313=2; *--- CONVERT PUTD4313=0 TO PUTD4313=2 ---*;

nseqnumh=1*seqnumhh; *--- CONVERT HOUSEHOLD ID SEQNUMHH FROM CHARACTER TO NUMERIC ---*;

*=== SORT BY NEST VARIABLES: ITRUEIAP (STRATUM) NSEQNUMH (PRIMARY SAMPLING UNIT) ===*;
proc sort;
by itrueiap nseqnumh;

proc crosstab data=sud_file filetype=sas design=wr;
weight &wt;
nest itrueiap nseqnumh;
subgroup  itrueiap putd4313 ;
levels   78  2  ;
tables  itrueiap * putd4313 ;
print nsum wsum rowper serow/style=nchs ;
rtitle "4:3:1:3 ESTIMATES BY IAP";
rformat itrueiap itrueiaf.;
rformat putd4313 put4313f.;
output rowper serow/filename=sud_est filetype=sas;

proc print data=sud_est(where=(putd4313=1)) noobs label;
format itrueiap itrueiaf.;
var itrueiap rowper serow ;
label
    rowper='Percent 4:3:1:3 Up -to-date'
    serow='Standard Error'
;
title "4:3:1:3 ESTIMATES BY IAP";

```

```

*****;
title1 'SUDSTATE.SAS';
*****
THIS PROGRAM WILL PRODUCE STATE ESTIMATES AND STANDARD ERRORS
FOR PUTD4313 USING SAS CALLABLE SUDAAN.

```

NOTE : THE STATE VARIABLE IS BASED ON FIPSTATE 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:\nispuf00'; *--- SPECIFY PATH TO SAS DATASET ---*;
libname library 'c:\nispuf00'; *--- IF DATASET WAS CREATED WITH FORMATS STORED ---*;
      *--- PERMANENTLY SPECIFY PATH TO LIBRARY ---*;
      *--- OTHERWISE COMMENT THIS STATEMENT OUT ---*;

```

```

%let in_file=dd.nispuf00; *--- NAME OF SAS DATASET ---*;
%let wt=w0; *--- WEIGHT TO USE ---*;

```

PROC FORMAT;

```

/*
THE FOLLOWING FORMAT WILL BE USED FOR PUTD4313.
ORIGINAL VALUES OF PUTD4313 ARE 1,0.
MUST BE CONVERTED TO 1,2 IN SUDAAN.
*/

```

```

value put4313f
  1='4:3:1:3 Up-to-date'
  2='Not 4:3:1:3 Up-to-date'
;
value statef
  0='U.S. Total'
  1='Alabama'
  2='Alaska'
  4='Arizona'
  5='Arkansas'
  6='California'
  8='Colorado'
  9='Connecticut'
  10='Delaware'
  11='Dist. 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 ='Mary land     '
25 ='Massachusetts '
26 ='Michigan      '
27 ='Minnesota     '
28 ='Mississippi   '
29 ='Missouri      '
30 ='Montana       '
31 ='Nebraska      '
32 ='Nevada        '
33 ='New Hamp shire '
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       '
;

data sud_file;
set &in_file(keep= seqnumhh seqnumc putd4313 itrueiap state w0);

if putd4313=0 then putd4313=2; *** CONVERT PUTD4313=0 TO PUTD4313=2 ***;

nseqnumh=1*seqnumhh; *** CONVERT HOUSEHOLD ID SEQNUMH FROM CHARACTER TO NUMERIC ***;

*=== SORT BY NEST VARIABLES: ITRUEIAP (STRATUM) NSEQNUMH (PRIMARY SAMPLING UNIT) ===*;
proc sort;
by itrueiap nseqnumh;

proc crosstab data=sud_file filetype=sas design=wr;
weight w0;
nest itrueiap nseqnumh;
subgroup state putd4313 ;
levels 56 2 ;
tables state * putd4313 ;
print nsum wsum rowper serow/style=nchs ;
rtitle "4:3:1:3 ESTIMATES BY STATE";
rformat state statef.;

```

```
rformat putd4313 put4313f.;
output rowper serow / filename=sud_est filetype=sas;

*** EXCLUDE 3,7,14,43,52 THERE ARE NO STATES WITH THESE FIPS CODES *** ;
proc print data=sud_est(where=(putd4313=1
      & state notin (3,7,14,43,52))) label noobs;
var state rowper serow ;
label
  rowper='Percent 4:3:1:3 Up -to-date'
  serow='Standard Error'
;
title "4:3:1:3 ESTIMATES BY STATE";
```

Appendix G
Table of Contents
and
Alphabetical Index of Variables
from
National Immunization Survey
2000 Public-Use Data File
Documentation, Code Book and Frequencies

2000 National Immunization Survey Public-Use Data File

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2000 National Immunization Survey Public-Use Data File

ALPHABETICAL INDEX OF VARIABLES

VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
AGEGRP	0058	0058	3	AGE CATEGORY OF CHILD (RECODE)
ALL4SHOT	0037	0037	2	4:3:1:3 UP-TO-DATE (HH REPORT)
C_431	0038	0038	2	HOUSEHOLD REPORT OF 4:3:1 UP-TO-DATE BY SHOT CARD USE
C_4313	0039	0039	2	HOUSEHOLD REPORT OF 4:3:1:3 UP-TO-DATE BY SHOT CARD USE
C_DTP	0040	0040	2	HOUSEHOLD REPORT OF 4+ DTP UP-TO-DATE BY SHOT CARD USE
C_HEP	0041	0041	2	HOUSEHOLD REPORT OF 3+ HEPATITIS B UP-TO-DATE BY SHOT CARD USE
C_HIB	0042	0042	2	HOUSEHOLD REPORT OF 3+ HIB UP-TO-DATE BY SHOT CARD USE
C_MMR	0043	0043	2	HOUSEHOLD REPORT OF 1+ MEASLES-CONTAINING VACCINE UP-TO-DATE BY SHOT CARD USE
C_POL	0044	0044	2	HOUSEHOLD REPORT OF 3+ POLIO UP-TO-DATE BY SHOT CARD USE
C_VRC	0045	0045	2	HOUSEHOLD REPORT OF 1+ VARICELLA UP-TO-DATE BY SHOT CARD USE
C1R	0059	0060	3	NUMBER OF PEOPLE LIVING IN THE HOUSEHOLD (RECODE)
C5R	0061	0062	3	RELATIONSHIP OF RESPONDENT TO CHILD (RECODE)
CEN_REG	0063	0063	3	CENSUS REGION BASED ON STATE
CHILDNM	0064	0064	3	NUMBER OF CHILDREN LESS THAN 18 YEARS IN HH (RECODE)
D6R	0097	0097	5	NUMBER OF VACCINATION PROVIDERS IDENTIFIED BY RESPONDENT (RECODE)
D7	0098	0098	5	CONSENT TO OBTAIN CHILD'S IMMUNIZATION RECORDS FROM VACCINATION PROVIDERS IDENTIFIED IN QUESTION D6 IN THE INTERVIEW
DDTP1	0157	0160	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #1
DDTP2	0161	0164	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #2
DDTP3	0165	0168	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #3
DDTP4	0169	0172	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #4
DDTP5	0173	0176	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #5
DDTP6	0177	0180	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #6
DDTP7	0181	0184	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #7
DDTP8	0185	0188	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #8
DHEPB1	0381	0384	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #1

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
DHEPB2	0385	0388	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #2
DHEPB3	0389	0392	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #3
DHEPB4	0393	0396	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #4
DHEPB5	0397	0400	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #5
DHEPB6	0401	0404	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #6
DHEPB7	0405	0408	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #7
DHEPB8	0409	0412	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #8
DHIB1	0317	0320	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #1
DHIB2	0321	0324	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #2
DHIB3	0325	0328	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #3
DHIB4	0329	0332	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #4
DHIB5	0333	0336	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #5
DHIB6	0337	0340	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #6
DHIB7	0341	0344	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #7
DHIB8	0345	0348	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #8
DISPCODE	0099	0100	6	NIS PROVIDER RECORD-CHECK DISPOSITION CODE
DMMR1	0285	0288	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #1
DMMR2	0289	0292	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #2
DMMR3	0293	0296	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #3
DMMR4	0297	0300	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #4
DMP1	0445	0448	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS SHOT #1
DMP2	0449	0452	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS SHOT #2
DMP3	0453	0456	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS SHOT #3
DMP4	0457	0460	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS SHOT #4
DMPRB1	0469	0472	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #1
DMPRB2	0473	0476	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #2

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
DMPRB3	0477	0480	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #3
DMPRB4	0481	0484	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #4
DPOLIO1	0221	0224	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #1
DPOLIO2	0225	0228	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #2
DPOLIO3	0229	0232	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #3
DPOLIO4	0233	0236	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #4
DPOLIO5	0237	0240	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #5
DPOLIO6	0241	0244	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #6
DPOLIO7	0245	0248	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #7
DPOLIO8	0249	0252	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #8
DRB1	0493	0496	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #1
DRB2	0497	0500	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #2
DRB3	0501	0504	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #3
DRB4	0505	0508	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #4
DRB5	0509	0512	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #5
DRB6	0513	0516	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #6
DRB7	0517	0520	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #7
DRB8	0521	0524	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #8
DROT1	0541	0544	9	AGE IN DAYS OF PROVIDER-REPORTED ROTAVIRUS SHOT #1
DROT2	0545	0548	9	AGE IN DAYS OF PROVIDER-REPORTED ROTAVIRUS SHOT #2
DROT3	0549	0552	9	AGE IN DAYS OF PROVIDER-REPORTED ROTAVIRUS SHOT #3
DROT4	0553	0556	9	AGE IN DAYS OF PROVIDER-REPORTED ROTAVIRUS SHOT #4
DROT5	0557	0560	9	AGE IN DAYS OF PROVIDER-REPORTED ROTAVIRUS SHOT #5
DROT6	0561	0564	9	AGE IN DAYS OF PROVIDER-REPORTED ROTAVIRUS SHOT #6
DROT7	0565	0568	9	AGE IN DAYS OF PROVIDER-REPORTED ROTAVIRUS SHOT #7
DROT8	0569	0572	9	AGE IN DAYS OF PROVIDER-REPORTED ROTAVIRUS SHOT #8
DTP_SOUR	0046	0046	2	SHOT CARD USED FOR DTP REPORTING

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
DTP1_AGE	0189	0190	9	AGE IN MONTHS PROVIDER-REPORTED DTP (ALL TYPES) SHOT#1
DTP2_AGE	0191	0192	9	AGE IN MONTHS PROVIDER-REPORTED DTP (ALL TYPES) SHOT#2
DTP3_AGE	0193	0194	9	AGE IN MONTHS PROVIDER-REPORTED DTP (ALL TYPES) SHOT#3
DTP4_AGE	0195	0196	9	AGE IN MONTHS PROVIDER-REPORTED DTP (ALL TYPES) SHOT#4
DTP5_AGE	0197	0198	9	AGE IN MONTHS PROVIDER-REPORTED DTP (ALL TYPES) SHOT#5
DTP6_AGE	0199	0200	9	AGE IN MONTHS PROVIDER-REPORTED DTP (ALL TYPES) SHOT#6
DTP7_AGE	0201	0202	9	AGE IN MONTHS PROVIDER-REPORTED DTP (ALL TYPES) SHOT#7
DTP8_AGE	0203	0204	9	AGE IN MONTHS PROVIDER-REPORTED DTP (ALL TYPES) SHOT#8
DVRC1	0589	0592	9	AGE IN DAYS OF PROVIDER-REPORTED VARICELLA SHOT #1
DVRC2	0593	0596	9	AGE IN DAYS OF PROVIDER-REPORTED VARICELLA SHOT #2
DVRC3	0597	0600	9	AGE IN DAYS OF PROVIDER-REPORTED VARICELLA SHOT #3
DVRC4	0601	0604	9	AGE IN DAYS OF PROVIDER-REPORTED VARICELLA SHOT #4
EDUC1	0065	0065	3	EDUCATION OF MOTHER CATEGORIES
ENTRY2	0066	0066	3	CHILD LIVES IN STATE WITH HEPATITIS B STATE ENTRY LAW FOR DAY CARE/HEAD START (2001-2002 SCHOOL YEAR)
FRSTBRN	0067	0067	3	FIRST BORN STATUS OF CHILD
FUL2_MMR	0047	0047	2	HOUSEHOLD REPORT OF 1+ MMR AT ANY AGE
FULL_CPO	0048	0048	2	HOUSEHOLD REPORT OF 1+ VARICELLA AT ANY AGE
FULL_DTP	0049	0049	2	HOUSEHOLD REPORT OF 4+ DTP
FULL_HEP	0050	0050	2	HOUSEHOLD REPORT OF 3+ HEPATITIS B
FULL_HIB	0051	0051	2	HOUSEHOLD REPORT OF 3+ HIB
FULL_POL	0052	0052	2	HOUSEHOLD REPORT OF 3+ POLIO
FULL_RV	0053	0053	2	HOUSEHOLD REPORT OF 3+ ROTAVIRUS
HEP_BRTH	0112	0112	8	HEPATITIS B GIVEN AT BIRTH FLAG
HEP_FLAG	0113	0113	8	HEPATITIS B BIRTH SHOT DATE IMPUTATION FLAG
HEP1_AGE	0413	0414	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #1
HEP2_AGE	0415	0416	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #2
HEP3_AGE	0417	0418	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #3

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
HEP4_AGE	0419	0420	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #4
HEP5_AGE	0421	0422	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #5
HEP6_AGE	0423	0424	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #6
HEP7_AGE	0425	0426	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #7
HEP8_AGE	0427	0428	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #8
HIB1_AGE	0349	0350	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #1
HIB2_AGE	0351	0352	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #2
HIB3_AGE	0353	0354	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #3
HIB4_AGE	0355	0356	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #4
HIB5_AGE	0357	0358	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #5
HIB6_AGE	0359	0360	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #6
HIB7_AGE	0361	0362	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #7
HIB8_AGE	0363	0364	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #8
HUTD4313	0054	0054	2	HOUSEHOLD REPORT OF 4:3:1:3 UTD (UP-TO-DATE)
HY_WGT	0012	0021	1	MODIFIED-POSTSTRATIFICATION (HH) WEIGHT FOR CHILD
I_CWIC01	0076	0076	3	CHILD EVER RECEIVED WIC BENEFITS
I_CWIC03	0077	0077	3	CHILD IS CURRENTLY GETTING WIC BENEFITS
I_CWIC05	0078	0078	3	SPELL OF MORE THAN 6 MONTHS WITH NO WIC BENEFITS
I_CWIC07	0079	0079	3	AT LAST WIC CERTIFICATION VISIT DID ANYONE ASK TO CHECK CHILD'S SHOT RECORD OR VACCINE INFORMATION
I_HADCPX	0055	0055	2	DID CHILD EVER HAVE CHICKEN POX?
I_HISP_K	0080	0080	3	HISPANIC ORIGIN OF CHILD
I_HISP_M	0081	0081	3	HISPANIC ORIGIN OF MOTHER
I_RACEKR	0082	0082	3	RACE OF CHILD (RECODE)
I_RACEMR	0083	0083	3	RACE OF MOTHER (RECODE)
IAGECPXR	0056	0056	2	AGE IN MONTHS WHEN CHILD HAD CHICKEN POX (RECODE)
ICONTWIC	0075	0075	3	DID CHILD HAVE CONTINUOUS WIC PARTICIPATION FROM BIRTH?
INCPORAT	0068	0071	3	INCOME TO POVERTY RATIO

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
INCPOV1R	0072	0072	3	POVERTY STATUS(RECODE)
INCQ298R	0073	0074	3	FAMILY INCOME CATEGORIES (RECODE)
INOPHONR	0092	0092	3	LENGTH OF INTERRUPTION IN TELEPHONE SERVICE IN DAYS(RECODE)
INTRP	0091	0091	3	INTERRUPTION IN PHONE SERVICE OF 7 DAYS OR MORE
ITRUEIAP	0093	0094	4	IAP AREA OF CURRENT RESIDENCE
LANGUAGE	0084	0084	3	LANGUAGE THE INTERVIEW WAS CONDUCTED IN
M_AGEGRP	0087	0087	3	AGE OF MOTHER CATEGORIES
MARITAL	0085	0085	3	MARITAL STATUS OF MOTHER CATEGORIES
MMR1_AGE	0301	0302	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #1
MMR2_AGE	0303	0304	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #2
MMR3_AGE	0305	0306	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #3
MMR4_AGE	0307	0308	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #4
MOBIL	0086	0086	3	GEOGRAPHIC MOBILITY STATUS: STATE OF RESIDENCE OF CHILD AT BIRTH VERSUS CURRENT STATE OF RESIDENCE
MP1_AGE	0461	0462	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS SHOT #1
MP2_AGE	0463	0464	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS SHOT #2
MP3_AGE	0465	0466	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS SHOT #3
MP4_AGE	0467	0468	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS SHOT #4
MPR1_AGE	0485	0486	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #1
MPR2_AGE	0487	0488	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #2
MPR3_AGE	0489	0490	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #3
MPR4_AGE	0491	0492	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #4
N_PRVR	0101	0101	6	NUMBER OF PROVIDERS RESPONDING WITH VACCINATION DATA FOR CHILD (RECODE)
NCARER1	0102	0102	7	CHILD'S PROVIDERS OFFER COMPREHENSIVE CHILD CARE
NCARER2	0103	0103	7	CHILD'S PROVIDERS OFFER ACUTE ILLNESS CARE
NCARER3	0104	0104	7	CHILD'S PROVIDERS OFFER FOLLOW UP VISITS
NCARER4	0105	0105	7	CHILD'S PROVIDERS OFFER AFTER-HOURS TELEPHONE COVERAGE
NCARER5	0106	0106	7	CHILD'S PROVIDERS OFFER WIC PROGRAM/SERVICES
NCARER6	0107	0107	7	CHILD'S PROVIDERS OFFER OTHER SERVICES

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
P_NUHEPX	0126	0126	8	NUMBER OF HEPATITIS B-ONLY SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUHIBN	0127	0127	8	NUMBER OF HIB (UNMARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUHIBO	0128	0128	8	NUMBER OF HIB (OTHER) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUHIBP	0129	0129	8	NUMBER OF PEDVAX HIB SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUHIBX	0130	0130	8	NUMBER OF HIB-ONLY SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUHPHB	0131	0131	8	NUMBER OF HEPATITIS B/HIB (COMVAX) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMDAH	0132	0132	8	NUMBER OF DTAP/HIB (MARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMDHB	0133	0133	8	NUMBER OF DTP/HIB COMBINATION SHOTS (ALL TYPES), AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMDHM	0134	0134	8	NUMBER OF DTP/HIB (MARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMDHN	0135	0135	8	NUMBER OF DTP/HIB (UNMARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMDTA	0136	0136	8	NUMBER OF DTAP (MARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMDTM	0137	0137	8	NUMBER OF DT (MARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
P_NUMDTP	0138	0138	8	NUMBER OF DTP SHOTS (ALL TYPES INCLUDING DT), AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMHEP	0139	0139	8	NUMBER OF HEPATITIS B (ALL TYPES) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMHIB	0140	0140	8	NUMBER OF HIB (ALL TYPES) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMIPV	0141	0141	8	NUMBER OF IPV (MARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMMMR	0142	0142	8	NUMBER OF MCV (MEASLES-CONTAINING VACCINE) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMMMX	0143	0143	8	NUMBER OF TRUE MMR (NOT INCLUDING MEASLES-ONLY SHOTS), AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMMP	0147	0147	8	NUMBER OF MUMPS SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMMPR	0148	0148	8	NUMBER OF MUMPS/RUBELLA SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMMS	0144	0144	8	NUMBER OF MEASLES-ONLY SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMMSM	0145	0145	8	NUMBER OF MEASLES/MUMPS SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMMSR	0146	0146	8	NUMBER OF MEASLES/RUBELLA, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
P_NUMOLN	0149	0149	8	NUMBER OF POLIO (UNMARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMOPV	0150	0150	8	NUMBER OF OPV (MARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMPOL	0151	0151	8	NUMBER OF POLIO (ALL TYPES) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMRB	0152	0152	8	NUMBER OF RUBELLA SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMROT	0153	0153	8	NUMBER OF ROTAVIRUS SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMTPM	0154	0154	8	NUMBER OF DTP (MARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMTPN	0155	0155	8	NUMBER OF DTP (UNMARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMVRC	0156	0156	8	NUMBER OF VARICELLA (CHICKEN POX) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_U12VRC	0118	0118	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 1+ VARICELLA AT 12+ MONTHS
P_UTD331	0117	0117	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3:3:1
P_UTD431	0114	0114	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 4:3:1
P_UTDHEP	0119	0119	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3+ HEPATITIS B
P_UTDHIB	0120	0120	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3+ HIB
P_UTDMCV	0121	0121	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 1+ MCV
P_UTDMMX	0122	0122	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 1+ MMR (NOT INCLUDING ANY MEASLES-ONLY SHOTS)
P_UTDPOL	0123	0123	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3+ POLIO
P_UTDTP3	0124	0124	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3+ DTP
P_UTDTP4	0125	0125	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 4+ DTP
PDAT	0036	0036	1	CHILD HAS ADEQUATE PROVIDER DATA

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
PERSP	0108	0108	7	CLINICAL SPECIALTY OF PERSON(S) WHO ORDERED CHILD'S VACCINATION
POL1_AGE	0253	0254	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 1
POL2_AGE	0255	0256	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 2
POL3_AGE	0257	0258	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 3
POL4_AGE	0259	0260	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 4
POL5_AGE	0261	0262	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 5
POL6_AGE	0263	0264	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 6
POL7_AGE	0265	0266	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 7
POL8_AGE	0267	0268	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 8
PROV_FAC	0109	0109	7	PROVIDER FACILITY TYPE
PUT43133	0116	0116	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 4:3:1:3:3
PUTD4313	0115	0115	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 4:3:1:3
RACEKIDR	0088	0088	3	RACE/ETHNICITY OF CHILD (RECODE)
RACEMOMR	0089	0089	3	RACE/ETHNICITY OF MOTHER (RECODE)
RB1_AGE	0525	0526	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #1
RB2_AGE	0527	0528	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #2
RB3_AGE	0529	0530	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #3
RB4_AGE	0531	0532	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #4
RB5_AGE	0533	0534	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #5
RB6_AGE	0535	0536	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #6
RB7_AGE	0537	0538	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #7
RB8_AGE	0539	0540	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #8
REGISTRY	0110	0110	7	CHILD'S PROVIDERS REPORTED CHILD'S VACCINATIONS TO IMMUNIZATION REGISTRY
ROT1_AGE	0573	0574	9	AGE IN MONTHS OF PROVIDER-REPORTED ROTAVIRUS SHOT #1
ROT2_AGE	0575	0576	9	AGE IN MONTHS OF PROVIDER-REPORTED ROTAVIRUS SHOT #2

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
ROT3_AGE	0577	0578	9	AGE IN MONTHS OF PROVIDER-REPORTED ROTAVIRUS SHOT #3
ROT4_AGE	0579	0580	9	AGE IN MONTHS OF PROVIDER-REPORTED ROTAVIRUS SHOT #4
ROT5_AGE	0581	0582	9	AGE IN MONTHS OF PROVIDER-REPORTED ROTAVIRUS SHOT #5
ROT6_AGE	0583	0584	9	AGE IN MONTHS OF PROVIDER-REPORTED ROTAVIRUS SHOT #6
ROT7_AGE	0585	0586	9	AGE IN MONTHS OF PROVIDER-REPORTED ROTAVIRUS SHOT #7
ROT8_AGE	0587	0588	9	AGE IN MONTHS OF PROVIDER-REPORTED ROTAVIRUS SHOT #8
SEQNUMC	0001	0006	1	UNIQUE CHILD IDENTIFIER
SEQNUMHH	0007	0011	1	UNIQUE HOUSEHOLD IDENTIFIER
SEX	0090	0090	3	GENDER OF CHILD
SHOTCARD	0057	0057	2	SHOT CARD USE FLAG
STATE	0095	0096	4	STATE OF RESIDENCE (STATE FIPS CODE)
VFC_PRO	0111	0111	7	PARTICIPATION OF CHILD'S PROVIDERS IN VACCINES FOR CHILDREN PROGRAM
VRC1_AGE	0605	0608	9	AGE IN MONTHS OF PROVIDER-REPORTED VARICELLA SHOT #1
VRC2_AGE	0609	0612	9	AGE IN MONTHS OF PROVIDER-REPORTED VARICELLA SHOT #2
VRC3_AGE	0613	0616	9	AGE IN MONTHS OF PROVIDER-REPORTED VARICELLA SHOT #3
VRC4_AGE	0617	0620	9	AGE IN MONTHS OF PROVIDER-REPORTED VARICELLA SHOT #4
W0	0022	0031	1	OVERALL VACCINATION HISTORY NONRESPONSE ADJUSTED WEIGHT FOR CHILDREN WITH ADEQUATE PROVIDER DATA
XDTPTY1	0205	0206	9	DTP-CONTAINING VACCINATION #1 TYPE CODE
XDTPTY2	0207	0208	9	DTP-CONTAINING VACCINATION #2 TYPE CODE
XDTPTY3	0209	0210	9	DTP-CONTAINING VACCINATION #3 TYPE CODE
XDTPTY4	0211	0212	9	DTP-CONTAINING VACCINATION #4 TYPE CODE
XDTPTY5	0213	0214	9	DTP-CONTAINING VACCINATION #5 TYPE CODE
XDTPTY6	0215	0216	9	DTP-CONTAINING VACCINATION #6 TYPE CODE
XDTPTY7	0217	0218	9	DTP-CONTAINING VACCINATION #7 TYPE CODE
XDTPTY8	0219	0220	9	DTP-CONTAINING VACCINATION #8 TYPE CODE
XHEPTY1	0429	0430	9	HEPATITIS B-CONTAINING VACCINATION #1 TYPE CODE
XHEPTY2	0431	0432	9	HEPATITIS B-CONTAINING VACCINATION #2 TYPE CODE
XHEPTY3	0433	0434	9	HEPATITIS B-CONTAINING VACCINATION #3 TYPE CODE
XHEPTY4	0435	0436	9	HEPATITIS B-CONTAINING VACCINATION #4 TYPE CODE
XHEPTY5	0437	0438	9	HEPATITIS B-CONTAINING VACCINATION #5 TYPE CODE
XHEPTY6	0439	0440	9	HEPATITIS B-CONTAINING VACCINATION #6 TYPE CODE

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
XHEPTY7	0441	0442	9	HEPATITIS B-CONTAINING VACCINATION #7 TYPE CODE
XHEPTY8	0443	0444	9	HEPATITIS B-CONTAINING VACCINATION #8 TYPE CODE
XHIBTY1	0365	0366	9	HIB-CONTAINING VACCINATION #1 TYPE CODE
XHIBTY2	0367	0368	9	HIB-CONTAINING VACCINATION #2 TYPE CODE
XHIBTY3	0369	0370	9	HIB-CONTAINING VACCINATION #3 TYPE CODE
XHIBTY4	0371	0372	9	HIB-CONTAINING VACCINATION #4 TYPE CODE
XHIBTY5	0373	0374	9	HIB-CONTAINING VACCINATION #5 TYPE CODE
XHIBTY6	0375	0376	9	HIB-CONTAINING VACCINATION #6 TYPE CODE
XHIBTY7	0377	0378	9	HIB-CONTAINING VACCINATION #7 TYPE CODE
XHIBTY8	0379	0380	9	HIB-CONTAINING VACCINATION #8 TYPE CODE
XMMRTY1	0309	0310	9	MCV-CONTAINING VACCINATION #1 TYPE CODE
XMMRTY2	0311	0312	9	MCV-CONTAINING VACCINATION #2 TYPE CODE
XMMRTY3	0313	0314	9	MCV-CONTAINING VACCINATION #3 TYPE CODE
XMMRTY4	0315	0316	9	MCV-CONTAINING VACCINATION #4 TYPE CODE
XPOLTY1	0269	0270	9	POLIO-CONTAINING VACCINATION #1 TYPE CODE
XPOLTY2	0271	0272	9	POLIO-CONTAINING VACCINATION #2 TYPE CODE
XPOLTY3	0273	0274	9	POLIO-CONTAINING VACCINATION #3 TYPE CODE
XPOLTY4	0275	0276	9	POLIO-CONTAINING VACCINATION #4 TYPE CODE
XPOLTY5	0277	0278	9	POLIO-CONTAINING VACCINATION #5 TYPE CODE
XPOLTY6	0279	0280	9	POLIO-CONTAINING VACCINATION #6 TYPE CODE
XPOLTY7	0281	0282	9	POLIO-CONTAINING VACCINATION #7 TYPE CODE
XPOLTY8	0283	0284	9	POLIO-CONTAINING VACCINATION #8 TYPE CODE
YEAR	0032	0035	1	YEAR OF INTERVIEW

Appendix H
Summary Tables

Table H.1: Estimated population total and sample sizes of children 19-35 months of age by state and IAP area, 2000 NIS

State/IAP Area	Estimated Population Total of Children	Number of Children with Completed HH Interviews	Number of Children with Adequate Provider Data
U.S. National	5,679,296	34,087	22,958
Alabama	90,424	815	578
Rest of State	76,777	411	285
Jefferson County	13,648	404	293
Alaska	13,833	393	292
Arizona	109,747	912	590
Rest of State	40,890	417	284
Maricopa County	68,857	495	306
Arkansas	52,591	410	297
California	763,808	1,941	1,231
Rest of State	427,381	491	302
Los Angeles Co.	233,581	532	330
Santa Clara County	39,238	414	268
San Diego County	63,607	504	331
Colorado	81,886	505	336
Connecticut	63,553	410	280
Delaware	14,262	434	300
Dist. of Columbia	10,070	508	289
Florida	296,192	1,281	805
Rest of State	229,674	454	287
Duval County	18,393	439	284
Dade County	48,125	388	234
Georgia	176,703	879	559
Rest of State	142,884	415	281
Fulton/DeKalb Cos.	33,820	464	278
Hawaii	25,617	457	275
Idaho	27,550	421	326
Illinois	262,421	941	615
Rest of State	188,426	444	304
City of Chicago	73,995	497	311
Indiana	122,153	789	514
Rest of State	102,161	417	291
Marion County	19,991	372	223
Iowa	52,868	400	278
Kansas	56,217	390	281
Kentucky	77,033	411	308

Table H.1: Estimated population total and sample sizes of children 19-35 months of age by state and IAP area, 2000 NIS (continued)

State/IAP Area	Estimated Population Total of Children	Number of Children with Completed HH Interviews	Number of Children with Adequate Provider Data
Louisiana	91,417	1,017	571
Rest of State	80,944	524	313
Orleans Parish	10,473	493	258
Maine	20,960	394	296
Maryland	111,308	922	583
Rest of State	95,539	474	290
Baltimore City	15,769	448	293
Massachusetts	115,017	810	562
Rest of State	103,085	376	267
City of Boston	11,932	434	295
Michigan	192,447	861	529
Rest of State	168,509	458	301
City of Detroit	23,938	403	228
Minnesota	96,185	384	285
Mississippi	60,379	388	289
Missouri	106,194	385	274
Montana	15,226	388	288
Nebraska	32,713	405	289
Nevada	44,308	487	329
New Hampshire	21,103	439	321
New Jersey	168,644	1,017	638
Rest of State	161,191	526	341
City of Newark	7,453	491	297
New Mexico	39,506	441	309
New York	365,683	938	581
Rest of State	194,399	443	307
NYC - 5 Counties	171,283	495	274
North Carolina	161,410	408	312
North Dakota	10,259	406	320
Ohio	216,965	1,268	825
Rest of State	166,275	407	264
Cuyahoga County	27,402	431	285
Franklin County	23,288	430	276
Oklahoma	70,991	441	301
Oregon	66,090	402	292

Table H.1: Estimated population total and sample sizes of children 19-35 months of age by state and IAP area, 2000 NIS (continued)

State/IAP Area	Estimated Population Total of Children	Number of Children with Completed HH Interviews	Number of Children with Adequate Provider Data
Pennsylvania	208,111	890	596
Rest of State	176,438	404	280
Philadelphia Co.	31,673	486	316
Rhode Island	17,949	481	341
South Carolina	79,399	409	309
South Dakota	14,774	415	302
Tennessee	106,968	1,278	854
Rest of State	74,084	398	295
Shelby County	21,055	428	266
Davidson County	11,829	452	293
Texas	484,663	2,498	1,596
Rest of State	314,616	552	345
Dallas County	56,378	502	313
El Paso County	20,521	460	311
City of Houston	60,162	500	299
Bexar County	32,986	484	328
Utah	59,501	417	294
Vermont	9,670	402	317
Virginia	140,378	424	273
Washington	118,235	793	570
Rest of State	85,396	420	308
King County	32,839	373	262
West Virginia	28,498	395	276
Wisconsin	98,575	769	556
Rest of State	76,354	389	284
Milwaukee County	22,221	380	272
Wyoming	8,842	418	326

Table H.2: Age Group by Maternal Education, National Immunization Survey, 2000

Age Group In Months	Maternal Education	Children with Completed Household Interviews		Children with Adequate Provider Data	
		Unweighted Sample Size	Weighted Sample Size	Unweighted Sample Size	Weighted Sample Size
19 - 23	LESS THAN 12 YEARS	1,481	305,699.5	1,010	298,069.5
19 - 23	12 YEARS	3,209	623,363.0	2,145	616,838.3
19 - 23	GREATER 12 YEARS, NOT COLLEGE GRADUATE	2,119	293,930.3	1,431	303,289.3
19 - 23	COLLEGE GRADUATE	3,501	495,788.7	2,359	500,337.8
24 - 29	LESS THAN 12 YEARS	1,642	322,280.5	1,098	321,715.8
24 - 29	12 YEARS	3,645	727,448.0	2,453	734,460.9
24 - 29	GREATER 12 YEARS, NOT COLLEGE GRADUATE	2,456	335,496.9	1,684	337,232.0
24 - 29	COLLEGE GRADUATE	4,227	590,578.7	2,926	594,497.9
30 - 35	LESS THAN 12 YEARS	1,498	301,243.0	999	309,486.4
30 - 35	12 YEARS	3,698	750,185.1	2,455	749,705.8
30 - 35	GREATER 12 YEARS, NOT COLLEGE GRADUATE	2,504	344,746.6	1,649	335,440.7
30 - 35	COLLEGE GRADUATE	4,107	588,535.9	2,749	578,221.9

Table H.3: Age Group by Family Income, National Immunization Survey, 2000

Age Group in Months	Family Income	Children with Completed Household Interviews		Children with Adequate Provider Data	
		Unweighted Sample Size	Weighted Sample Size	Unweighted Sample Size	Weighted Sample Size
19 - 23	MISSING	146	27,856.7	2	101.5
19 - 23	0 - \$ 7,500	605	93,347.8	419	95,233.2
19 - 23	\$ 7,501 - \$10,000	568	108,162.9	387	105,841.3
19 - 23	\$10,001 - \$12,500	250	48,173.8	173	49,353.4
19 - 23	\$12,501 - \$15,000	421	76,339.0	297	78,445.1
19 - 23	\$15,001 - \$17,500	224	42,690.6	169	42,820.7
19 - 23	\$17,501 - \$20,000	596	110,096.9	405	105,052.1
19 - 23	\$20,001 - \$25,000	690	112,568.8	480	110,593.6
19 - 23	\$25,001 - \$30,000	757	125,600.3	525	128,708.8
19 - 23	\$30,001 - \$35,000	486	80,507.1	341	80,768.8
19 - 23	\$45,001 - \$40,000	575	91,470.4	408	94,746.0
19 - 23	\$40,001 - \$45,000	344	57,211.0	250	61,164.2
19 - 23	\$45,001 - \$50,000	524	80,542.2	355	80,703.4
19 - 23	\$50,001 +	2,770	440,006.8	1,961	460,603.0
19 - 23	DON'T KNOW	882	146,817.2	535	155,400.0
19 - 23	REFUSED	472	77,389.9	238	68,999.6
24 - 29	MISSING	151	25,528.1	1	202.2
24 - 29	0 - \$ 7,500	649	108,317.2	449	122,261.6
24 - 29	\$ 7,501 - \$10,000	567	105,858.8	400	106,640.1
24 - 29	\$10,001 - \$12,500	314	50,086.6	227	51,864.2
24 - 29	\$12,501 - \$15,000	455	75,165.8	315	69,977.6
24 - 29	\$15,001 - \$17,500	265	37,498.1	195	43,346.5
24 - 29	\$17,501 - \$20,000	616	110,265.3	429	109,875.0
24 - 29	\$20,001 - \$25,000	769	128,089.1	542	131,283.3
24 - 29	\$25,001 - \$30,000	868	144,374.0	622	152,124.0
24 - 29	\$30,001 - \$35,000	597	90,991.6	427	91,251.5
24 - 29	\$45,001 - \$40,000	699	111,086.3	497	115,971.9
24 - 29	\$40,001 - \$45,000	420	65,863.8	303	63,348.6
24 - 29	\$45,001 - \$50,000	625	99,960.1	446	99,309.9
24 - 29	\$50,001 +	3,418	548,174.7	2,437	550,265.9
24 - 29	DON'T KNOW	1,014	184,938.1	621	207,428.1
24 - 29	REFUSED	543	89,606.6	250	72,756.3
30 - 35	MISSING	150	23,758.3	4	1,234.2
30 - 35	0 - \$ 7,500	659	114,646.9	442	118,287.8
30 - 35	\$ 7,501 - \$10,000	573	105,751.4	385	103,390.6
30 - 35	\$10,001 - \$12,500	285	51,750.8	191	50,365.1
30 - 35	\$12,501 - \$15,000	505	83,413.1	331	81,219.1
30 - 35	\$15,001 - \$17,500	244	42,937.9	167	42,880.8
30 - 35	\$17,501 - \$20,000	666	116,056.8	475	125,296.1
30 - 35	\$20,001 - \$25,000	723	125,579.0	482	124,787.9
30 - 35	\$25,001 - \$30,000	811	130,382.5	549	133,412.0
30 - 35	\$30,001 - \$35,000	572	93,923.4	405	89,581.1
30 - 35	\$45,001 - \$40,000	695	119,907.8	466	115,334.0
30 - 35	\$40,001 - \$45,000	395	65,776.0	280	67,639.3
30 - 35	\$45,001 - \$50,000	641	96,960.7	461	97,618.0
30 - 35	\$50,001 +	3,417	545,122.3	2,427	554,064.8
30 - 35	DON'T KNOW	932	178,883.3	566	201,744.4
30 - 35	REFUSED	539	89,860.5	221	65,999.5

Table H.4: Age Group by Race/Ethnicity, National Immunization Survey, 2000

Age Group In Months	Race/Ethnicity Of Child	Children with Completed Household Interviews		Children with Adequate Provider Data	
		Unweighted Sample Size	Weighted Sample Size	Unweighted Sample Size	Weighted Sample Size
19 - 23	HISPANIC	2,055	395,317.6	1,399	390,501.4
19 - 23	WHITE, NON HISPANIC	5,819	973,157.8	4,028	967,962.6
19 - 23	BLACK, NON HISPANIC	1,866	264,012.2	1,139	267,085.2
19 - 23	ALL OTHER, NON HISPANIC	570	86,293.8	379	92,985.6
24 - 29	HISPANIC	2,375	438,414.0	1,615	456,637.0
24 - 29	WHITE, NON HISPANIC	6,870	1,139,403.7	4,848	1,126,810.5
24 - 29	BLACK, NON HISPANIC	2,024	293,021.1	1,229	293,424.4
24 - 29	ALL OTHER, NON HISPANIC	701	104,965.3	469	111,034.6
30 - 35	HISPANIC	2,254	420,376.9	1,443	406,901.7
30 - 35	WHITE, NON HISPANIC	6,721	1,142,296.8	4,712	1,146,680.5
30 - 35	BLACK, NON HISPANIC	2,190	326,186.3	1,289	322,564.9
30 - 35	ALL OTHER, NON HISPANIC	642	95,850.6	408	96,707.7

Table H.5: Age Group by Gender, National Immunization Survey, 2000

Age Group In Months	Gender	Children with Completed Household Interviews		Children with Adequate Provider Data	
		Unweighted Sample Size	Weighted Sample Size	Unweighted Sample Size	Weighted Sample Size
19 - 23	MALE	5,289	889,327.5	3,546	892,085.5
19 - 23	FEMALE	5,021	829,453.9	3,399	826,449.4
24 - 29	MALE	6,028	998,492.5	4,105	1,006,991.3
24 - 29	FEMALE	5,942	977,311.6	4,056	980,915.3
30 - 35	MALE	6,015	1,006,905.9	3,980	995,648.6
30 - 35	FEMALE	5,792	977,804.8	3,872	977,206.2

Table H.6: Shot Card Use by Presence of Adequate Provider Data, National Immunization Survey, 2000

Shot Card Use	Presence of Adequate Provider Data	Unweighted Sample Size
SHOT CARD	ADEQUATE PROVIDER DATA	11,963
SHOT CARD	NO ADEQUATE PROVIDER DATA	4,249
NO SHOT CARD	ADEQUATE PROVIDER DATA	10,995
NO SHOT CARD	NO ADEQUATE PROVIDER DATA	6,880

**Table H.7: Estimates of Vaccination Coverage and 95-Percent Confidence-Interval Half-Widths,
National Immunization Survey, 2000**

State/IAP Area	3+ DTP	4+ DTP	3+ POLIO	1+ MCV	3+ HIB	3+ HEP B	1+ VRC	3:3:1	4:3:1	4:3:1:3	4:3:1:3:3
US National	94.1±0.5	81.7±0.8	89.5±0.6	90.5±0.6	93.4±0.5	90.3±0.6	67.8±0.9	83.6±0.8	77.6±0.9	76.2±0.9	72.8±0.9
Alabama	94.1±2.9	84.2±4.1	90.4±3.2	87.8±3.7	95.6±2.3	91.2±3.1	75.7±4.7	83.8±4.1	81.1±4.3	80.9±4.3	76.1±4.7
AL-Jefferson Cnty	97.8±1.9	85.8±4.5	91.6±3.5	88.8±4.1	97.7±1.9	94.4±2.7	77.6±5.1	84.3±4.6	80.0±5.1	79.4±5.1	77.6±5.2
AL-Rest of State	93.4±3.3	84.0±4.8	90.2±3.8	87.6±4.2	95.2±2.7	90.6±3.6	75.3±5.4	83.7±4.8	81.2±5.0	81.2±5.0	75.8±5.5
Alaska	89.9±3.9	80.6±5.0	88.1±4.1	88.8±3.8	90.2±3.9	82.7±4.8	47.3±6.4	83.0±4.7	77.6±5.2	77.0±5.3	70.6±5.7
Arizona	91.9±2.8	79.0±4.0	87.5±3.3	87.7±3.1	90.1±3.1	86.1±3.4	65.3±4.5	80.7±3.8	74.4±4.3	72.4±4.4	67.2±4.5
AZ-Maricopa Cnty	91.2±3.9	76.8±5.6	86.4±4.6	86.9±4.1	89.8±4.3	85.1±4.6	67.1±6.0	79.2±5.2	72.6±5.8	70.5±5.9	64.8±6.1
AZ-Rest of State	93.2±3.6	82.6±5.4	89.3±4.3	89.0±4.6	90.7±4.2	87.6±5.0	62.3±6.6	83.2±5.4	77.5±6.0	75.6±6.1	71.3±6.4
Arkansas	90.4±3.7	74.7±5.4	88.0±4.1	88.4±3.9	90.1±3.7	85.6±4.3	77.6±5.1	82.2±4.7	73.6±5.4	72.0±5.5	67.1±5.7
California	94.4±2.0	82.5±3.0	88.8±2.6	90.8±2.5	92.5±2.0	90.8±2.3	76.0±3.4	83.1±3.2	77.3±3.4	75.3±3.5	72.3±3.6
CA-Los Angeles	92.5±3.2	81.0±4.8	88.5±3.9	92.9±2.9	90.2±3.6	89.1±3.5	82.1±4.4	84.5±4.5	78.2±5.1	76.5±5.2	72.6±5.4
CA-San Diego Cnty	95.4±2.1	81.1±4.9	91.8±3.1	94.3±2.6	93.9±2.8	89.8±3.7	78.2±4.9	87.8±3.6	77.5±5.2	75.7±5.3	72.2±5.5
CA-Santa Clara	95.8±2.4	84.3±4.9	91.0±3.5	90.6±4.0	88.9±4.7	87.4±4.6	71.5±6.0	86.0±4.4	78.6±5.5	76.0±5.8	72.2±6.0
CA-Rest of State	95.2±3.0	83.3±4.5	88.3±4.1	89.2±4.1	93.9±3.0	92.1±3.5	72.8±5.5	81.3±5.0	76.6±5.3	74.5±5.4	72.2±5.6
Colorado	93.7±3.2	80.0±4.8	88.2±4.0	87.2±4.1	90.7±3.6	90.0±3.8	60.5±5.7	82.8±4.6	76.3±5.1	73.9±5.2	71.6±5.4
Connecticut	96.1±2.3	90.5±3.5	94.3±2.9	95.9±2.5	97.7±1.8	94.5±2.9	76.3±5.3	88.4±3.9	85.3±4.3	84.6±4.4	81.6±4.8
Delaware	90.1±3.9	81.7±4.9	88.8±3.9	90.2±3.8	92.8±3.4	88.6±4.1	69.2±5.7	81.3±4.8	76.2±5.3	74.7±5.4	70.0±5.7
Dist. of Columbia	90.8±4.4	77.5±5.9	85.5±5.1	86.2±5.2	88.0±4.9	85.9±5.3	84.5±4.9	78.5±5.9	72.8±6.2	70.9±6.3	66.2±6.5
Florida	94.6±2.4	79.1±4.3	87.3±3.6	89.1±3.1	94.2±2.4	92.5±2.7	60.9±4.9	82.1±3.9	74.7±4.4	73.6±4.5	71.7±4.6
FL-Dade Cnty	96.0±3.2	83.5±6.0	89.9±4.8	91.3±4.2	94.5±3.6	93.8±3.7	51.1±7.4	85.1±5.5	80.1±6.3	77.7±6.6	77.0±6.6
FL-Duval Cnty	95.9±2.4	85.2±4.4	91.7±3.4	93.5±3.1	94.1±2.9	93.5±3.2	66.0±6.2	86.9±4.1	81.4±4.9	79.0±5.1	76.7±5.3
FL-Rest of State	94.2±3.0	77.7±5.3	86.4±4.5	88.3±3.9	94.2±2.9	92.1±3.3	62.5±6.1	81.1±4.9	73.1±5.6	72.4±5.6	70.3±5.8
Georgia	94.6±2.5	84.4±4.0	92.2±3.0	91.1±3.2	94.6±2.6	92.5±3.0	75.1±4.6	87.4±3.6	82.3±4.1	81.1±4.2	77.7±4.5
GA-Fulton/DeKalb	94.1±3.1	84.8±4.9	93.9±3.1	94.2±2.9	94.8±3.0	95.3±2.9	76.4±5.6	87.8±4.1	80.9±5.2	79.7±5.3	77.1±5.5
GA-Rest of State	94.7±3.0	84.3±4.8	91.9±3.7	90.4±3.9	94.6±3.1	91.8±3.7	74.8±5.6	87.3±4.4	82.6±4.9	81.5±5.1	77.8±5.5
Hawaii	92.9±3.9	80.4±5.6	87.7±4.6	93.7±3.5	91.9±4.2	90.4±4.5	77.5±5.6	83.6±5.0	76.2±5.9	74.8±6.0	72.8±6.1
Idaho	90.8±3.4	77.5±4.9	88.0±3.8	88.0±3.7	90.3±3.8	89.0±3.6	38.0±5.6	81.0±4.5	74.6±5.1	73.7±5.2	70.7±5.4
Illinois	95.1±1.9	80.8±4.2	88.5±3.1	91.5±2.7	94.0±2.3	88.6±3.1	47.9±4.9	83.9±3.5	76.8±4.4	75.4±4.5	71.2±4.7
IL-City of Chicago	91.7±3.7	73.7±5.9	82.8±5.5	87.2±4.6	90.4±3.9	82.8±5.5	53.3±6.4	76.8±5.8	67.2±6.3	65.1±6.4	60.7±6.4
IL-Rest of State	96.4±2.2	83.5±5.4	90.8±3.8	93.2±3.3	95.4±2.8	90.9±3.8	45.7±6.4	86.8±4.4	80.6±5.6	79.4±5.8	75.3±6.1
Indiana	94.9±2.4	82.0±4.3	89.5±3.5	87.7±3.7	92.7±2.9	87.2±3.7	57.9±5.4	82.5±4.3	77.7±4.6	76.3±4.7	72.0±4.9
IN-Marion Cnty	92.3±3.8	76.5±6.2	89.4±4.0	86.9±4.9	91.7±3.8	84.0±5.6	56.6±7.2	79.5±5.8	70.6±6.7	68.7±6.7	61.9±7.1
IN-Rest of State	95.4±2.8	83.1±4.9	89.5±4.1	87.8±4.4	92.9±3.3	87.8±4.2	58.1±6.3	83.0±5.1	79.1±5.3	77.8±5.5	74.0±5.7
Iowa	96.4±2.3	87.3±4.3	93.8±3.1	92.7±3.4	95.1±2.8	96.1±2.6	50.9±6.5	88.4±4.1	84.0±4.7	82.8±4.8	82.5±4.8
Kansas	94.1±2.9	79.5±5.0	87.4±4.1	87.1±4.2	92.0±3.4	89.9±3.8	57.8±6.3	82.2±4.7	76.5±5.3	76.2±5.3	71.3±5.7
Kentucky	95.1±3.0	84.5±4.6	92.7±3.5	88.6±4.1	94.9±2.9	91.1±3.6	63.0±6.0	86.8±4.4	81.4±4.9	80.6±5.0	77.0±5.2
Louisiana	95.0±2.6	79.3±4.6	88.6±3.6	87.7±3.6	92.7±3.1	90.7±3.2	65.1±5.6	83.5±4.1	75.7±4.8	74.7±4.9	71.8±5.0
LA-Orleans Parish	92.2±3.6	73.1±6.5	82.5±5.6	82.0±5.7	91.2±3.8	79.1±6.0	55.3±7.0	76.2±6.2	70.1±6.7	69.7±6.7	61.1±7.0

Table H.7: Estimates of Vaccination Coverage and 95-Percent Confidence-Interval Half-Widths, National Immunization Survey, 2000 (continued)

State/IAP Area	3+ DTP	4+ DTP	3+ POLIO	1+ MCV	3+ HIB	3+ HEP B	1+ VRC	3:3:1	4:3:1	4:3:1:3	4:3:1:3:3
LA-Rest of State	95.3±2.9	80.1±5.2	89.4±4.0	88.4±4.0	92.9±3.5	92.2±3.5	66.4±6.2	84.5±4.6	76.4±5.4	75.3±5.5	73.2±5.6
Maine	95.2±2.5	88.3±3.8	91.7±3.3	94.0±2.7	94.2±2.7	85.8±4.2	55.0±6.0	87.9±3.9	84.1±4.3	83.3±4.4	76.0±5.1
Maryland	92.7±3.2	84.3±4.1	91.6±3.2	90.9±3.5	93.3±3.0	90.5±3.4	82.5±4.5	84.4±4.1	80.3±4.4	78.4±4.5	75.4±4.7
MD-Baltimore City	93.0±3.1	78.0±5.0	88.3±3.8	92.6±3.2	91.0±3.7	89.0±4.0	78.5±4.9	81.9±4.6	72.8±5.3	69.7±5.7	66.8±5.8
MD-Rest of State	92.6±3.7	85.3±4.6	92.1±3.6	90.6±4.0	93.7±3.4	90.8±3.9	83.1±5.2	84.9±4.7	81.5±5.0	79.9±5.2	76.8±5.4
Massachusetts	95.0±2.4	87.7±3.7	94.1±2.5	96.1±2.0	97.3±1.8	93.3±2.7	79.5±4.6	88.8±3.5	85.7±3.9	85.2±4.0	81.4±4.3
MA-City of Boston	92.1±3.7	83.0±4.8	91.7±3.3	91.1±3.7	95.3±2.5	91.3±3.7	79.8±5.1	85.7±4.5	79.1±5.2	78.7±5.2	74.6±5.6
MA-Rest of State	95.4±2.6	88.2±4.1	94.4±2.8	96.7±2.2	97.5±2.0	93.5±3.0	79.5±5.1	89.1±3.9	86.5±4.3	85.9±4.4	82.2±4.8
Michigan	93.9±2.5	82.3±4.1	91.6±2.8	88.9±3.6	95.2±2.1	94.5±2.3	69.6±5.2	82.1±4.3	76.3±4.7	75.3±4.8	73.7±4.9
MI-City of Detroit	84.5±5.5	67.3±7.0	79.5±6.2	79.6±5.9	83.2±5.8	83.6±5.6	56.9±7.3	70.3±6.8	61.8±7.1	58.7±7.2	56.4±7.3
MI-Rest of State	95.2±2.7	84.4±4.6	93.3±3.1	90.2±4.0	96.9±2.3	96.1±2.4	71.4±5.8	83.8±4.8	78.4±5.3	77.7±5.4	76.2±5.5
Minnesota	96.4±2.3	91.6±3.8	95.7±2.6	92.5±3.4	98.0±1.4	93.0±3.3	61.4±6.3	87.7±4.2	86.9±4.4	86.3±4.5	82.4±4.9
Mississippi	96.9±2.1	87.0±4.1	91.9±3.4	90.3±3.7	94.5±2.8	88.4±4.3	53.0±6.3	87.3±4.1	83.1±4.6	81.1±4.8	75.9±5.5
Missouri	92.8±3.4	82.3±5.0	89.7±3.9	92.9±3.2	92.5±3.5	91.7±3.7	59.9±6.2	85.4±4.5	78.9±5.3	78.3±5.3	76.8±5.4
Montana	94.8±2.9	81.2±5.0	90.9±3.7	89.9±3.9	93.9±3.2	89.6±3.9	54.3±6.3	83.8±4.6	78.4±5.2	76.6±5.3	71.1±5.7
Nebraska	96.3±2.2	82.5±4.7	89.4±3.9	91.5±3.4	93.1±3.2	88.0±4.3	63.5±6.0	85.5±4.3	80.4±4.9	78.7±5.1	75.5±5.4
Nevada	90.4±3.5	79.1±4.8	87.3±3.9	88.0±3.8	90.5±3.4	84.6±4.2	61.4±5.6	80.6±4.6	74.7±5.1	74.0±5.2	69.1±5.4
New Hampshire	94.4±2.8	87.6±3.9	92.8±3.0	94.9±2.6	95.4±2.5	90.8±3.4	66.0±5.5	87.9±3.8	84.8±4.2	83.2±4.4	78.9±4.8
New Jersey	96.4±2.2	82.1±4.6	87.7±3.6	88.5±4.0	96.8±1.9	89.1±3.9	67.8±5.5	80.5±4.7	76.8±5.0	75.9±5.0	71.2±5.3
NJ-City of Newark	95.3±2.8	71.6±6.2	83.6±5.1	86.9±4.7	91.9±3.7	92.1±3.7	61.4±6.8	74.9±6.0	65.3±6.6	63.1±6.6	61.8±6.7
NJ-Rest of State	96.4±2.3	82.6±4.8	87.9±3.8	88.6±4.2	97.0±2.0	89.0±4.0	68.1±5.8	80.8±4.9	77.4±5.2	76.5±5.2	71.6±5.5
New Mexico	91.0±3.6	77.1±5.4	86.6±4.3	83.0±4.9	88.3±4.2	86.2±4.6	68.0±5.9	76.9±5.4	71.7±5.7	68.2±5.9	64.5±6.1
New York	94.1±2.1	82.5±3.4	89.6±2.6	94.1±2.0	92.9±2.3	91.7±2.6	70.6±4.1	84.3±3.2	76.6±3.7	74.7±3.9	72.3±4.0
NY-NYC 5 Counties	92.1±3.6	78.9±5.4	85.8±4.4	92.7±3.3	89.5±4.1	90.4±3.9	70.6±6.0	79.4±5.2	70.7±5.9	68.1±6.1	66.2±6.2
NY-Rest of State	95.7±2.5	85.7±4.2	92.8±3.0	95.3±2.5	95.8±2.5	92.9±3.5	70.7±5.7	88.5±3.7	81.9±4.6	80.4±4.8	77.7±5.1
North Carolina	98.6±1.2	91.0±3.4	94.4±2.7	94.8±2.6	96.1±2.4	93.2±2.9	76.4±5.2	91.9±3.2	87.6±3.9	86.9±4.0	82.8±4.4
North Dakota	95.8±2.4	86.0±4.2	91.4±3.5	91.6±3.4	96.4±2.3	95.7±2.5	58.8±5.9	85.6±4.2	81.4±4.6	81.4±4.6	80.3±4.7
Ohio	94.1±2.4	78.0±4.7	90.1±2.9	89.1±3.3	93.3±2.8	90.9±3.0	60.2±5.2	82.7±3.9	72.5±4.9	71.8±5.0	68.9±5.0
OH-Cuyahoga Cnty	90.4±4.1	78.7±5.4	85.2±4.9	85.5±4.7	91.1±4.0	81.9±5.3	60.8±6.3	78.3±5.4	73.9±5.7	73.1±5.7	66.8±6.1
OH-Franklin Cnty	94.9±2.6	83.6±4.7	89.0±3.9	91.8±3.4	94.6±3.1	89.8±3.9	69.2±5.8	84.3±4.7	78.4±5.3	77.2±5.5	71.1±5.9
OH-Rest of State	94.6±3.0	77.1±6.0	91.1±3.6	89.4±4.2	93.5±3.6	92.5±3.8	58.9±6.7	83.2±4.9	71.4±6.3	70.8±6.3	68.9±6.4
Oklahoma	92.1±4.1	75.0±5.6	84.5±4.8	89.6±4.3	89.3±4.4	87.8±4.6	72.4±5.7	81.6±5.0	72.2±5.7	71.0±5.8	68.3±5.8
Oregon	94.6±2.8	84.3±4.5	92.3±3.2	91.1±3.4	94.6±3.0	88.4±4.0	76.7±5.5	86.1±4.2	80.3±4.9	79.1±5.0	74.7±5.4
Pennsylvania	93.5±2.7	85.0±3.8	92.9±2.8	92.0±3.2	94.8±2.5	95.6±2.1	74.4±4.9	84.6±4.1	81.2±4.3	78.4±4.6	77.8±4.6
PA-Philadelphia	93.8±2.9	80.3±4.7	92.3±3.1	92.4±3.1	93.3±3.0	91.8±3.2	83.8±4.3	84.3±4.2	76.8±4.9	74.2±5.1	70.8±5.3
PA-Rest of State	93.5±3.2	85.8±4.5	93.0±3.2	91.9±3.8	95.0±2.9	96.3±2.4	72.7±5.7	84.6±4.8	82.0±5.1	79.2±5.3	79.0±5.3
Rhode Island	95.8±2.3	87.9±3.7	95.5±2.3	93.1±3.0	97.7±1.6	96.4±1.9	81.6±4.3	87.3±3.8	83.0±4.3	82.3±4.4	80.5±4.5
South Carolina	97.5±2.1	82.7±4.8	95.5±2.5	92.1±3.4	97.5±1.9	94.9±2.9	70.3±5.6	89.3±4.0	80.6±5.0	80.3±5.0	78.5±5.2
South Dakota	95.3±2.5	80.6±4.9	90.5±3.8	91.3±3.6	95.3±2.6	92.3±3.3	39.7±6.0	86.2±4.3	78.4±5.1	77.6±5.2	73.6±5.4
Tennessee	95.6±1.8	85.3±3.4	91.4±2.7	90.6±2.9	95.5±1.7	91.1±2.9	69.9±4.3	86.2±3.3	82.0±3.6	80.9±3.7	76.8±4.1

Table H.7: Estimates of Vaccination Coverage and 95-Percent Confidence-Interval Half-Widths, National Immunization Survey, 2000 (continued)

State/IAP Area	3+ DTP	4+ DTP	3+ POLIO	1+ MCV	3+ HIB	3+ HEP B	1+ VRC	3:3:1	4:3:1	4:3:1:3	4:3:1:3:3
TN-Davidson Cnty	92.6±3.5	82.4±5.0	84.2±5.1	89.3±4.0	93.1±3.5	90.2±3.9	71.1±5.8	76.5±5.6	74.3±5.7	73.2±5.9	68.5±6.1
TN-Shelby Cnty	95.1±3.0	83.2±5.0	90.2±3.9	91.4±3.7	90.1±4.1	89.4±4.1	66.5±6.1	86.7±4.5	79.9±5.3	77.1±5.6	75.6±5.7
TN-Rest of State	96.2±2.4	86.3±4.6	92.9±3.7	90.6±4.0	97.4±2.1	91.8±4.0	70.7±5.8	87.6±4.5	83.9±4.9	83.3±5.0	78.5±5.6
Texas	90.5±2.5	72.8±3.8	83.1±3.2	87.2±2.7	90.1±2.5	84.5±3.1	73.6±3.7	77.3±3.5	69.5±3.8	68.5±3.9	63.5±4.0
TX-Bexar Cnty	89.0±4.2	73.5±5.5	85.5±4.5	85.8±4.3	90.3±4.0	87.2±4.3	79.7±4.8	77.6±5.2	68.0±5.8	67.6±5.8	65.6±5.8
TX-City of Houston	89.7±3.9	69.1±6.5	78.4±5.8	85.5±4.5	89.2±4.2	80.2±5.6	71.6±6.0	73.4±6.2	65.4±6.5	64.5±6.5	60.1±6.6
TX-Dallas Cnty	89.8±3.7	73.5±5.6	85.1±4.5	85.0±4.4	90.5±3.4	84.0±4.4	65.3±5.9	76.3±5.4	68.9±5.7	67.1±5.8	62.0±6.0
TX-El Paso Cnty	88.9±3.7	74.5±5.2	87.9±3.9	86.7±4.1	91.2±3.4	88.7±3.7	75.4±5.1	79.3±4.8	71.5±5.3	69.9±5.4	67.1±5.5
TX-Rest of State	91.1±3.6	73.2±5.5	83.0±4.7	88.2±4.0	90.2±3.6	84.8±4.6	74.7±5.4	78.1±5.2	70.5±5.7	69.5±5.7	64.0±6.0
Utah	91.3±3.6	81.0±4.9	86.5±4.2	89.7±3.6	91.1±3.6	81.1±5.0	52.7±6.3	82.1±4.8	77.4±5.2	76.7±5.2	68.2±5.8
Vermont	97.6±1.6	87.9±3.9	94.8±2.8	93.1±3.1	98.2±1.5	90.3±4.1	57.3±5.9	87.6±4.0	82.7±4.6	82.5±4.6	77.0±5.3
Virginia	94.9±2.8	78.3±5.7	89.9±4.2	91.3±3.8	91.4±4.0	91.1±3.8	77.6±5.6	83.3±5.1	76.2±5.8	73.8±6.0	70.7±6.1
Washington	95.6±1.7	82.6±3.6	91.4±2.5	90.2±2.6	94.5±2.2	89.5±2.8	48.7±4.7	84.9±3.2	78.7±3.8	77.2±4.0	72.5±4.2
WA-King Cnty	93.2±3.1	81.3±4.9	87.8±4.1	87.3±4.2	91.8±3.5	82.9±5.1	50.2±6.4	80.8±5.0	76.5±5.4	75.1±5.5	66.9±6.1
WA-Rest of State	96.6±2.0	83.1±4.6	92.8±3.1	91.4±3.2	95.6±2.7	92.1±3.3	48.1±6.0	86.5±4.1	79.6±4.8	78.1±5.0	74.6±5.3
West Virginia	92.8±3.8	80.5±5.4	88.5±4.3	92.4±3.4	95.6±2.9	90.2±4.1	59.9±6.4	81.1±5.3	75.8±5.7	75.5±5.7	71.9±6.0
Wisconsin	93.8±2.4	85.1±3.5	90.9±2.9	91.0±2.7	93.7±2.5	89.1±3.2	56.7±5.0	85.2±3.5	80.1±3.9	79.8±4.0	74.2±4.4
WI-Milwaukee Cnty	88.8±5.1	73.3±6.4	86.6±5.0	83.1±5.4	89.0±4.8	83.1±5.4	51.6±6.8	77.6±6.2	69.1±6.6	69.1±6.6	62.9±6.7
WI-Rest of State	95.3±2.7	88.5±4.2	92.1±3.5	93.3±3.1	95.1±2.9	90.9±3.8	58.2±6.1	87.5±4.1	83.3±4.7	82.9±4.8	77.6±5.3
Wyoming	96.4±2.1	82.5±4.4	90.6±3.4	91.4±3.2	96.4±2.2	93.8±2.8	57.6±5.7	86.4±4.0	79.7±4.6	79.0±4.7	78.2±4.8