

National Immunization Survey

A User's Guide for the 2001 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 2001). 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; varicella zoster vaccine, 1 dose; and pneumococcal vaccine, 4 doses. 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 and pneumococcal have been included in the NIS from its start in 1994. Varicella vaccine was

added in the third quarter of 1996. Pneumococcal vaccine was added in the fourth quarter of 2000. **In October 2000 the Advisory Committee on Immunization Practices recommended that all children aged 2-23 months receive 4 doses of pneumococcal vaccine (CDC 2000). Not all children in the 2001 NIS were eligible to receive pneumococcal vaccine. Vaccination coverage with 4 or more doses of pneumococcal vaccine was only 2.0% in 2001. Also, shortages of some of the routinely recommended vaccines began in early 2001 (CDC 2002a). These shortages should not have affected vaccination coverage in the 2001 NIS, because almost all children were eligible to receive recommended vaccines before 2001.**

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 2001 NIS the RDD interviews of households began on January 4, 2001 and ended on February 8, 2002, and provider data collection extended from January 30, 2001 to April 26, 2002. A total sample of approximately 3.0 million telephone numbers yielded household interviews for 33,437 children, and 23,531 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 2001 NIS public-use file (PUF) contains data for the 33,437 children with completed household interviews (and more extensive data for 23,531 children with adequate provider data). Published tables of estimates of vaccination coverage for 2001 are available on the National Immunization Program (NIP) Web site, <http://www.cdc.gov/nip/coverage>, and are discussed in an *MMWR* article (CDC 2002b).

The accompanying code book (*National Immunization Survey 2001 Public-Use Data File: Documentation, Code Book and Frequencies*) documents the contents of the 2001 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:

Data Dissemination Branch, NCHS

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Internet: <http://www.cdc.gov/nchs/>

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 2001.

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 2001.

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 70% 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. 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 2001. Children who were 19 to 35 months of age during 2001 were born from February 1998 to

Table 1: Selected Operational Results of NIS Data Collection for 2001

ROW	KEY INDICATOR	NUMBER	PERCENT
RDD Phase			
1	Total Selected Telephone Numbers in Released Replicates	3,042,911	--
2	Phone Numbers Resolved before CATI	1,055,376	34.7% (Row 2/Row 1)
3	Total Phone Numbers Called	1,987,535	--
4	Advance Letters Mailed	1,191,713	60.0% (Row 4/Row 3)
5	Resolved Phone Numbers* – <i>Resolution Rate</i>	2,641,723	86.8% (Row 5/Row 1)
6	Households Identified	1,054,561	39.9% (Row 6/Row 5)
7	Households Successfully Screened for Presence of Age-Eligible Children – <i>Screening Completion Rate</i>	1,014,363	96.2% (Row 7/Row 6)
8	Households with no NIS Age-Eligible Children	978,378	96.5% (Row 8/Row 7)
9	Households with NIS Age-Eligible Children – <i>Eligibility Rate</i>	35,985	3.5% (Row 9/Row 7)
10	Households with NIS Age-Eligible Children with Completed RDD Interviews– <i>Interview Completion Rate</i>	32,796	91.1% (Row 10/Row 9)
11	CASRO Response Rate**	NA	76.1% (Row 5 x Row 7 x Row 10)
12	Age-Eligible Children with Completed RDD Interviews	33,437	--
PRC Phase			
13	Children with Consent Obtained to Contact Vaccination Providers	28,770	86.0% (Row 13/Row 12)
14	Immunization History Questionnaires Mailed to Providers	37,268	--
15	Immunization History Questionnaires Returned from Providers***	32,923	88.3% (Row 15/Row 14)
16	Children with Adequate Provider Data	23,531	70.4% (Row 16/Row 12)

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

**CASRO, Council of American Survey Research Organizations.

***In 2001, the calculation of the return rate was changed to exclude IHQs that were returned without a response; percentages reported for prior years overestimated the IHQ return rate.

May 2000. The original sample (in replicates that were released for use) consisted of 3,042,911 telephone numbers. Of those, 1,055,376 numbers were eliminated by the automated procedure as nonworking or nonresidential numbers. The remaining 1,987,535 telephone numbers were called to identify 1,054,561 households, as shown in Rows 3 and 6 of Table 1. Among the identified households, 1,014,363 (96.2%) were successfully screened for age-eligible children. Of these, 978,378 did not contain an age-eligible child, and 35,985 (3.5%) contained one or more age-eligible children. Among these households 32,796 (91.1%) 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 2001 the CASRO household response rate (Row 11) was 76.1%. The CASRO response rate equals the product of the resolution rate (86.8%, Row 5) the screening completion rate (96.2%, Row 7) and the interview completion rate among eligible households (91.1%, 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 33,437 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 – 86.0% in 2001. 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 2001 the mean number of vaccination providers identified for a child was 1.35.

Among vaccination providers who were mailed an IHQ, 88.3% returned the questionnaire or other information pertaining to the child's vaccination history. In 2001, the calculation of the return rate was changed to exclude IHQs that were returned without a response; percentages reported for prior years overestimated the return rate. Among the children with completed household RDD interviews 23,531 (70.4%) had adequate vaccination histories returned by their vaccination provider(s). The other 29.6% 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 2001 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 2001 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 2001 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 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.

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 or B.

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 2001. In Q3/2001 all questions related to the child's participation in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) were removed from the questionnaire. Appendix B describes this change in more detail. The 2001 public-use file does not contain any variables related to the WIC program, 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, birth date and gender. 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).

No changes were made to the NIS IHQ in 2001.

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 2001 NIS, the data user should be aware that some inconsistent data might 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, 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 imputation procedure was first implemented for Q1/2000-Q4/2000. For Q1/2001-Q4/2001 a total of 350 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 35 children. For the remaining 315 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 Q1/2001-Q4/2001 with a provider-reported birth dose. A similar table is included in the 2000 Data User’s Guide. For 1997, 1998 and 1999, Section 5 of the Data User’s Guide provides 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).

Age in Days at Birth Dose	Unweighted Percentage of Birth Doses
0	45.5
1	30.9
2	13.6
3	3.7
4	1.9
5	1.4
6	1.4
7	1.6

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 2001 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 2001 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 2001 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. National estimates of vaccination coverage for 2001 by the new race/ethnicity classification can be found at http://www.cdc.gov/nip/coverage/NIS/01/newrace_nat_2001.xls.

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

Table 5: Weighted Race/Ethnicity Distribution of Children Based on the Old Versus New Race Categories, National Immunization Survey, 2001

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	22.96	Hispanic	22.96
NonHispanic White	55.48	NonHispanic White	54.45
NonHispanic Black	14.38	NonHispanic Black	13.65
NonHispanic Asian	3.79	NonHispanic Asian	3.26
NonHispanic American Indian	0.86	NonHispanic American Indian or Alaska Native (AIAN)	0.77
		NonHispanic Native Hawaiian or Pacific Islander (NHOPI)	0.28
NonHispanic Other Race	0.01	NonHispanic Other Race	0.01
		NonHispanic Multiple Races	3.26
			1. Black/White – 1.39 2. AIAN/White – 0.57 3. Asian and/or NHOPI/White – 0.85 4. Other Combination – 0.45
Unknown	2.52	Unknown	1.38

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.

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 2001 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. (1995).

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 33,437 children with a completed RDD interview, 23,531 (70.4%) had adequate provider data. Failure to obtain adequate provider data for the remaining 29.6% was attributable to:

- the parent or guardian not giving consent to contact the child's vaccination providers (13.9%),

- 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 (14.5%), 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 (1.2%).

The 9,906 (29.6%) 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), and the income-poverty-ratio (INCPORAT).

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.

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.

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	

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	
P_NUMPCV – total number of pneumococcal 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

(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 20-22. Measles-containing vaccines have a vaccination type code of 30 to 33. Hib-containing vaccines have a vaccination type code of 05 to 07 or 40 to 43. Hepatitis B-containing vaccines have a vaccination type code of 43 or 60. Finally, pneumococcal-containing vaccines have a vaccination type code of 70 to 72.

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

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
PCV (Pneumococcal-containing vaccine): XPCVTY1 – XPCVTY8	70	Conjugate
	71	Polysaccharide
	72	Pneumococcal – unknown type

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 2000, and the 2001 PUF is the second NIS PUF to contain these new variables. They are located in Section 9 of the code book that accompanies the 2001 NIS PUF. Similar information is available in prior public-use files. For example, in the 2001 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.

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 2001 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 2001 NIS PUF, seven 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 2000 and 2001 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., 2001).

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 2001 and (from 2001 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 2001 NIS Public-Use File is:

U.S. Department of Health and Human Services (DHHS). National Center for Health Statistics. The 2001 National Immunization Survey, CD-ROM No. 7. 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.

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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
PCV	Pneumococcal
RDD	Random-digit dialing
SC	Shot card
UTD	Up-to-date
VFC	Vaccinations for Children program
VRC	Varicella

Appendix B

NIS Household Questionnaire

Starting in Q3/2001 the following questions related to the child's participation in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) were removed from the NIS questionnaire:

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
 REFUSAL 7 CFAMINC

DON'T 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

NIS Hard Copy Questionnaire

SCREENER

(Used in Q3/2001 and Q4/2001)

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)

#1.	IF AT ANY POINT DURING THE INTRO OR S1, THE RESPONDENT STATES THAT THE PHONE NUMBER IS FOR A BUSINESS AND <u>HANGS UP</u> , USE <ALT> KEYS. THEN GO TO RECORD OF CALLS, AND ENTER COMMENTS DESCRIBING CALL.		409
#2.	IF THE TELEPHONE IS INITIALLY ANSWERED IN A WAY THAT INDICATES THE PHONE NUMBER IS FOR BUSINESS USE ONLY (E.G., "CLEVELAND CHAMBER OF COMMERCE") USE <ALT> <Z> AT INTRO TO PROBE "Is this telephone number for business use only". IF THE ANSWER IS "YES", GO TO RECORD OF CALLS, AND ENTER COMMENTS DESCRIBING CALL. IF THE ANSWER IS "NO", SELECT RESPONSE AND YOU WILL GO BACK TO THE INTRODUCTION AND COMPLETE INTERVIEW.		409
#3.	IF AT ANY POINT DURING THE INTRO OR S1, THE RESPONDENT STATES THAT THERE ARE NO CHILDREN <u>AND HANGS UP</u> , USE <ALT><K> KEYS TO CODE AS HAVING NO CHILDREN, GO TO RECORD OF CALLS, AND ENTER COMMENTS DESCRIBING CALL.		429
#4.	USE <F9> KEY PROBE IF R VOLUNTEERS "NO CHILDREN" AT INTRO, S1, S2, OR S3 BUT <u>DOES NOT HANG UP</u> : "Just to make sure I have this correct, are there any children between the ages of 12 months and 3 years old living or staying in your household?" YES 1 CONTINUE AT BEGINNING OF QUESTION WHERE INTERRUPTION OCCURRED NO 2 GO TO ELIGIBILITY STATUS CHECKPOINT (S1=YES=1, S2=DK=6)		429

Intro_1 Hello, my name is _____. I'm calling on behalf of the Centers for Disease Control and Prevention. We're conducting a nationwide immunization study to find out how many children under 4 years of age are receiving all of the recommended vaccinations for childhood diseases. Your telephone number has been selected at random to be included in the study. The questions I have to determine whether your household is eligible to take part in this study will take only a few minutes.

CONTINUE WITH INTERVIEW 1
HUDI - During 1st/2nd Sentence 2
HUDI - After end 2nd sentence 3
HUDI - After end 3rd sentence 4
HUDI - After end last sentence 5

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

IF NIS ONLY CASE : 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]

IF SLAITS CASE AND NO NIS ELIGIBLE CHILDREN READ:
 S_UNDR18 How many people less than 18 years old live in this household?
 IF ONE OR MORE, ENTER # OF CHILDREN _____ SCHEDULE SLAITS CALLBACK
 NO CHILDREN UNDER 18 00 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've 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. By law,
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

<input type="checkbox"/> 1. IF S_NUMB = 1 (ONLY 1 CHILD)	
<input type="checkbox"/> 2. IF S_NUMB \$ 2 (MORE THAN 1 CHILD) →	GO TO S3.MKIDS

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 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

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 CONF Age Confirm	ASK ONLY IF CHILD IS ELIGIBLE (19-35 MONTHS)		Primary Eligible 19 to 35 months	Secondary Eligible	
			S3.4 Sex	S3.5 First Name/ Initials		12 to 18 months	36 to 47 months
Child 1	___/___/___ -	Y N	M F		___/___/___ to ___/___/___	___/___/___ to ___/___/___	
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						

GO TO S4

GO TO

S3_D_1-1

9

ELIGIBILITY STATUS CHECKPOINT

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

GO TO

S3_TERM

S_NUMB_QT. We are sampling based on age. Those are all the questions I have. I'd like to thank you on behalf of the Centers of Disease Control and Prevention for the time you spent answering these questions.

[TERMINATE INTERVIEW]

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]

S3_D_1+1 Most of the remaining questions will be about [FIRST NAME(S)/INITIALS OF ELIGIBLE CHILD(REN) FROM S3.5].

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 OF ELIGIBLE CHILD(REN) 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**

S3.5 First Name	S6_X Do you have <u>any</u> shot records for [NAME OF FIRST CHILD]?	S7_A Some children receive many shots, and the names and dates of those shots can be difficult to remember. It would be helpful if you could bring [NAMES OF ALL CHILDREN WITH SHOT RECORDS]'s shot record(s) to the phone. (IF NECESSARY: I'll be happy to wait while you go get it/them)?	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 9 Go To S7.B CAN'T/WON'T BRING SR TO PHONE 9 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 9 Go To S7.B CAN'T/WON'T BRING SR TO PHONE 9 Go to 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 9 Go To S7.B CAN'T/WON'T BRING SR TO PHONE 9 Go to 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 9 Go To S7.B CAN'T/WON'T BRING SR TO PHONE 9 Go to S8	YES NO 9 Go To S8.A. ↓ Go To S8.B.
CHILD 5	YES NO DK REF _____/ W Repeat S6_X for next child or Go To S8	YES 9 Go To S7.B CAN'T/WON'T BRING SR TO PHONE 9 Go to S8	YES NO 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 B_INTRO AND
"NO".....2	ASK FOR EACH CHILD
	IN HOUSEHOLD
A L 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)
A L L	ASK SECTION A FOR CHILDREN
OTHERS.....3	WITH SHOT RECORDS AND SECTION
	B FOR CHILDREN WITHOUT SHOT
	RECORDS OR WHEN SHOT RECORD
	IS NOT HANDY (NO CALLBACK
	NEEDED)

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

CASE ID _____

TELEPHONE NUMBER _____

INTERVIEW DATE _____

INTERVIEWER ID _____

DATA ENTRY: DATE _____ BY _____ (INTERVIEWER ID)

NIS Hard Copy Questionnaire

PART 2

July 5, 2001

SECTION MR - *Most Knowledgeable Respondent 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 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 (B, C AND D) IS ASKED IN
ITS ENTIRETY FOR EACH CHILD
WITHOUT SHOT RECORDS.**

SHOT RECORD FOR DTP/DT SHOT

AINTRO. Thank you for getting the shot records. The remainder of the survey will take about 15 minutes.

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 AN8

de DON'T KNOW 6 GO TO AN8

de REFUSED 7 GO TO AN8

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 AN8
de REFUSED 9997 GO TO AN8

**2nd Shot
AD72**

___ / ___ / ____
MO DAY YEAR

de DON'T KNOW 9996 GO TO AN8
de REFUSED 9997 GO TO AN8

**3rd Shot
AD73**

___ / ___ / _
MO DAY YEAR

de DON'T KNOW 9996 GO TO AN8
de REFUSED 9997 GO TO AN8

**4th Shot
AD74**

___ / ___ / ____
MO DAY YEAR

de DON'T KNOW 9996 GO TO AN8
de REFUSED 9997 GO TO AN8

GO TO AN8.

SHOT RECORD FOR PNEUMOCOCCAL

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.

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

AD8. What is the date (on the record) for the [FILL VAR: (First/Second/...Fourth)] (chicken pox) shot?

1st Shot AD81 ___ / ___ / ___ de DON'T KNOW 9996 GO TO A5_C
 MO DAY YEAR de REFUSED 9997 GO TO A5_C

2nd Shot AD82 ___ / ___ / 19__ de DON'T KNOW 9996 GO TO A5_C
 MO DAY YEAR de REFUSED 9997 GO TO A5_C

3rd Shot AD83 ___ / ___ / 19__ de DON'T KNOW 9996 GO TO A5_C
 MO DAY YEAR de REFUSED 9997 GO TO A5_C

4th Shot AD84 ___ / ___ / 19__ de DON'T KNOW 9996 GO TO A5_C
 MO DAY YEAR de REFUSED 9997 GO TO A5_C

5th Shot AD85 ___ / ___ / 19__ de DON'T KNOW 9996 GO TO A5_C
 MO DAY YEAR de REFUSED 9997 GO TO A5_C

6th Shot AD86 ___ / ___ / 19__ de DON'T KNOW 9996 GO TO A5_C
 MO DAY YEAR de REFUSED 9997 GO TO A5_C

7th Shot AD87 ___ / ___ / 19__ de DON'T KNOW 9996 GO TO A5_C
 MO DAY YEAR de REFUSED 9997 GO TO A5_C

8th Shot AD88 ___ / ___ / 19__ de DON'T KNOW 9996 GO TO A5_C
 MO DAY YEAR de REFUSED 9997 GO TO A5_C

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 **AOR 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 A16
- 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 A12_P
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

A12_P. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever received an additional pneumococcal shot?

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

A12_Q. How many additional pneumococcal 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 A16
- de DON'T KNOW 6 GO TO A16
- de REFUSED 7 GO TO A16

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 A16

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 A16 OR SECOND SHOT
- de REFUSED 97 GO TO A16 OR SECOND SHOT

GO TO A16 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 A16 OR THIRD SHOT
- de REFUSED 97 GO TO A16 OR THIRD SHOT

GO TO A16 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 A16 OR FOURTH SHOT
- de REFUSED 97 GO TO A16 OR FOURTH SHOT

GO TO A16 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
- de REFUSED 97

GO TO A14 OR FIFTH SHOT
GO TO A14 OR FIFTH SHOT

GO TO A16 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
- de REFUSED 97

GO TO A16
GO TO A16

GO TO A16

A16. REPEAT A6 - A13 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**

BINTRO. The remainder of the survey will take about 10 minutes.

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 B6_P
 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_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 1
 NO 2
 DON'T KNOW 6 GO TO B7
 REFUSED 7 **A**

B6_Q. How many pneumococcal 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

B7. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] received any other immunizations that I have not asked you about?

- de** YES 1
- de** NO 2 GO TO B10
- de** DON'T KNOW 6 GO TO B10
- de** REFUSED 7 GO TO B10

B7.A. How many other shots are there (that I have not asked you about)?

Number RECORD NAMES IN B7.B

de DON'T KNOW 6 GO TO B7.B

de REFUSED 7 GO TO B10

B7.B.1 What is the name of the first 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 B10 OR NEXT SHOT

de REFUSED 97 GO TO B10 OR NEXT SHOT

GO TO B10 OR NEXT SHOT

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 B10 OR NEXT SHOT
- de REFUSED 97 GO TO B10 OR NEXT SHOT

GO TO B10 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 B10 OR NEXT SHOT
- de REFUSED 97 GO TO B10 OR NEXT SHOT

GO TO B10 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 B10 OR NEXT SHOT
- de REFUSED 97 GO TO B10 OR NEXT SHOT

GO TO B10 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 B10
- de REFUSED 97 GO TO B10

GO TO B10

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

B11. INTERVIEWER CHECKPOINT.

<p>CALLBACK INTERVIEW (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. 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) |
|-----------------------------------------|--------------------|---------------------|-----------------|------------------|
- 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 CFAMINC
DON'T KNOW	96	
REFUSED	97	

C8. (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 CFAMINC
- NO 2
- DON'T KNOW 6 GO TO CFAMINC
- REFUSED 7 GO TO CFAMINC

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 CFAMINC

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

CFAMINC Please think about your total combined family income during 2000 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 2000 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 2000 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
- \$75,000 2
- LESS THAN \$75,000 3
- 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 few 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]. Please do not include cellular phones in your answer.

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? Please do not include cellular phones in your answer.

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? Please do not include cellular phones in your answer.

- 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"/> ALL		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).

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: IF "00" GO TO D6AA
IF R REFUSES GO TO D6_R

D6AA How many locations have provided health care for your child? Please include the hospital or birthing center where [HE/SHE] was born, and any other clinics or doctor's offices that have seen [HIM/HER].

NUMBER: ENTER '0' IF CHILD HAS NEVER SEEN A DOCTOR OR OTHER HEALTH CARE PROVIDER

IF D6AA = 0 GO TO TOPICAL MODULES

IF D6AA >0 GO TO D6A.1

IF R REFUSES, GO TO D16

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 GO TO D6B.1.1.1

NO, CAN'T FIND, CONTINUE 2 GO TO D6B.1.1.1

REFUSED 7 GO TO D6_R

IF REFUSED

D6_R. (SUGGESTED SCRIPT) Vaccination information from doctors and clinics is often the most up-to-date and comprehensive. So, in order to obtain the most complete information possible about children's vaccinations, we need to collect the vaccination histories from both the parents or guardians of the children and the doctors and clinics that provide the immunizations.

All information about your child and your child's health care provider is held in strict confidence and used for study purposes only. Any names of children, as well as any names of doctors or clinics, will not be used in reporting the study results. We will never release any information that may identify you or your child.

RETURN TO QUESTION,

IF R STILL REFUSES -> GO TO D16

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_____

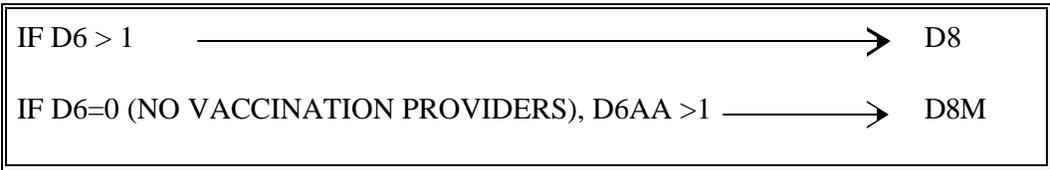
D6B.8.1.1 What is the zip code?

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,

D8M Sometimes babies are given an immunization soon after birth or a young child may receive an immunization at a well-child visit. We would like to contact the places that have provided care for [CHILD] and request any vaccination information they may have. 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 _____

IF REFUSED

D15B. (SUGGESTED SCRIPT) The only reason we need your child's full name is so that the doctor or clinic can locate the correct vaccination records for your child. Once vaccination data have been collected, all names are completely separated from the data, and we will not use your child's name again.

All information is held in strict confidence and is used for study purposes only. I assure you that any names of children, as well as any names of doctors or clinics, will not be used in any study results. We will not release any information that may identify you or your child.

RETURN TO QUESTION, IF R STILL REFUSES, GO TO D16

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 _____

IF REFUSED

D15B. (SUGGESTED SCRIPT) The only reason we need your child's full name is so that the doctor or clinic can locate the correct vaccination records for your child. Once vaccination data have been collected, all names are completely separated from the data, and we will not use your child's name again.

All information is held in strict confidence and is used for study purposes only. I assure you that any names of children, as well as any names of doctors or clinics, will not be used in any study results. We will not release any information that may identify you or your child.

RETURN TO QUESTION, IF R STILL REFUSES, GO TO D16

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

FIRST _____

IF REFUSED

D15C. (SUGGESTED SCRIPT) The only reason we need your full name is so that the doctor or clinic can locate the correct vaccination records for your child. Once vaccination data have been collected, all names are completely separated from the data, and we will not use your child's name again.

All information is held in strict confidence and is used for study purposes only. I assure you that any names of children, as well as any names of doctors or clinics, will not be used in any study results. We will not release any information that may identify you or your child.

RETURN TO QUESTION, IF R STILL REFUSES, GO TO D16

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

MIDDLE _____

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

LAST _____

IF REFUSED

D15C. (SUGGESTED SCRIPT) The only reason we need your full name is so that the doctor or clinic can locate the correct vaccination records for your child. Once vaccination data have been collected, all names are completely separated from the data, and we will not use your child's name again.

All information is held in strict confidence and is used for study purposes only. I assure you that any names of children, as well as any names of doctors or clinics, will not be used in any study results. We will not release any information that may identify you or your child.

RETURN TO QUESTION, IF R STILL REFUSES, GO TO D16

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

REFUSED 7 GO TO D9D_R

IF REFUSED

D9D_R (SUGGESTED SCRIPT) Vaccination information from doctors and clinics is often the most up-to-date and comprehensive. So, in order to obtain the most complete information possible about children's vaccinations, we need to collect the vaccination histories from both the parents or guardians of the children and the doctors and clinics that provide the immunizations.

All information about your child and your child's health care provider is held in strict confidence and used for study purposes only. Any names of children, as well as any names of doctors or clinics, will not be used in reporting the study results. We will never release any information that may identify you or your child.

RETURN TO QUESTION, IF R STILL REFUSES -> GO TO TOP MODS

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 GO TO TOPICAL MODULES

DCG. I would like to confirm that I have the correct names for you and the children in this household.
[INTERVIEWER: CONFIRM ALL NAMES AND SPELLINGS WITH THE RESPONDENT. IF LAST NAMES ARE THE SAME, MAKE SURE THEY HAVE THE SAME SPELLING]

DCG1. I have your name as [FILL: CONSENT GIVER NAME FROM D9A-C - PAGE2]. Is this correct?

YES 1
NO 2 [CORRECT NAME]

DCG2. The name I have for the first child is [FILL: FIRST CHILD'S NAME FROM D8A-C1 - PAGE2]. Is this correct?

YES 1 IF SNUMB=1, GO TO TOP MOD
IF SNUMB >1, GO TO DCG3
NO 2 [CORRECT NAME]

DCG3. The name I have for the next child is [FILL: SECOND/THIRD/.../SIXTH CHILD'S NAME FROM D8A-C1 - PAGE2]. Is this correct?

YES 1 GO TO TOP MOD
NO 2 [CORRECT NAME]

D16. Those are all the questions I have. You may be re-contacted in the future to participate in related studies. If you are contacted to participate in future surveys, you have the right to refuse. I'd like to thank you again on behalf of the Centers for Disease Control and Prevention for the time and effort you've spent answering these questions. If you would like more information about the National Immunization Study, please call Joe Wislar at the study's toll-free number, 1-800-247-1970. If you have questions about your rights as a study participant, you may call 1-800-223-8118, toll-free, and ask to speak to the Institutional Review Board Chairperson.
[GO TO TOPICAL MODULES]

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 _____

[GO TO TOPICAL MODULES]

**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

REFUSED 7 GO TO D9D_R

IF REFUSED

D9D_R. (SUGGESTED SCRIPT) Vaccination information from doctors and clinics is often the most up-to-date and comprehensive. So, in order to obtain the most complete information possible about children's vaccinations, we need to collect the vaccination histories from both the parents or guardians of the children and the doctors and clinics that provide the immunizations.

All information about your child and your child's health care provider is held in strict confidence and used for study purposes only. Any names of children, as well as any names of doctors or clinics, will not be used in reporting the study results. We will never release any information that may identify you or your child.

RETURN TO QUESTION, IF R STILL REFUSES -> GO TO TOP MODS

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 GO TO TOP MOD

REFUSED 7 GO TO TOP MOD

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

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

DCG1. I have your name as [FILL: CONSENT GIVER NAME FROM D9A-C - PAGE2]. Is this correct?

YES 1

NO 2 [CORRECT NAME]

DCG2. The name I have for the first child is [FILL: FIRST CHILD'S NAME FROM D8A-C1 - PAGE2]. Is this correct?

YES 1 IF SNUMB=1, GO TO TOP MOD
IF SNUMB >1, GO TO DCG3

NO 2 [CORRECT NAME]

DCG3. The name I have for the next child is [FILL: SECOND/THIRD/.../SIXTH CHILD'S NAME FROM D8A-C1 - PAGE2]. Is this correct?

YES 1 GO TO TOP MOD

NO 2 [CORRECT NAME]

D16. Those are all the questions I have. You may be re-contacted in the future to participate in related studies. If you are contacted to participate in future surveys, you have the right to refuse. I'd like to thank you again on behalf of the Centers for Disease Control and Prevention for the time and effort you've spent answering these questions. If you would like more information about the National Immunization Study, please call Joe Wislar at the study's toll-free number, 1-800-247-1970. If you have questions about your rights as a study participant, you may call 1-800-223-8118, toll-free, and ask to speak to the Institutional Review Board Chairperson. **[GO TO TOPICAL MODULES]**

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 2

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

SUITE # _____

D6B.6.1.2 What city is that in?

CITY _____

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

NATIONAL IMMUNIZATION SURVEY PROVIDER STUDY: IMMUNIZATION HISTORY QUESTIONNAIRE

CDC 64.122 (rev. Sept. 2000) Q3/2001

Confidential Information.
If received in error, please
call 1-800-886-4993.

INSTRUCTIONS: Please review your records and complete this questionnaire for the child identified below. Then mail it in the postage-paid envelope provided (Diane Simpson, MD, PhD, Centers for Disease Control and Prevention, P.O. Box 5517, Chicago, IL 60680-8817) or fax to: Diane Simpson, MD, PhD: (888) 529-1772.

AS THESE MEDICAL DOCUMENTS ARE CONFIDENTIAL, IF SENDING A FAX, PLEASE TAKE EXTRA CARE TO DIAL THE CORRECT TOLL-FREE FAX NUMBER: **(888) 529-1772.**

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): _____

For Office Use Only

Telephone _____

Fax _____

Mail _____

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.

Dates of Immunization (month, day, year)										
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)	Pneumococcal	Varicella	Rotavirus	DT/DTP/DTaP (check one box per date)	DTP-Hib (Tetramune or Acthib/DTP) DTaP-Hib (TriHibit) (check one box per date)	Hep B-Hib (e.g., Comvax)	MMR/Measles (check one box per date)	Other Vaccines (Specify)
OP _____ <input type="checkbox"/> PedvaxHIB <input type="checkbox"/> Other	OP _____ <input type="checkbox"/> Administered at birth	OP _____ <input type="checkbox"/> OPV <input type="checkbox"/> IPV	OP _____ <input type="checkbox"/> Conjugate <input type="checkbox"/> Polysaccharide	OP _____ _____	OP _____ _____	OP _____ <input type="checkbox"/> DT <input type="checkbox"/> DTP <input type="checkbox"/> DTaP	OP _____ <input type="checkbox"/> DTP/Hib <input type="checkbox"/> DTaP/Hib	OP _____ _____	OP _____ <input type="checkbox"/> MMR <input type="checkbox"/> Measles Only	OP _____ _____
OP _____ <input type="checkbox"/> PedvaxHIB <input type="checkbox"/> Other	OP _____ _____	OP _____ <input type="checkbox"/> OPV <input type="checkbox"/> IPV	OP _____ <input type="checkbox"/> Conjugate <input type="checkbox"/> Polysaccharide	OP _____ _____	OP _____ _____	OP _____ <input type="checkbox"/> DT <input type="checkbox"/> DTP <input type="checkbox"/> DTaP	OP _____ <input type="checkbox"/> DTP/Hib <input type="checkbox"/> DTaP/Hib	OP _____ _____	OP _____ <input type="checkbox"/> MMR <input type="checkbox"/> Measles Only	OP _____ _____
OP _____ <input type="checkbox"/> PedvaxHIB <input type="checkbox"/> Other	OP _____ _____	OP _____ <input type="checkbox"/> OPV <input type="checkbox"/> IPV	OP _____ <input type="checkbox"/> Conjugate <input type="checkbox"/> Polysaccharide	OP _____ _____	OP _____ _____	OP _____ <input type="checkbox"/> DT <input type="checkbox"/> DTP <input type="checkbox"/> DTaP	OP _____ <input type="checkbox"/> DTP/Hib <input type="checkbox"/> DTaP/Hib	OP _____ _____	OP _____ <input type="checkbox"/> MMR <input type="checkbox"/> Measles Only	OP _____ _____
OP _____ <input type="checkbox"/> PedvaxHIB <input type="checkbox"/> Other	OP _____ _____	OP _____ <input type="checkbox"/> OPV <input type="checkbox"/> IPV	OP _____ <input type="checkbox"/> Conjugate <input type="checkbox"/> Polysaccharide	OP _____ _____	OP _____ _____	OP _____ <input type="checkbox"/> DT <input type="checkbox"/> DTP <input type="checkbox"/> DTaP	OP _____ <input type="checkbox"/> DTP/Hib <input type="checkbox"/> DTaP/Hib	OP _____ _____	OP _____ <input type="checkbox"/> MMR <input type="checkbox"/> Measles Only	OP _____ _____
OP _____ <input type="checkbox"/> PedvaxHIB <input type="checkbox"/> Other	OP _____ _____	OP _____ <input type="checkbox"/> OPV <input type="checkbox"/> IPV	OP _____ <input type="checkbox"/> Conjugate <input type="checkbox"/> Polysaccharide	OP _____ _____	OP _____ _____	OP _____ <input type="checkbox"/> DT <input type="checkbox"/> DTP <input type="checkbox"/> DTaP	OP _____ <input type="checkbox"/> DTP/Hib <input type="checkbox"/> DTaP/Hib	OP _____ _____	OP _____ <input type="checkbox"/> MMR <input type="checkbox"/> Measles Only	OP _____ _____

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

____ - ____ - ____ or 8 Don't Know
mm dd yyyy

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

____ - ____ - ____ or 8 Don't Know
mm dd yyyy

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

- a. Comprehensive well-child care (examination, anticipatory guidance, screening)
- b. Acute illness care
- c. Follow-up visits
- d. After-hours telephone coverage
- e. WIC Program/services
- 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.)

- a. Pediatrician
- b. Family Physician
- c. General Practitioner
- d. Nurse (Specify RN, LPN, etc.): _____
- e. Pediatric Nurse Practitioner
- f. Family Nurse Practitioner
- g. Physician Assistant
- 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. As these medical documents are confidential, if sending a fax, please take extra care to dial the correct fax number: (888) 529-1772. 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

Q1/2001 -Q4/2001 : Child Weight for Completed Household Interviews (HY_WGT)

IAP Area	N	SUM	MIN	MAX	MEAN	CV
TOTAL U.S.	33437	5728652.16	2.428	1577.80	171.327	109.558
1 CT	394	63451.51	45.318	431.13	161.044	35.964
2 MA-REST OF STATE	447	102653.42	7.771	438.71	229.650	28.786
3 MA-CITY OF BOSTON	401	12074.61	9.558	112.13	30.111	40.286
4 ME	398	20861.91	20.004	76.85	52.417	18.942
5 NH	439	20896.84	18.485	76.11	47.601	20.938
6 RI	480	17857.47	13.397	62.62	37.203	22.998
7 VT	401	9689.57	8.608	43.62	24.164	27.243
8 NJ-REST OF STATE	463	162159.69	2.428	922.45	350.237	42.607
9 NJ-CITY OF NEWARK	487	7324.01	3.143	98.91	15.039	54.892
10 NY-REST OF STATE	457	192739.23	29.349	860.05	421.749	34.219
11 NY-NYC 5 COUNTIES	485	170789.15	27.499	581.29	352.143	30.871
12 DISTRICT OF COLUMBIA	494	9950.08	4.867	50.79	20.142	39.553
13 DE	411	14498.14	9.947	52.13	35.275	28.212
14 MD-REST OF STATE	478	96262.65	6.348	386.63	201.386	38.375
15 MD-CITY OF BALTIMORE	427	16378.75	8.941	166.89	38.358	39.543
16 PA-REST OF STATE	411	176180.06	4.906	663.23	428.662	23.883
17 PA-PHILADELPHIA COUNTY	471	31317.13	23.135	110.18	66.491	25.099
18 VA	390	142778.93	18.081	750.13	366.100	31.684
19 WV	374	28381.60	27.706	115.34	75.887	27.201
20 AL-REST OF STATE	429	77017.69	16.504	401.59	179.528	39.318
21 AL-JEFFERSON COUNTY	383	13705.87	12.083	116.57	35.786	34.918
22 FL-REST OF STATE	432	233135.24	35.981	902.18	539.665	27.015
23 FL-DUVAL COUNTY	430	18579.77	13.325	81.34	43.209	29.722
24 FL-DADE COUNTY	400	48165.99	24.688	282.34	120.415	38.658
25 GA-REST OF STATE	397	148343.71	38.127	656.98	373.662	38.837
26 GA-FULTON/DEKALB COUNTIES	478	34909.11	15.611	321.60	73.032	45.613
27 KY	403	77408.04	72.012	293.70	192.080	22.894
28 MS	388	60712.64	6.273	279.24	156.476	33.027
29 NC	418	165682.40	117.254	618.93	396.369	30.337
30 SC	403	81451.84	26.865	318.13	202.114	24.924
31 TN-REST OF STATE	405	75774.46	13.009	321.87	187.097	37.794
32 TN-SHELBY COUNTY	432	20705.14	12.622	90.77	47.929	34.331
33 TN-DAVIDSON COUNTY	427	11899.31	8.275	72.34	27.867	38.002
34 IL-REST OF STATE	437	189716.82	100.200	1004.01	434.135	35.390
35 IL-CITY OF CHICAGO	485	72989.53	21.670	455.62	150.494	46.201
36 IN-REST OF STATE	409	103519.15	14.801	480.45	253.103	41.711
37 IN-MARION COUNTY	364	20279.62	17.503	220.00	55.713	41.054
38 MI-REST OF STATE	441	169115.88	15.102	755.97	383.483	45.444
39 MI-CITY OF DETROIT	448	23165.57	17.424	225.97	51.709	34.315
40 MN	392	97869.96	84.067	465.50	249.668	28.123
41 OH-REST OF STATE	441	166781.33	7.489	615.00	378.189	33.027
42 OH-CUYAHOGA COUNTY	399	26605.59	24.128	161.58	66.681	36.783
43 OH-FRANKLIN COUNTY	401	23406.58	24.077	163.65	58.371	26.041
44 WI-REST OF STATE	371	77100.79	28.779	286.99	207.819	19.195
45 WI-MILWAUKEE COUNTY	412	22481.31	11.437	207.98	54.566	54.563
46 AR	497	52732.53	25.938	194.32	106.102	33.208
47 LA-REST OF STATE	443	81666.31	5.137	357.19	184.348	37.339
48 LA-ORLEANS PARISH	474	10509.16	5.474	91.20	22.171	40.954
49 NM	464	39614.87	26.326	150.08	85.377	33.435

Q1/2001 -Q4/2001 : Child Weight for Completed Household Interviews (HY_WGT)

IAP Area	N	SUM	MIN	MAX	MEAN	CV
50 OK	444	70863.92	56.7438	243.25	159.603	27.8866
51 TX-REST OF STATE	525	323431.56	25.4630	1194.22	616.060	48.6200
52 TX-DALLAS COUNTY	470	58082.04	35.7888	339.88	123.579	36.0683
53 TX-EL PASO COUNTY	454	20119.06	13.5600	69.40	44.315	31.2034
54 TX-CITY OF HOUSTON	455	61666.12	29.2580	797.93	135.530	56.8178
55 TX-BEXAR COUNTY	474	33605.18	19.3485	133.60	70.897	37.0319
56 IA	376	53395.18	57.7317	201.20	142.008	18.6346
57 KS	373	57087.48	49.9942	366.86	153.050	42.3134
58 MO	379	106563.72	64.9051	448.28	281.171	31.8735
59 NE	394	33056.19	35.3184	292.00	83.899	25.8348
60 CO	508	85704.75	60.2174	296.36	168.710	26.7817
61 MT	389	15338.21	15.8530	59.14	39.430	21.8997
62 ND	411	9840.55	8.0721	42.27	23.943	27.7713
63 SD	366	15134.75	15.6746	67.68	41.352	31.3456
64 UT	415	61174.07	48.5904	302.38	147.407	36.1552
65 WY	390	8754.10	5.2720	37.89	22.446	28.6293
66 AZ-REST OF STATE	415	41901.98	32.4232	191.49	100.969	31.8838
67 AZ-MARICOPA COUNTY	477	72387.04	30.8581	299.83	151.755	29.7082
68 CA-REST OF STATE	434	427737.30	64.1642	1577.80	985.570	28.0084
69 CA-LOS ANGELES COUNTY	509	230155.26	71.7348	1305.40	452.171	34.0539
70 CA-SANTA CLARA COUNTY	395	38911.57	33.1432	161.94	98.510	28.0114
71 CA-SAN DIEGO COUNTY	490	63821.96	47.7317	194.58	130.249	24.8898
72 HI	432	25257.34	22.9026	100.52	58.466	25.0869
73 NV	447	45945.73	28.7357	190.30	102.787	30.7266
74 AK	383	13900.83	12.1754	59.85	36.295	27.5604
75 ID	409	28345.61	25.3625	131.43	69.305	23.0003
76 OR	381	66548.74	42.7601	319.13	174.669	34.5374
77 WA-REST OF STATE	423	85786.23	52.8196	332.93	202.804	30.5396
78 WA-KING COUNTY	408	32844.72	27.8006	239.90	80.502	38.3027

Q1/2001 -Q4/2001 : Child Weight for Children with Adequate Provider Data (W0)

IAP Area	N	SUM	MIN	MAX	MEAN	CV
TOTAL U.S.	23531	5728652.16	3.887	3731.07	243.451	119.598
1 CT 285		63451.51	57.329	833.43	222.637	49.031
2 MA-REST OF STATE	320	102653.42	13.627	794.04	320.792	31.161
3 MA-CITY OF BOSTON	279	12074.61	12.190	136.55	43.278	44.013
4 ME	310	20861.91	22.738	123.15	67.296	25.712
5 NH	318	20896.84	22.349	150.53	65.713	31.720
6 RI	364	17857.47	16.924	99.69	49.059	26.766
7 VT	331	9689.57	11.113	53.09	29.274	26.869
8 NJ-REST OF STATE	310	162159.69	3.887	1393.16	523.096	41.870
9 NJ-CITY OF NEWARK	326	7324.01	4.425	65.06	22.466	57.859
10 NY-REST OF STATE	309	192739.23	48.967	1284.11	623.752	37.745
11 NY-NYC 5 COUNTIES	280	170789.15	129.674	2520.43	609.961	58.826
12 DISTRICT OF COLUMBIA	311	9950.08	6.422	97.56	31.994	50.931
13 DE	281	14498.14	12.925	102.59	51.595	30.244
14 MD-REST OF STATE	347	96262.65	12.657	777.36	277.414	44.235
15 MD-CITY OF BALTIMORE	285	16378.75	13.107	229.16	57.469	52.723
16 PA-REST OF STATE	284	176180.06	33.918	1450.89	620.352	31.353
17 PA-PHILADELPHIA COUNTY	280	31317.13	29.384	294.58	111.847	39.524
18 VA	243	142778.93	37.720	2324.28	587.568	54.573
19 WV	287	28381.60	36.772	207.15	98.891	33.219
20 AL-REST OF STATE	315	77017.69	28.107	589.30	244.501	42.548
21 AL-JEFFERSON COUNTY	276	13705.87	13.220	165.68	49.659	42.823
22 FL-REST OF STATE	296	233135.24	48.648	1747.68	787.619	35.581
23 FL-DUVAL COUNTY	282	18579.77	18.159	157.75	65.886	39.824
24 FL-DADE COUNTY	233	48165.99	53.677	670.02	206.721	48.000
25 GA-REST OF STATE	281	148343.71	54.134	1597.38	527.914	50.860
26 GA-FULTON/DEKALB COUNTIES	317	34909.11	21.856	462.30	110.123	52.160
27 KY	305	77408.04	87.505	549.24	253.797	31.008
28 MS	286	60712.64	7.390	573.82	212.282	41.252
29 NC 301		165682.40	112.561	1764.75	550.440	42.691
30 SC	296	81451.84	61.799	615.06	275.175	34.611
31 TN-REST OF STATE	296	75774.46	21.063	582.53	255.995	39.167
32 TN-SHELBY COUNTY	295	20705.15	18.124	144.58	70.187	36.786
33 TN-DAVIDSON COUNTY	325	11899.31	8.145	102.82	36.613	39.520
34 IL-REST OF STATE	303	189716.82	135.178	2755.25	626.128	49.822
35 IL-CITY OF CHICAGO	299	72989.53	81.747	896.98	244.112	50.574
36 IN-REST OF STATE	313	103519.15	16.218	738.16	330.732	42.905
37 IN-MARION COUNTY	246	20279.62	29.720	365.49	82.437	49.093
38 MI-REST OF STATE	318	169115.88	24.279	2028.50	531.811	54.319
39 MI-CITY OF DETROIT	283	23165.57	24.779	398.08	81.857	43.626
40 MN	306	97869.96	91.375	836.39	319.836	33.412
41 OH-REST OF STATE	338	166781.33	9.054	905.05	493.436	33.967
42 OH-CUYAHOGA COUNTY	284	26605.59	31.568	230.31	93.682	39.327
43 OH-FRANKLIN COUNTY	298	23406.58	27.235	204.32	78.546	30.243
44 WI-REST OF STATE	287	77100.79	32.650	521.97	268.644	26.929
45 WI-MILWAUKEE COUNTY	314	22481.31	13.681	251.92	71.597	60.872
46 AR 391		52732.53	38.199	331.57	134.866	36.022
47 LA-REST OF STATE	288	81666.31	8.605	1425.90	283.564	57.895
48 LA-ORLEANS PARISH	284	10509.16	9.130	129.40	37.004	51.386
49 NM	338	39614.87	33.710	268.06	117.204	35.524

Q1/2001 -Q4/2001 : Child Weight for Children with Adequate Provider Data (W0)

IAP Area	N	SUM	MIN	MAX	MEAN	CV
50 OK	315	70863.92	60.694	540.84	224.96	36.7814
51 TX-REST OF STATE	345	323431.56	22.865	3005.06	937.48	62.2547
52 TX-DALLAS COUNTY	323	58082.04	50.624	704.12	179.82	42.1506
53 TX-EL PASO COUNTY	348	20119.06	15.613	168.24	57.81	33.7087
54 TX-CITY OF HOUSTON	249	61666.12	56.130	1320.22	247.66	60.6201
55 TX-BEXAR COUNTY	329	33605.18	28.548	242.62	102.14	37.0545
56 IA	292	53395.18	61.546	386.53	182.86	27.7680
57 KS	269	57087.48	51.387	1238.17	212.22	65.0998
58 MO	267	106563.72	79.990	831.01	399.12	38.0916
59 NE	301	33056.19	38.478	196.72	109.82	25.4575
60 CO	368	85704.75	70.515	522.68	232.89	31.7342
61 MT	290	15338.21	23.332	93.48	52.89	25.8566
62 ND	318	9840.55	11.526	68.01	30.95	32.5186
63 SD	265	15134.75	16.919	146.47	57.11	37.6828
64 UT	302	61174.07	53.727	572.95	202.56	42.0346
65 WY	286	8754.10	6.972	64.92	30.61	36.9251
66 AZ-REST OF STATE	296	41901.98	42.169	462.01	141.56	38.8311
67 AZ-MARICOPA COUNTY	294	72387.04	46.646	745.73	246.21	38.5974
68 CA-REST OF STATE	293	427737.30	85.449	3731.07	1459.85	38.8133
69 CA-LOS ANGELES COUNTY	329	230155.26	130.445	2413.64	699.56	39.1013
70 CA-SANTA CLARA COUNTY	284	38911.57	36.249	262.60	137.01	31.6836
71 CA-SAN DIEGO COUNTY	355	63821.96	62.956	372.81	179.78	30.2516
72 HI	278	25257.34	26.965	623.37	90.85	50.8135
73 NV	297	45945.73	36.191	392.61	154.70	34.6991
74 AK	289	13900.83	15.599	99.27	48.10	31.1691
75 ID	327	28345.61	28.431	181.07	86.68	28.7571
76 OR	286	66548.74	72.109	596.65	232.69	38.9169
77 WA-REST OF STATE	310	85786.23	62.728	728.14	276.73	43.2473
78 WA-KING COUNTY	282	32844.72	41.730	384.09	116.47	41.7579

Appendix E

**Disposition of Child with respect to Provider Record Check
for NIS, Q1/2001 to Q4/2001**

DISPCODE: Disposition of Child with Respect to Provider Record Check
for NIS - Q1\2001 to Q4\2001:

*Number
Of
Children Disposition Code Number and Definition*

- 10,281 1 = All identified providers responded,
no problems indicated in cross check between household and provider shot dates.
- 10,951 2 = All identified providers responded,
no NIS shot card to cross check.
- 782 3 = All identified providers responded,
poor immunization history matching results.
- 87 4 = All identified providers responded,
poor immunization history matching results,
additional mismatch indicators present.
- 1,024 5 = Some but not all identified providers responded,
but provider information indicates 4:3:1:3:3
up-to-date.
- 45 6 = Some but not all identified providers responded,
but provider information matches
NIS shot card immunization history.
- 408 7 = Some but not all identified providers responded,
completeness of provider immunization
history is unknown.
- 18 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.
- 74 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).

159 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).

110 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).

23,939 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:\nispuf01'; *--- SPECIFY PATH TO SAS DATASET ---*;

libname library 'c:\nispuf01'; *--- IF DATASET WAS CREATED WITH FORMATS STORED ---*;

* --- PERMANENTLY SPECIFY PATH TO LIBRARY ---*;

* --- OTHERWISE COMMENT THIS STATEMENT OUT ---*;

%let in_file=dd.nispuf01; *--- 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:\nispuf01'; *--- SPECIFY PATH TO SAS DATASET ---*;
libname library 'c:\nispuf01'; *--- IF DATASET WAS CREATED WITH FORMATS STORED ---*;
      *--- PERMANENTLY SPECIFY PATH TO LIBRARY ---*;
      *--- OTHERWISE COMMENT THIS STATEMENT OUT ---*;

```

```

%let in_file=dd.nispuf01; *--- 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 ;
rtile "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
2001 Public-Use Data File
Documentation, Code Book and Frequencies

2001 National Immunization Survey Public-Use Data File

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ALPHABETICAL INDEX OF VARIABLES

VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
AGEGRP	0059	0059	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	0060	0061	3	NUMBER OF PEOPLE LIVING IN THE HOUSEHOLD (RECODE)
C5R	0062	0063	3	RELATIONSHIP OF RESPONDENT TO CHILD (RECODE)
CEN_REG	0064	0064	3	CENSUS REGION BASED ON STATE
CHILDNM	0065	0065	3	NUMBER OF CHILDREN LESS THAN 18 YEARS IN HH (RECODE)
D6R	0093	0093	5	NUMBER OF VACCINATION PROVIDERS IDENTIFIED BY RESPONDENT (RECODE)
D7	0094	0094	5	CONSENT TO OBTAIN CHILD'S IMMUNIZATION RECORDS FROM VACCINATION PROVIDERS IDENTIFIED IN QUESTION D6 IN THE INTERVIEW
DDTP1	0158	0161	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #1
DDTP2	0162	0165	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #2
DDTP3	0166	0169	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #3
DDTP4	0170	0173	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #4
DDTP5	0174	0177	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #5
DDTP6	0178	0181	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #6
DDTP7	0182	0185	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #7
DDTP8	0186	0189	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #8
DHEPB1	0382	0385	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #1
DHEPB2	0386	0389	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #2
DHEPB3	0390	0393	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #3
DHEPB4	0394	0397	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #4

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
DHEPB5	0398	0401	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #5
DHEPB6	0402	0405	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #6
DHEPB7	0406	0409	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #7
DHEPB8	0410	0413	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #8
DHIB1	0318	0321	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #1
DHIB2	0322	0325	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #2
DHIB3	0326	0329	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #3
DHIB4	0330	0333	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #4
DHIB5	0334	0337	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #5
DHIB6	0338	0341	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #6
DHIB7	0342	0345	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #7
DHIB8	0346	0349	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #8
DISPCODE	0095	0096	6	NIS PROVIDER RECORD-CHECK DISPOSITION CODE
DMMR1	0286	0289	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #1
DMMR2	0290	0293	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #2
DMMR3	0294	0297	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #3
DMMR4	0298	0301	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #4
DMP1	0446	0449	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS SHOT #1
DMP2	0450	0453	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS SHOT #2
DMP3	0454	0457	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS SHOT #3
DMP4	0458	0461	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS SHOT #4
DMPRB1	0470	0473	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #1
DMPRB2	0474	0477	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #2
DMPRB3	0478	0481	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #3
DMPRB4	0482	0485	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #4
DPCV1	0614	0617	9	AGE IN DAYS OF PROVIDER-REPORTED PNEUMOCOCCAL SHOT #1
DPCV2	0618	0621	9	AGE IN DAYS OF PROVIDER-REPORTED PNEUMOCOCCAL SHOT #2
DPCV3	0622	0625	9	AGE IN DAYS OF PROVIDER-REPORTED PNEUMOCOCCAL SHOT #3
DPCV4	0626	0629	9	AGE IN DAYS OF PROVIDER-REPORTED PNEUMOCOCCAL SHOT #4
DPCV5	0630	0633	9	AGE IN DAYS OF PROVIDER-REPORTED PNEUMOCOCCAL SHOT #5
DPCV6	0634	0637	9	AGE IN DAYS OF PROVIDER-REPORTED PNEUMOCOCCAL SHOT #6

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
DPCV7	0638	0641	9	AGE IN DAYS OF PROVIDER-REPORTED PNEUMOCOCCAL SHOT #7
DPCV8	0642	0645	9	AGE IN DAYS OF PROVIDER-REPORTED PNEUMOCOCCAL SHOT #8
DPOLIO1	0222	0225	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #1
DPOLIO2	0226	0229	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #2
DPOLIO3	0230	0233	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #3
DPOLIO4	0234	0237	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #4
DPOLIO5	0238	0241	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #5
DPOLIO6	0242	0245	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #6
DPOLIO7	0246	0249	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #7
DPOLIO8	0250	0253	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #8
DRB1	0494	0497	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #1
DRB2	0498	0501	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #2
DRB3	0502	0505	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #3
DRB4	0506	0509	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #4
DRB5	0510	0513	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #5
DRB6	0514	0517	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #6
DRB7	0518	0521	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #7
DRB8	0522	0525	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #8
DROT1	0542	0545	9	AGE IN DAYS OF PROVIDER-REPORTED ROTAVIRUS SHOT #1
DROT2	0546	0549	9	AGE IN DAYS OF PROVIDER-REPORTED ROTAVIRUS SHOT #2
DROT3	0550	0553	9	AGE IN DAYS OF PROVIDER-REPORTED ROTAVIRUS SHOT #3
DROT4	0554	0557	9	AGE IN DAYS OF PROVIDER-REPORTED ROTAVIRUS SHOT #4
DROT5	0558	0561	9	AGE IN DAYS OF PROVIDER-REPORTED ROTAVIRUS SHOT #5
DROT6	0562	0565	9	AGE IN DAYS OF PROVIDER-REPORTED ROTAVIRUS SHOT #6
DROT7	0566	0569	9	AGE IN DAYS OF PROVIDER-REPORTED ROTAVIRUS SHOT #7
DROT8	0570	0573	9	AGE IN DAYS OF PROVIDER-REPORTED ROTAVIRUS SHOT #8
DTP_SOUR	0046	0046	2	SHOT CARD USED FOR DTP REPORTING
DTP1_AGE	0190	0191	9	AGE IN MONTHS PROVIDER-REPORTED DTP (ALL TYPES)SHOT#1
DTP2_AGE	0192	0193	9	AGE IN MONTHS PROVIDER-REPORTED DTP (ALL TYPES)SHOT#2
DTP3_AGE	0194	0195	9	AGE IN MONTHS PROVIDER-REPORTED DTP (ALL TYPES)SHOT#3
DTP4_AGE	0196	0197	9	AGE IN MONTHS PROVIDER-REPORTED DTP (ALL TYPES)SHOT#4
DTP5_AGE	0198	0199	9	AGE IN MONTHS PROVIDER-REPORTED DTP (ALL TYPES)SHOT#5
DTP6_AGE	0200	0201	9	AGE IN MONTHS PROVIDER-REPORTED DTP (ALL TYPES)SHOT#6
DTP7_AGE	0202	0203	9	AGE IN MONTHS PROVIDER-REPORTED DTP (ALL TYPES)SHOT#7
DTP8_AGE	0204	0205	9	AGE IN MONTHS PROVIDER-REPORTED DTP (ALL TYPES)SHOT#8
DVRC1	0590	0593	9	AGE IN DAYS OF PROVIDER-REPORTED VARICELLA SHOT #1

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
DVRC2	0594	0597	9	AGE IN DAYS OF PROVIDER-REPORTED VARICELLA SHOT #2
DVRC3	0598	0601	9	AGE IN DAYS OF PROVIDER-REPORTED VARICELLA SHOT #3
DVRC4	0602	0605	9	AGE IN DAYS OF PROVIDER-REPORTED VARICELLA SHOT #4
EDUC1	0066	0066	3	EDUCATION OF MOTHER CATEGORIES
ENTRY2	0067	0067	3	CHILD LIVES IN STATE WITH HEPATITIS B STATE ENTRY LAW FOR DAY CARE/HEAD START (2001-2002 SCHOOL YEAR)
FRSTBRN	0068	0068	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_PCV	0052	0052	2	HOUSEHOLD REPORT OF 4+ PNEUMOCOCCAL
FULL_POL	0053	0053	2	HOUSEHOLD REPORT OF 3+ POLIO
FULL_RV	0054	0054	2	HOUSEHOLD REPORT OF 3+ ROTAVIRUS
HEP_BRTH	0108	0108	8	HEPATITIS B GIVEN AT BIRTH FLAG
HEP_FLAG	0109	0109	8	HEPATITIS B BIRTH SHOT DATE IMPUTATION FLAG
HEP1_AGE	0414	0415	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #1
HEP2_AGE	0416	0417	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #2
HEP3_AGE	0418	0419	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #3
HEP4_AGE	0420	0421	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #4
HEP5_AGE	0422	0423	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #5
HEP6_AGE	0424	0425	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #6
HEP7_AGE	0426	0427	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #7
HEP8_AGE	0428	0429	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #8
HIB1_AGE	0350	0351	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #1
HIB2_AGE	0352	0353	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #2
HIB3_AGE	0354	0355	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #3
HIB4_AGE	0356	0357	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #4
HIB5_AGE	0358	0359	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #5
HIB6_AGE	0360	0361	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #6
HIB7_AGE	0362	0363	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #7

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
HIB8_AGE	0364	0365	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #8
HUTD4313	0055	0055	2	HOUSEHOLD REPORT OF 4:3:1:3 UTD (UP-TO-DATE)
HY_WGT	0012	0021	1	MODIFIED-POSTSTRATIFICATION (HH) WEIGHT FOR CHILD
I_HADCPX	0056	0056	2	DID CHILD EVER HAVE CHICKEN POX?
I_HISP_K	0076	0076	3	HISPANIC ORIGIN OF CHILD
I_HISP_M	0077	0077	3	HISPANIC ORIGIN OF MOTHER
I_RACEKR	0078	0078	3	RACE OF CHILD (RECODE)
I_RACEMR	0079	0079	3	RACE OF MOTHER (RECODE)
IAGECPXR	0057	0057	2	AGE IN MONTHS WHEN CHILD HAD CHICKEN POX (RECODE)
INCPORAT	0069	0072	3	INCOME TO POVERTY RATIO
INCPOV1R	0073	0073	3	POVERTY STATUS(RECODE)
INCQ298R	0074	0075	3	FAMILY INCOME CATEGORIES (RECODE)
INOPHONR	0088	0088	3	LENGTH OF INTERRUPTION IN TELEPHONE SERVICE IN DAYS(RECODE)
INTRP	0087	0087	3	INTERRUPTION IN PHONE SERVICE OF 7 DAYS OR MORE
ITRUEIAP	0089	0090	4	IAP AREA OF CURRENT RESIDENCE
LANGUAGE	0080	0080	3	LANGUAGE THE INTERVIEW WAS CONDUCTED IN
M_AGEGRP	0083	0083	3	AGE OF MOTHER CATEGORIES
MARITAL	0081	0081	3	MARITAL STATUS OF MOTHER CATEGORIES
MMR1_AGE	0302	0303	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #1
MMR2_AGE	0304	0305	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #2
MMR3_AGE	0306	0307	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #3
MMR4_AGE	0308	0309	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #4
MOBIL	0082	0082	3	GEOGRAPHIC MOBILITY STATUS: STATE OF RESIDENCE OF CHILD AT BIRTH VERSUS CURRENT STATE OF RESIDENCE
MP1_AGE	0462	0463	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS SHOT #1
MP2_AGE	0464	0465	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS SHOT #2
MP3_AGE	0466	0467	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS SHOT #3
MP4_AGE	0468	0469	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS SHOT #4
MPR1_AGE	0486	0487	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #1
MPR2_AGE	0488	0489	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #2
MPR3_AGE	0490	0491	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #3
MPR4_AGE	0492	0493	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #4
N_PRVR	0097	0097	6	NUMBER OF PROVIDERS RESPONDING WITH VACCINATION DATA FOR CHILD (RECODE)
NCARER1	0098	0098	7	CHILD'S PROVIDERS OFFER COMPREHENSIVE CHILD CARE

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
NCARER2	0099	0099	7	CHILD'S PROVIDERS OFFER ACUTE ILLNESS CARE
NCARER3	0100	0100	7	CHILD'S PROVIDERS OFFER FOLLOW UP VISITS
NCARER4	0101	0101	7	CHILD'S PROVIDERS OFFER AFTER-HOURS TELEPHONE COVERAGE
NCARER5	0102	0102	7	CHILD'S PROVIDERS OFFER WIC PROGRAM/SERVICES
NCARER6	0103	0103	7	CHILD'S PROVIDERS OFFER OTHER SERVICES
P_NUHEPX	0123	0123	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	0124	0124	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	0125	0125	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	0126	0126	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	0127	0127	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	0128	0128	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	0129	0129	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	0130	0130	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	0131	0131	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	0132	0132	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	0133	0133	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.

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P_NUMDTM	0134	0134	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.
P_NUMDTP	0135	0135	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	0136	0136	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	0137	0137	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	0138	0138	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	0139	0139	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	0140	0140	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	0144	0144	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	0145	0145	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	0141	0141	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	0142	0142	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	0143	0143	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.
P_NUMOLN	0146	0146	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.

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
P_NUMOPV	0147	0147	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_NUMPCC	0148	0148	8	NUMBER OF CONJUGATE (MARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMPCN	0149	0149	8	NUMBER OF PNEUMOCOCCAL (UNMARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMPCP	0150	0150	8	NUMBER OF POLYSACCHARIDE (MARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMPCV	0151	0151	8	NUMBER OF PNEUMOCOCCAL (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_NUMPOL	0152	0152	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	0153	0153	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	0154	0154	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	0155	0155	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	0156	0156	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	0157	0157	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	0114	0114	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 1+ VARICELLA AT 12+ MONTHS
P_UTD331	0113	0113	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3:3:1
P_UTD431	0110	0110	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 4:3:1
P_UTDHEP	0115	0115	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3+ HEPATITIS B
P_UTDHIB	0116	0116	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3+ HIB
P_UTDMCV	0117	0117	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 1+ MCV

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
P_UTDMMX	0118	0118	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 1+ MMR (NOT INCLUDING ANY MEASLES-ONLY SHOTS)
P_UTDPCV	0119	0119	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 4+ PNEUMOCOCCAL
P_UTDPOL	0120	0120	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3+ POLIO
P_UTDTP3	0121	0121	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3+ DTP
P_UTDTP4	0122	0122	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 4+ DTP
PCV1_AGE	0646	0647	9	AGE IN MONTHS OF PROVIDER-REPORTED PNEUMOCOCCAL (ALL TYPES) SHOT # 1
PCV2_AGE	0648	0649	9	AGE IN MONTHS OF PROVIDER-REPORTED PNEUMOCOCCAL (ALL TYPES) SHOT # 2
PCV3_AGE	0650	0651	9	AGE IN MONTHS OF PROVIDER-REPORTED PNEUMOCOCCAL (ALL TYPES) SHOT # 3
PCV4_AGE	0652	0653	9	AGE IN MONTHS OF PROVIDER-REPORTED PNEUMOCOCCAL (ALL TYPES) SHOT # 4
PCV5_AGE	0654	0655	9	AGE IN MONTHS OF PROVIDER-REPORTED PNEUMOCOCCAL (ALL TYPES) SHOT # 5
PCV6_AGE	0656	0657	9	AGE IN MONTHS OF PROVIDER-REPORTED PNEUMOCOCCAL (ALL TYPES) SHOT # 6
PCV7_AGE	0658	0659	9	AGE IN MONTHS OF PROVIDER-REPORTED PNEUMOCOCCAL (ALL TYPES) SHOT # 7
PCV8_AGE	0660	0661	9	AGE IN MONTHS OF PROVIDER-REPORTED PNEUMOCOCCAL (ALL TYPES) SHOT # 8
PDAT	0036	0036	1	CHILD HAS ADEQUATE PROVIDER DATA
PERSP	0104	0104	7	CLINICAL SPECIALTY OF PERSON(S) WHO ORDERED CHILD'S VACCINATION
POL1_AGE	0254	0255	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 1
POL2_AGE	0256	0257	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 2
POL3_AGE	0258	0259	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 3
POL4_AGE	0260	0261	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 4
POL5_AGE	0262	0263	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 5
POL6_AGE	0264	0265	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 6
POL7_AGE	0266	0267	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 7
POL8_AGE	0268	0269	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 8
PROV_FAC	0105	0105	7	PROVIDER FACILITY TYPE
PUT43133	0112	0112	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 4:3:1:3:3
PUTD4313	0111	0111	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 4:3:1:3
RACEKIDR	0084	0084	3	RACE/ETHNICITY OF CHILD (RECODE)
RACEMOMR	0085	0085	3	RACE/ETHNICITY OF MOTHER (RECODE)
RB1_AGE	0526	0527	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #1

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
RB2_AGE	0528	0529	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #2
RB3_AGE	0530	0531	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #3
RB4_AGE	0532	0533	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #4
RB5_AGE	0534	0535	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #5
RB6_AGE	0536	0537	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #6
RB7_AGE	0538	0539	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #7
RB8_AGE	0540	0541	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #8
REGISTRY	0106	0106	7	CHILD'S PROVIDERS REPORTED CHILD'S VACCINATIONS TO IMMUNIZATION REGISTRY
ROT1_AGE	0574	0575	9	AGE IN MONTHS OF PROVIDER-REPORTED ROTAVIRUS SHOT #1
ROT2_AGE	0576	0577	9	AGE IN MONTHS OF PROVIDER-REPORTED ROTAVIRUS SHOT #2
ROT3_AGE	0578	0579	9	AGE IN MONTHS OF PROVIDER-REPORTED ROTAVIRUS SHOT #3
ROT4_AGE	0580	0581	9	AGE IN MONTHS OF PROVIDER-REPORTED ROTAVIRUS SHOT #4
ROT5_AGE	0582	0583	9	AGE IN MONTHS OF PROVIDER-REPORTED ROTAVIRUS SHOT #5
ROT6_AGE	0584	0585	9	AGE IN MONTHS OF PROVIDER-REPORTED ROTAVIRUS SHOT #6
ROT7_AGE	0586	0587	9	AGE IN MONTHS OF PROVIDER-REPORTED ROTAVIRUS SHOT #7
ROT8_AGE	0588	0589	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	0086	0086	3	GENDER OF CHILD
SHOTCARD	0058	0058	2	SHOT CARD USE FLAG
STATE	0091	0092	4	STATE OF RESIDENCE (STATE FIPS CODE)
VFC_PRO	0107	0107	7	PARTICIPATION OF CHILD'S PROVIDERS IN VACCINES FOR CHILDREN PROGRAM
VRC1_AGE	0606	0607	9	AGE IN MONTHS OF PROVIDER-REPORTED VARICELLA SHOT #1
VRC2_AGE	0608	0609	9	AGE IN MONTHS OF PROVIDER-REPORTED VARICELLA SHOT #2
VRC3_AGE	0610	0611	9	AGE IN MONTHS OF PROVIDER-REPORTED VARICELLA SHOT #3
VRC4_AGE	0612	0613	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	0206	0207	9	DTP-CONTAINING VACCINATION #1 TYPE CODE
XDTPTY2	0208	0209	9	DTP-CONTAINING VACCINATION #2 TYPE CODE
XDTPTY3	0210	0211	9	DTP-CONTAINING VACCINATION #3 TYPE CODE
XDTPTY4	0212	0213	9	DTP-CONTAINING VACCINATION #4 TYPE CODE
XDTPTY5	0214	0215	9	DTP-CONTAINING VACCINATION #5 TYPE CODE
XDTPTY6	0216	0217	9	DTP-CONTAINING VACCINATION #6 TYPE CODE
XDTPTY7	0218	0219	9	DTP-CONTAINING VACCINATION #7 TYPE CODE
XDTPTY8	0220	0221	9	DTP-CONTAINING VACCINATION #8 TYPE CODE
XHEPTY1	0430	0431	9	HEPATITIS B-CONTAINING VACCINATION #1 TYPE CODE
XHEPTY2	0432	0433	9	HEPATITIS B-CONTAINING VACCINATION #2 TYPE CODE
XHEPTY3	0434	0435	9	HEPATITIS B-CONTAINING VACCINATION #3 TYPE CODE
XHEPTY4	0436	0437	9	HEPATITIS B-CONTAINING VACCINATION #4 TYPE CODE

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
XHEPTY5	0438	0439	9	HEPATITIS B-CONTAINING VACCINATION #5 TYPE CODE
XHEPTY6	0440	0441	9	HEPATITIS B-CONTAINING VACCINATION #6 TYPE CODE
XHEPTY7	0442	0443	9	HEPATITIS B-CONTAINING VACCINATION #7 TYPE CODE
XHEPTY8	0444	0445	9	HEPATITIS B-CONTAINING VACCINATION #8 TYPE CODE
XHIBTY1	0366	0367	9	HIB-CONTAINING VACCINATION #1 TYPE CODE
XHIBTY2	0368	0369	9	HIB-CONTAINING VACCINATION #2 TYPE CODE
XHIBTY3	0370	0371	9	HIB-CONTAINING VACCINATION #3 TYPE CODE
XHIBTY4	0372	0373	9	HIB-CONTAINING VACCINATION #4 TYPE CODE
XHIBTY5	0374	0375	9	HIB-CONTAINING VACCINATION #5 TYPE CODE
XHIBTY6	0376	0377	9	HIB-CONTAINING VACCINATION #6 TYPE CODE
XHIBTY7	0378	0379	9	HIB-CONTAINING VACCINATION #7 TYPE CODE
XHIBTY8	0380	0381	9	HIB-CONTAINING VACCINATION #8 TYPE CODE
XMMRTY1	0310	0311	9	MCV-CONTAINING VACCINATION #1 TYPE CODE
XMMRTY2	0312	0313	9	MCV-CONTAINING VACCINATION #2 TYPE CODE
XMMRTY3	0314	0315	9	MCV-CONTAINING VACCINATION #3 TYPE CODE
XMMRTY4	0316	0317	9	MCV-CONTAINING VACCINATION #4 TYPE CODE
XPCVTY1	0662	0663	9	PNEUMOCOCCAL-CONTAINING VACCINATION #1 TYPE CODE
XPCVTY2	0664	0665	9	PNEUMOCOCCAL-CONTAINING VACCINATION #2 TYPE CODE
XPCVTY3	0666	0667	9	PNEUMOCOCCAL-CONTAINING VACCINATION #3 TYPE CODE
XPCVTY4	0668	0669	9	PNEUMOCOCCAL-CONTAINING VACCINATION #4 TYPE CODE
XPCVTY5	0670	0671	9	PNEUMOCOCCAL-CONTAINING VACCINATION #5 TYPE CODE
XPCVTY6	0672	0673	9	PNEUMOCOCCAL-CONTAINING VACCINATION #6 TYPE CODE
XPCVTY7	0674	0675	9	PNEUMOCOCCAL-CONTAINING VACCINATION #7 TYPE CODE
XPCVTY8	0676	0677	9	PNEUMOCOCCAL-CONTAINING VACCINATION #8 TYPE CODE
XPOLTY1	0270	0271	9	POLIO-CONTAINING VACCINATION #1 TYPE CODE
XPOLTY2	0272	0273	9	POLIO-CONTAINING VACCINATION #2 TYPE CODE
XPOLTY3	0274	0275	9	POLIO-CONTAINING VACCINATION #3 TYPE CODE
XPOLTY4	0276	0277	9	POLIO-CONTAINING VACCINATION #4 TYPE CODE
XPOLTY5	0278	0279	9	POLIO-CONTAINING VACCINATION #5 TYPE CODE
XPOLTY6	0280	0281	9	POLIO-CONTAINING VACCINATION #6 TYPE CODE
XPOLTY7	0282	0283	9	POLIO-CONTAINING VACCINATION #7 TYPE CODE
XPOLTY8	0284	0285	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, 2001 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	5,728,652	33,437	23,531
Alabama	90,724	812	591
Rest of State	77,018	429	315
Jefferson County	13,706	383	276
Alaska	13,901	383	289
Arizona	114,289	892	590
Rest of State	41,902	415	296
Maricopa County	72,387	477	294
Arkansas	52,733	497	391
California	760,626	1,828	1,261
Rest of State	427,737	434	293
Los Angeles Co.	230,155	509	329
Santa Clara County	38,912	395	284
San Diego County	63,822	490	355
Colorado	85,705	508	368
Connecticut	63,452	394	285
Delaware	14,498	411	281
Dist. of Columbia	9,950	494	311
Florida	299,881	1,262	811
Rest of State	233,135	432	296
Duval County	18,580	430	282
Dade County	48,166	400	233
Georgia	183,253	875	598
Rest of State	148,344	397	281
Fulton/DeKalb Cos.	34,909	478	317
Hawaii	25,257	432	278
Idaho	28,346	409	327
Illinois	262,706	922	602
Rest of State	189,717	437	303
City of Chicago	72,990	485	299
Indiana	123,799	773	559
Rest of State	103,519	409	313
Marion County	20,280	364	246
Iowa	53,395	376	292
Kansas	57,087	373	269
Kentucky	77,408	403	305

Table H.1: Estimated population total and sample sizes of children 19-35 months of age by state and IAP area, 2001 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	92,175	917	572
Rest of State	81,666	443	288
Orleans Parish	10,509	474	284
Maine	20,862	398	310
Maryland	112,641	905	632
Rest of State	96,263	478	347
Baltimore City	16,379	427	285
Massachusetts	114,728	848	599
Rest of State	102,653	447	320
City of Boston	12,075	401	279
Michigan	192,281	889	601
Rest of State	169,116	441	318
City of Detroit	23,166	448	283
Minnesota	97,870	392	306
Mississippi	60,713	388	286
Missouri	106,564	379	267
Montana	15,338	389	290
Nebraska	33,056	394	301
Nevada	45,946	447	297
New Hampshire	20,897	439	318
New Jersey	169,484	950	636
Rest of State	162,160	463	310
City of Newark	7,324	487	326
New Mexico	39,615	464	338
New York	363,528	942	589
Rest of State	192,739	457	309
NYC - 5 Counties	170,789	485	280
North Carolina	165,682	418	301
North Dakota	9,841	411	318
Ohio	216,794	1,241	920
Rest of State	166,781	441	338
Cuyahoga County	26,606	399	284
Franklin County	23,407	401	298
Oklahoma	70,864	444	315
Oregon	66,549	381	286

Table H.1: Estimated population total and sample sizes of children 19-35 months of age by state and IAP area, 2001 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	207,497	882	564
Rest of State	176,180	411	284
Philadelphia Co.	31,317	471	280
Rhode Island	17,857	480	364
South Carolina	81,452	403	296
South Dakota	15,135	366	265
Tennessee	108,379	1,264	916
Rest of State	75,774	405	296
Shelby County	20,705	432	295
Davidson County	11,899	427	325
Texas	496,904	2,378	1,594
Rest of State	323,432	525	345
Dallas County	58,082	470	323
El Paso County	20,119	454	348
City of Houston	61,666	455	249
Bexar County	33,605	474	329
Utah	61,174	415	302
Vermont	9,690	401	331
Virginia	142,779	390	243
Washington	118,631	831	592
Rest of State	85,786	423	310
King County	32,845	408	282
West Virginia	28,382	374	287
Wisconsin	99,582	783	601
Rest of State	77,101	371	287
Milwaukee County	22,481	412	314
Wyoming	8,754	390	286

Table H.2: Age Group by Maternal Education, National Immunization Survey, 2001

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	1,379	284,468.5	962	293,805.0
19 - 23	12 YEARS	3,139	626,012.6	2,227	645,794.1
19 - 23	GREATER 12 YEARS, NOT COLLEGE GRADUATE	1,667	237,636.0	1,181	238,024.5
19 - 23	COLLEGE GRADUATE	3,982	574,848.1	2,821	557,229.1
24 - 29	LESS THAN 12 YEARS	1,592	349,428.7	1,111	350,836.5
24 - 29	12 YEARS	3,630	736,206.1	2,520	723,507.9
24 - 29	GREATER 12 YEARS, NOT COLLEGE GRADUATE	1,949	274,656.7	1,401	277,727.8
24 - 29	COLLEGE GRADUATE	4,539	661,051.7	3,246	666,854.3
30 - 35	LESS THAN 12 YEARS	1,416	295,159.9	984	291,806.3
30 - 35	12 YEARS	3,558	751,046.9	2,431	736,562.1
30 - 35	GREATER 12 YEARS, NOT COLLEGE GRADUATE	2,063	287,790.1	1,463	290,837.1
30 - 35	COLLEGE GRADUATE	4,523	650,346.8	3,184	655,667.4

Table H.3: Age Group by Family Income, National Immunization Survey, 2001

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	151	30,353.9	1	1,527.8
19 - 23	0 - \$ 7,500	526	94,336.9	374	94,698.9
19 - 23	\$ 7,501 - \$10,000	436	82,049.8	325	87,455.6
19 - 23	\$10,001 - \$12,500	199	33,128.7	149	33,224.8
19 - 23	\$12,501 - \$15,000	362	62,141.2	278	70,654.7
19 - 23	\$15,001 - \$17,500	193	35,319.8	136	42,832.7
19 - 23	\$17,501 - \$20,000	522	92,794.2	398	95,058.2
19 - 23	\$20,001 - \$25,000	548	96,380.1	399	97,324.6
19 - 23	\$25,001 - \$30,000	730	122,365.8	522	114,688.5
19 - 23	\$30,001 - \$35,000	509	82,831.2	388	86,068.1
19 - 23	\$45,001 - \$40,000	539	92,767.3	403	93,919.5
19 - 23	\$40,001 - \$45,000	330	50,897.3	246	53,752.6
19 - 23	\$45,001 - \$50,000	560	90,467.9	406	93,795.7
19 - 23	\$50,001 +	3,241	524,416.3	2,392	521,648.3
19 - 23	DON'T KNOW	860	154,861.0	565	180,000.9
19 - 23	REFUSED	461	77,853.7	209	68,201.9
24 - 29	MISSING	151	25,892.7	3	483.2
24 - 29	0 - \$ 7,500	572	105,208.5	380	92,575.7
24 - 29	\$ 7,501 - \$10,000	543	105,122.7	395	106,253.8
24 - 29	\$10,001 - \$12,500	217	45,053.5	163	42,660.7
24 - 29	\$12,501 - \$15,000	437	75,977.3	311	70,024.4
24 - 29	\$15,001 - \$17,500	207	38,278.0	149	38,759.5
24 - 29	\$17,501 - \$20,000	568	107,141.9	425	115,279.1
24 - 29	\$20,001 - \$25,000	681	115,181.1	493	114,326.4
24 - 29	\$25,001 - \$30,000	809	132,753.8	599	136,532.8
24 - 29	\$30,001 - \$35,000	553	95,797.9	419	100,676.8
24 - 29	\$45,001 - \$40,000	667	111,476.4	499	112,797.7
24 - 29	\$40,001 - \$45,000	388	62,149.4	277	57,354.2
24 - 29	\$45,001 - \$50,000	662	108,048.0	478	103,127.6
24 - 29	\$50,001 +	3,807	626,960.0	2,852	654,343.1
24 - 29	DON'T KNOW	896	168,647.0	562	191,825.3
24 - 29	REFUSED	552	97,654.8	273	81,906.2
30 - 35	MISSING	152	30,184.7	1	506.2
30 - 35	0 - \$ 7,500	509	82,883.7	367	88,366.7
30 - 35	\$ 7,501 - \$10,000	534	94,091.6	357	87,102.7
30 - 35	\$10,001 - \$12,500	218	36,261.7	165	38,494.9
30 - 35	\$12,501 - \$15,000	374	67,306.1	274	67,693.7
30 - 35	\$15,001 - \$17,500	197	27,634.8	145	26,654.8
30 - 35	\$17,501 - \$20,000	575	114,237.1	408	110,991.9
30 - 35	\$20,001 - \$25,000	696	121,120.3	502	119,977.2
30 - 35	\$25,001 - \$30,000	764	136,681.6	534	132,133.3
30 - 35	\$30,001 - \$35,000	553	89,085.9	406	86,443.4
30 - 35	\$45,001 - \$40,000	738	127,860.5	525	125,842.7
30 - 35	\$40,001 - \$45,000	411	68,459.6	311	70,876.5
30 - 35	\$45,001 - \$50,000	651	106,448.3	472	106,584.7
30 - 35	\$50,001 +	3,811	612,566.0	2,807	632,319.6
30 - 35	DON'T KNOW	847	177,219.5	537	201,933.8
30 - 35	REFUSED	530	92,302.0	251	78,950.8

Table H.4: Age Group by Race/Ethnicity, National Immunization Survey, 2001

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	2,072	396,350.9	1,471	404,935.7
19 - 23	WHITE, NON HISPANIC	5,778	978,133.8	4,223	964,880.0
19 - 23	BLACK, NON HISPANIC	1,730	258,559.0	1,092	271,304.5
19 - 23	ALL OTHER, NON HISPANIC	587	89,921.4	405	93,732.5
24 - 29	HISPANIC	2,418	480,696.2	1,664	483,518.2
24 - 29	WHITE, NON HISPANIC	6,645	1,136,068.9	4,878	1,147,820.7
24 - 29	BLACK, NON HISPANIC	1,986	303,900.3	1,286	289,936.9
24 - 29	ALL OTHER, NON HISPANIC	661	100,677.8	450	97,650.7
30 - 35	HISPANIC	2,285	451,410.0	1,533	440,017.2
30 - 35	WHITE, NON HISPANIC	6,766	1,150,340.4	4,946	1,149,655.6
30 - 35	BLACK, NON HISPANIC	1,870	282,565.9	1,168	283,809.1
30 - 35	ALL OTHER, NON HISPANIC	639	100,027.4	415	101,391.0

Table H.5: Age Group by Gender, National Immunization Survey, 2001

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	5,168	872,561.5	3,673	874,194.8
19 - 23	FEMALE	4,999	850,403.8	3,518	860,657.9
24 - 29	MALE	6,005	1,036,521.5	4,236	1,030,378.2
24 - 29	FEMALE	5,705	984,821.7	4,042	988,548.3
30 - 35	MALE	5,912	1,014,947.0	4,142	1,019,456.3
30 - 35	FEMALE	5,648	969,396.7	3,920	955,416.7

Table H.6: Shot Card Use by Presence of Adequate Provider Data, National Immunization Survey, 2001

Shot Card Use	Presence of Adequate Provider Data	Unweighted Sample Size
SHOT CARD	ADEQUATE PROVIDER DATA	11,595
SHOT CARD	NO ADEQUATE PROVIDER DATA	3,743
NO SHOT CARD	ADEQUATE PROVIDER DATA	11,936
NO SHOT CARD	NO ADEQUATE PROVIDER DATA	6,163

**Table H.7: Estimates of Vaccination Coverage and 95-Percent Confidence-Interval Half-Widths,
National Immunization Survey, 2001**

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	94.3±0.5	82.1±0.8	89.4±0.7	91.4±0.6	93.0±0.6	88.9±0.7	76.3±0.8	84.4±0.8	78.6±0.9	77.2±0.9	73.7±0.9
Alabama	98.3±1.1	86.8±3.7	92.7±2.7	94.0±2.5	97.2±1.6	91.2±2.8	88.1±3.3	89.9±3.1	84.5±3.8	82.7±4.0	79.1±4.2
AL-Jefferson Cnty	97.2±2.0	89.3±3.7	93.3±3.0	94.2±2.9	97.4±1.9	88.6±4.2	85.9±4.7	90.0±3.6	86.9±4.0	86.6±4.0	79.5±5.0
AL-Rest of State	98.5±1.3	86.4±4.3	92.6±3.2	93.9±2.9	97.2±1.9	91.7±3.2	88.5±3.9	89.9±3.6	84.1±4.5	82.0±4.7	79.0±4.9
Alaska	89.8±3.8	77.0±5.4	84.9±4.5	87.8±4.1	88.3±4.1	84.4±4.6	61.1±6.1	81.0±4.9	74.5±5.5	74.1±5.5	71.2±5.6
Arizona	92.9±2.5	77.9±3.9	85.9±3.2	88.7±2.9	91.2±2.7	85.0±3.3	74.5±3.9	81.0±3.6	73.8±4.0	72.9±4.1	68.1±4.3
AZ-Maricopa Cnty	92.5±3.4	76.6±5.4	86.7±4.3	88.4±4.0	90.0±3.8	85.1±4.4	75.5±5.3	80.7±5.0	73.1±5.6	71.7±5.7	66.5±5.9
AZ-Rest of State	93.7±3.5	80.3±5.1	84.5±4.7	89.2±4.1	93.2±3.6	84.9±4.8	72.8±5.6	81.4±4.9	75.2±5.3	75.2±5.3	70.7±5.7
Arkansas	94.2±2.5	77.2±4.5	88.9±3.4	90.3±3.2	93.2±2.7	86.6±3.6	83.1±4.1	83.8±4.0	74.1±4.7	74.1±4.7	69.1±4.9
California	93.7±2.2	79.8±3.4	88.8±2.7	91.3±2.4	92.3±2.3	88.8±2.8	83.0±3.2	84.0±3.1	76.5±3.6	74.9±3.6	72.6±3.7
CA-Los Angeles	95.3±2.9	80.2±4.8	89.1±3.9	91.9±3.6	90.1±3.9	91.6±3.3	84.5±4.5	84.4±4.7	76.7±5.2	73.3±5.4	71.6±5.5
CA-San Diego Cnty	95.3±2.4	84.7±4.1	92.6±2.9	94.1±2.6	96.1±2.4	90.6±3.3	90.5±3.2	88.5±3.5	80.8±4.4	79.9±4.5	75.7±4.8
CA-Santa Clara	94.0±3.0	83.4±4.7	90.8±3.6	91.7±3.5	91.7±3.6	87.9±4.1	82.8±4.6	87.1±4.1	80.0±5.0	77.0±5.3	70.7±5.7
CA-Rest of State	92.6±3.6	78.5±5.4	87.8±4.3	90.6±3.8	93.0±3.5	87.1±4.6	81.0±5.1	82.9±4.9	75.4±5.6	74.9±5.7	72.9±5.8
Colorado	95.6±2.2	81.7±4.2	90.3±3.1	92.1±2.9	92.3±2.8	87.6±3.6	79.0±4.5	84.8±3.8	77.2±4.5	75.4±4.6	71.5±4.8
Connecticut	95.0±3.1	89.9±4.2	94.2±3.2	93.9±3.3	94.5±3.2	89.0±4.8	84.3±5.0	87.7±4.6	85.9±4.7	84.1±4.9	78.4±5.6
Delaware	93.8±3.0	86.9±4.2	90.6±3.7	93.6±3.0	93.2±3.2	89.9±3.9	80.6±4.9	84.0±4.6	81.0±4.9	78.6±5.1	74.9±5.4
Dist. of Columbia	91.6±3.9	80.4±5.2	88.6±4.5	91.9±3.7	91.6±3.9	86.9±4.3	86.6±4.5	83.7±4.9	75.5±5.6	74.2±5.6	68.9±5.9
Florida	94.0±2.3	84.2±3.7	89.9±3.2	91.4±2.9	92.9±2.7	88.7±3.4	72.0±4.5	83.2±3.8	79.4±4.0	76.9±4.3	73.0±4.5
FL-Dade Cnty	95.6±2.5	83.7±5.2	91.0±3.9	94.5±3.3	95.6±2.6	92.6±3.4	66.3±7.0	85.0±4.8	79.1±5.7	77.8±5.8	74.5±6.2
FL-Duval Cnty	95.8±2.8	80.6±5.2	89.8±4.1	92.2±3.5	93.7±3.5	92.7±3.5	79.2±5.3	84.4±4.7	77.5±5.4	76.0±5.5	73.7±5.7
FL-Rest of State	93.5±2.9	84.6±4.6	89.6±4.0	90.7±3.7	92.3±3.5	87.6±4.3	72.6±5.5	82.7±4.7	79.6±5.1	76.8±5.3	72.7±5.6
Georgia	94.7±2.3	84.2±3.9	93.1±2.7	90.1±3.3	93.3±2.6	92.4±2.9	87.1±3.5	86.6±3.6	81.3±4.2	80.0±4.3	78.5±4.4
GA-Fulton/DeKalb	90.6±4.2	82.1±5.1	92.5±3.2	91.1±4.1	91.5±3.7	92.2±3.3	85.2±4.3	83.4±5.0	78.3±5.4	75.1±5.7	73.0±5.8
GA-Rest of State	95.7±2.7	84.7±4.7	93.3±3.2	89.8±4.0	93.8±3.1	92.4±3.5	87.5±4.2	87.3±4.3	82.0±5.0	81.1±5.1	79.8±5.2
Hawaii	90.4±5.5	77.2±6.5	83.6±6.3	90.6±3.6	89.9±5.6	86.6±5.7	80.7±5.0	78.2±6.4	73.4±6.6	72.8±6.6	70.8±6.7
Idaho	91.8±3.5	76.4±5.1	85.1±4.3	88.6±3.8	91.5±3.6	86.4±3.9	55.8±5.7	81.5±4.6	75.0±5.1	74.1±5.2	70.2±5.4
Illinois	92.5±2.9	81.2±3.8	85.5±3.6	89.0±3.1	91.9±2.8	88.1±3.1	57.0±4.9	81.1±3.8	76.4±4.1	75.6±4.1	72.7±4.2
IL-City of Chicago	94.1±2.8	76.6±5.6	86.9±4.4	87.4±4.4	88.5±4.2	86.8±4.0	68.0±6.3	80.6±5.1	71.9±5.9	69.0±6.0	65.1±6.2
IL-Rest of State	91.9±3.8	82.9±4.8	84.9±4.6	89.7±3.9	93.2±3.5	88.5±4.0	52.8±6.3	81.3±4.9	78.1±5.2	78.1±5.2	75.6±5.3
Indiana	92.7±2.8	78.4±4.5	89.4±3.2	91.1±3.0	92.7±2.8	88.8±3.4	58.9±5.3	82.1±4.1	75.5±4.6	73.6±4.7	71.1±4.8
IN-Marion Cnty	92.9±3.5	78.3±6.2	88.1±4.5	91.1±4.7	92.3±3.7	87.0±4.6	68.4±6.8	81.8±5.8	74.6±6.4	72.0±6.6	68.6±6.7
IN-Rest of State	92.7±3.3	78.4±5.2	89.6±3.8	91.1±3.5	92.7±3.2	89.1±4.0	57.0±6.2	82.1±4.7	75.7±5.3	73.9±5.4	71.6±5.6
Iowa	94.0±3.0	84.0±4.6	89.1±4.0	89.2±3.8	93.3±3.2	92.1±3.5	62.4±6.0	83.0±4.7	80.1±4.9	79.4±5.0	78.6±5.1
Kansas	92.1±4.2	82.5±5.6	88.5±6.0	90.4±4.8	92.5±4.4	88.8±4.9	64.1±7.0	81.9±6.7	76.7±6.9	75.7±6.9	72.8±7.0
Kentucky	95.0±2.5	81.6±4.6	92.2±3.2	91.6±3.3	93.3±3.1	90.3±3.5	77.5±5.0	86.9±4.0	80.2±4.7	78.5±4.9	75.9±5.0
Louisiana	89.2±3.8	74.1±5.3	81.4±4.7	84.7±4.2	90.1±3.6	85.6±4.4	73.0±5.3	74.2±5.3	69.9±5.5	68.9±5.6	64.1±5.9
LA-Orleans Parish	91.1±3.9	76.1±5.6	83.7±5.0	84.4±4.8	94.7±3.1	83.4±5.1	68.7±6.7	74.1±5.7	69.3±5.9	67.8±6.0	62.4±6.1

Table H.7: Estimates of Vaccination Coverage and 95-Percent Confidence-Interval Half-Widths, National Immunization Survey, 2001 (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	89.0±4.2	73.9±5.9	81.1±5.3	84.7±4.7	89.5±4.0	85.8±5.0	73.5±5.9	74.2±5.9	70.0±6.2	69.1±6.3	64.4±6.6
Maine	97.8±1.7	90.4±3.4	93.0±3.1	94.2±2.7	95.1±2.5	87.6±3.9	62.1±5.8	88.5±3.8	83.3±4.4	82.2±4.5	75.1±5.1
Maryland	93.6±2.4	83.3±3.8	90.9±2.9	92.9±2.5	93.6±2.5	89.8±3.0	87.8±3.3	85.9±3.4	79.7±4.0	77.9±4.1	73.4±4.4
MD-Baltimore City	90.7±4.0	79.5±5.7	85.6±4.9	90.7±4.2	91.7±4.0	85.1±4.6	86.9±4.5	80.0±5.4	72.4±6.2	71.6±6.2	65.3±6.4
MD-Rest of State	94.1±2.7	84.0±4.3	91.8±3.3	93.2±2.9	93.9±2.8	90.6±3.4	88.0±3.8	86.9±3.8	81.0±4.5	79.0±4.7	74.8±5.0
Massachusetts	96.0±2.1	85.7±3.9	92.9±3.0	92.8±2.8	97.9±1.4	92.5±3.0	82.8±4.0	85.8±4.0	81.9±4.3	80.6±4.4	76.6±4.7
MA-City of Boston	95.3±3.1	88.0±4.2	93.8±3.5	91.5±3.8	95.3±3.2	88.3±4.5	82.8±4.9	88.9±4.2	85.1±4.6	84.5±4.7	78.5±5.4
MA-Rest of State	96.1±2.3	85.5±4.4	92.8±3.3	93.0±3.1	98.2±1.5	93.0±3.3	82.8±4.4	85.4±4.4	81.5±4.8	80.2±4.9	76.4±5.2
Michigan	95.0±2.3	77.7±4.7	88.3±3.4	88.6±3.8	93.1±2.9	86.4±3.9	76.6±4.8	83.1±4.3	74.7±4.9	73.9±5.0	70.0±5.2
MI-City of Detroit	88.3±4.3	70.4±6.1	81.8±5.1	86.4±4.6	81.5±5.2	80.0±5.1	75.8±5.5	76.4±5.5	65.3±6.3	62.5±6.4	57.7±6.5
MI-Rest of State	95.9±2.5	78.7±5.3	89.2±3.8	88.9±4.2	94.7±3.2	87.2±4.4	76.7±5.4	84.0±4.8	75.9±5.6	75.5±5.6	71.7±5.8
Minnesota	97.3±2.2	86.3±4.4	91.6±3.5	90.8±3.7	93.4±3.4	92.5±3.4	73.7±5.3	86.1±4.3	81.3±4.8	79.0±5.1	76.3±5.3
Mississippi	96.4±2.4	87.5±4.4	92.8±3.4	93.3±3.3	93.3±3.5	91.3±3.5	61.5±6.3	89.3±4.1	84.5±4.7	83.9±4.8	80.2±5.2
Missouri	95.9±2.7	83.8±4.9	89.7±4.0	90.0±3.9	93.7±3.1	91.1±3.7	68.7±6.2	84.6±4.7	79.0±5.3	77.8±5.4	75.5±5.5
Montana	97.1±1.9	85.5±4.3	89.6±3.7	94.7±2.7	95.1±2.6	91.3±3.5	67.2±5.7	87.2±4.0	83.0±4.5	81.7±4.6	77.9±5.0
Nebraska	94.2±2.8	85.4±4.2	88.9±3.8	90.9±3.4	92.0±3.3	91.2±3.5	69.1±5.7	83.9±4.4	81.5±4.6	80.4±4.7	78.9±4.9
Nevada	90.2±3.9	75.8±5.6	86.0±4.9	86.0±4.8	89.6±4.0	85.5±4.5	67.0±6.0	80.0±5.3	73.9±5.6	72.2±5.7	68.1±5.9
New Hampshire	98.2±1.4	88.8±3.7	94.4±2.6	94.3±2.6	97.4±1.8	90.0±3.5	73.3±5.2	90.4±3.3	84.9±4.1	83.9±4.2	77.6±4.8
New Jersey	92.4±3.4	81.3±4.7	88.4±4.0	91.1±3.7	92.4±3.9	85.8±4.6	75.5±5.3	83.4±4.6	77.9±5.0	76.2±5.4	73.1±5.5
NJ-City of Newark	92.8±2.9	71.2±5.5	84.4±4.5	89.5±3.6	90.4±3.6	87.8±4.1	76.3±5.2	78.8±5.0	67.0±5.7	64.0±5.9	58.8±6.1
NJ-Rest of State	92.3±3.5	81.8±4.9	88.6±4.2	91.2±3.9	92.5±4.1	85.7±4.8	75.4±5.5	83.6±4.8	78.4±5.2	76.7±5.6	73.8±5.7
New Mexico	92.5±3.0	76.1±4.8	84.3±4.2	87.7±3.8	90.3±3.5	79.3±4.7	72.3±5.4	79.6±4.5	72.7±5.0	71.0±5.1	63.2±5.5
New York	95.2±2.2	87.4±3.1	89.3±3.0	92.5±2.4	93.4±2.5	89.7±2.9	79.0±3.7	84.7±3.4	81.9±3.5	80.5±3.6	77.1±3.8
NY-NYC 5 Counties	92.8±4.0	83.8±5.1	85.4±5.2	91.3±3.8	90.8±4.3	89.9±4.6	81.3±5.4	81.2±5.6	77.6±5.7	75.9±5.9	74.3±6.1
NY-Rest of State	97.4±2.1	90.5±3.6	92.7±3.2	93.6±2.9	95.8±2.5	89.6±3.6	76.9±5.2	87.8±4.0	85.8±4.2	84.6±4.3	79.5±4.8
North Carolina	98.3±1.6	86.9±4.4	93.1±3.4	96.4±2.3	94.0±3.2	92.1±3.5	83.1±4.4	90.1±3.8	85.7±4.5	84.7±4.6	80.4±5.1
North Dakota	94.1±2.9	86.0±4.2	92.6±3.1	92.5±3.1	94.5±2.7	89.7±3.7	69.2±5.5	89.4±3.6	83.5±4.5	82.5±4.6	78.7±4.9
Ohio	93.4±2.3	78.5±3.9	90.0±2.8	91.8±2.6	93.2±2.4	90.3±2.7	72.1±4.2	83.3±3.4	76.3±4.0	74.7±4.0	71.2±4.2
OH-Cuyahoga Cnty	93.7±3.1	78.9±5.3	85.7±4.6	92.5±3.4	90.9±3.9	86.4±4.7	76.4±5.4	80.9±5.1	74.0±5.7	72.8±5.8	68.4±6.0
OH-Franklin Cnty	95.5±2.5	82.4±4.7	89.0±3.7	93.8±2.8	93.6±3.0	89.1±3.7	77.9±4.9	85.3±4.2	79.3±4.9	78.3±5.0	74.4±5.3
OH-Rest of State	93.0±2.9	77.9±4.9	90.8±3.5	91.4±3.3	93.5±3.1	91.1±3.4	70.6±5.4	83.4±4.4	76.2±5.0	74.5±5.1	71.2±5.3
Oklahoma	93.6±3.5	80.1±5.1	86.7±4.6	93.8±2.9	90.9±3.9	84.6±4.7	82.5±4.5	83.8±4.8	77.1±5.3	76.2±5.4	70.0±5.7
Oregon	94.8±2.9	78.2±5.4	88.5±4.3	89.4±4.0	91.4±4.1	89.0±4.3	74.2±5.6	82.7±5.0	75.3±5.7	73.0±5.8	68.5±6.1
Pennsylvania	97.2±1.4	87.1±3.5	92.1±2.8	95.5±2.0	94.1±2.5	91.5±2.8	80.1±4.3	89.6±3.1	84.6±3.8	82.0±4.0	78.8±4.2
PA-Philadelphia	92.7±3.3	79.8±5.1	89.3±4.0	87.9±4.2	90.8±3.7	82.7±5.0	85.7±4.6	81.8±4.9	76.0±5.4	73.8±5.6	64.9±6.1
PA-Rest of State	98.0±1.5	88.4±4.1	92.6±3.2	96.9±2.2	94.7±2.8	93.1±3.1	79.1±5.1	91.0±3.5	86.1±4.3	83.5±4.7	81.3±4.8
Rhode Island	97.1±1.8	89.9±3.3	94.9±2.4	94.8±2.6	96.8±1.9	95.8±2.2	89.9±3.2	89.1±3.5	84.8±4.0	83.7±4.1	81.7±4.3
South Carolina	96.0±2.6	82.7±5.0	92.7±3.8	94.7±2.7	95.8±2.5	92.3±3.7	80.2±4.9	89.6±4.2	81.2±5.1	80.8±5.1	78.7±5.2
South Dakota	95.4±2.8	83.2±4.9	91.2±3.6	93.7±3.3	94.9±3.1	90.5±4.0	52.8±6.5	87.5±4.3	80.5±5.3	79.1±5.5	76.5±5.8
Tennessee	95.1±2.0	86.3±3.1	93.5±2.0	94.2±2.0	96.0±1.7	91.5±2.6	80.1±3.6	88.7±2.7	84.6±3.1	83.9±3.2	79.7±3.6

Table H.7: Estimates of Vaccination Coverage and 95-Percent Confidence-Interval Half-Widths, National Immunization Survey, 2001 (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	94.2±3.0	87.2±4.2	92.2±3.5	92.1±3.1	94.7±3.0	90.2±3.7	81.0±4.7	86.8±4.1	83.1±4.6	81.9±4.7	77.6±5.0
TN-Shelby Cnty	95.0±2.7	80.9±5.0	86.7±4.3	91.2±3.5	92.2±3.5	91.9±3.5	76.0±5.3	82.3±4.8	75.8±5.4	73.9±5.6	72.1±5.7
TN-Rest of State	95.3±2.8	87.6±4.1	95.6±2.5	95.3±2.6	97.3±2.2	91.6±3.6	81.0±5.0	90.8±3.6	87.3±4.2	87.0±4.2	82.0±4.8
Texas	93.3±1.8	78.6±3.5	87.6±2.7	90.4±2.3	91.1±2.3	86.9±2.7	83.5±3.0	83.1±3.0	74.9±3.7	73.7±3.8	69.7±4.0
TX-Bexar Cnty	92.5±3.1	77.8±4.8	89.0±3.6	91.6±3.2	91.6±3.4	89.5±3.6	88.1±3.8	84.6±4.4	75.1±5.1	73.2±5.3	71.4±5.4
TX-City of Houston	88.5±4.7	76.3±6.3	84.8±5.3	82.7±5.2	89.0±4.4	79.1±6.4	80.3±5.4	76.6±6.1	70.5±6.6	69.2±6.7	63.0±7.3
TX-Dallas Cnty	90.2±3.4	71.6±5.7	85.7±4.2	87.0±4.0	85.1±4.3	81.1±4.6	73.5±5.6	78.4±5.0	68.9±5.7	66.5±5.9	63.1±5.9
TX-El Paso Cnty	90.8±3.3	75.6±5.0	84.2±4.4	85.1±4.2	90.1±3.5	82.7±4.3	81.0±4.6	77.7±4.9	69.2±5.3	68.5±5.3	64.4±5.4
TX-Rest of State	95.0±2.6	80.5±5.1	88.6±3.9	92.7±3.3	92.7±3.3	89.5±3.8	85.6±4.3	85.4±4.4	77.2±5.4	76.2±5.5	72.3±5.8
Utah	92.0±3.6	79.4±5.2	88.4±4.1	89.1±4.0	91.9±3.7	82.7±4.7	68.1±5.7	82.9±4.7	75.1±5.5	74.1±5.6	66.1±5.9
Vermont	97.6±1.7	91.7±3.3	95.2±2.7	95.6±2.2	97.0±1.9	87.3±4.0	61.9±5.5	92.8±3.1	89.2±3.6	88.0±3.8	80.3±4.6
Virginia	94.5±3.8	83.3±5.7	88.6±4.6	91.0±4.2	95.1±3.4	89.5±4.8	83.1±5.9	83.0±5.5	78.4±6.1	78.0±6.1	74.9±6.7
Washington	90.8±3.1	79.9±4.0	88.5±3.3	89.3±3.2	90.6±3.1	86.0±3.4	57.0±4.8	81.9±3.9	76.7±4.2	75.5±4.3	71.2±4.4
WA-King Cnty	90.5±4.1	76.5±5.8	89.7±4.2	90.7±3.8	91.9±4.0	78.5±5.5	57.9±6.3	82.6±4.9	73.8±5.9	72.3±6.0	64.7±6.2
WA-Rest of State	91.0±3.9	81.3±5.1	88.0±4.3	88.8±4.3	90.1±4.1	88.9±4.2	56.7±6.2	81.7±5.1	77.9±5.3	76.7±5.5	73.8±5.6
West Virginia	96.9±2.1	88.2±4.0	91.2±3.5	93.8±3.0	98.2±1.5	91.9±3.4	73.0±5.6	86.3±4.4	82.1±5.0	81.0±5.1	78.1±5.3
Wisconsin	95.1±2.0	87.2±3.1	90.8±2.8	92.3±2.6	93.2±2.4	91.2±2.7	67.2±4.8	87.4±3.1	83.8±3.5	82.5±3.6	79.5±3.9
WI-Milwaukee Cnty	88.4±4.8	75.0±6.2	80.9±5.9	90.0±4.0	86.8±5.0	81.8±5.2	72.0±5.8	76.5±6.1	71.7±6.4	70.3±6.4	65.6±6.4
WI-Rest of State	97.1±2.1	90.8±3.6	93.7±3.1	93.0±3.2	95.1±2.8	93.9±3.1	65.9±5.9	90.6±3.6	87.3±4.1	86.1±4.2	83.6±4.6
Wyoming	94.7±3.0	83.7±4.9	89.2±4.2	91.6±3.6	95.3±2.8	86.8±4.8	60.9±6.2	85.7±4.6	80.9±5.1	80.6±5.1	74.3±5.8