

National Immunization Survey

A User's Guide for the 1996 Public-Use Data File

Centers for Disease Control and Prevention

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

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April 2002**

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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 1996). These vaccines and their recommended numbers of doses are: diphtheria and tetanus toxoids and pertussis vaccine (DTP), 4 doses; poliovirus vaccine (polio), 3 doses; measles-containing vaccine (MCV), 1 dose; *Haemophilus influenzae* type b vaccine (Hib), 3 doses; hepatitis B vaccine (Hep B), 3 doses; and varicella zoster vaccine, 1 dose. In addition to these vaccines, interest focuses on coverage rates for vaccine series, including the 4:3:1:3 series (4 DTP, 3 polio, 1 MCV, and 3 Hib). The NIS collects data on

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

The NIS uses a random-digit-dialing (RDD) telephone survey to identify households containing children in the target age range and interview an adult who is 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 1996 the RDD interviews of households began in January 1996 and ended in February 1997, and provider data collection extended from March 1996 to April 1997. A total sample of approximately 2 million telephone numbers yielded household interviews for 33,305 children, and 21,099 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 1996 NIS public-use file (PUF) contains data for the 33,305 children with completed household interviews (and more extensive data for children with provider data). Published tables of estimates of vaccination coverage for 1996 are available on the National Immunization Program (NIP) Web site, <http://www.cdc.gov/nip/coverage>, and are discussed in an *MMWR* article (CDC 1997).

The accompanying code book (*National Immunization Survey 1996 Public-Use Data File: Documentation, Code Book and Frequencies*) documents the contents of the 1996 NIS public-use data file. For reference Appendix G reproduces the table of contents and the alphabetical index of variables from the code book.

Additional information on the NIS is available at:

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

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

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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 1996.

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 1996.

The target sample size for each IAP area was 110 children with completed telephone interviews per quarter (440 for the year). Approximately 63% of children with completed telephone interviews had adequate provider data. The phrase “adequate provider data” means that sufficient vaccination history information was obtained from the providers to determine whether the child is up-to-date with respect to the recommended vaccination schedule. The percentage of children with adequate provider data varies among the IAP areas.

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

The NIS Provider Record Check Study

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

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 1996. Children who were 19 to 35 months of age during 1996 were born from February 1993 to May 1995. The original sample (in replicates that were released for use) consisted of 2,021,133 telephone numbers. Of those, 397,276 numbers were eliminated by the automated

Table 1: Selected Operational Results of NIS Data Collection for 1996

ROW	KEY INDICATOR	NUMBER	PERCENT
RDD Phase			
1	Total Selected Telephone Numbers in Released Replicates	2,021,133	--
2	Phone Numbers Resolved before CATI	397,276	19.7% (Row 2/Row 1)
3	Total Phone Numbers Called	1,623,857	--
4	Advance Letters Mailed	537,322	33.1% (Row 4/Row 3)
5	Resolved Phone Numbers* – <i>Resolution Rate</i>	1,905,956	94.3% (Row 5/Row 1)
6	Households Identified	929,066	48.7% (Row 6/Row 5)
7	Households Successfully Screened for Presence of Age-Eligible Children – <i>Screening Completion Rate</i>	899,549	96.8% (Row 7/Row 6)
8	Households with no NIS Age-Eligible Children	864,528	96.1% (Row 8/Row 7)
9	Households with NIS Age-Eligible Children – <i>Eligibility Rate</i>	35,021	3.9% (Row 9/Row 7)
10	Households with NIS Age-Eligible Children with Completed RDD Interviews– <i>Interview Completion Rate</i>	32,911	94.0% (Row 10/Row 9)
11	CASRO Response Rate**	NA	85.8% (Row 5*Row 7* Row 10)
12	Age-Eligible Children with Completed RDD Interviews	33,305	--
PRC Phase			
13	Children with Consent Obtained to Contact Vaccination Providers	Not Available	85%*** (Row 13/Row 12)
14	Immunization History Questionnaires Mailed to Providers	Not Available	--
15	Immunization History Questionnaires Returned from Providers	Not Available	76%*** (Row 15/Row 14)
16	Children with Adequate Provider Data	21,099	63.4% (Row 16/Row 12)

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

**CASRO, Council of American Survey Research Organizations.

***Not available from NIS provider survey management database; estimated from other sources.

procedure as nonworking or nonresidential numbers. The remaining 1,623,857 telephone numbers were called to identify 929,066 households, as shown in Rows 3 and 6 of Table 1.

Among the identified households, 899,549 (96.8%) were successfully screened for age-eligible children. Of these, 864,528 did not contain an age-eligible child, and 35,021 (3.9%) contained one or more age-eligible children. Among these households 32,911 (94.0%) 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 1996 the CASRO household response rate (Row 11) was 85.8%. The CASRO response rate equals the product of the resolution rate (94.3%, Row 5) the screening completion rate (96.8%, Row 7) and the interview completion rate among eligible households (94.0%, 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 33,305 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 – approximately 85% in 1996. 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 1996 the mean number of vaccination providers identified for a child was 1.35.

Among vaccination providers who were mailed an IHQ, approximately 76% returned the questionnaire or other information pertaining to the child's vaccination history. Among the children with completed household RDD interviews 21,099 (63.4%) had adequate vaccination histories returned by their vaccination provider(s). The other 36.6% 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 1996 NIS telephone interview of households and in the NIS PRC survey, and changes made to those questionnaires during 1996. 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 1996 NIS household interview.

Table 2: Content of the 1996 NIS Household Interview

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

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.

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

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

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

Three major changes were made to the NIS CATI questionnaire in 1996. Questions on varicella vaccine, a question to determine whether the child was first born, and questions on mother's age were all added in Q3/1996. These variables are not included in the 1996 PUF because they were not asked in all four quarters of 1996. Appendix B describes these changes in more detail.

Content of the Immunization History Questionnaire

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

One change was made to the IHQ in 1996. Starting in the third quarter of 1996 varicella vaccine was added to the vaccination grid. Provider-reported varicella vaccine variables are included in the 1996 PUF. For the first two quarters of 1996 varicella vaccines listed in the "other shot" row of the IHQ vaccination grid were back coded to the varicella vaccination arrays. Appendix C describes this change in more detail.

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. If a provider reported a different date of birth, gender, or name for the child, a check of the IHQ is made to determine whether the IHQ was filled out for the correct child. 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. 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 serve 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. 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 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.

Limitations of Data Editing Procedures

Although data editing procedures were used for the 1996 NIS, the data user should be aware that some inconsistent data may remain in the public-use file. The variables that indicate whether a child is up-to-date on each vaccine or series (on which the estimates of vaccination coverage are based) are derived from provider-reported data. Hence the household-reported vaccination dates (from interviews conducted with a shot card) are not edited for discrepancies beyond the built-in checks in the CATI system.

The NIS does not recontact households or providers to attempt to reconcile potential discrepancies in provider-reported vaccination dates or to resolve date-of-birth reporting errors. However, beginning with the 1999 NIS, the provider-reported data were manually reviewed and edited to correct specific reporting errors. The *National Immunization Survey: Guide to Quality Control Procedures* discusses the editing procedures in more detail. The provider-data edits that were added in 1999 are not reflected in the 1996 NIS data. A small number of children will therefore have provider-reported vaccination dates that contain

potential discrepancies. Among children in the 1996 NIS PUF with adequate provider data, 3.3% have one or more provider-reported vaccination dates listed before the date of birth of the child, 5.4% have vaccination dates less than or equal to 14 days apart, and 3.5% have a vaccination other than hepatitis B reported as administered from 0-37 days of life. The section on Subsets of the Data (below) includes additional information related to the first dose of hepatitis B vaccine, which for the 1996 NIS was often given early in life. 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. For provider-reported vaccination dates before the date of birth of the child, the age in months and age in days variables are recoded to **-1**. For provider-reported vaccination dates after 36 months of age, the age in months variables are recoded to **40**. For the corresponding provider-reported vaccination dates after 1125 days of age, the age in days variables are recoded to **1210**. The official published estimates of vaccination coverage include these vaccination dates in the count of vaccines received by a child.

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, and maternal marital status. Imputation of missing values for maternal marital status was introduced in the third quarter of 1996. Children in the first two quarters of 1996 with a missing maternal marital status have a code of 5 on the MARITAL variable.

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. As the questionnaire was modified over time, new composite variables were created. Examples include a maternal age variable and an indicator of whether the child is firstborn. Many of these composite

household variables are included in the NIS PUF. Table 3 lists some of the key demographic variables and their categories.

Table 3: 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 Unknown
INCPOV1R – poverty status	At or above poverty level Below poverty level Not determined

The composite race variables in the 1996 PUF contain three categories: white, black and all other races. The “all other races” category includes American Indian, Asian, Alaska Native, Native Hawaiian, Pacific Islander, and other races. If more than one race was selected during the administration of the race questions, the respondent was asked to select the race that best characterizes the child/mother. The 1996 PUF uses these questions to assign each child and mother to a single race category.

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

The IHQs also contain information on provider characteristics. This information is used to create composite variables related to provider facility type (PROV_FAC), and types of care offered by the provider (CARTYP1 to CARTYP5).

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.**

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%.

Some special conditions apply to the first dose of hepatitis B, which is typically given at 0 to 7 days. The count of vaccinations for a specific vaccine is based on the number of unique vaccination dates reported by the child's provider(s). For a very small percentage of children the provider may indicate on the IHQ that the child received hepatitis B at birth but they do not record a vaccination date. Because no date is given, this dose is not included in the count of hepatitis B vaccinations for these children, resulting in a slight underestimation of hepatitis B vaccination coverage.

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” (W_0).

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 1996 depends on whether a sample child is up-to-date on the 4:3:1 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 vaccination coverage rate among children living in nontelephone households to the national 4:3:1 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 up-to-date than for children who are 4:3:1 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 vaccination coverage rate among children living in nontelephone households is less than the estimated national 4:3:1 vaccination coverage rate among children living in telephone households. In this situation the adjustment for households that do not have telephones tends to reduce estimated vaccination coverage rates slightly. A further description is given by Battaglia et al. (1995a).

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

Adjustment for Provider Nonresponse

Among the 33,305 children with a completed RDD interview, 21,099 (63.4%) had adequate provider data. The 12,206 (36.6%) 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.

In 1999 the CDC adopted this nonresponse-adjustment methodology for producing all public-use files and for calculating estimates of vaccination coverage for 1998 (and subsequent years). It replaced the approach that had been used to calculate estimates for 1996 (and earlier years). Thus, estimates calculated from the 1996 PUF may differ slightly from those in the *MMWR* article (CDC 1997). Estimates from the 1996 PUF do agree with those published at the NIP website (<http://www.cdc.gov/nip/coverage>), in the column labeled Tables, and also shown in Table H.7 in Appendix H of this User’s Guide, which are based on the new methodology. More information can be found at the NIP website (<http://www.cdc.gov/nip/coverage/NIS/analysis-methodologies.htm>).

7. Analytic and Reporting Guidelines

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

vaccination coverage rates 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 and 2) variables that apply only to children with adequate provider data (i.e., PDAT=1). 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 4 lists variables that are commonly used in analyses or for published estimates of vaccination coverage.

Table 4: NIS Variables That Are Commonly Used in Analyses or for Published Estimates

ID variables	
SEQNUMC – unique child 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
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 Unknown
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

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 IPV/OPV doses	
P_NUMMMR – total number of MCV doses	
P_NUMHIB – total number of Hib doses	
P_NUMHEP – total number of Hep B doses	
P_NUMVRC – total number of varicella doses	
Provider characteristic variables	
PROV_FAC – provider facility type	All public facilities All hospital facilities All private facilities All military/other facilities Mixed types Unknown
CARTYP1 to CARTYP5 – types of services offered by child’s provider(s)	All providers Some but not all providers No providers/unknown

The SEQNUMC variable is the unique child identifier. 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), and marital status category of the mother (MARITAL). Key socioeconomic variables include education category of mother (EDUC1), and poverty status (INCPOV1R).

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. P_NUMDTA indicates the number of doses of DTaP. The IHQ used in 1996 did not list DTaP on the vaccination grid, however, DTaP vaccinations reported in the “other shot” row of the grid were back coded to a special DTaP shot array.

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

The NIS PUF includes a set of variables for age in days at each vaccination. 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. 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 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), and type of care offered by the provider (CARTYP1 to CARTYP5).

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 $Z_{hij} = \frac{W_{hij}(Y_{hij} - \hat{q})}{\hat{f}_h}$,

$Z_{hi} = \sum_{j=1}^{m_{hi}} Z_{hij}$, 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. 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.

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 1996 and (from 1996 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 1996 NIS Public-Use File is:

U.S. Department of Health and Human Services (DHHS). National Center for Health Statistics. The 1996 National Immunization Survey, CD-ROM No. 4. Hyattsville, MD: Centers for Disease Control and Prevention, 2002.

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

10. References

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

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

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

Buckley, P., Dennis, J.M., Saulsberry, C., Coronado, V.G., Ezzati-Rice, T., Maes, E., Rodén, A.-S., and Wright, R.A. (1998). Managing 78 simultaneous RDD samples. *1998 Proceedings of the Section on Survey Research Methods*, Alexandria, VA: American Statistical Association, pp. 957-961.

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

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

Centers for Disease Control and Prevention (1997). Status report on the Childhood Immunization Initiative: National, state, and urban area vaccination coverage levels among children aged 19–35 months—United States, 1996. *MMWR*, 46(29):657-664.

Centers for Disease Control and Prevention (1996). Recommended childhood immunization schedule—United States, July-December 1996. *MMWR*, 45(29):635-638.

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

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

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

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

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

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

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

Lepkowski, J.M. (1988). Telephone sampling methods in the United States. *Telephone Survey Methodology*. Edited by Groves, R.M., Biemer, P.P., Lyberg, L.E., Massey, J.T., Nicholls, W.L., and Waksberg, J. New York: John Wiley & Sons, pp. 73-98.

National Center for Health Statistics. (1993). Public Use Data Tape Documentation: 1991 Detail Natality. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Health Statistics, Hyattsville, MD.

National Center for Health Statistics (1999). National Health Interview Survey: Research for the 1995-2004 Redesign. Vital and Health Statistics, Series 2, No. 126. (DHHS publication no. (PHS) 99-1326). Hyattsville, MD: National Center for Health Statistics.

Rosenbaum, P.R. (1987). Model-based direct adjustment. *Journal of the American Statistical Association*, 82:387-394.

Rosenbaum, P.R. and Rubin, D.B. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika*, 70:41-55.

Rosenbaum, P.R. and Rubin, D.B. (1984). Reducing bias in observational studies using subclassification on the propensity score. *Journal of the American Statistical Association*, 79:516-534.

Rust, K.F., and Rao, J.N.K. (1996). Variance estimation for complex surveys using replication techniques. *Statistical Methods in Medical Research*, 5:283-310.

SAS Institute Inc. (1999). *SAS/STAT User's Guide, Version 8*. Cary, NC: SAS Institute Inc.

Shah, B.V., Barnwell, B.G. and Bieler, G.S. (1997). *SUDAAN User's Manual, Release 7.5*. Research Triangle Park, NC: Research Triangle Institute.

Smith, P.J., Battaglia, M.P., Huggins, V.J., Hoaglin, D.C., Rodén, A.-S., Khare, M., Ezzati-Rice, T.M., and Wright, R.A. (2001a). Overview of the sampling design and statistical methods used in the National Immunization Survey. *American Journal of Preventive Medicine*, Volume 20, Number 4S, pp. 17-24.

Smith, P.J., Rao, J.N.K., Battaglia, M.P., Ezzati-Rice, T.M., Daniels, D., Khare, M. (2001b). Compensating for provider nonresponse using response propensities to form adjustment cells: The National Immunization Survey. Vital and Health Statistics, Series 2, No. 133 (DHHS publication no. (PHS) 2001-1333). Hyattsville, MD: National Center for Health Statistics.

Stata Corporation (2001). *Stata Reference Manual*. College Station, TX: Stata Press.

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

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

Appendix A

Glossary of Abbreviations and Terms

Glossary of Commonly-Used Abbreviations and Terms

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

NSC	Non-shot-card
OPV	Oral poliovirus vaccine
RDD	Random-digit dialing
SC	Shot card
UTD	Up-to-date
VFC	Vaccinations for Children program
VRC	Varicella

Appendix B

NIS Household Questionnaire

MAJOR CHANGES TO THE NIS HOUSEHOLD QUESTIONNAIRE IN 1996

1. In Q3/1996 a question was added to Section C to help determine whether the child was the first born child in the family:

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

2. In Q3/1996 two questions were added to Section C to obtain the age of the mother:

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

3. In Q3/1996 varicella vaccine was added to Section A:

SHOT RECORD FOR CHICKEN POX	
	<p>A5.b. (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.</p> <p>Shots <input type="checkbox"/> RECORD DATES BELOW</p> <p>de NONE 0 GO TO A6 OR NEXT CHILD</p> <p>de DON'T KNOW 6 GO TO A6 OR NEXT CHILD</p> <p>de REFUSED 7 GO TO A6 OR NEXT CHILD</p>
	<p>A5.c. What is the date (on the record) for the [FILL VAR: (First/Second/...Fourth)] (chicken pox) shot?</p>
1st Shot	<p>___ / ___ / 19__</p> <p>MO DAY YEAR</p> <p>de DON'T KNOW 9996 GO TO A6 OR NEXT CHILD</p> <p>de REFUSED 9997 GO TO A6 OR NEXT CHILD</p>
2nd Shot	<p>___ / ___ / 19__</p> <p>MO DAY YEAR</p> <p>de DON'T KNOW 9996 GO TO A6 OR NEXT CHILD</p> <p>de REFUSED 9997 GO TO A6 OR NEXT CHILD</p>
3rd Shot	<p>___ / ___ / 19__</p> <p>MO DAY YEAR</p> <p>de DON'T KNOW 9996 GO TO A6 OR NEXT CHILD</p> <p>de REFUSED 9997 GO TO A6 OR NEXT CHILD</p>
4th Shot	<p>___ / ___ / 19__</p> <p>MO DAY YEAR</p> <p>de DON'T KNOW 9996 GO TO A6 OR NEXT CHILD</p> <p>de REFUSED 9997 GO TO A6 OR NEXT CHILD</p> <p style="text-align: center;">GO TO A6 OR NEXT CHILD</p>

4. In Q3/1996 varicella vaccine was added to Section B:

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	GO TO B7
DON'T KNOW	6	GO TO B7
REFUSED	7	GO TO B7

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

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

NIS Hard Copy Questionnaire

SCREENER

(USED IN Q3 AND Q4/1996)

CASE ID _____ DATE _____

INTERVIEWER ID _____

TELEPHONE NUMBER _____

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

ALT KEYS CHECK DISP

#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 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? (Verify age if necessary through interviewer instructions.)

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
DOES NOT LIVE IN HOUSEHOLD 8 CALLBACK
NO PERSON AT HOME WHO IS AT LEAST 17 9 GO TO S2_B

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

YES 1 When would be a good time for me to call back and talk to that person?[SCHEDULE APPOINTMENT]
NO 2 GO TO S_NUMB

S_NUMB

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

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

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

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

YES 1
NO 2

DON'T KNOW	6
REFUSED	7

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

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

YES 1

<input type="checkbox"/>	1. IF S_NUMB = 1 (ONLY 1 CHILD)
<input type="checkbox"/>	2. IF S_NUMB \$ 2 (MORE THAN 1 CHILD))))))))))Q

GO TO
S3.MKIDS

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

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

NO CHILD UNDER 4 0 **YES:** REPEAT S3.1KID.
NO: These are all the questions I have. (This survey is collecting information about the health of children between 12 months and 3 years old only. I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time you spent answering these questions.) [**TERMINATE INTERVIEW**]

DON'T KNOW 6 GO TO S_NODAY

REFUSED NAMES OR INITIALS 7 GO TO S_NODAY

S3.MKIDS. So I'll know which vaccination questions to ask, please tell me the month, day and year of birth of the [# from S_NUMB] children 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]**

[ASKS 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. Based on the birth dates you provided me earlier, that would make the [ordinal # of kid derived from S_NUMB] child [age of child in months] months old; is that correct?

DON'T KNOW 6
REFUSED 7

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

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_CON F Age Confirm	S3.4 Sex	S3.5 First Name/ Initials	Primary Eligible 19 to 35 months	Secondary Eligible	
						12 to 18 months	36 to 47 months
	___/___/___ -	Y N	M F		___/___/___ to ___/___/___	___/___/___ to ___/___/___	
Child 1							
Child 2							
Child 3							
Child 4							
Child 5							
Child 6							
Child 7							
Child 8							

Child 9	____/____/____	Y N	M F	
---------	----------------	-----	-----	--

--

--	--

GO TO S4

ELIGIBILITY STATUS CHECKPOINT

9

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

GO TO S3_TERM

9

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

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

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

S4. Since this survey asks about immunizations children may have received, I need to speak to the person living in your household who knows the most about the immunizations or shots that [FIRST NAMES/INITIALS from S3.5] (has/have) received. Are you this person?

- YES 1 GO TO S6_INTRO
- NO 2

S5. May I speak with this person now?

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

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

<p>Hello, my name is _____. I'm calling on behalf of the Centers for Disease Control and Prevention. We're conducting a national study about the vaccinations of children between the ages of 12 months and 3 years old. 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.</p>
--

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

**THIS PAGE
SHOULD
BE BLANK**

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

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

S8. EXISTENCE OF SHOT RECORDS CHECKPOINT

ALL S6_X ANSWERS ARE "YES".....1	GO TO S8.A.
ALL S6_X ANSWERS ARE "NO".....2	GO TO B1 AND ASK FOR EACH CHILD IN HOUSEHOLD
ALL OTHERS 3	GO TO S8.B.

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

ALL S7.A. AND S7.B_X ANSWERS ARE "YES" . . . 1	GO TO SECTION A SHOT RECORD (NO CALLBACK NEEDED)
ALL S7.A AND S7.B_X ANSWERS ARE "NO" . . . 2	GO TO SR1 (CALLBACK NEEDED)
ALL OTHERS 3	ASK SECTION A FOR CHILDREN WITH SHOT RECORDS AND SECTION B FOR CHILDREN WITHOUT SHOT RECORDS (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 B1 AND ASK FOR EACH CHILD IN HOUSEHOLD (NO CALLBACK NEEDED)
ALL OTHERS 3	ASK SECTION A FOR CHILDREN 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

September 12, 1996

SECTION MR - *Most Knowledgeable Respondent Callback*

SECTION SR - *Shot Record Callback*

SECTION A - *Available Shot Records*

SECTION B - *NO Shot Records*

SECTION C - *Demographics*

SECTION D - *Provider*

SECTION MR

Most Knowledgeable Respondent Callback Questions

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

FIRST NAME _____

REFUSED 7

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

MR2 DATE _____

MR2_2 TIME _____

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

YES 1 GO TO MR_TERM

NO 2

MR4. What number should I call?

AREA CODE: _____

NUMBER: _____

MR_TERM.

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

SECTION SR

Shot Record Callback Questions

I would like to ask you a few questions now, and we can complete the rest of the questions when I call back.

SR1. If I called you back (in a few minutes/later), would you be able to have shot records available for [FILL VAR: FIRST NAMES OF ALL ELIGIBLE CHILDREN FROM S3.5]?

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

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

SR2 DATE_____

SR2_2 TIME_____

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

(FIRST NAME)

REFUSED 7

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

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

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

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

SR6. How many polio vaccine shots (by mouth, pink drops, or by a polio shot) did [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] ever receive?

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

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

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

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

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

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

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

SR0. How many chicken pox (or Varicella) shots did [FILL VAR: NAME OF FIRST/SECOND... /SIXTH CHILD, FROM S3.5] ever receive?

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

GO TO C1: DEMOGRAPHICS

SECTION A

Available Shot Records

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

**NOTE: EACH SECTION (A, B, AND C) IS
ASKED IN ITS ENTIRETY FOR EACH
CHILD.**

SHOT RECORD FOR DTP/DT SHOT

A1. 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.

Shots RECORD DATES BELOW

de NONE 0 GO TO A2
de DON'T KNOW 6 GO TO A2
de REFUSED 7 GO TO A2

A1.A. What is the date (on the record) for the [FILL VAR: (First/Second/...Eighth)] (D-T-P or D-T) shot?

1st Shot	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW . 9996 GO TO A2 de REFUSED 9997 GO TO A2
2nd Shot	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW . 9996 GO TO A2 de REFUSED 9997 GO TO A2
3rd Shot	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW . 9996 GO TO A2 de REFUSED 9997 GO TO A2
4th Shot	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW . 9996 GO TO A2 de REFUSED 9997 GO TO A2
5th Shot	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW . 9996 GO TO A2 de REFUSED 9997 GO TO A2
6th Shot	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW . 9996 GO TO A2 de REFUSED 9997 GO TO A2
7th Shot	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW . 9996 GO TO A2 de REFUSED 9997 GO TO A2
8th Shot	___ / ___ / ___ MO DAY YEAR GO TO A2	de DON'T KNOW . 9996 GO TO A2 de REFUSED 9997 GO TO A2

SHOT RECORD FOR POLIO (DROPS OR SHOTS)

<p>A2. 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 -- or a polio shot.</p>	
<p>Shots <input type="checkbox"/> RECORD DATES BELOW</p> <p>de NONE 0 GO TO A3 de DON'T KNOW 6 GO TO A3 de REFUSED 7 GO TO A3</p>	
<p>A2.A. What is the date (on the record) for the [FILL VAR: (First/Second/...Eighth)] polio vaccine?</p>	
1st Shot	<p>___ / ___ / ___ MO DAY YEAR</p> <p>de DON'T KNOW .. 9996 GO TO A3 de REFUSED 9997 GO TO A3</p>
2nd Shot	<p>___ / ___ / ___ MO DAY YEAR</p> <p>de DON'T KNOW .. 9996 GO TO A3 de REFUSED 9997 GO TO A3</p>
3rd Shot	<p>___ / ___ / ___ MO DAY YEAR</p> <p>de DON'T KNOW .. 9996 GO TO A3 de REFUSED 9997 GO TO A3</p>
4th Shot	<p>___ / ___ / ___ MO DAY YEAR</p> <p>de DON'T KNOW .. 9996 GO TO A3 de REFUSED 9997 GO TO A3</p>
5th Shot	<p>___ / ___ / ___ MO DAY YEAR</p> <p>de DON'T KNOW .. 9996 GO TO A3 de REFUSED 9997 GO TO A3</p>
6th Shot	<p>___ / ___ / ___ MO DAY YEAR</p> <p>de DON'T KNOW .. 9996 GO TO A3 de REFUSED 9997 GO TO A3</p>
7th Shot	<p>___ / ___ / ___ MO DAY YEAR</p> <p>de DON'T KNOW .. 9996 GO TO A3 de REFUSED 9997 GO TO A3</p>
8th Shot	<p>___ / ___ / ___ MO DAY YEAR GO TO A3</p> <p>de DON'T KNOW .. 9996 GO TO A3 de REFUSED 9997 GO TO A3</p>

SHOT RECORD FOR MEASLES/MMR (SHOTS)

	<p>A3. 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 or M-M-R, that is, a measles, mumps, and rubella, shot.</p>	
	Shots <input type="checkbox"/>	RECORD DATES BELOW de NONE 0 GO TO A4 de DON'T KNOW 6 GO TO A4 de REFUSED 7 GO TO A4
	<p>A3.A. What is the date (on the record) for the [FILL VAR: (First/Second/...Fourth)] (measles or M-M-R) shot?</p>	
	<p>A3.B. Was that shot measles only or M-M-R only?</p>	
1st Shot	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO A4 de REFUSED 9997 GO TO A4 de MEASLES ONLY 1 de MMR ONLY 2 de DON'T KNOW 6 de REFUSED 7
2nd Shot	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO A4 de REFUSED 9997 GO TO A4 de MEASLES ONLY 1 de MMR ONLY 2 de DON'T KNOW 6 de REFUSED 7
3rd Shot	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO A4 de REFUSED 9997 GO TO A4 de MEASLES ONLY 1 de MMR ONLY 2 de DON'T KNOW 6 de REFUSED 7
4th Shot	___ / ___ / ___ MO DAY YEAR	de DON'T KNOW 9996 GO TO A4 de REFUSED 9997 GO TO A4 de MEASLES ONLY 1 de MMR ONLY 2 de DON'T KNOW 6 de REFUSED 7 GO TO A4

SHOT RECORD FOR HIB (SHOT)

<p>A4. (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.)</p>	
<p>Shots <input type="checkbox"/> RECORD DATES BELOW</p> <p>de NONE 0 GO TO A5 de DON'T KNOW 6 GO TO A5 de REFUSED 7 GO TO A5</p>	
<p>A4.A. What is the date (on the record) for the [FILL VAR: (First/Second/...Eighth)] (H-I-B) shot?</p>	
1st Shot	<p>___ / ___ / ___ MO DAY YEAR</p> <p>de DON'T KNOW .. 9996 GO TO A5 de REFUSED 9997 GO TO A5</p>
2nd Shot	<p>___ / ___ / ___ MO DAY YEAR</p> <p>de DON'T KNOW .. 9996 GO TO A5 de REFUSED 9997 GO TO A5</p>
3rd Shot	<p>___ / ___ / ___ MO DAY YEAR</p> <p>de DON'T KNOW .. 9996 GO TO A5 de REFUSED 9997 GO TO A5</p>
4th Shot	<p>___ / ___ / ___ MO DAY YEAR</p> <p>de DON'T KNOW .. 9996 GO TO A5 de REFUSED 9997 GO TO A5</p>
5th Shot	<p>___ / ___ / ___ MO DAY YEAR</p> <p>de DON'T KNOW .. 9996 GO TO A5 de REFUSED 9997 GO TO A5</p>
6th Shot	<p>___ / ___ / ___ MO DAY YEAR</p> <p>de DON'T KNOW .. 9996 GO TO A5 de REFUSED 9997 GO TO A5</p>
7th Shot	<p>___ / ___ / ___ MO DAY YEAR</p> <p>de DON'T KNOW .. 9996 GO TO A5 de REFUSED 9997 GO TO A5</p>
8th Shot	<p>___ / ___ / ___ MO DAY YEAR GO TO A5</p> <p>de DON'T KNOW .. 9996 GO TO A5 de REFUSED 9997 GO TO A5</p>

SHOT RECORD FOR HEPATITIS B

	<p>A5. (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.</p>	
	Shots <input type="checkbox"/>	RECORD DATES BELOW
	de NONE 0	GO TO A5.b.
	de DON'T KNOW 6	GO TO A5.b.
	de REFUSED 7	GO TO A5.b.
	A5.A. What is the date (on the record) for the [FILL VAR: (First/Second/...Eighth)] (Hepatitis B) shot?	
1st Shot	___ / ___ / 19__ MO DAY YEAR	de DON'T KNOW 9996 GO TO A5.b. de REFUSED 9997 GO TO A5.b.
2nd Shot	___ / ___ / 19__ MO DAY YEAR	de DON'T KNOW 9996 GO TO A5.b. de REFUSED 9997 GO TO A5.b.
3rd Shot	___ / ___ / 19__ MO DAY YEAR	de DON'T KNOW 9996 GO TO A5.b. de REFUSED 9997 GO TO A5.b.
4th Shot	___ / ___ / 19__ MO DAY YEAR	de DON'T KNOW 9996 GO TO A5.b. de REFUSED 9997 GO TO A5.b.
5th Shot	___ / ___ / 19__ MO DAY YEAR	de DON'T KNOW 9996 GO TO A5.b. de REFUSED 9997 GO TO A5.b.
6th Shot	___ / ___ / 19__ MO DAY YEAR	de DON'T KNOW 9996 GO TO A5.b. de REFUSED 9997 GO TO A5.b.
7th Shot	___ / ___ / 19__ MO DAY YEAR	de DON'T KNOW 9996 GO TO A5.b. de REFUSED 9997 GO TO A5.b.
8th Shot	___ / ___ / 19__ MO DAY YEAR	de DON'T KNOW 9996 GO TO A5.b. de REFUSED 9997 GO TO A5.b. GO TO A5.b.

SHOT RECORD FOR CHICKEN POX

	<p>A5.b. (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.</p>	
	Shots <input type="checkbox"/>	RECORD DATES BELOW
	de NONE 0 de DON'T KNOW 6 de REFUSED 7	GO TO A6 OR NEXT CHILD GO TO A6 OR NEXT CHILD GO TO A6 OR NEXT CHILD
	<p>A5.c. What is the date (on the record) for the [FILL VAR: (First/Second/...Fourth)] (chicken pox) shot?</p>	
1st Shot	___ / ___ / 19__ MO DAY YEAR	de DON'T KNOW . 9996 GO TO A6 OR NEXT CHILD de REFUSED 9997 GO TO A6 OR NEXT CHILD
2nd Shot	___ / ___ / 19__ MO DAY YEAR	de DON'T KNOW . 9996 GO TO A6 OR NEXT CHILD de REFUSED 9997 GO TO A6 OR NEXT CHILD
3rd Shot	___ / ___ / 19__ MO DAY YEAR	de DON'T KNOW . 9996 GO TO A6 OR NEXT CHILD de REFUSED 9997 GO TO A6 OR NEXT CHILD
4th Shot	___ / ___ / 19__ MO DAY YEAR	de DON'T KNOW . 9996 GO TO A6 OR NEXT CHILD de REFUSED 9997 GO TO A6 OR NEXT CHILD GO TO A6 OR NEXT CHILD

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?

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

GO TO A7 OR SECOND SHOT (NEXT FRAME)

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

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

 - de OTHER (SPECIFY) 95
-

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

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

____/____/____
MO DAY YEAR

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

GO TO A7 OR THIRD SHOT (NEXT FRAME)

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

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

- de OTHER (SPECIFY) 95

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

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

____/____/____
MO DAY YEAR

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

GO TO A7 OR FOURTH SHOT (NEXT FRAME)

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

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

- de OTHER (SPECIFY) 95

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

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

____/____/____
MO DAY YEAR

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

GO TO A7 OR FIFTH SHOT (NEXT FRAME)

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

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

- de OTHER (SPECIFY) 95

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

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

____/____/____
MO DAY YEAR

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

GO TO A7

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

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

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

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

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

- NUMBER OF SHOTS
- ALL 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) or by a polio shot?

- 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 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 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 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 GO TO A12B
- DON'T KNOW 6

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 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
REFUSED 7

GO TO A13

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 50
DON'T KNOW 96
REFUSED 97

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

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

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

Number RECORD NAMES BELOW
de REFUSED 7 GO TO A14

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

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

- de OTHER (SPECIFY) 95

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

GO TO A14 OR SECOND SHOT (NEXT FRAME)

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

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

- de OTHER (SPECIFY) 95

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

GO TO A14 OR THIRD SHOT (NEXT FRAME)

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

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

 - de OTHER (SPECIFY) 95
-

- de DON'T KNOW 96
- de REFUSED 97

GO TO A14 OR FOURTH SHOT
GO TO A14 OR FOURTH SHOT

GO TO A14 OR FOURTH SHOT (NEXT FRAME)

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

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

 - de OTHER (SPECIFY) 95
-

- de DON'T KNOW 96
- de REFUSED 97

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

GO TO A14 OR FIFTH SHOT (NEXT FRAME)

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

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

- de OTHER (SPECIFY) 95

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

GO TO A14

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

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

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

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

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

A17. INTERVIEWER CHECKPOINT.

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

SECTION B

NO Shot Records

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

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

YES	1	
NO	2	GO TO B10
DON'T KNOW	6	
REFUSED	7	A

B2. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever received a D-T-P 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 shots did [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever receive?

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

B3. Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever received a polio vaccine by mouth, pink drops or by a polio shot?

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

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

- NUMBER OF VACCINES
- ALL 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 IF = 2 OR MORE GO TO B5
- ALL 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 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 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 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 B7

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 50
 DON'T KNOW 96
 REFUSED 97

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 B8
de DON'T KNOW 6 GO TO B8
de REFUSED 7 GO TO B8

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 B8

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 B8 OR NEXT SHOT
de REFUSED 97 GO TO B8 OR NEXT SHOT

GO TO B8 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 B8 OR NEXT SHOT
- de REFUSED 97 GO TO B8 OR NEXT SHOT

GO TO B8 OR NEXT SHOT

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

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

- de OTHER (SPECIFY) 00

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

GO TO B8 OR NEXT SHOT

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

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

- de OTHER (SPECIFY) 00

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

GO TO B8 OR NEXT SHOT

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

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

- de OTHER (SPECIFY) 00

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

GO TO B8

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

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

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

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

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

B11. INTERVIEWER CHECKPOINT.

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

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 or Hispanic descent, that is, Mexican, Mexican-American, Chicano, Puerto Rican, or Cuban?
[CHECK ALL THAT APPLY]

NO, NOT SPANISH/HISPANIC 01
YES, MEXICAN 02
YES, MEXICAN-AMERICAN 03
YES, CHICANO 04
YES, PUERTO RICAN 05
YES, CUBAN 06
YES, OTHER SPANISH (SPECIFY) 07

DON'T KNOW 96
REFUSED 97

C3. Is [FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5] White, Black, American Indian, Asian, or another race? [CHECK ALL THAT APPLY]

- WHITE 1
 - BLACK 2
 - AMERICAN INDIAN 3
 - ASIAN 4
 - OTHER (SPECIFY) 5
-

- DON'T KNOW 6
- REFUSED 7

[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 2
 - AMERICAN INDIAN 3
 - ASIAN 4
 - OTHER (SPECIFY) 5
-

- DON'T KNOW 6
- REFUSED 7

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 C12
 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 or Hispanic descent, that is, Mexican, Mexican-American, Chicano, Puerto Rican, or Cuban? [CHECK ALL THAT APPLY]

- NO, NOT SPANISH/HISPANIC 01
 - YES, MEXICAN 02
 - YES, MEXICAN-AMERICAN 03
 - YES, CHICANO 04
 - YES, PUERTO RICAN 05
 - YES, CUBAN 06
 - YES, OTHER SPANISH (SPECIFY) 07
-
- DON'T KNOW 96
 - REFUSED 97

C9. (Are you/is [FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]'s mother) White, Black, American Indian, Asian, or another race? [CHECK ALL THAT APPLY]

- WHITE 1
 - BLACK 2
 - AMERICAN INDIAN 3
 - ASIAN 4
 - OTHER (SPECIFY) 5
-
- DON'T KNOW 6
 - REFUSED 7

[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 2
 - AMERICAN INDIAN 3
 - ASIAN 4
 - OTHER (SPECIFY) 5
-
- DON'T KNOW 6
 - REFUSED 7

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 C12
NO 2
DON'T KNOW 6 GO TO C12
REFUSED 7 GO TO C12

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 C12

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

C12. Please think about your total combined FAMILY income during the past 12 months 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, or rent, and any other money income received. Was your total family income during the past twelve months 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 \$50,000?

MORE THAN \$50,000	1	GO TO C18
\$50,000	2	GO TO C19
LESS THAN \$50,000	3	GO TO C17
DON'T KNOW	6	GO TO C19
REFUSED	7	GO TO C19

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

MORE THAN \$30,000	1	
\$30,000	2	
LESS THAN \$30,000	3	GO TO C19
DON'T KNOW	6	

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	GO TO C19
DON'T KNOW	6	

REFUSED 7

A

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

CITY _____

COUNTY _____

STATE _____

REFUSED 7

C19.A. What is your zip code?

DON'T KNOW 6

REFUSED 7

C19.B Do you live within the city limits?

YES 1

NO 2

REFUSED 7

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

YES 1

NO 2 GO TO D5

REFUSED 7 GO TO D5

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 D5

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 D5

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

- YES 1
- NO 2 GO TO D5
- REFUSED 7 GO TO D5

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 D5
- BOTH HOME AND BUSINESS 3
- REFUSED 7 GO TO D5

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

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

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

SECTION D

Provider Questions

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

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

NUMBER: |__|__|

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

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

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

LAST_____

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

FIRST_____

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

OFFICE_____

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

STREET_____

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

SUITE #_____

D6B.6.1.1 What city is that in?

CITY_____

D6B.7.1.1 What state is that in?
STATE_____

D6B.8.1.1 What is the zip code?
ZIP CODE_____

D6B.9.1.1 What is their telephone number?
TELEPHONE_____

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

D6C. Thank you. The vaccination records collected from (this/these) 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, and request that information relevant to your child's immunization history be sent to the Centers for Disease Control and Prevention or its contractors for study purposes only?

- YES 1
- NO 2 GO TO D14
- YES, IF YOU SEND WRITTEN ALSO 3 GO TO D8 - D9C. THEN GO TO D10 - SHADED BOXED AREA
- SEND ME SOMETHING IN WRITING 4 GO TO D9A. - D9C. THEN GO TO D10 - SHADED BOXED AREA

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

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

FIRST_____

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

MIDDLE_____

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

LAST_____

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

FIRST _____

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

MIDDLE _____

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

LAST _____

ASK ONLY IF D7 = 3 or 4, OTHERWISE GO TO D14

D10	What is your street address? ADDRESS: _____
D11	Am I correct that you live in [CITY AND STATE]? YES 1 GO TO D12 NO 2 GO TO D11A
D11A.	In what city and state do you live? CITY _____
D11B.	STATE _____ REFUSED 7
D12	Am I correct that your zip code is [ZIP CODE]? YES 1 GO TO D13 NO 2 GO TO D12A.
D12A.	What is your zip code? ZIP CODE _____

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

D14 Those are all the questions I have. (I'd like to thank you again on behalf of the Centers for Disease Control and Prevention for the time and effort you've spent answering these questions.) [**TERMINATE INTERVIEW**]

SUPPLEMENTAL PROVIDER SHEET

CASE # | | | | | | | | | |

ELIGIBLE CHILD'S NAME: _____ CHILD#: _____

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

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

LAST _____

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

FIRST _____

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

OFFICE _____

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

STREET _____

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

SUITE # _____

D6B.6.2.1 What city is that in?

CITY _____

D6B.7.2.1 What state is that in?

STATE _____

D6B.8.2.1 What is the zip code?

ZIP CODE _____

D6B.9.2.1 What is their telephone number?

TELEPHONE _____

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

D6C.

SUPPLEMENTAL CHILD SHEET
PAGE 1

CASE # | | | | | | | | | |

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

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

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

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

NUMBER: | | | |

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

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

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

LAST _____

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

FIRST _____

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

OFFICE _____

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

STREET _____

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

SUITE # _____

D6B.6.1.2 What city is that in?

CITY _____

<p style="text-align: center;">SUPPLEMENTAL CHILD SHEET PAGE 2</p>
--

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.

D14B Those are all the questions I have. (I'd like to thank you again on behalf of the Centers for Disease Control and Prevention for the time and effort you've spent answering these questions.) [**TERMINATE INTERVIEW**]

Appendix C

NIS Provider Questionnaire

MAJOR CHANGES TO THE NIS IMMUNIZATION HISTORY QUESTIONNAIRE IN 1996

In Q3/1996 the vaccination grid was modified to include varicella vaccine:

- 2a. Please specify below the month, day, and year that each of the following immunizations was given, either by your office or another provider (OP), as documented in your records. If you prefer, you may attach a copy of the complete immunization history.

Circle the "OP" for any immunization given by another provider, after the date for that immunization.

	Dates of immunization:				
	(1) mm-dd-yy	(2) mm-dd-yy	(3) mm-dd-yy	(4) mm-dd-yy	(5) mm-dd-yy
DTP/DT	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
Polio	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
MMR	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
Hib	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
Hep-B	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
DTP-Hib ¹	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
Varicella	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
Any Other ² (Specify)	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP

¹Tetramune or Acthib ²Other vaccines

**NATIONAL IMMUNIZATION SURVEY PROVIDER STUDY
IMMUNIZATION HISTORY QUESTIONNAIRE
(USED IN Q1 AND Q2/1996)**

INSTRUCTIONS: Please review your records and complete this questionnaire for the child identified below. Then, mail it in the postage-paid envelope provided or fax it to: Victor Coronado, M.D., Fax #:(312) 621-3840.

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

- a. Have immunization record for this child. (Go to question 2 below.)
- b. Have provided care to this child, but do not have his/her immunization record. (Go to question 9 on next page.)
- c. Have no record of providing care to this child. (Return questionnaire to CDC as instructed above.)
- d. Other: _____

2a. Please specify below the month, day and year that each of the following immunizations was given, either by your office or another provider (OP), as documented in your records. If you prefer, you may attach a copy of the complete immunization history.

Circle the "OP" for any immunization given by another provider, after the date for that immunization.

	Dates of immunization:				
	(1) mm-dd-yy	(2) mm-dd-yy	(3) mm-dd-yy	(4) mm-dd-yy	(5) mm-dd-yy
DTP/DT	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
Polio	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
MMR	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
Hib	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
Hep-B	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
DTP-Hib ¹	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
Any Other ² (Specify)	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP

¹Tetramune or Acthib ²Other vaccines

2b. If you circled any "OPs" above to indicate immunizations given by another provider, enter the name, address, and phone of each other provider below. Otherwise, go to question 3.

(1) _____ (2) _____

 (_____) (_____)

3. To which types of records did you refer to obtain the immunization information for this child? (Check all that apply.)

- G** a. Immunization Record/Summary
- G** c. Vaccine Immunization Packet (VIP) Signature Record
- G** b. Physician Notes/Orders
- G** d. Some Other Source (Describe:)

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

_____ - _____ - _____ or **G** Don't Know
mm dd yy

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

_____ - _____ - _____ or **G** Don't Know
mm dd yy

6. Which types of care has this office provided to this child? (Check all that apply.)

- G** a. Routine Well Care
- G** d. WIC Program/Services
- G** b. Sick/Emergency Visits
- G** e. Other (Describe:)
- G** c. Vaccinations/Immunizations

7. Which of the following best describes this facility? (Check only one box.)

- G** a. Private Practice
- G** e. Hospital Emergency Room
- G** b. Group Practice
- G** f. Health Maintenance Organization (HMO)/Prepaid Group
- G** c. Public Health Clinic/Center
- G** g. Military Health Care Facility
- G** d. Hospital Outpatient Clinic
- G** h. Some Other Facility (Describe:)

8. Which of the following best describes your position? (Check only one box.)

- G** a. Physician
- G** e. Office Manager/Administrator
- G** b. Physician/Medical Assistant
- G** f. Medical Records Administrator/Technician (MRA/MRT)
- G** c. Nurse
- G** g. Receptionist/Other Clerk
- G** d. Nurse Practitioner
- G** h. Other (Describe:)

Name of person completing questionnaire: _____ Phone: _____

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

_____ - _____ - _____ or **G** Don't know
mm dd yy

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

- G** Yes [Specify name(s):]
- G** No

INSTRUCTIONS: If no immunization record, or the record is currently located elsewhere, continue with Question 11. Otherwise, return this questionnaire to CDC. Thank you.

11. Please enter below the names, addresses and telephone numbers of other providers who may have an immunization record for this child.

(1) _____ (2) _____

 (_____) _____ (_____) _____

NATIONAL IMMUNIZATION SURVEY PROVIDER STUDY
IMMUNIZATION HISTORY QUESTIONNAIRE
(USED IN Q3 AND Q4/1996)

INSTRUCTIONS: Please review your records and complete this questionnaire for the child identified below. Then, mail it in the postage-paid envelope provided or fax it to: Victor Coronado, M.D., Fax #:(312) 621-3840.

1. Which of the following best describes your records of immunization for this child? (Check only one box.)
- G a.** Have immunization record for this child. (Go to question 2 below.)
 - G b.** Have provided care to this child, but do not have his/her immunization record. (Go to question 9 on next page.)
 - G c.** Have no record of providing care to this child. (Return questionnaire to CDC as instructed above.)
 - G d.** Other: _____
- 2a. Please specify below the month, day, and year that each of the following immunizations was given, either by your office or another provider (OP), as documented in your records. If you prefer, you may attach a copy of the complete immunization history.

Circle the "OP" for any immunization given by another provider, after the date for that immunization.

	Dates of immunization:				
	(1) mm-dd-yy	(2) mm-dd-yy	(3) mm-dd-yy	(4) mm-dd-yy	(5) mm-dd-yy
DTP/DT	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
Polio	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
MMR	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
Hib	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
Hep-B	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
DTP-Hib ¹	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
Varicella	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP
Any Other ² (Specify)	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP	__-__-__ OP

¹Tetramune or Acthib ²Other vaccines

- 2b. If you circled any "OPs" above to indicate immunizations given by another provider, enter the name, address, and phone of each other provider below. Otherwise, go to question 3.

(1) _____

 () _____

(2) _____

 () _____

Appendix D

Summary Statistics for Sampling Weights by IAP Area

Q1/1996-Q4/1996 : Child Weight for Completed Household Interviews (HY_WGT)

IAP Area	N	SUM	MIN	MAX	MEAN	CV
TOTAL U.S.	33305	5731506.09	4.4243	1947.96	172.091	114.011
1 CT	419	67027.80	10.7694	226.87	159.971	19.721
2 MA-REST OF STATE	434	105627.70	11.0610	415.68	243.382	28.782
3 MA-CITY OF BOSTON	414	12815.42	6.2763	118.18	30.955	37.580
4 ME	424	22248.03	17.8161	94.19	52.472	26.997
5 NH	424	22175.64	21.3948	92.52	52.301	23.594
6 RI	442	19394.89	17.8532	69.46	43.880	23.767
7 VT	446	10908.13	9.3628	43.47	24.458	26.727
8 NJ-REST OF STATE	492	164753.98	4.4243	1345.20	334.866	57.397
9 NJ-CITY OF NEWARK	390	8012.08	6.9349	96.48	20.544	45.199
10 NY-REST OF STATE	405	211973.35	82.6665	692.68	523.391	17.356
11 NY-NYC 5 COUNTIES	410	182492.25	74.2083	972.10	445.103	40.717
12 DISTRICT OF COLUMBIA	446	12560.99	5.9663	49.02	28.164	36.090
13 DE	446	14137.29	10.0350	58.50	31.698	29.871
14 MD-REST OF STATE	439	96579.66	11.1973	518.43	219.999	42.001
15 MD-CITY OF BALTIMORE	390	18948.58	10.4292	119.45	48.586	41.368
16 PA-REST OF STATE	421	188024.42	75.2210	735.43	446.614	27.315
17 PA-PHILADELPHIA COUNTY	408	37514.33	27.0119	157.02	91.947	30.785
18 VA	431	142284.44	31.4383	623.72	330.126	29.299
19 WV	416	29696.53	19.4269	141.38	71.386	29.720
20 AL-REST OF STATE	459	75451.59	15.8085	334.60	164.383	34.143
21 AL-JEFFERSON COUNTY	406	13780.31	11.9766	87.87	33.942	31.342
22 FL-REST OF STATE	428	223033.50	19.8848	969.12	521.106	37.324
23 FL-DUVAL COUNTY	426	17865.72	10.1009	93.74	41.938	33.814
24 FL-DADE COUNTY	442	50646.02	25.5258	326.83	114.584	39.070
25 GA-REST OF STATE	455	130554.26	29.0018	564.28	286.932	39.900
26 GA-FULTON/DEKALB COUNTIES	407	31044.63	15.0235	360.39	76.277	43.384
27 KY	430	75529.41	50.5859	324.99	175.650	33.000
28 MS	433	59640.29	36.7180	276.28	137.737	41.489
29 NC	424	147900.06	62.1341	770.91	348.821	34.571
30 SC	420	77804.99	46.5521	460.19	185.250	42.071
31 TN-REST OF STATE	438	69427.36	10.1991	341.22	158.510	34.976
32 TN-SHELBY COUNTY	427	21095.07	17.4254	87.59	49.403	29.507
33 TN-DAVIDSON COUNTY	420	11490.83	7.9479	74.25	27.359	27.669
34 IL-REST OF STATE	434	190139.80	50.8282	847.13	438.110	29.056
35 IL-CITY OF CHICAGO	426	82726.72	30.6733	427.01	194.194	35.951
36 IN-REST OF STATE	475	98920.15	15.3243	413.38	208.253	40.984
37 IN-MARION COUNTY	389	20306.86	17.4389	213.12	52.203	36.498
38 MI-REST OF STATE	444	170313.41	20.0728	910.29	383.589	41.553
39 MI-CITY OF DETROIT	394	28147.50	14.1412	248.63	71.440	43.027
40 MN	445	94908.62	48.8955	471.45	213.278	36.157
41 OH-REST OF STATE	455	169165.59	25.1572	600.49	371.793	32.877
42 OH-CUYAHOGA COUNTY	417	29424.36	23.0441	239.85	70.562	33.344
43 OH-FRANKLIN COUNTY	383	23412.64	20.7297	102.17	61.130	24.000
44 WI-REST OF STATE	423	76695.30	20.9929	272.00	181.313	25.324
45 WI-MILWAUKEE COUNTY	413	23711.88	16.5413	106.15	57.414	32.134
46 AR	432	49476.66	36.1336	205.04	114.529	34.510
47 LA-REST OF STATE	426	81456.98	9.3485	482.22	191.214	44.766
48 LA-ORLEANS PARISH	429	12060.62	9.1834	100.80	28.113	32.465
49 NM	422	40003.71	29.0168	163.93	94.796	29.395

Q1/1996-Q4/1996 : Child Weight for Completed Household Interviews (HY_WGT)

IAP Area	N	SUM	MIN	MAX	MEAN	CV
50 OK	422	66088.94	41.719	322.15	156.61	33.2054
51 TX-REST OF STATE	470	294502.52	55.365	1601.22	626.60	49.9494
52 TX-DALLAS COUNTY	415	52219.00	35.230	454.84	125.83	32.9913
53 TX-EL PASO COUNTY	440	22317.20	13.688	88.11	50.72	36.9368
54 TX-CITY OF HOUSTON	388	57897.82	48.088	528.50	149.22	40.7986
55 TX-BEXAR COUNTY	427	32785.75	10.701	133.38	76.78	29.1374
56 IA	433	52766.62	49.933	184.21	121.86	20.5791
57 KS	428	54660.84	28.325	286.73	127.71	31.2950
58 MO	428	104515.21	86.135	429.64	244.19	28.1823
59 NE	427	32047.27	31.773	111.13	75.05	21.0978
60 CO	425	74765.29	55.202	313.66	175.92	25.9359
61 MT	433	15820.63	12.583	53.76	36.54	19.6348
62 ND	429	11005.27	7.043	38.90	25.65	18.9552
63 SD	435	15305.07	8.248	87.65	35.18	46.4031
64 UT	430	50605.95	23.276	205.36	117.69	29.4659
65 WY	432	9175.76	6.971	41.18	21.24	35.1694
66 AZ-REST OF STATE	436	40624.34	36.505	177.34	93.18	27.8700
67 AZ-MARICOPA COUNTY	425	58980.88	39.822	258.37	138.78	28.4837
68 CA-REST OF STATE	436	459898.64	12.206	1947.96	1054.81	26.6511
69 CA-LOS ANGELES COUNTY	417	269643.63	204.990	973.31	646.63	24.4202
70 CA-SANTA CLARA COUNTY	403	39086.60	25.577	166.11	96.99	29.3375
71 CA-SAN DIEGO COUNTY	430	70362.07	36.517	311.13	163.63	34.2180
72 HI	424	28711.40	16.931	114.91	67.72	25.7326
73 NV	436	36996.19	25.149	142.76	84.85	26.2116
74 AK	430	15142.45	12.619	51.22	35.22	22.7317
75 ID	425	25125.36	23.620	104.63	59.12	18.8636
76 OR	418	61759.47	45.030	255.87	147.75	25.2267
77 WA-REST OF STATE	439	82474.86	33.600	275.03	187.87	21.4601
78 WA-KING COUNTY	405	32910.69	31.922	131.30	81.26	23.7477

Q1/1996-Q4/1996 : Child Weight for Children with Adequate Provider Data (W0)

IAP Area	N	SUM	MIN	MAX	MEAN	CV
TOTAL U.S.	21099	5731506.10	6.661	4669.96	271.648	126.590
1 CT	253	67027.80	90.994	727.48	264.932	37.994
2 MA-REST OF STATE	291	105627.70	16.183	1089.52	362.982	41.181
3 MA-CITY OF BOSTON	264	12815.42	8.859	168.40	48.543	45.619
4 ME	312	22248.03	23.813	141.66	71.308	30.869
5 NH	306	22175.64	29.461	171.86	72.469	29.863
6 RI	291	19394.89	17.478	139.80	66.649	32.392
7 VT	328	10908.13	11.989	74.83	33.257	32.673
8 NJ-REST OF STATE	274	164753.98	6.661	4019.28	601.292	78.851
9 NJ-CITY OF NEWARK	223	8012.08	12.457	239.52	35.929	70.199
10 NY-REST OF STATE	264	211973.35	296.090	1698.39	802.929	27.924
11 NY-NYC 5 COUNTIES	211	182492.25	185.892	3736.51	864.892	62.763
12 DISTRICT OF COLUMBIA	253	12560.99	8.089	212.71	49.648	62.694
13 DE	277	14137.29	14.837	156.94	51.037	38.881
14 MD-REST OF STATE	282	96579.66	15.854	1396.24	342.481	55.570
15 MD-CITY OF BALTIMORE	228	18948.58	18.463	297.72	83.108	59.578
16 PA-REST OF STATE	294	188024.42	97.206	1246.79	639.539	32.937
17 PA-PHILADELPHIA COUNTY	226	37514.33	49.126	543.16	165.993	45.287
18 VA	280	142284.44	101.681	1774.56	508.159	50.120
19 WV	272	29696.53	33.910	326.77	109.178	43.248
20 AL-REST OF STATE	300	75451.59	22.825	918.98	251.505	48.530
21 AL-JEFFERSON COUNTY	273	13780.31	11.243	147.71	50.477	47.354
22 FL-REST OF STATE	266	223033.50	33.933	2220.37	838.472	46.901
23 FL-DUVAL COUNTY	246	17865.72	22.701	180.86	72.625	38.148
24 FL-DADE COUNTY	252	50646.02	41.369	1336.00	200.976	78.094
25 GA-REST OF STATE	290	130554.26	59.955	1848.55	450.187	60.675
26 GA-FULTON/DEKALB COUNTIES	235	31044.63	24.251	416.66	132.105	62.792
27 KY	290	75529.41	70.600	985.00	260.446	59.611
28 MS	292	59640.29	39.773	1158.14	204.248	56.714
29 NC	286	147900.06	132.241	2420.36	517.133	48.913
30 SC	275	77804.99	54.864	1108.11	282.927	61.492
31 TN-REST OF STATE	301	69427.36	23.913	567.54	230.656	36.177
32 TN-SHELBY COUNTY	254	21095.07	20.294	268.60	83.051	48.408
33 TN-DAVIDSON COUNTY	272	11490.83	11.257	132.75	42.246	44.511
34 IL-REST OF STATE	276	190139.80	54.486	2167.41	688.912	42.695
35 IL-CITY OF CHICAGO	236	82726.72	80.634	1195.87	350.537	56.263
36 IN-REST OF STATE	315	98920.15	32.017	968.20	314.032	54.313
37 IN-MARION COUNTY	251	20306.86	22.981	272.83	80.904	53.577
38 MI-REST OF STATE	297	170313.41	49.598	2017.94	573.446	53.066
39 MI-CITY OF DETROIT	215	28147.50	20.424	580.17	130.919	57.284
40 MN	323	94908.62	63.124	962.04	293.835	50.261
41 OH-REST OF STATE	306	169165.59	34.517	1205.14	552.829	36.660
42 OH-CUYAHOGA COUNTY	262	29424.36	30.634	288.61	112.307	47.698
43 OH-FRANKLIN COUNTY	217	23412.64	25.656	396.12	107.892	49.367
44 WI-REST OF STATE	298	76695.30	39.190	441.94	257.367	29.462
45 WI-MILWAUKEE COUNTY	272	23711.88	25.330	270.30	87.176	52.866
46 AR	264	49476.66	32.721	926.13	187.412	71.412
47 LA-REST OF STATE	265	81456.98	71.334	1139.01	307.385	60.611
48 LA-ORLEANS PARISH	221	12060.62	12.957	281.53	54.573	66.694
49 NM	270	40003.71	50.636	410.27	148.162	48.179

Q1/1996-Q4/1996 : Child Weight for Children with Adequate Provider Data (W0)

IAP Area	N	SUM	MIN	MAX	MEAN	CV
50 OK	238	66088.94	48.016	1091.24	277.68	52.3999
51 TX-REST OF STATE	268	294502.52	101.621	4229.92	1098.89	59.6768
52 TX-DALLAS COUNTY	223	52219.00	54.228	720.90	234.17	49.3208
53 TX-EL PASO COUNTY	245	22317.20	18.310	333.06	91.09	59.3089
54 TX-CITY OF HOUSTON	213	57897.82	76.586	1125.79	271.82	59.0242
55 TX-BEXAR COUNTY	235	32785.75	42.645	415.01	139.51	42.9598
56 IA	301	52766.62	77.889	400.11	175.30	33.6281
57 KS	286	54660.84	51.036	708.59	191.12	50.1346
58 MO	286	104515.21	83.153	1063.44	365.44	46.0919
59 NE	308	32047.27	39.875	270.69	104.05	35.0919
60 CO	260	74765.29	84.673	776.51	287.56	35.8344
61 MT	299	15820.63	18.201	119.07	52.91	28.9727
62 ND	299	11005.27	11.511	90.00	36.81	34.4561
63 SD	300	15305.07	9.278	156.62	51.02	57.3075
64 UT	290	50605.95	40.146	882.60	174.50	62.8193
65 WY	297	9175.76	10.471	81.11	30.89	40.2261
66 AZ-REST OF STATE	263	40624.34	32.336	641.77	154.47	59.0801
67 AZ-MARICOPA COUNTY	251	58980.89	60.445	892.23	234.98	51.1484
68 CA-REST OF STATE	275	459898.64	203.240	3978.20	1672.36	35.6415
69 CA-LOS ANGELES COUNTY	226	269643.63	304.025	4669.96	1193.11	48.5294
70 CA-SANTA CLARA COUNTY	282	39086.60	40.336	413.73	138.60	38.5896
71 CA-SAN DIEGO COUNTY	269	70362.07	51.241	918.32	261.57	45.1869
72 HI	253	28711.40	33.177	395.43	113.48	50.6394
73 NV	252	36996.19	35.028	546.47	146.81	44.4305
74 AK	260	15142.45	16.877	137.53	58.24	37.6890
75 ID	319	25125.37	29.502	200.12	78.76	32.2722
76 OR	299	61759.47	60.525	527.49	206.55	35.7226
77 WA-REST OF STATE	285	82474.86	65.649	534.45	289.39	31.5566
78 WA-KING COUNTY	268	32910.69	38.140	323.18	122.80	37.9426

Appendix E

**Disposition of Child with respect to Provider Record Check
for NIS, Q1/1996 to Q4/1996**

DISPCODE: Disposition of Child with Respect to Provider Record Check
for NIS - Q1\1996 to Q4\1996:

*Number
Of
Children Disposition Code Number and Definition*

- 10,443 1 = All identified providers responded,
no problems indicated in cross check between household and provider shot dates.
- 8,170 2 = All identified providers responded,
no NIS shot card to cross check.
- 817 3 = All identified providers responded,
poor immunization history matching results.
- 132 4 = All identified providers responded,
poor immunization history matching results,
additional mismatch indicators present.
- 1,180 5 = Some but not all identified providers responded,
but provider information indicates 4:3:1
up-to-date.
- 70 6 = Some but not all identified providers responded,
but provider information matches
NIS shot card immunization history.
- 369 7 = Some but not all identified providers responded,
completeness of provider immunization
history is unknown.
- 31 8 = Some but not all identified providers responded,
but provider information indicates 4:3:1
up-to-date when post-RDD-interview
immunizations are included.
- 34 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).

130 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).

92 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).

21,468 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:\nispuf96'; *--- SPECIFY PATH TO SAS DATASET ---*;
libname library 'c:\nispuf96'; *--- IF DATASET WAS CREATED WITH FORMATS STORED ---*;
      *--- PERMANENTLY SPECIFY PATH TO LIBRARY ---*;
      *--- OTHERWISE COMMENT THIS STATEMENT OUT ---*;
```

```
%let in_file=dd.nispuf96; *--- 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 ;
rtile "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:\nispuf96'; *--- SPECIFY PATH TO SAS DATASET ---*;
libname library 'c:\nispuf96'; *--- IF DATASET WAS CREATED WITH FORMATS STORED ---*;
      *--- PERMANENTLY SPECIFY PATH TO LIBRARY ---*;
      *--- OTHERWISE COMMENT THIS STATEMENT OUT ---*;

```

```

%let in_file=dd.nispuf96; *--- 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
1996 Public-Use Data File
Documentation, Code Book and Frequencies

1996 National Immunization Survey Public-Use Data File

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
AGEGRP	0053	0053	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
C1R	0054	0055	3	NUMBER OF PEOPLE LIVING IN THE HOUSEHOLD (RECODE)
C5R	0056	0057	3	RELATIONSHIP OF RESPONDENT TO CHILD (RECODE)
CARTYP1	0082	0082	7	CHILD'S PROVIDERS OFFER ROUTINE WELL CARE
CARTYP2	0083	0083	7	CHILD'S PROVIDERS OFFER SICK/EMERGENCY VISITS
CARTYP3	0084	0084	7	CHILD'S PROVIDERS OFFER VACCINATION VISITS
CARTYP4	0085	0085	7	CHILD'S PROVIDERS OFFER OTHER SERVICES
CARTYP5	0086	0086	7	CHILD'S PROVIDERS OFFER WIC PROGRAM/SERVICES
CEN_REG	0058	0058	3	CENSUS REGION BASED ON STATE
CHILDNM	0059	0059	3	NUMBER OF CHILDREN LESS THAN 18 YEARS IN HH (RECODE)
D6R	0078	0078	5	NUMBER OF VACCINATION PROVIDERS IDENTIFIED BY RESPONDENT (RECODE)
DDTAP1	0560	0563	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP SHOT #1
DDTAP2	0564	0567	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP SHOT #2
DDTAP3	0568	0571	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP SHOT #3
DDTAP4	0572	0575	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP SHOT #4
DDTAP5	0576	0579	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP SHOT #5
DDTAP6	0580	0583	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP SHOT #6
DDTAP7	0584	0587	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP SHOT #7
DDTAP8	0588	0591	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP SHOT #8
DDTP1	0592	0595	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #1
DDTP2	0596	0599	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #2
DDTP3	0600	0603	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #3

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
DDTP4	0604	0607	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #4
DDTP5	0608	0611	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #5
DDTP6	0612	0615	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #6
DDTP7	0616	0619	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #7
DDTP8	0620	0623	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #8
DDTPHB1	0624	0627	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB SHOT (ALL TYPES) #1
DDTPHB2	0628	0631	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB SHOT (ALL TYPES) #2
DDTPHB3	0632	0635	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB SHOT (ALL TYPES) #3
DDTPHB4	0636	0639	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB SHOT (ALL TYPES) #4
DDTPHB5	0640	0643	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB SHOT (ALL TYPES) #5
DDTPHB6	0644	0647	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB SHOT (ALL TYPES) #6
DDTPHB7	0648	0651	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB SHOT (ALL TYPES) #7
DDTPHB8	0652	0655	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB SHOT (ALL TYPES) #8
DHB1_AGE	0912	0913	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (ALL TYPES) SHOT #1
DHB2_AGE	0914	0915	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (ALL TYPES) SHOT #2
DHB3_AGE	0916	0917	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (ALL TYPES) SHOT #3
DHB4_AGE	0918	0919	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (ALL TYPES) SHOT #4
DHB5_AGE	0920	0921	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (ALL TYPES) SHOT #5
DHB6_AGE	0922	0923	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (ALL TYPES) SHOT #6
DHB7_AGE	0924	0925	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (ALL TYPES) SHOT #7
DHB8_AGE	0926	0927	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (ALL TYPES) SHOT #8
DHEPB1	0656	0659	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #1
DHEPB2	0660	0663	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #2

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
DHEPB3	0664	0667	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #3
DHEPB4	0668	0671	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #4
DHEPB5	0672	0675	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #5
DHEPB6	0676	0679	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #6
DHEPB7	0680	0683	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #7
DHEPB8	0684	0687	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #8
DHIB1	0688	0691	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #1
DHIB2	0692	0695	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #2
DHIB3	0696	0699	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #3
DHIB4	0700	0703	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #4
DHIB5	0704	0707	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #5
DHIB6	0708	0711	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #6
DHIB7	0712	0715	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #7
DHIB8	0716	0719	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #8
DISPCODE	0079	0080	6	NIS PROVIDER RECORD-CHECK DISPOSITION CODE
DMMR1	0720	0723	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #1
DMMR2	0724	0727	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #2
DMMR3	0728	0731	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #3
DMMR4	0732	0735	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #4
DMMRX1	0736	0739	9	AGE IN DAYS OF PROVIDER-REPORTED MMR SHOT #1
DMMRX2	0740	0743	9	AGE IN DAYS OF PROVIDER-REPORTED MMR SHOT #2
DMMRX3	0744	0747	9	AGE IN DAYS OF PROVIDER-REPORTED MMR SHOT #3
DMMRX4	0748	0751	9	AGE IN DAYS OF PROVIDER-REPORTED MMR SHOT #4
DMP1	0752	0755	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS SHOT #1
DMP2	0756	0759	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS SHOT #2
DMP3	0760	0763	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS SHOT #3
DMP4	0764	0767	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS SHOT #4

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
DMPRB1	0768	0771	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #1
DMPRB2	0772	0775	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #2
DMPRB3	0776	0779	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #3
DMPRB4	0780	0783	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #4
DMS1	0784	0787	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES SHOT #1
DMS2	0788	0791	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES SHOT #2
DMS3	0792	0795	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES SHOT #3
DMS4	0796	0799	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES SHOT #4
DMSMP1	0800	0803	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES/MUMPS SHOT #1
DMSMP2	0804	0807	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES/MUMPS SHOT #2
DMSMP3	0808	0811	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES/MUMPS SHOT #3
DMSMP4	0812	0815	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES/MUMPS SHOT #4
DMSRB1	0816	0819	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES/RUBELLA #1
DMSRB2	0820	0823	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES/RUBELLA #2
DMSRB3	0824	0827	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES/RUBELLA #3
DMSRB4	0828	0831	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES/RUBELLA #4
DPOLIO1	0832	0835	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #1
DPOLIO2	0836	0839	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #2
DPOLIO3	0840	0843	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #3
DPOLIO4	0844	0847	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #4
DPOLIO5	0848	0851	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #5
DPOLIO6	0852	0855	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #6
DPOLIO7	0856	0859	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #7
DPOLIO8	0860	0863	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #8
DRB1	0864	0867	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #1
DRB2	0868	0871	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #2

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
DRB3	0872	0875	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #3
DRB4	0876	0879	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #4
DRB5	0880	0883	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #5
DRB6	0884	0887	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #6
DRB7	0888	0891	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #7
DRB8	0892	0895	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #8
DTA1_AGE	0928	0929	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP SHOT #1
DTA2_AGE	0930	0931	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP SHOT #2
DTA3_AGE	0932	0933	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP SHOT #3
DTA4_AGE	0934	0935	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP SHOT #4
DTA5_AGE	0936	0937	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP SHOT #5
DTA6_AGE	0938	0939	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP SHOT #6
DTA7_AGE	0940	0941	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP SHOT #7
DTA8_AGE	0942	0943	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP SHOT #8
DTP_SOUR	0045	0045	2	SHOT CARD USED FOR DTP REPORTING
DTP1_AGE	0944	0945	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (ALL TYPES INCLUDING DT) SHOT #1
DTP2_AGE	0946	0947	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (ALL TYPES INCLUDING DT) SHOT #2
DTP3_AGE	0948	0949	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (ALL TYPES INCLUDING DT) SHOT #3
DTP4_AGE	0950	0951	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (ALL TYPES INCLUDING DT) SHOT #4
DTP5_AGE	0952	0953	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (ALL TYPES INCLUDING DT) SHOT #5
DTP6_AGE	0954	0955	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (ALL TYPES INCLUDING DT) SHOT #6
DTP7_AGE	0956	0957	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (ALL TYPES INCLUDING DT) SHOT #7
DTP8_AGE	0958	0959	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (ALL TYPES INCLUDING DT) SHOT #8
DVRC1	0896	0899	9	AGE IN DAYS OF PROVIDER-REPORTED VARICELLA SHOT #1
DVRC2	0900	0903	9	AGE IN DAYS OF PROVIDER-REPORTED VARICELLA SHOT #2
DVRC3	0904	0907	9	AGE IN DAYS OF PROVIDER-REPORTED VARICELLA SHOT #3
DVRC4	0908	0911	9	AGE IN DAYS OF PROVIDER-REPORTED VARICELLA SHOT #4
EDUC1	0060	0060	3	EDUCATION OF MOTHER CATEGORIES
ENTRY	0061	0061	3	CHILD LIVES IN STATE WITH HEPATITIS B STATE ENTRY LAW FOR DAY CARE/HEAD START (1996-1997 SCHOOL YEAR)
FUL2_MMR	0046	0046	2	HOUSEHOLD REPORT OF 1+ MMR AT ANY AGE

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
FULL_DTP	0047	0047	2	HOUSEHOLD REPORT OF 4+ DTP
FULL_HEP	0048	0048	2	HOUSEHOLD REPORT OF 3+ HEPATITIS B
FULL_HIB	0049	0049	2	HOUSEHOLD REPORT OF 3+ HIB
FULL_POL	0050	0050	2	HOUSEHOLD REPORT OF 3+ POLIO
HEP1_AGE	0960	0961	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #1
HEP2_AGE	0962	0963	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #2
HEP3_AGE	0964	0965	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #3
HEP4_AGE	0966	0967	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #4
HEP5_AGE	0968	0969	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #5
HEP6_AGE	0970	0971	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #6
HEP7_AGE	0972	0973	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #7
HEP8_AGE	0974	0975	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #8
HIB1_AGE	0976	0977	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #1
HIB2_AGE	0978	0979	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #2
HIB3_AGE	0980	0981	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #3
HIB4_AGE	0982	0983	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #4
HIB5_AGE	0984	0985	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #5
HIB6_AGE	0986	0987	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #6
HIB7_AGE	0988	0989	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #7
HIB8_AGE	0990	0991	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #8
HUTD4313	0051	0051	2	HOUSEHOLD REPORT OF 4:3:1:3 UTD (UP-TO-DATE)
HY_WGT	0012	0021	1	MODIFIED-POSTSTRATIFICATION (HH) WEIGHT FOR CHILD
I_HISP_K	0065	0065	3	HISPANIC ORIGIN OF CHILD
I_HISP_M	0066	0066	3	HISPANIC ORIGIN OF MOTHER
I_RACEKR	0067	0067	3	RACE OF CHILD (RECODE)
I_RACEMR	0068	0068	3	RACE OF MOTHER (RECODE)
INCOMER	0063	0064	3	FAMILY INCOME CATEGORIES (RECODE)
INCPOV1R	0062	0062	3	POVERTY STATUS(RECODE)

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
ITRUEIAP	0074	0075	4	IAP AREA OF CURRENT RESIDENCE
MARITAL	0069	0069	3	MARITAL STATUS OF MOTHER CATEGORIES
MMR1_AGE	0992	0993	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES- CONTAINING VACCINE SHOT #1
MMR2_AGE	0994	0995	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES- CONTAINING VACCINE SHOT #2
MMR3_AGE	0996	0997	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES- CONTAINING VACCINE SHOT #3
MMR4_AGE	0998	0999	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES- CONTAINING VACCINE SHOT #4
MMX1_AGE	1000	1001	9	AGE IN MONTHS OF PROVIDER-REPORTED MMR SHOT #1
MMX2_AGE	1002	1003	9	AGE IN MONTHS OF PROVIDER-REPORTED MMR SHOT #2
MMX3_AGE	1004	1005	9	AGE IN MONTHS OF PROVIDER-REPORTED MMR SHOT #3
MMX4_AGE	1006	1007	9	AGE IN MONTHS OF PROVIDER-REPORTED MMR SHOT #4
MOBIL	0070	0070	3	GEOGRAPHIC MOBILITY STATUS: STATE OF RESIDENCE OF CHILD AT BIRTH VERSUS CURRENT STATE OF RESIDENCE
MP1_AGE	1008	1009	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS SHOT #1
MP2_AGE	1010	1011	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS SHOT #2
MP3_AGE	1012	1013	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS SHOT #3
MP4_AGE	1014	1015	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS SHOT #4
MPR1_AGE	1016	1017	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #1
MPR2_AGE	1018	1019	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #2
MPR3_AGE	1020	1021	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #3
MPR4_AGE	1022	1023	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #4
MS1_AGE	1024	1025	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-ONLY SHOT #1
MS2_AGE	1026	1027	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-ONLY SHOT #2
MS3_AGE	1028	1029	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-ONLY SHOT #3
MS4_AGE	1030	1031	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-ONLY SHOT #4
MSM1_AGE	1032	1033	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES/MUMPS SHOT #1
MSM2_AGE	1034	1035	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES/MUMPS SHOT #2
MSM3_AGE	1036	1037	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES/MUMPS SHOT #3
MSM4_AGE	1038	1039	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES/MUMPS SHOT #4

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
MSR1_AGE	1040	1041	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES/RUBELLA SHOT #1
MSR2_AGE	1042	1043	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES/RUBELLA SHOT #2
MSR3_AGE	1044	1045	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES/RUBELLA SHOT #3
MSR4_AGE	1046	1047	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES/RUBELLA SHOT #4
N_PRVR	0081	0081	6	NUMBER OF PROVIDERS RESPONDING WITH VACCINATION DATA FOR CHILD (RECODE)
P_NUMDHB	0100	0100	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_NUMDTA	0101	0101	8	NUMBER OF DTAP SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMDTP	0102	0102	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	0103	0103	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	0104	0104	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_NUMMMR	0105	0105	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	0106	0106	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_NUMPOL	0107	0107	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	0108	0108	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.

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
P_NUMVRC	0109	0109	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	0092	0092	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 1+ VARICELLA AT 12+ MONTHS
P_UTD331	0091	0091	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3:3:1
P_UTD431	0088	0088	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 4:3:1
P_UTDHEP	0093	0093	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3+ HEPATITIS B
P_UTDHIB	0094	0094	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3+ HIB
P_UTDMCV	0095	0095	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 1+ MCV
P_UTDMMX	0096	0096	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 1+ MMR (NOT INCLUDING ANY MEASLES-ONLY SHOTS)
P_UTDPOL	0097	0097	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3+ POLIO
P_UTDTP3	0098	0098	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3+ DTP
P_UTDTP4	0099	0099	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 4+ DTP
PDAT	0036	0036	1	CHILD HAS ADEQUATE PROVIDER DATA
POL1_AGE	1048	1049	9	AGE ON MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 1
POL2_AGE	1050	1051	9	AGE ON MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 2
POL3_AGE	1052	1053	9	AGE ON MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 3
POL4_AGE	1054	1055	9	AGE ON MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 4
POL5_AGE	1056	1057	9	AGE ON MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 5
POL6_AGE	1058	1059	9	AGE ON MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 6
POL7_AGE	1060	1061	9	AGE ON MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 7
POL8_AGE	1062	1063	9	AGE ON MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 8
PROV_FAC	0087	0087	7	PROVIDER FACILITY TYPE
PUT43133	0090	0090	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 4:3:1:3:3
PUTD4313	0089	0089	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 4:3:1:3
RACEKIDR	0071	0071	3	RACE/ETHNICITY OF CHILD (RECODE)
RACEMOMR	0072	0072	3	RACE/ETHNICITY OF MOTHER (RECODE)
RB1_AGE	1064	1065	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #1
RB2_AGE	1066	1067	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #2

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
RB3_AGE	1068	1069	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #3
RB4_AGE	1070	1071	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #4
RB5_AGE	1072	1073	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #5
RB6_AGE	1074	1075	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #6
RB7_AGE	1076	1077	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #7
RB8_AGE	1078	1079	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #8
SEQNUMC	0001	0006	1	UNIQUE CHILD IDENTIFIER
SEQNUMHH	0007	0011	1	UNIQUE HOUSEHOLD IDENTIFIER
SEX	0073	0073	3	GENDER OF CHILD
SHOTCARD	0052	0052	2	SHOT CARD USE FLAG
STATE	0076	0077	4	STATE OF RESIDENCE (STATE FIPS CODE)
VB11	0110	0139	8	VERBATIM TEXT FOR 1ST OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 1ST PROVIDER.
VB12	0140	0169	8	VERBATIM TEXT FOR 1ST OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 2ND PROVIDER.
VB13	0170	0199	8	VERBATIM TEXT FOR 1ST OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 3RD PROVIDER.
VB21	0200	0229	8	VERBATIM TEXT FOR 2ND OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 1ST PROVIDER.
VB22	0230	0259	8	VERBATIM TEXT FOR 2ND OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 2ND PROVIDER.
VB23	0260	0289	8	VERBATIM TEXT FOR 2ND OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 3RD PROVIDER.
VB31	0290	0319	8	VERBATIM TEXT FOR 3RD OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 1ST PROVIDER.
VB32	0320	0349	8	VERBATIM TEXT FOR 3RD OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 2ND PROVIDER.
VB33	0350	0379	8	VERBATIM TEXT FOR 3RD OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 3RD PROVIDER.
VB41	0380	0409	8	VERBATIM TEXT FOR 4TH OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 1ST PROVIDER.

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
VB42	0410	0439	8	VERBATIM TEXT FOR 4TH OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 2ND PROVIDER.
VB43	0440	0469	8	VERBATIM TEXT FOR 4TH OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 3RD PROVIDER.
VB51	0470	0499	8	VERBATIM TEXT FOR 5TH OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 1ST PROVIDER.
VB52	0500	0529	8	VERBATIM TEXT FOR 5TH OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 2ND PROVIDER.
VB53	0530	0559	8	VERBATIM TEXT FOR 5TH OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 3RD PROVIDER.
VRC1_AGE	1080	1081	9	AGE IN MONTHS OF PROVIDER-REPORTED VARICELLA SHOT #1
VRC2_AGE	1082	1083	9	AGE IN MONTHS OF PROVIDER-REPORTED VARICELLA SHOT #2
VRC3_AGE	1084	1085	9	AGE IN MONTHS OF PROVIDER-REPORTED VARICELLA SHOT #3
VRC4_AGE	1086	1087	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
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, 1996 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	5,731,506	33,305	21,099
Alabama	89,232	865	573
Rest of State	75,452	459	300
Jefferson County	13,780	406	273
Alaska	15,142	430	260
Arizona	99,605	861	514
Rest of State	40,624	436	263
Maricopa County	58,981	425	251
Arkansas	49,477	432	264
California	838,991	1,686	1,052
Rest of State	459,899	436	275
Los Angeles Co.	269,644	417	226
Santa Clara County	39,087	403	282
San Diego County	70,362	430	269
Colorado	74,765	425	260
Connecticut	67,028	419	253
Delaware	14,137	446	277
Dist. of Columbia	12,561	446	253
Florida	291,545	1,296	764
Rest of State	223,033	428	266
Duval County	17,866	426	246
Dade County	50,646	442	252
Georgia	161,599	862	525
Rest of State	130,554	455	290
Fulton/DeKalb Cos.	31,045	407	235
Hawaii	28,711	424	253
Idaho	25,125	425	319
Illinois	272,867	860	512
Rest of State	190,140	434	276
City of Chicago	82,727	426	236
Indiana	119,227	864	566
Rest of State	98,920	475	315
Marion County	20,307	389	251
Iowa	52,767	433	301
Kansas	54,661	428	286
Kentucky	75,529	430	290

Table H.1: Estimated population total and sample sizes of children 19-35 months of age by state and IAP area, 1996 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	93,518	855	486
Rest of State	81,457	426	265
Orleans Parish	12,061	429	221
Maine	22,248	424	312
Maryland	115,528	829	510
Rest of State	96,580	439	282
Baltimore City	18,949	390	228
Massachusetts	118,443	848	555
Rest of State	105,628	434	291
City of Boston	12,815	414	264
Michigan	198,461	838	512
Rest of State	170,313	444	297
City of Detroit	28,148	394	215
Minnesota	94,909	445	323
Mississippi	59,640	433	292
Missouri	104,515	428	286
Montana	15,821	433	299
Nebraska	32,047	427	308
Nevada	36,996	436	252
New Hampshire	22,176	424	306
New Jersey	172,766	882	497
Rest of State	164,754	492	274
City of Newark	8,012	390	223
New Mexico	40,004	422	270
New York	394,466	815	475
Rest of State	211,973	405	264
NYC - 5 Counties	182,492	410	211
North Carolina	147,900	424	286
North Dakota	11,005	429	299
Ohio	222,003	1,255	785
Rest of State	169,166	455	306
Cuyahoga County	29,424	417	262
Franklin County	23,413	383	217
Oklahoma	66,089	422	238
Oregon	61,759	418	299

Table H.1: Estimated population total and sample sizes of children 19-35 months of age by state and IAP area, 1996 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	225,539	829	520
Rest of State	188,024	421	294
Philadelphia Co.	37,514	408	226
Rhode Island	19,395	442	291
South Carolina	77,805	420	275
South Dakota	15,305	435	300
Tennessee	102,013	1,285	827
Rest of State	69,427	438	301
Shelby County	21,095	427	254
Davidson County	11,491	420	272
Texas	459,722	2,140	1,184
Rest of State	294,503	470	268
Dallas County	52,219	415	223
El Paso County	22,317	440	245
City of Houston	57,898	388	213
Bexar County	32,786	427	235
Utah	50,606	430	290
Vermont	10,908	446	328
Virginia	142,284	431	280
Washington	115,386	844	553
Rest of State	82,475	439	285
King County	32,911	405	268
West Virginia	29,697	416	272
Wisconsin	100,407	836	570
Rest of State	76,695	423	298
Milwaukee County	23,712	413	272
Wyoming	9,176	432	297

Table H.2: Age Group by Maternal Education, National Immunization Survey, 1996

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	1,303	275,999.8	770	282,447.3
19 - 23	12 YEARS	3,359	677,097.3	2,031	663,891.3
19 - 23	GREATER 12 YEARS, NOT COLLEGE GRADUATE	1,986	278,372.2	1,245	265,396.7
19 - 23	COLLEGE GRADUATE	3,172	458,271.4	2,112	473,121.7
24 - 29	LESS THAN 12 YEARS	1,513	320,416.5	830	313,515.0
24 - 29	12 YEARS	4,095	842,620.6	2,510	832,835.1
24 - 29	GREATER 12 YEARS, NOT COLLEGE GRADUATE	2,316	315,721.3	1,478	298,439.2
24 - 29	COLLEGE GRADUATE	3,801	540,441.5	2,550	543,587.9
30 - 35	LESS THAN 12 YEARS	1,453	318,642.3	842	344,017.1
30 - 35	12 YEARS	4,156	839,307.0	2,604	837,577.2
30 - 35	GREATER 12 YEARS, NOT COLLEGE GRADUATE	2,416	335,040.2	1,594	347,235.4
30 - 35	COLLEGE GRADUATE	3,735	529,576.0	2,533	529,442.4

Table H.3: Age Group by Family Income, National Immunization Survey, 1996

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	93	16,029.1	0	0.0
19 - 23	0 - \$ 7,500	377	74,101.9	238	72,444.0
19 - 23	\$ 7,501 - \$10,000	584	111,235.7	361	113,471.6
19 - 23	\$10,001 - \$12,500	160	28,441.0	96	30,171.2
19 - 23	\$12,501 - \$15,000	344	63,843.6	213	64,219.6
19 - 23	\$15,001 - \$17,500	260	45,086.8	182	48,806.3
19 - 23	\$17,501 - \$20,000	521	100,804.0	331	93,949.1
19 - 23	\$20,001 - \$30,000	1,357	220,512.6	904	213,072.5
19 - 23	\$30,001 - \$50,000	1,994	314,325.8	1,319	316,164.3
19 - 23	\$50,001 +	2,246	360,021.4	1,512	350,242.6
19 - 23	DON'T KNOW	1,174	225,805.8	671	258,406.9
19 - 23	REFUSED	710	129,532.9	331	123,908.8
24 - 29	MISSING	106	21,515.8	0	0.0
24 - 29	0 - \$ 7,500	559	90,870.1	314	83,181.9
24 - 29	\$ 7,501 - \$10,000	692	121,767.7	403	117,840.0
24 - 29	\$10,001 - \$12,500	221	42,817.0	153	49,556.5
24 - 29	\$12,501 - \$15,000	363	76,116.9	218	68,129.4
24 - 29	\$15,001 - \$17,500	332	58,021.2	202	51,658.7
24 - 29	\$17,501 - \$20,000	588	97,978.4	393	96,016.9
24 - 29	\$20,001 - \$30,000	1,572	258,977.9	1,009	246,382.3
24 - 29	\$30,001 - \$50,000	2,433	402,453.1	1,638	389,858.9
24 - 29	\$50,001 +	2,711	437,802.6	1,925	444,700.9
24 - 29	DON'T KNOW	1,309	262,392.0	716	300,446.4
24 - 29	REFUSED	839	148,487.2	397	140,605.3
30 - 35	MISSING	95	16,078.6	0	0.0
30 - 35	0 - \$ 7,500	550	108,077.9	339	110,000.0
30 - 35	\$ 7,501 - \$10,000	694	124,631.8	424	124,845.3
30 - 35	\$10,001 - \$12,500	205	37,839.4	143	45,060.0
30 - 35	\$12,501 - \$15,000	420	83,635.4	265	87,237.5
30 - 35	\$15,001 - \$17,500	300	61,946.2	200	66,142.5
30 - 35	\$17,501 - \$20,000	644	117,115.9	401	117,967.8
30 - 35	\$20,001 - \$30,000	1,614	268,108.6	1,048	247,465.0
30 - 35	\$30,001 - \$50,000	2,416	376,165.7	1,713	386,850.8
30 - 35	\$50,001 +	2,747	433,829.6	1,930	434,872.9
30 - 35	DON'T KNOW	1,223	241,536.2	696	286,274.6
30 - 35	REFUSED	852	153,600.1	414	151,555.6

Table H.4: Age Group by Race/Ethnicity, National Immunization Survey, 1996

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	1,421	318,275.7	871	320,955.7
19 - 23	WHITE, NON HISPANIC	6,106	1,001,706.4	3,989	993,984.1
19 - 23	BLACK, NON HISPANIC	1,756	286,314.8	965	290,823.0
19 - 23	ALL OTHER, NON HISPANIC	537	83,443.8	333	79,094.2
24 - 29	HISPANIC	1,717	395,164.2	999	391,837.1
24 - 29	WHITE, NON HISPANIC	7,356	1,222,703.5	4,948	1,214,118.0
24 - 29	BLACK, NON HISPANIC	2,036	312,707.3	1,044	295,162.1
24 - 29	ALL OTHER, NON HISPANIC	616	88,625.0	377	87,260.0
30 - 35	HISPANIC	1,689	386,499.4	1,004	386,935.4
30 - 35	WHITE, NON HISPANIC	7,369	1,194,642.1	5,053	1,214,816.1
30 - 35	BLACK, NON HISPANIC	2,086	346,207.2	1,142	359,244.9
30 - 35	ALL OTHER, NON HISPANIC	616	95,216.8	374	97,275.5

Table H.5: Age Group by Gender, National Immunization Survey, 1996

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	4,969	862,334.9	3,116	870,566.3
19 - 23	FEMALE	4,851	827,405.9	3,042	814,290.7
24 - 29	MALE	5,995	1,011,521.3	3,743	990,005.7
24 - 29	FEMALE	5,730	1,007,678.6	3,625	998,371.4
30 - 35	MALE	6,125	1,044,945.1	3,946	1,058,229.4
30 - 35	FEMALE	5,635	977,620.4	3,627	1,000,042.6

Table H.6: Shot Card Use by Presence of Adequate Provider Data, National Immunization Survey, 1996

Shot Card Use	Presence of Adequate Provider Data	Unweighted Sample Size
SHOT CARD	ADEQUATE PROVIDER DATA	11,869
SHOT CARD	NO ADEQUATE PROVIDER DATA	5,209
NO SHOT CARD	ADEQUATE PROVIDER DATA	9,230
NO SHOT CARD	NO ADEQUATE PROVIDER DATA	6,997

Table H.7: Estimates of Vaccination Coverage and 95-Percent Confidence-Interval Half-Widths, National Immunization Survey, 1996

State/IAP Area	3+ DTP	4+ DTP	3+ POLIO	1+ MCV	3+ HIB	3+ HEP B	1+ VARICELLA	3:3:1	4:3:1	4:3:1:3	4:3:1:3:3
US National	94.9±0.5	81.1±0.9	91.0±0.6	90.6±0.7	91.4±0.7	81.8±0.9	12.2±0.7	85.8±0.8	78.4±0.9	76.4±1.0	67.7±1.0
Alabama	92.2±3.6	78.2±4.9	88.7±3.9	90.6±3.6	89.6±4.0	81.0±4.7	7.7±2.4	83.9±4.5	76.4±5.0	74.2±5.1	65.2±5.4
AL-Jefferson Cnty	97.8±2.2	82.9±5.0	88.6±4.4	92.9±3.5	94.1±3.1	85.5±5.2	16.7±4.5	85.1±5.0	78.0±5.6	75.8±5.7	66.0±6.4
AL-Rest of State	91.2±4.2	77.4±5.7	88.7±4.5	90.2±4.2	88.8±4.7	80.2±5.4	6.1±2.7	83.6±5.2	76.1±5.8	74.0±6.0	65.0±6.3
Alaska	89.8±4.3	78.3±5.9	88.0±4.6	84.5±5.0	84.5±4.8	82.5±5.1	NA	80.8±5.5	75.4±6.2	71.5±6.3	67.2±6.5
Arizona	92.1±2.7	74.0±4.5	88.8±3.3	84.8±3.9	89.4±3.2	80.0±4.1	10.9±2.8	79.9±4.2	72.0±4.6	70.2±4.8	61.8±5.0
AZ-Maricopa Cnty	90.5±4.1	75.5±5.9	89.1±4.3	87.7±4.6	88.1±4.5	80.3±5.6	13.5±4.2	82.2±5.3	73.8±6.1	71.8±6.5	63.5±6.9
AZ-Rest of State	94.4±3.0	71.9±7.0	88.4±5.0	80.7±6.6	91.3±4.3	79.5±5.7	7.1±2.8	76.6±6.8	69.5±7.1	67.9±7.1	59.3±7.1
Arkansas	92.8±4.5	75.0±6.8	88.5±5.1	85.5±5.8	86.5±5.3	81.2±6.3	8.5±4.2	80.6±6.2	72.9±6.9	69.8±7.0	61.4±7.3
California	94.2±2.1	78.6±3.6	90.9±2.5	90.7±2.6	89.7±2.7	80.3±3.5	16.1±3.0	84.9±3.1	75.7±3.7	73.6±3.8	65.8±4.1
CA-Los Angeles	92.7±4.4	79.0±6.1	89.6±4.8	90.2±4.2	90.3±4.9	79.8±6.0	13.9±4.5	83.7±5.7	75.6±6.3	74.6±6.4	67.3±6.8
CA-San Diego Cnty	92.9±3.5	78.9±5.7	89.4±4.0	92.7±3.2	89.6±4.5	78.8±5.6	17.0±5.0	84.9±4.7	75.7±5.9	73.9±6.0	65.1±6.4
CA-Santa Clara	97.1±2.3	86.9±4.4	94.4±3.2	93.3±3.2	91.6±3.7	85.8±4.5	22.2±5.3	88.7±4.2	83.8±4.8	79.5±5.2	72.0±5.7
CA-Rest of State	95.0±2.7	77.6±5.4	91.6±3.4	90.5±3.9	89.2±4.0	80.3±5.2	16.8±4.6	85.3±4.6	75.1±5.6	72.4±5.8	64.4±6.2
Colorado	95.0±3.0	84.5±4.7	91.9±3.5	89.4±4.1	92.6±3.5	76.0±5.5	12.1±4.3	85.9±4.6	81.5±5.0	79.5±5.2	66.3±6.1
Connecticut	99.5±0.9	90.2±4.2	94.2±3.4	96.7±2.6	98.5±1.5	90.4±3.8	19.0±5.1	93.3±3.6	88.7±4.4	87.7±4.6	80.6±5.3
Delaware	96.4±2.7	85.1±4.9	92.8±3.3	90.4±3.8	94.3±3.1	84.8±5.1	6.8±2.9	85.7±4.6	81.5±5.2	80.7±5.3	73.5±5.9
Dist. of Columbia	97.3±2.7	80.3±6.8	94.9±3.4	92.9±3.7	93.1±3.5	83.9±5.3	16.9±5.1	88.6±4.7	78.9±6.9	76.2±7.1	66.8±7.4
Florida	96.3±2.4	81.2±4.4	92.1±3.2	89.6±3.5	92.8±3.0	85.4±3.9	15.0±3.6	87.7±3.7	79.8±4.4	79.0±4.5	72.1±4.8
FL-Dade Cnty	98.2±2.4	84.1±5.6	95.0±3.3	92.2±4.1	94.4±3.5	80.7±6.9	8.8±3.7	91.2±4.2	81.8±5.9	78.8±6.2	67.0±7.6
FL-Duval Cnty	95.9±2.8	79.8±5.9	92.5±3.5	89.7±4.6	93.4±3.3	84.8±5.0	13.4±4.4	85.8±5.0	76.6±6.2	75.6±6.3	68.6±6.6
FL-Rest of State	95.9±3.0	80.7±5.6	91.5±4.1	89.0±4.5	92.4±3.9	86.5±4.9	16.5±4.7	87.1±4.7	79.6±5.6	79.3±5.6	73.5±6.0
Georgia	96.2±2.5	85.8±4.0	94.1±2.8	91.9±3.0	92.3±3.3	88.9±3.5	10.4±2.6	88.9±3.6	83.4±4.2	81.2±4.4	76.9±4.6
GA-Fulton/DeKalb	97.1±2.9	82.2±6.2	93.5±3.8	92.2±4.6	92.5±3.7	85.0±5.3	21.4±6.2	88.1±5.2	79.4±6.5	75.5±6.7	68.5±7.2
GA-Rest of State	96.0±3.1	86.7±4.8	94.2±3.4	91.9±3.6	92.3±4.0	89.8±4.1	7.7±2.8	89.1±4.3	84.4±5.0	82.6±5.2	78.8±5.5
Hawaii	93.8±3.7	82.7±5.5	90.9±4.2	92.9±4.0	91.8±4.1	85.8±5.1	11.3±4.1	88.5±4.7	81.1±5.6	79.8±5.7	74.4±6.2
Idaho	88.4±4.4	70.0±5.6	85.0±4.6	83.4±4.8	84.5±4.8	69.3±5.6	NA	77.1±5.3	67.3±5.7	64.5±5.8	51.9±5.9
Illinois	93.4±2.7	78.6±4.3	88.9±3.2	89.5±3.1	90.9±3.2	78.3±4.2	6.9±2.5	83.3±3.8	75.9±4.5	74.5±4.5	64.9±4.9
IL-City of Chicago	94.9±3.7	76.4±7.4	88.0±4.9	88.5±4.7	88.6±6.6	72.6±7.7	NA	80.5±6.0	73.7±7.4	71.5±7.6	60.9±7.9
IL-Rest of State	92.8±3.5	79.6±5.3	89.3±4.0	89.9±4.0	91.9±3.5	80.8±5.0	8.6±3.4	84.5±4.7	76.9±5.5	75.7±5.6	66.7±6.1
Indiana	93.8±3.0	77.4±4.7	90.4±3.5	85.5±4.0	88.7±3.7	73.3±4.9	11.2±3.4	81.1±4.4	72.5±5.0	69.9±5.1	56.7±5.4
IN-Marion Cnty	91.3±4.8	74.8±6.8	87.6±5.3	87.6±4.8	89.6±5.0	74.6±7.0	12.6±4.6	81.5±6.1	73.4±6.8	72.0±6.9	60.3±7.4
IN-Rest of State	94.3±3.5	77.9±5.5	90.9±4.1	85.1±4.7	88.5±4.4	73.1±5.8	11.0±4.1	81.0±5.2	72.4±5.9	69.5±6.0	56.0±6.4
Iowa	96.6±2.4	84.5±4.8	94.0±3.2	92.4±3.4	94.5±2.9	81.9±4.7	5.8±2.6	88.9±4.1	82.2±5.0	81.2±5.0	70.3±5.7
Kansas	91.1±4.1	77.4±5.8	84.8±5.3	86.8±4.8	88.1±4.7	73.1±5.8	10.0±3.4	78.7±5.7	75.0±5.9	72.2±6.2	58.2±6.5
Kentucky	94.4±3.6	81.8±5.4	91.1±4.4	91.6±4.0	92.0±4.2	85.1±4.8	7.1±3.0	85.5±5.2	78.8±5.8	76.4±6.0	70.4±6.2
Louisiana	94.1±3.4	83.3±4.5	91.2±3.7	88.0±4.2	93.0±3.5	87.8±4.3	4.7±2.2	85.2±4.5	80.5±4.8	79.4±4.9	73.0±5.5
LA-Orleans Parish	93.5±5.4	75.7±7.6	86.5±6.2	86.0±6.1	92.9±5.4	83.9±6.6	NA	79.4±7.4	71.5±8.0	71.5±8.0	66.0±8.0

Table H.7: Estimates of Vaccination Coverage and 95-Percent Confidence-Interval Half-Widths, National Immunization Survey, 1996 (continued)

State/IAP Area	3+ DTP	4+ DTP	3+ POLIO	1+ MCV	3+ HIB	3+ HEP B	1+ VARICELLA	3:3:1	4:3:1	4:3:1:3	4:3:1:3:3
LA-Rest of State	94.2±3.8	84.5±5.1	91.9±4.2	88.3±4.8	93.0±4.0	88.4±4.8	NA	86.1±5.0	81.8±5.4	80.6±5.5	74.1±6.2
Maine	97.9±1.6	92.1±3.2	93.1±3.1	95.3±2.4	95.7±2.4	77.3±4.9	NA	90.3±3.5	87.2±4.0	85.8±4.1	68.4±5.5
Maryland	97.6±1.5	84.8±4.7	92.0±3.4	91.7±3.6	95.7±2.1	79.9±4.6	16.7±4.2	86.5±4.5	80.7±5.1	79.0±5.2	64.9±5.7
MD-Baltimore City	95.5±3.5	88.2±4.7	91.6±4.2	93.6±3.8	90.3±4.7	80.4±6.0	6.8±3.3	87.8±5.2	85.0±5.4	80.4±6.0	67.5±7.1
MD-Rest of State	98.0±1.6	84.2±5.5	92.0±4.0	91.3±4.2	96.7±2.3	79.8±5.4	18.6±5.0	86.2±5.2	79.8±5.9	78.7±6.1	64.4±6.7
Massachusetts	98.2±1.5	89.6±3.8	94.0±3.0	97.2±1.8	97.2±1.9	89.1±3.8	6.5±2.8	92.3±3.2	88.2±3.9	87.3±4.0	79.9±4.8
MA-City of Boston	97.3±2.2	89.2±4.0	94.0±3.1	95.0±3.1	96.8±2.4	90.5±4.0	NA	90.8±4.0	85.8±4.7	85.4±4.8	81.2±5.2
MA-Rest of State	98.3±1.6	89.6±4.2	94.0±3.3	97.5±1.9	97.2±2.1	88.9±4.2	7.0±3.1	92.5±3.6	88.5±4.3	87.6±4.4	79.7±5.4
Michigan	94.4±2.4	78.9±4.5	90.1±3.1	89.7±3.4	90.9±2.9	80.0±4.4	8.3±3.2	85.1±3.9	77.5±4.6	75.1±4.8	66.2±5.3
MI-City of Detroit	87.4±5.2	65.6±7.4	79.3±6.5	83.0±5.8	78.9±6.4	68.6±7.3	NA	73.1±7.0	62.3±7.5	60.1±7.6	53.2±7.7
MI-Rest of State	95.5±2.7	81.1±5.1	91.9±3.4	90.8±3.8	92.9±3.2	81.9±4.9	8.6±3.7	87.1±4.4	80.0±5.2	77.6±5.5	68.3±6.0
Minnesota	98.2±1.7	90.0±3.9	92.5±3.4	95.7±2.7	93.4±3.1	72.4±5.5	21.5±4.9	90.7±3.8	87.3±4.3	83.6±4.7	63.2±6.0
Mississippi	96.4±2.2	85.0±4.6	92.2±3.4	93.1±3.0	93.5±3.2	80.3±5.1	NA	87.9±4.0	82.2±4.9	80.9±5.1	68.1±6.1
Missouri	91.2±4.4	77.9±6.1	89.6±4.6	87.2±4.9	89.9±4.6	82.8±5.5	10.7±3.9	83.2±5.3	75.4±6.2	74.5±6.3	68.3±6.4
Montana	93.5±2.9	79.1±5.0	89.0±3.7	87.6±4.1	90.4±3.5	75.1±5.2	11.4±3.8	83.8±4.5	77.1±5.1	74.8±5.3	59.2±5.9
Nebraska	96.1±2.4	83.1±4.5	94.1±2.9	91.2±3.7	92.3±3.3	79.0±4.7	13.4±4.2	88.0±4.1	80.5±4.8	77.8±5.1	65.3±5.7
Nevada	87.9±5.4	70.7±6.7	83.9±5.8	82.0±6.1	86.5±5.5	78.1±6.4	NA	76.3±6.4	68.2±6.7	67.4±6.8	61.9±6.9
New Hampshire	97.6±2.1	86.7±4.1	90.9±3.6	94.0±2.8	93.8±3.2	87.6±3.8	11.6±3.8	88.3±3.9	84.9±4.3	83.2±4.5	77.3±5.0
New Jersey	97.3±2.5	82.9±5.2	89.0±4.4	90.9±4.3	91.4±4.9	86.9±4.7	19.4±6.2	83.9±5.4	77.9±5.8	74.8±6.5	68.5±6.9
NJ-City of Newark	95.1±3.1	68.1±7.7	84.1±6.5	88.2±5.6	89.0±4.9	80.7±6.5	NA	81.0±6.6	65.2±7.8	64.2±7.9	56.6±8.2
NJ-Rest of State	97.4±2.6	83.6±5.4	89.3±4.6	91.1±4.5	91.5±5.2	87.2±5.0	20.0±6.5	84.1±5.6	78.5±6.1	75.3±6.8	69.1±7.2
New Mexico	94.5±3.1	82.0±5.2	90.9±4.3	89.6±4.0	91.5±3.9	79.3±5.4	12.7±4.1	84.9±5.0	78.6±5.7	77.6±5.7	66.2±6.4
New York	97.7±1.5	87.3±3.2	93.5±2.6	95.1±2.0	92.5±2.8	85.4±3.6	12.4±3.2	91.1±2.9	84.5±3.6	80.3±4.1	72.6±4.6
NY-NYC 5 Counties	96.7±2.7	88.5±4.8	91.1±4.6	93.8±3.3	89.6±5.3	83.9±5.7	NA	88.4±5.0	83.9±5.7	78.3±6.7	69.5±7.4
NY-Rest of State	98.6±1.4	86.2±4.4	95.5±2.7	96.3±2.4	95.0±2.6	86.7±4.4	17.7±5.2	93.4±3.2	84.9±4.6	82.0±4.9	75.3±5.6
North Carolina	95.4±3.0	81.0±5.8	93.8±3.4	89.7±4.6	92.6±3.5	86.6±4.6	9.9±3.2	87.6±5.0	79.0±5.9	77.5±5.9	69.8±6.3
North Dakota	95.2±2.8	86.1±4.3	92.7±3.2	89.4±3.9	91.9±3.5	86.0±4.4	7.4±2.8	87.4±4.2	83.5±4.6	80.1±4.9	71.9±5.6
Ohio	95.3±2.1	81.6±3.8	90.8±2.8	93.2±2.5	93.5±2.3	83.6±3.6	12.6±3.2	87.9±3.2	79.4±4.0	77.8±4.0	69.5±4.5
OH-Cuyahoga Cnty	95.9±2.9	82.0±5.3	92.2±3.8	93.5±3.5	93.7±3.5	86.9±4.8	10.5±3.9	88.4±4.4	80.2±5.4	78.8±5.5	71.9±6.1
OH-Franklin Cnty	95.8±3.2	84.0±5.4	90.2±4.4	92.6±4.0	91.4±4.2	79.4±6.2	12.0±4.8	87.4±5.0	82.9±5.5	79.6±5.9	68.9±6.9
OH-Rest of State	95.2±2.7	81.2±4.9	90.6±3.6	93.2±3.2	93.7±3.0	83.6±4.6	13.0±4.0	87.9±4.0	78.8±5.0	77.4±5.1	69.2±5.7
Oklahoma	91.7±4.8	77.1±6.6	89.8±4.9	88.4±4.9	89.0±5.3	70.2±7.0	11.9±4.2	80.9±6.2	74.4±6.7	71.6±6.9	59.0±7.2
Oregon	90.7±3.7	74.9±5.4	86.3±4.3	86.2±4.3	87.2±4.2	79.3±4.9	13.2±3.8	80.7±4.9	73.1±5.5	70.3±5.6	62.4±5.9
Pennsylvania	96.3±2.0	82.3±4.3	93.0±2.8	91.4±3.1	92.1±2.9	83.6±4.2	24.9±4.4	88.4±3.4	80.0±4.4	78.5±4.5	70.1±5.0
PA-Philadelphia	94.7±3.4	81.5±5.6	92.2±4.1	90.3±4.2	86.6±5.0	88.9±4.4	22.7±6.2	87.3±4.8	78.5±6.0	74.2±6.4	72.1±6.5
PA-Rest of State	96.6±2.3	82.5±5.0	93.2±3.3	91.6±3.7	93.2±3.3	82.5±4.9	25.4±5.1	88.6±4.0	80.2±5.1	79.4±5.2	69.7±5.8
Rhode Island	NA	88.9±4.0	96.1±2.5	96.1±2.4	97.8±1.6	89.9±3.8	12.9±4.0	93.2±3.2	85.5±4.4	84.3±4.5	77.0±5.2
South Carolina	99.0±1.2	87.9±5.0	97.6±1.9	94.8±3.4	97.6±2.2	95.8±2.2	12.8±4.4	93.4±3.7	86.8±5.1	85.3±5.3	83.0±5.5
South Dakota	96.4±2.6	84.6±5.0	92.1±3.7	93.2±3.5	93.9±3.0	72.0±6.2	NA	88.3±4.4	83.2±5.1	81.2±5.2	62.0±6.4
Tennessee	94.8±2.0	83.4±3.4	92.0±2.3	89.7±2.7	92.0±2.5	86.2±3.1	8.4±2.2	86.3±3.0	80.5±3.6	78.7±3.7	72.3±4.0

Table H.7: Estimates of Vaccination Coverage and 95-Percent Confidence-Interval Half-Widths, National Immunization Survey, 1996 (continued)

State/IAP Area	3+ DTP	4+ DTP	3+ POLIO	1+ MCV	3+ HIB	3+ HEP B	1+ VARICELLA	3:3:1	4:3:1	4:3:1:3	4:3:1:3:3
TN-Davidson Cnty	94.6±3.2	85.8±4.8	90.4±3.9	90.3±4.0	91.3±3.8	80.2±5.4	16.4±4.7	85.8±4.6	81.7±5.3	79.6±5.4	68.8±6.1
TN-Shelby Cnty	87.8±4.9	75.3±6.1	84.0±5.7	84.2±5.1	84.4±5.7	84.1±5.6	9.7±3.4	77.0±6.1	72.3±6.3	70.1±6.4	67.2±6.5
TN-Rest of State	97.0±2.4	85.5±4.5	94.7±2.8	91.2±3.6	94.5±3.2	87.9±4.1	6.7±3.0	89.2±3.9	82.8±4.8	81.2±5.0	74.5±5.5
Texas	92.4±2.2	76.9±3.8	88.9±2.8	88.4±3.0	87.8±2.8	79.5±3.7	8.8±2.3	82.7±3.5	73.5±4.1	71.3±4.1	62.5±4.5
TX-Bexar Cnty	95.4±3.2	76.7±6.1	92.8±3.8	89.1±4.5	92.5±3.9	82.5±5.4	9.8±3.8	86.5±4.9	74.1±6.2	73.9±6.2	66.3±6.7
TX-City of Houston	85.8±5.0	67.5±7.2	83.3±5.5	82.6±5.7	79.3±6.4	69.2±7.2	NA	75.5±6.6	65.7±7.3	62.2±7.5	52.0±7.9
TX-Dallas Cnty	92.9±4.0	77.3±6.4	91.3±4.1	91.2±3.9	84.8±5.8	78.6±6.6	11.7±4.1	84.5±5.2	74.6±6.5	68.1±7.1	60.5±7.4
TX-El Paso Cnty	89.6±4.3	66.5±6.9	87.6±4.6	81.8±5.7	83.2±5.6	74.2±6.6	4.9±2.4	75.6±6.3	63.9±7.0	61.3±7.1	53.7±7.3
TX-Rest of State	93.5±3.1	79.4±5.5	89.2±4.1	89.5±4.4	89.9±4.0	81.7±5.4	8.8±3.4	84.0±5.2	75.5±6.0	74.1±6.1	65.2±6.7
Utah	89.6±3.8	70.1±6.2	84.6±4.6	87.4±4.3	83.7±5.5	67.0±6.6	NA	80.0±5.1	67.6±6.4	64.6±6.7	53.4±6.9
Vermont	97.7±2.2	90.1±4.1	95.9±2.6	93.7±3.3	95.2±2.8	85.5±4.0	12.0±3.8	92.8±3.4	87.7±4.3	86.5±4.5	76.8±5.1
Virginia	96.5±2.6	81.4±5.1	90.6±4.2	88.0±4.3	93.4±3.3	86.0±4.6	18.7±5.3	83.1±5.1	77.3±5.6	75.6±5.8	68.3±6.2
Washington	95.5±2.3	81.1±4.3	91.2±3.0	91.7±3.4	93.7±2.6	80.6±4.1	6.4±2.2	86.8±3.9	79.1±4.4	78.4±4.4	68.5±4.8
WA-King Cnty	97.2±2.0	85.0±4.6	94.0±3.0	96.1±2.3	95.5±2.6	83.2±4.8	NA	91.5±3.5	82.8±4.8	81.5±4.9	69.7±5.9
WA-Rest of State	94.9±3.1	79.5±5.6	90.1±4.0	90.0±4.6	93.0±3.5	79.6±5.3	7.0±2.9	85.0±5.2	77.6±5.8	77.1±5.8	68.0±6.3
West Virginia	95.1±3.1	75.2±6.0	87.8±4.5	87.6±4.3	91.5±4.2	63.9±6.3	6.9±2.9	81.5±5.1	71.7±6.1	70.8±6.2	50.5±6.5
Wisconsin	93.8±2.4	82.5±3.7	91.0±2.8	90.2±3.0	91.3±2.7	79.2±4.0	10.4±2.8	85.3±3.5	79.0±3.9	76.9±4.0	67.1±4.6
WI-Milwaukee Cnty	91.1±4.9	75.8±6.0	87.6±5.2	90.3±4.4	86.1±5.5	72.8±6.2	7.7±3.2	83.4±5.7	73.3±6.1	69.6±6.3	59.7±6.6
WI-Rest of State	94.6±2.7	84.6±4.4	92.0±3.2	90.2±3.7	92.9±3.0	81.1±4.9	11.2±3.6	85.9±4.2	80.8±4.8	79.1±4.9	69.5±5.7
Wyoming	93.8±3.4	82.0±5.1	91.0±3.9	87.6±4.4	92.8±3.6	58.2±6.0	NA	83.7±4.9	78.1±5.4	77.1±5.5	48.0±6.1