National Immunization Survey

A User's Guide for the 1998 Public-Use Data File

Centers for Disease Control and Prevention

National Immunization Program
and
National Center for Health Statistics

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Appendices

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 1998). 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 1998 the RDD interviews of households began on January 22, 1998 and ended on March 14, 1999, and provider data collection extended from March 13, 1998 to April 16, 1999. A total sample of 2 million telephone numbers yielded household interviews for 32,511 children, and 21,827 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 1998 NIS public-use file (PUF) contains data for the 32,511 children with completed household interviews (and more extensive data for children with provider data). Published tables of estimates of vaccination coverage are available on the National Immunization Program (NIP) Web site, http://www.cdc.gov/nip/coverage/data.htm, and are discussed in an *MMWR* article (CDC 2000).

The accompanying code book (*National Immunization Survey 1998 Public-Use Data File: Documentation, Code Book and Frequencies*) documents the contents of the 1998 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/default.htm
www.cdc.gov/nis/
www.nisabt.org

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

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2. Sample Design

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

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 number of children living in each state and IAP area in 1998.

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 1998.

The target sample size for each IAP area was 110 children with completed telephone interviews per quarter (440 for the year). Approximately 67% of children with completed telephone interviews had adequate provider data. The phrase "adequate provider data" means that sufficient vaccination history information was obtained from the providers to determine whether the child is up-to-date with respect to the recommended vaccination schedule. The percentage of children with adequate provider data varies among the IAP areas.

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

The NIS Provider Record Check Study

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

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 1998. Children who were 19 to 35 months of age during 1998 were born from February 1995 to May 1997. The original sample (in replicates that were released for use) consisted of 2,239,721 telephone numbers. Of those, 407,496 numbers were eliminated by the automated

Table 1: Selected Operational Results of NIS Data Collection for 1998

ROW	KEY INDICATOR	NUMBER	PERCENT
	RDD Phase		
1	Total Selected Telephone Numbers in Released Replicates	2,239,721	--
2	Phone Numbers Resolved before CATI	407,496	18.2% (Row 2/Row 1)
3	Total Phone Numbers Called	1,832,225	--
4	Advance Letters Mailed	589,944	32.2% (Row 4/Row 3)
5	Resolved Phone Numbers* – *Resolution Rate*	2,024,343	90.4% (Row 5/Row 1)
6	Households Identified	945,122	46.7% (Row 6/Row 5)
7	Households Successfully Screened for Presence of Age-Eligible Children – *Screening Completion Rate*	923,970	97.8% (Row 7/Row 6)
8	Households with no NIS Age-Eligible Children	889,489	96.3% (Row 8/Row 7)
9	Households with NIS Age-Eligible Children – *Eligibility Rate*	34,481	3.7% (Row 9/Row 7)
10	Households with NIS Age-Eligible Children with Completed RDD Interviews– *Interview Completion Rate*	32,271	93.6% (Row 10/Row 9)
11	CASRO Response Rate**	NA	82.7% (Row 5*Row 7* Row 10)
12	Age-Eligible Children with Completed RDD Interviews	32,511	--
	PRC Phase		
13	Children with Consent Obtained to Contact Vaccination Providers	26,884	82.7% (Row 13/Row 12)
14	Immunization History Questionnaires Mailed to Providers	35,429	--
15	Immunization History Questionnaires Returned from Providers	33,748	95.3% (Row 15/Row14)
16	Children with Adequate Provider Data	21,827	67.1% (Row 16/Row 12)

*Includes phone numbers resolved before CATI (Row 2).
**CASRO, Council of American Survey Research Organizations.

procedure as nonworking or nonresidential numbers. The remaining 1,832,225 telephone numbers were called to identify 945,122 households, as shown in Rows 3 and 6 of Table 1.

Among the identified households, 923,970 (97.8%) were successfully screened for age-eligible children. Of these, 889,489 did not contain an age-eligible child, and 34,481 (3.7%) contained one or more age-eligible children. Among these households 32,271 (93.6%) 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 1998 the CASRO household response rate (Row 11) was 82.7%. The CASRO response rate equals the product of the resolution rate (90.4%, Row 5) the screening completion rate (97.8%, Row 7), and the interview completion rate among eligible households (93.6%, 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 32,511 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 – 82.7% in 1998. The number of IHQs that were mailed to vaccination providers was 35,429. This number exceeds the number of completed child interviews in

Row 12 because some children have more than one vaccination provider. In 1998 the mean number of vaccination providers identified for a child was 1.38.

Among vaccination providers who were mailed an IHQ, 95.3% returned the questionnaire or other information pertaining to the child's vaccination history. Among the children with completed household RDD interviews 21,827 (67.1%) had adequate vaccination histories returned by their vaccination provider(s). The other 32.9% 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 1998 NIS telephone interview of households and in the NIS PRC survey, and changes made to those questionnaires during 1998. 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 1998 NIS household interview.

Table 2: Content of the 1998 NIS Household Interview

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

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).

Two sets of changes were made to the NIS CATI questionnaire in 1998. First, questions were added in Q2/1998 regarding participation in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) and whether the household experienced an interruption in telephone service of one week or longer in the past 12 months. The family income question was also modified to ask first or income in the past calendar year; if the respondent did not report an income amount, the questionnaire used a sequence of questions with narrower income categories than previously used in the NIS. Second, in Q3/1998 questions were added on whether the child had ever had chicken pox disease. Appendix B describes these changes in more detail. The resulting variables are not included in the 1998 public-use file, because the questions were not administered in all four quarters. The income variable in the 1998 public-use file is based on the income categories used in the first quarter of 1998.

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, and whether the provider participates in the Vaccines for Children program).

During 1998 two different IHQs were used. For the first two quarters of 1998 the IHQ provider facility question included categories for: 1) private practice; 2) public health department-operated clinic; 3) hospital outpatient clinic; 4) community/migrant health clinic; 5) military health care facility; and 6) other facility. For the last two quarters of 1998 the provider facility question was modified to include response categories for: 1) federally-qualified health center, including community/migrant/rural/Indian health center; 2) hospital-based clinic, including university clinic and residency teaching practice; 3) private practice, including solo, group practice, or HMO; 4) public health department-operated clinic; 5) military health care facility; and 6) other facility. The 1998 public-use file contains a provider facility variable that counts public health department clinics and the various types of federally-qualified health centers as public facilities. Appendix C describes these changes in 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 1998 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 *Guide to Quality Control Procedures in the National Immunization Survey* discusses the editing procedures in more detail. The provider-data edits that were added after 1998 are not reflected in the 1998 NIS data. A small number of children will therefore have provider-reported vaccination dates that contain potential discrepancies. Among children in the 1998 NIS PUF with adequate provider data, 2.3% have one or more provider-reported vaccination dates listed before the date of birth of the child, 4.9% have vaccination dates less than or equal to 14 days apart, and 2.5% 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 1998 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, firstborn status of the child, Hispanic origin, race, race/ethnicity, maternal marital status, and maternal age group.

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
M_AGEGRP – age group of mother	Under 20 years 20-29 years 30 years or older
INCPOV1R – poverty status	At or above poverty level Below poverty level Not determined

The composite race variables in the 1998 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 1998 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), types of care

offered by the provider (NCARER1 to NCARER6), participation in the Vaccines for Children program (VFC_PRO), and whether the provider facility was ever the child's Medical Home for primary care (MEDHOME).

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 *Guide to Quality Control Procedures in the National Immunization Survey* 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 a provider indicates that the child received hepatitis B at birth by checking a box on the IHQ but does 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. The PUF contains a variable (HEP_BRTH) to indicate whether at least one provider checked the given-at-birth box. The data user has the option of determining whether the first dose of hepatitis B was not given at 0 to 7 days by using the DHEPB1 variable. If the date of the birth dose is not present but the HEP_BRTH variable indicates that the birth dose was given, the data user has the option of imputing a date for the birth dose by using the 1998 distribution (Table 4).

Table 4: Distribution of Age (in days) at the Birth Dose of Hepatitis B Vaccine, 1998

Age in Days at Birth Dose	Unweighted Percentage of Birth Doses
0	42.8
1	35.8
2	11.2
3	3.9
4	2.1
5	1.5
6	1.3
7	1.4

6. Sampling Weights

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

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

This section describes how these weights are developed and adjusted so as to achieve an accurate representation of the target population. The weights reflect each child's probability of being selected into the sample; and the adjustments take into account the number of telephone lines in the household, nonresponse to the household interview, noncoverage of households that do not have telephones, and nonresponse by providers.

Adjusted Base Sampling Weight

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

Adjustment for Interview Nonresponse

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

Some sampled households with age-eligible children fail to complete the RDD interview because of unit nonresponse: some telephone numbers are never determined to be residential despite multiple call attempts, some households cannot be determined to have age-eligible

children, and some households with age-eligible children do not complete the RDD interview. To compensate for these three types of unit nonresponse, the sampling weights of children with a completed RDD interview are adjusted to account for the estimated number of age-eligible children in households whose telephone numbers are never determined to be residential, the estimated number of age-eligible children in households that fail to complete the screening interview, and the number of identified age-eligible children for whom the RDD interview is not completed. Each of these adjustments is carried out within IAP areas by forming weighting cells based on the residential directory-listed status of the sample telephone number and socioeconomic and demographic characteristics of the IAP area's telephone exchanges (e.g., 4 weighting cells formed from directory-listed versus non-directory-listed telephone number by telephone exchanges with 75% or higher white population versus telephone exchanges with less than 75% white population).

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

Adjustment for Households That Do Not Have Telephones

The NIS sampling frame includes only households that have telephones. Because the target population consists of all children 19 to 35 months of age living in households regardless of whether they have telephones, the interview-nonresponse-adjusted base sampling weights

need to be adjusted to compensate for the noncoverage of children living in households without telephones. Although national telephone coverage for age-eligible children is estimated to be 90%, telephone coverage is known to be as low as 76% in some IAP areas. Further, data from the NHIS, which samples both "telephone" and "nontelephone" households, indicate that children living in households without telephones have significantly lower vaccination coverage. Thus, the adjustment to the sampling weights to compensate for noncoverage of nontelephone households may be particularly important in IAP areas in which the percentage of households that have telephones is relatively low.

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

The second adjustment for nontelephone households depends on whether a sample child is up-to-date on the 4:3:1:3 vaccination series and also on two other factors: the IAP-area-

specific proportion of children that live in households that do not have telephones, as estimated from the Current Population Survey (Bureau of Labor Statistics 2000) for each combination of levels of the poststratification variables described above, and the ratio of the national 4:3:1:3 vaccination coverage rate among children living in nontelephone households to the national 4:3:1:3 vaccination coverage rate among children living in telephone households, as estimated using data for major race/ethnicity groups from the NHIS.
For children belonging to a specific race/ethnicity group, the adjustment to the sampling weight is larger for children who are not 4:3:1:3 up-to-date than for children who are 4:3:1:3 up-to-date when: the percentage of children living in nontelephone households in the IAP area is large and the estimated national 4:3:1:3 vaccination coverage rate among children living in nontelephone households is less than the estimated national 4:3:1:3 vaccination coverage rate among children living in telephone households. In this situation the adjustment for households that do not have telephones tends to reduce estimated vaccination coverage rates slightly. A further description is given by Battaglia et al. (1995a).

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

Adjustment for Provider Nonresponse

Among the 32,511 children with a completed RDD interview, 21,827 (67.1%) had adequate provider data. Failure to obtain adequate provider data for the remaining 32.9% was attributable to:

- the parent or guardian not giving consent to contact the child's vaccination providers (17.3%),
- provider name and address information given by the parent or guardian being inadequate for mail contact with the child's providers (1.9%),
- failure of the child's providers to respond to the IHQ (5.3%),
- failure of the responding providers to report any information about a child's vaccination history (7.3%), and
- children with two or more identified providers but not all of the providers responded and the responding providers did not report sufficient information to determine the child's vaccination status (1.0%).

The 10,684 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.

Appendix D summarizes the distribution of the sampling weights (HY_WGT and W0) in each IAP area.

7. Analytic and Reporting Guidelines

The NIS PUF can be used to produce national, state and IAP area estimates of vaccination coverage rates. 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 5 lists variables that are commonly used in analyses or for published estimates of vaccination coverage.

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), age category of the mother (M_AGEGRP), marital status category of the mother (MARITAL), and firstborn status of the child (FRSTBRN). 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

Table 5: NIS Variables That Are Commonly Used in Analyses or for Published Estimates

ID variable	
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
FRSTBRN – firstborn status of child	No Yes
Mother demographic variables	
EDUC1 – education of the mother	<12 years 12 years >12 years, not a college graduate College graduate
MARITAL – marital status of mother	Widowed, divorced or separated Never married Currently married Deceased
M_AGEGRP – age group of mother	Under 20 years 20-29 years 30 years or older
RACEMOMR – race/ethnicity of mother	Hispanic White, nonHispanic Black, nonHispanic All other, nonHispanic

Income and poverty variables	
INCPOV1R – poverty status	At or above poverty level Below poverty level Not determined
Presence of provider data variable	
PDAT – adequate provider data indicator	Yes No
Number of provider-reported doses of vaccine	
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 characteristics	
PROV_FAC – provider facility type	All public facilities All hospital facilities All private facilities All military/other facilities Mixed types Unknown
VFC_PRO – participation of child's provider(s) in VFC program	All providers Some but not all providers No providers Unknown
MEDHOME – provider facility ever the child's Medical Home for primary care	All providers Some but not all providers No providers Unknown
NCARER1 to NCARER6 – types of services offered by child's provider(s)	All providers Some but not all providers No providers/unknown

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, DTP-Hib and DTaP-Hib. Both the individual vaccines and the vaccine series have up-to-date indicator variables. For example, PUTD4313 is an indicator variable for whether the child has 4 or more DTP vaccinations, 3 or more polio vaccinations, 1 or more measles-containing vaccinations (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), type of care offered by the provider (NCARER1 to NCARER6), participation in the Vaccines for Children program (VFC_PRO), and an indicator of whether the child's vaccination providers are his/her Medical Home for primary care (MEDHOME).

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 participate in the Vaccines for Children program), 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 jth child with adequate provider data in the ith sampled household in the hth 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 hth IAP area, and m_{hi} denotes the number of age-eligible children with adequate provider data in the ith household in the hth IAP area.

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

Estimating Standard Errors of Vaccination Coverage Rates

The Taylor-series method can be used to estimate the sampling variance of vaccination coverage rates for the U.S., the states, and IAP areas. Letting $Z_{hij} = \frac{W_{hij}(Y_{hij} - \hat{q})}{\hat{T}_h}$, $Z_{hi} = \sum_{j=1}^{m_{hi}} Z_{hij}$, and $\bar{Z}_h = \frac{\sum_{i=1}^{n_h} Z_{hi}}{n_h}$, an estimator of the variance of the vaccination coverage rate, $\hat{q}$, is

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

The calculation of standard errors for estimates of vaccination coverage rates in the NIS can be implemented in statistical software such as SUDAAN (Shah et al. 1997), SAS (SAS Institute Inc. 1999) and Stata (Stata Corporation 2001). Appendix F gives examples of the use of SUDAAN to estimate vaccination coverage rates and their standard errors for IAP areas and states. For PROC CROSSTAB, the DESIGN = WR (with-replacement sampling of Primary Sampling Units within stratum) option is used, because the sampling fractions for households within an IAP area are all quite small. In these applications the IAP area (ITRUEIAP) is used as the stratum variable, and the household identifier (SEQNUMHH) is used as the Primary Sampling Unit identifier. 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 1998 and (from 1998 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 1998 NIS Public-Use File is:

U.S. Department of Health and Human Services (DHHS). National Center for Health Statistics. The 1998 National Immunization Survey, CD-ROM No. 2. Hyattsville, MD: Centers for Disease Control and Prevention, 2002.

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

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Appendix A

Glossary of Abbreviations and Terms

Glossary of Commonly-Used Abbreviations and Terms

4:3:1	The series of 4 or more DTP vaccinations, 3 or more polio 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	*Haemophilus influenzae* 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

Appendix B-1

Q1/1998 Household Questionnaire

NIS Hard Copy Questionnaire Used In Q1/1998

SCREENER

July 31, 1997

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 HANGS UP, USE **<ALT><B>** 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 AND HANGS UP, 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 DOES NOT HANG UP: "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

☐ 1. IF S_NUMB = 1 (ONLY 1 CHILD)

☐ 2. IF S_NUMB ≥ 2 (MORE THAN 1 CHILD)))))))))) GO TO S3.MKIDS

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

HAS A CHILD UNDER 4 1	GO TO S3.3.
NO CHILD UNDER 4 0	**YES**: REPEAT S3.1KID. **NO**: These are all the questions I have. This survey is collecting information about the health of children between 12 months and 3 years old only. I'd like to thank you on behalf of the Centers for Disease Control and Prevention for the time you spent answering these questions. [**TERMINATE INTERVIEW**]
DON'T KNOW 6	GO TO S_NODAY
REFUSED 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**]

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

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

S3_CONF. 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_CONF Age Confirm**	**S3.4 Sex**	**S3.5 First Name/ Initials**	**Primary Eligible 19 to 35 months**	**Secondary Eligible 12 to 18 months**	**Secondary Eligible 36 to 47 months**
					___/___/_____ to ___/___/_____	___/___/_____ to ___/___/_____	___/___/__ to ___/___/__
Child 1	___/___/_____	**Y N**	M F				
Child 2	___/___/_____	Y N	M F				
Child 3	___/___/_____	Y N	M F				
Child 4	___/___/_____	Y N	M F				
Child 5	___/___/_____	Y N	M F				
Child 6	___/___/_____	Y N	M F				
Child 7	___/___/_____	Y N	M F				
Child 8	___/___/_____	Y N	M F				
Child 9	___/___/_____	Y N	M F				

ELIGIBILITY STATUS CHECKPOINT

☐ 1. ANY Checks in Column 1))))))))))))))))))Q GO TO S4

☐ 2. NO Checks in Column 1

☐ 1. ANY Checks in Column 2 or 3

☐ 2. NO Checks in Column 2 or 3))))))))))))))Q GO TO S3_TERM

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

	S3.5 First Name	**S3_SEC_A. Do you have <u>any</u> shot records for [NAME of FIRST CHILD from S3.5]?**	**S3_SEC_B. Are the shot records for [NAME of FIRST CHILD from S3.5] 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 _____v_____/ GO TO S3_SEC_C	YES NO DK REF	YES NO	YES NO __v__/ Next child or S3_TERM
Child 2		YES NO DK REF _____v_____/ GO TO S3_SEC_C	YES NO DK REF	YES NO	YES NO __v__/ Next child or S3_TERM
Child 3		YES NO DK REF _____v_____/ GO TO S3_SEC_C	YES NO DK REF	YES NO	YES NO __v__/ Next child or S3_TERM
Child 4		YES NO DK REF _____v_____/ GO TO S3.SEC.C	YES NO DK REF	YES NO	YES NO __v__/ 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

> 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.

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 _____\/_____/ Repeat S6_X for next child or Go To S8	YES Repeat S6_X for next child or Go To S7.A NO Repeat S6_X for next child or Go to S8	YES NO	YES NO Go To S8.A. Go To S8.B.
CHILD 2		YES NO DK REF _____\/_____/ Repeat S6_X for next child or Go To S8	YES Repeat S6_X for next child or Go To S7.A NO Repeat S6_X for next child or go to S7.A OR S8	YES NO	YES NO Go To S8.A. Go To S8.B.
CHILD 3		YES NO DK REF _____\/_____/ Repeat S6_X for next child or Go To S8	YES Repeat S6_X for next child or Go To S7.A NO Repeat S6_X for next child or go to S7.A OR S8	YES NO	YES NO Go To S8.A. Go To S8.B.
CHILD 4		YES NO DK REF _____\/_____/ Repeat S6_X for next child or Go To S8	YES Repeat S6_X for next child or Go To S7.A NO Repeat S6_X for next child or go to S7.A OR S8	YES NO	YES NO Go To S8.A. Go To S8.B.
CHILD 5		YES NO DK REF _____\/_____/ Repeat S6_X for next child or Go To S8	YES Repeat S6_X for next child or Go To S7.A NO Repeat S6_X for next child or go to S7.A OR S8	YES NO	YES NO Go To S8.A. Go To S8.B.

DK = DON'T KNOW REF = REFUSAL

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
ALL OTHERS 3	(*NO CALLBACK NEEDED*)
	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

January 22, 1998

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 . . . . . ☐
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 NONE . . . . . 0 GO TO A2 DON'T KNOW . . . . . 6 GO TO A2 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	DON'T KNOW . . 9996 GO TO A2 REFUSED . . . . . 9997 GO TO A2
2nd Shot	___ / ___ / ____ MO DAY YEAR	DON'T KNOW . . 9996 GO TO A2 REFUSED . . . . . 9997 GO TO A2
3rd Shot	___ / ___ / ____ MO DAY YEAR	DON'T KNOW . . 9996 GO TO A2 REFUSED . . . . . 9997 GO TO A2
4th Shot	___ / ___ / ____ MO DAY YEAR	DON'T KNOW . . 9996 GO TO A2 REFUSED . . . . . 9997 GO TO A2
5th Shot	___ / ___ / ____ MO DAY YEAR	DON'T KNOW . . 9996 GO TO A2 REFUSED . . . . . 9997 GO TO A2
6th Shot	___ / ___ / ____ MO DAY YEAR	DON'T KNOW . . 9996 GO TO A2 REFUSED . . . . . 9997 GO TO A2
7th Shot	___ / ___ / ____ MO DAY YEAR	DON'T KNOW . . 9996 GO TO A2 REFUSED . . . . . 9997 GO TO A2
8th Shot	___ / ___ / ____ MO DAY YEAR GO TO A2	DON'T KNOW . . 9996 GO TO A2 REFUSED . . . . . 9997 GO TO A2

SHOT RECORD FOR POLIO (DROPS OR SHOTS)

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.

Shots . . . . . ☐ RECORD DATES BELOW

NONE . . . . . 0 GO TO A3
DON'T KNOW . . . . . 6 GO TO A3
REFUSED . . . . . 7 GO TO A3

A2.A. What is the date (on the record) for the [FILL VAR: (First/Second/...Eighth)] polio vaccine?

1st Shot	___ / ___ / ____ MO DAY YEAR	DON'T KNOW . . . 9996 GO TO A3 REFUSED . . . . . 9997 GO TO A3
2nd Shot	___ / ___ / ____ MO DAY YEAR	DON'T KNOW . . . 9996 GO TO A3 REFUSED . . . . . 9997 GO TO A3
3rd Shot	___ / ___ / ____ MO DAY YEAR	DON'T KNOW . . . 9996 GO TO A3 REFUSED . . . . . 9997 GO TO A3
4th Shot	___ / ___ / ____ MO DAY YEAR	DON'T KNOW . . . 9996 GO TO A3 REFUSED . . . . . 9997 GO TO A3
5th Shot	___ / ___ / ____ MO DAY YEAR	DON'T KNOW . . . 9996 GO TO A3 REFUSED . . . . . 9997 GO TO A3
6th Shot	___ / ___ / ____ MO DAY YEAR	DON'T KNOW . . . 9996 GO TO A3 REFUSED . . . . . 9997 GO TO A3
7th Shot	___ / ___ / ____ MO DAY YEAR	DON'T KNOW . . . 9996 GO TO A3 REFUSED . . . . . 9997 GO TO A3
8th Shot	___ / ___ / ____ MO DAY YEAR GO TO A3	DON'T KNOW . . . 9996 GO TO A3 REFUSED . . . . . 9997 GO TO A3

SHOT RECORD FOR MEASLES/MMR (SHOTS)

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.

Shots . . . . . ☐ RECORD DATES BELOW

NONE . . . . . 0 GO TO A4
DON'T KNOW . . . . . 6 GO TO A4
REFUSED . . . . . 7 GO TO A4

A3.A. What is the date (on the record) for the [FILL VAR: (First/Second/...Fourth)] (measles or M-M-R) shot?

A3.B. Was that shot measles only or M-M-R only?

1st Shot	___ / ___ / ____ MO DAY YEAR	DON'T KNOW . . . . . 9996 GO TO A4 REFUSED . . . . . 9997 GO TO A4
	MEASLES ONLY . . . . . 1 MMR ONLY . . . . . 2 DON'T KNOW . . . . . 6 REFUSED 7	
2nd Shot	___ / ___ / ____ MO DAY YEAR	DON'T KNOW . . . . . 9996 GO TO A4 REFUSED . . . . . 9997 GO TO A4
	MEASLES ONLY . . . . . 1 MMR ONLY . . . . . 2 DON'T KNOW . . . . . 6 REFUSED 7	
3rd Shot	___ / ___ / ____ MO DAY YEAR	DON'T KNOW . . . . . 9996 GO TO A4 REFUSED . . . . . 9997 GO TO A4
	MEASLES ONLY . . . . . 1 MMR ONLY . . . . . 2 DON'T KNOW . . . . . 6 REFUSED 7	
4th Shot	___ / ___ / ____ MO DAY YEAR	DON'T KNOW . . . . . 9996 GO TO A4 REFUSED . . . . . 9997 GO TO A4
	MEASLES ONLY . . . . . 1 MMR ONLY . . . . . 2 DON'T KNOW . . . . . 6 REFUSED 7	

GO TO A4

SHOT RECORD FOR HIB (SHOT)

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.)

Shots . . . . . ☐ RECORD DATES BELOW

NONE . . . . . 0 GO TO A5
DON'T KNOW . . . . . 6 GO TO A5
REFUSED . . . . . 7 GO TO A5

A4.A. What is the date (on the record) for the [FILL VAR: (First/Second/...Eighth)] (H-I-B) shot?

	___ / ___ / ____ MO DAY YEAR	DON'T KNOW . . . 9996 GO TO A5 REFUSED . . . . . 9997 GO TO A5
1st Shot		
2nd Shot		
3rd Shot		
4th Shot		
5th Shot		
6th Shot		
7th Shot		
8th Shot	GO TO A5	

SHOT RECORD FOR HEPATITIS B

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.

Shots . . . . . ☐ RECORD DATES BELOW

NONE . . . . . 0 GO TO A5.b.
DON'T KNOW . . . . . 6 GO TO A5.b.
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	DON'T KNOW . . . . . 9996 GO TO A5.b. REFUSED . . . . . 9997 GO TO A5.b.
2nd Shot	___ / ___ / 19__ MO DAY YEAR	DON'T KNOW . . . . . 9996 GO TO A5.b. REFUSED . . . . . 9997 GO TO A5.b.
3rd Shot	___ / ___ / 19__ MO DAY YEAR	DON'T KNOW . . . . . 9996 GO TO A5.b. REFUSED . . . . . 9997 GO TO A5.b.
4th Shot	___ / ___ / 19__ MO DAY YEAR	DON'T KNOW . . . . . 9996 GO TO A5.b. REFUSED . . . . . 9997 GO TO A5.b.
5th Shot	___ / ___ / 19__ MO DAY YEAR	DON'T KNOW . . . . . 9996 GO TO A5.b. REFUSED . . . . . 9997 GO TO A5.b.
6th Shot	___ / ___ / 19__ MO DAY YEAR	DON'T KNOW . . . . . 9996 GO TO A5.b. REFUSED . . . . . 9997 GO TO A5.b.
7th Shot	___ / ___ / 19__ MO DAY YEAR	DON'T KNOW . . . . . 9996 GO TO A5.b. REFUSED . . . . . 9997 GO TO A5.b.
8th Shot	___ / ___ / 19__ MO DAY YEAR	DON'T KNOW . . . . . 9996 GO TO A5.b. REFUSED . . . . . 9997 GO TO A5.b.

GO TO A5.b.

SHOT RECORD FOR CHICKEN POX

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.

Shots . . . . . ☐ RECORD DATES BELOW

NONE . . . . . 0 GO TO A6 OR NEXT CHILD
DON'T KNOW . . . . . 6 GO TO A6 OR NEXT CHILD
REFUSED . . . . . 7 GO TO A6 OR NEXT CHILD

A5.c. What is the date (on the record) for the [FILL VAR: (First/Second/...Fourth)] (chicken pox) shot?

1st Shot	___ / ___ / 19__ MO DAY YEAR	DON'T KNOW . . . 9996 GO TO A6 OR NEXT CHILD REFUSED . . . . . 9997 GO TO A6 OR NEXT CHILD
2nd Shot	___ / ___ / 19__ MO DAY YEAR	DON'T KNOW . . . 9996 GO TO A6 OR NEXT CHILD REFUSED . . . . . 9997 GO TO A6 OR NEXT CHILD
3rd Shot	___ / ___ / 19__ MO DAY YEAR	DON'T KNOW . . . 9996 GO TO A6 OR NEXT CHILD REFUSED . . . . . 9997 GO TO A6 OR NEXT CHILD
4th Shot	___ / ___ / 19__ MO DAY YEAR	DON'T KNOW . . . 9996 GO TO A6 OR NEXT CHILD 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?

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

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

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

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

_____ /_____ / _____ (MO DAY YEAR)

DON'T KNOW	9996	GO TO A7 OR SECOND SHOT
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?

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

OTHER (SPECIFY) 95
_____

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

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

_____ /_____ / _____ DON'T KNOW . . . . . 9996 GO TO A7 OR THIRD SHOT
MO DAY YEAR 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?

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

OTHER (SPECIFY) 95
_____

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

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

_____ /_____ / _____ DON'T KNOW . . . . . 9996 GO TO A7 OR FOURTH SHOT
MO DAY YEAR 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?

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

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

_____ /_____ / _____ (MO DAY YEAR)

DON'T KNOW	9996	GO TO A7 OR FIFTH SHOT
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?

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

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

_____ /_____ / _____ (MO DAY YEAR)

DON'T KNOW	9996	GO TO A7
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	GO TO A9
DON'T KNOW	6	
REFUSED	7	

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	GO TO A10
DON'T KNOW	6	
REFUSED	7	

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	GO TO A11
DON'T KNOW	6	
REFUSED	7	

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	GO TO A12
DON'T KNOW	6	
REFUSED	7	

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

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

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 <u>other</u> additional immunizations that are <u>not</u> listed on the shot records that I have not asked you about?

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

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

Number . . . . . ☐ RECORD NAMES BELOW

REFUSED . . . . . 7 GO TO A14

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

FOUR-IN-ONE	02	
BCG (TUBERCULOSIS)	03	
TYPHOID	04	
YELLOW FEVER	05	
MALARIA	06	
DTaP	07	
DTP/HiB	08	
DTP/HepB	09	
OTHER (SPECIFY) _____	95	
DON'T KNOW	96	GO TO A14 OR SECOND SHOT
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 <u>other</u> shot (not listed on the records)?

FOUR-IN-ONE	02	
BCG (TUBERCULOSIS)	03	
TYPHOID	04	
YELLOW FEVER	05	
MALARIA	06	
DTaP	07	
DTP/HiB	08	
DTP/HepB	09	
OTHER (SPECIFY) _____	95	
DON'T KNOW	96	GO TO A14 OR THIRD SHOT
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 <u>other</u> shot (not listed on the records)?

FOUR-IN-ONE	02	
BCG (TUBERCULOSIS)	03	
TYPHOID	04	
YELLOW FEVER	05	
MALARIA	06	
DTaP	07	
DTP/HiB	08	
DTP/HepB	09	
OTHER (SPECIFY)	95	
DON'T KNOW	96	GO TO A14 OR FOURTH SHOT
REFUSED	97	GO TO A14 OR FOURTH SHOT

GO TO A14 OR FOURTH SHOT (NEXT FRAME)

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

FOUR-IN-ONE	02	
BCG (TUBERCULOSIS)	03	
TYPHOID	04	
YELLOW FEVER	05	
MALARIA	06	
DTaP	07	
DTP/HiB	08	
DTP/HepB	09	
OTHER (SPECIFY)	95	
DON'T KNOW	96	GO TO A14 OR FIFTH SHOT
REFUSED	97	GO TO A14 OR FIFTH SHOT

GO TO A14 OR FIFTH SHOT (NEXT FRAME)

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

FOUR-IN-ONE	02	
BCG (TUBERCULOSIS)	03	
TYPHOID	04	
YELLOW FEVER	05	
MALARIA	06	
DTaP	07	
DTP/HiB	08	
DTP/HepB	09	
OTHER (SPECIFY)	95	
DON'T KNOW	96	GO TO A14
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**
IF CHILDREN WITH NO AVAILABLE SHOT RECORDS, GO TO B1. 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**]	IF CHILDREN WITH NO AVAILABLE SHOT RECORDS, GO TO B1. ALL OTHERS, GO TO C1

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	

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	GO TO B3
DON'T KNOW	6	
REFUSED	7	

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	☐
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	GO TO B4
DON'T KNOW	6	
REFUSED	7	

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	GO TO B5
DON'T KNOW	6	
REFUSED	7	

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	GO TO B6
DON'T KNOW	6	
REFUSED	7	

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	GO TO B6.B.
DON'T KNOW	6	
REFUSED	7	

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	GO TO B7
DON'T KNOW	6	
REFUSED	7	

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 <u>other</u> immunizations that I have <u>not</u> asked you about?

YES	1	
NO	2	GO TO B8
DON'T KNOW	6	GO TO B8
REFUSED	7	GO TO B8

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

Number	☐	RECORD NAMES IN B7.B
DON'T KNOW	6	GO TO B7.B
REFUSED	7	GO TO B8

B7.B.1 What is the name of the first <u>other</u> shot(s)?

FOUR-IN-ONE	02	
BCG (TUBERCULOSIS), TB	03	
TYPHOID	04	
YELLOW FEVER	05	
MALARIA	05	
DTAP	07	
DTP/HiB	08	
DTP/HepB	09	
OTHER (SPECIFY) _____	00	
DON'T KNOW	96	GO TO B8 OR NEXT SHOT
REFUSED	97	GO TO B8 OR NEXT SHOT

GO TO B8 OR NEXT SHOT

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

FOUR-IN-ONE	02	
BCG (TUBERCULOSIS), TB	03	
TYPHOID	04	
YELLOW FEVER	05	
MALARIA	05	
DTAP	07	
DTP/HiB	08	
DTP/HepB	09	
OTHER (SPECIFY) _____	00	
DON'T KNOW	96	GO TO B8 OR NEXT SHOT
REFUSED	97	GO TO B8 OR NEXT SHOT

GO TO B8 OR NEXT SHOT

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

FOUR-IN-ONE	02	
BCG (TUBERCULOSIS), TB	03	
TYPHOID	04	
YELLOW FEVER	05	
MALARIA	05	
DTAP	07	
DTP/HiB	08	
DTP/HepB	09	
OTHER (SPECIFY) _____	00	
DON'T KNOW	96	GO TO B8 OR NEXT SHOT
REFUSED	97	GO TO B8 OR NEXT SHOT

GO TO B8 OR NEXT SHOT

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

FOUR-IN-ONE	02	
BCG (TUBERCULOSIS), TB	03	
TYPHOID	04	
YELLOW FEVER	05	
MALARIA	05	
DTAP	07	
DTP/HiB	08	
DTP/HepB	09	
OTHER (SPECIFY) _____	00	
DON'T KNOW	96	GO TO B8 OR NEXT SHOT
REFUSED	97	GO TO B8 OR NEXT SHOT

GO TO B8 OR NEXT SHOT

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

FOUR-IN-ONE	02	
BCG (TUBERCULOSIS), TB	03	
TYPHOID	04	
YELLOW FEVER	05	
MALARIA	05	
DTAP	07	
DTP/HiB	08	
DTP/HepB	09	
OTHER (SPECIFY) _____	00	
DON'T KNOW	96	GO TO B8
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.

CALLBACK INTERVIEW (SR OR MR COMPLETE)	**INITIAL INTERVIEW**
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**]	GO TO C1

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 <u>less than 12 months old</u> 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 (LAST CALENDAR YEAR) for ALL members of the family. Include money from jobs, social security, retirement income, unemployment payments, public assistance, and so forth. Also, include income from interest, dividends, net income from business, farm, or rent, and any other money income received. Was your total family income during (LAST CALENDAR YEAR) more or less than $20,000?

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

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

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

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

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

C15. Was it more than $15,000?

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

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

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

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

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

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	

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	

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

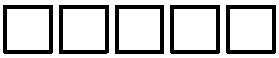
CITY _____

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

☐ IF YOU HAVE SET A Shot Record (SR SECTION) CALLBACK----------> GO TO D5

☐ ALL OTHERS----------> GO TO D5

SECTION D

Provider Questions

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

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

I READ THESE STATEMENTS TO THE RESPONDENT.

YES 1

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

NUMBER: |___|___|

D6A.1 Starting with the most recent, please tell me the name, address and telephone number for each 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

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

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

FIRST_____

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

MIDDLE_____

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

LAST _____

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

FIRST_____

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

MIDDLE_____

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

LAST _____

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

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

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

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

D7. Do we have your permission to contact the provider(s) named in this interview, give the provider(s) basic information that identifies your child(ren), and request that information relevant to your child(ren)'s immunization history be sent to the Centers for Disease Control and Prevention or its contractors for study purposes only?

YES	1
NO	2

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

ASK ONLY IF D9D = 2

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

D9D1F. What is the full name - first, middle, and last?

FIRST_____

D9D1M. (What is the full name - first, middle, and last?)

MIDDLE_____

D9D1L. (What is the full name - first, middle, and last?)

LAST _____

D9D1A May I speak with that person now?

YES . . . . . 1 GO TO D9D1NEW
NO 2

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

D9D2_1 DATE_____

D9D2_2 TIME_____

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

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

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

YES 1
NO . . . . . 2 GO TO D9D2

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

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

YES 1

NO . . . . . 2 RETURN TO D9D1

DON'T KNOW . . . . . 6 GO TO D14

REFUSED . . . . . 7 GO TO D14

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

D7. Do we have your permission to contact the provider(s) named in this interview, give the provider(s) basic information that identifies your child(ren), and request that information relevant to your child(ren)'s immunization history be sent to the Centers for Disease Control and Prevention or its contractors for study purposes only?

YES 1
NO 2

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

SUPPLEMENTAL PROVIDER SHEET

CASE # |___|___|___|___|___|___|___|___|

ELIGIBLE CHILD'S NAME:_____ CHILD#:_____

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

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

LAST_____

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

FIRST_____

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

OFFICE_____

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

STREET_____

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

SUITE #_____

D6B.6.2.1 What city is that in?

CITY_____

D6B.7.2.1 What state is that in?

STATE_____

D6B.8.2.1 What is the zip code?

ZIP CODE_____

D6B.9.2.1 What is their telephone number?

TELEPHONE_____

INTERVIEWER NOTE: IF THERE ARE ANY ADDITIONAL PROVIDERS, OBTAIN ANOTHER SUPPLEMENTAL PROVIDER SHEET. WHEN YOU ARE FINISHED USING THE SUPPLEMENTAL PROVIDER SHEETS, RETURN TO THE QUESTIONNAIRE AT QUESTION **D6C.**

SUPPLEMENTAL CHILD SHEET
PAGE 1

CASE # |___|___|___|___|___|___|___|___|

NEXT ELIGIBLE CHILD'S NAME:_____CHILD#:_____

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

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

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

NUMBER: |___|___|

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

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

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

LAST_____

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

FIRST_____

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

OFFICE_____

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

STREET_____

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

SUITE #_____

D6B.6.1.2 What city is that in?

CITY_____

SUPPLEMENTAL CHILD SHEET
PAGE 2

D6B.7.1.2 What state is that in?

STATE_____

D6B.8.1.2 What is the zip code?

ZIP CODE_____

D6B.9.1.2 What is their telephone number?

TELEPHONE_____

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

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

FIRST_____

D8B.2 MIDDLE_____

D8C.2 LAST _____

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

Appendix B-2

Changes to Q2/1998 Household Questionnaire

1. In Q2/1998 a series of questions related to participation in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) was added to Section C:

CWIC_I The following questions are about the WIC program, (FILL IF R IS MOTHER FROM C6: which you or your child may have been on during your pregnancy or in the last two years). WIC is a nutrition and health program for Women, Infants, and Children. WIC benefits include food, checks or vouchers for food, health care referrals, and nutrition education.

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

YES	1	GOTO WIC02
NO	2	GOTO WIC06
DON'T KNOW	6	GOTO WIC06
REFUSAL	7	GOTO WIC06
DON'T KNOW ABOUT THE PROGRAM	8	GOTO CFAMINC

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

AGE CHILD FIRST RECEIVED		
WIC BENEFITS	__|__ MONTHS	GO TO WIC03
FROM BIRTH	00	GO TO WIC03

IF UNABLE TO GIVE EXACT MONTHS

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

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

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

YES	1	GO TO WIC05
NO	2	
DON'T KNOW	6	GO TO WIC06
REFUSAL	7	GO TO WIC06

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

AGE CHILD LAST RECEIVED		
WIC BENEFITS	__|__ MONTHS	GO TO WIC05
STILL GETTING WIC BENEFITS	97	GO TO WIC03 & RECONCILE

IF UNABLE TO GIVE EXACT MONTHS

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

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

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

YES	1
NO	2

CWIC06. (Did you, yourself,/Did the mother of [FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]) receive WIC benefits as a breast-feeding mother after ([FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]) was born?

YES	1
NO	2
DON'T KNOW	6
REFUSED	7

IF WIC01 = 1 ("YES"), ASK WIC07 OTHERWISE, GO TO CFAMINC

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

YES	1
NO	2
DON'T RECALL	3
REFUSED	7

2. The family income questions in Section C were modified in Q2/1998 to ask first for total family income in the past calendar year. If the respondent refused to answer or did not know, a more detailed series of income cascading questions than previously used was administered:

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

$☐☐☐,☐☐☐,☐☐☐

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

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

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

C12REFUSED Income is important in analyzing the immunization information we collect. For example, this information helps us to learn whether persons in one group use these medical services more or less than those in another group. Now you may not be able to give us an exact figure for your total combined family income, but was your total family income during (LAST CALENDAR YEAR) more or less than $20,000?

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

13. 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

14. A Was it more than $7,500?

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

15. Was it more than $15,000?

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

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

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

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

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

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

MORE THAN $40,000	1	GO TO C16.A
$40,000	2	GO TO C19
LESS THAN $40,000	3	GO TO C17
DON'T KNOW	6	GO TO C19
REFUSED	7	GO TO C19

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

MORE THAN $60,000	1	GO TO C18
$60,000	2	GO TO C19
LESS THAN $60,000	3	GO TO C16.B
DON'T KNOW	6	GO TO C19
REFUSED	7	GO TO C19

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

MORE THAN $50,000	1	GO TO C19
$50,000	2	GO TO C19
LESS THAN $50,000	3	GO TO C16.C
DON'T KNOW	6	GO TO C19
REFUSED	7	GO TO C19

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

MORE THAN $45,000	1	GO TO C19
LESS THAN $45,000	2	
DON'T KNOW	6	
REFUSED	7	

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

MORE THAN $30,000	1	GO TO C17.A
$30,000	2	GO TO C19
LESS THAN $30,000	3	GO TO C17.B
DON'T KNOW	6	GO TO C19
REFUSED	7	GO TO C19

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

MORE THAN $35,000	1	GO TO C19
LESS THAN $35,000	2	
DON'T KNOW	6	
REFUSED	7	

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

MORE THAN $25,000 1
LESS THAN $25,000 2
DON'T KNOW 6
REFUSED 7

} GO TO C19

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

MORE THAN $75,000 1
LESS THAN $75,000 2
DON'T KNOW 6
REFUSED 7

} GO TO C19

3. Questions on whether the household experienced an interruption in telephone service were added to Section C in Q2/1998:

CNOSERV

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

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

CHOWLONG1

For how long was your household without telephone service in the past 12 months?

IF ONE WEEK OR LESS, ENTER 0 FOR THE NUMBER.
ENTER NUMBER, PRESS RETURN.

NUMBER _____

CHOWLONG2

ENTER PERIOD _____

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

Appendix B-3

Changes to Q3/1998 Household Questionnaire

In Q3/1998 questions was added to both Section A and Section B on whether the child ever had chicken pox disease (the Section B questions are identical to the Section A questions shown below):

A5.d Has [FILL VAR: NAME OF FIRST/SECOND... /NINTH CHILD, FROM S3.5] ever had chicken pox?

YES	1	GO TO A5.e
NO	2	GO TO A6 OR NEXT CHILD
DON'T KNOW	6	GO TO A6 OR NEXT CHILD
REFUSED	7	GO TO A6 OR NEXT CHILD

A5.e About how old was ([FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5]), in months, when (he/she) had chicken pox?

AGE CHILD HAD CHICKEN POX	__|__ MONTHS	GO TO A6 OR NEXT CHILD
REFUSED	97	GO TO A6 OR NEXT CHILD

IF UNABLE TO GIVE EXACT MONTHS

A5.f Was ([FILL VAR: NAME OF FIRST/SECOND.../NINTH CHILD, FROM S3.5])...

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

Appendix C

NIS Provider Questionnaire

MAJOR CHANGES TO THE NIS IMMUNIZATION HISTORY QUESTIONNAIRE IN 1998

In Q1/1998 and Q2/1998 the provider facility type question used the following response categories:

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

1 **G**	a.	Private Practice	4 **G**	d.	Community/Migrant Health Center
2 **G**	b.	Public Health Department-operated Clinic	5 **G**	e.	Military Health Care Facility
3 **G**	c.	Hospital Outpatient Clinic	6 **G**	f.	Other Facility (Describe:)_____

For Q3/1998 and Q4/1998 the provider facility type question was modified to use the following response categories:

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

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

NATIONAL IMMUNIZATION SURVEY PROVIDER STUDY
IMMUNIZATION HISTORY QUESTIONNAIRE USED IN Q1/1998 AND Q2/1998

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 G. Coronado, MD, MPH, FAX #: (312) 867-4419*

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

   1 **G** a. Have immunization record for this child. (Go to item 2 below.)
   2 **G** b. Have provided care to this child, but do not have his/her immunization record. (Go to question 3 on next page.)
   4 **G** c. Have no record of providing care to this child. (Return questionnaire to CDC as instructed above.)
   5 **G** d. Other: _____

2. Referring to all sources of immunization history, please specify below the month, day and year when each of the following immunizations was given, either by your office or by another provider (OP), as documented in your records. If you prefer, you may attach a copy of the complete immunization history and complete Questions 3 through 12.

   Circle the "OP" for any immunization given by another provider, after the date for that immunization. Please see item 12.

	Dates of immunization				
	(1) mm-dd-yy	(2) mm-dd-yy	(3) mm-dd-yy	(4) mm-dd-yy	(5) mm-dd-yy
DT/DTP/DTaP (check one box per date)	___-___-___ OP ☐ *DT* ☐ *DTP* ☐ *DTaP*	___-___-___ OP ☐ *DT* ☐ *DTP* ☐ *DTaP*	___-___-___ OP ☐ *DT* ☐ *DTP* ☐ *DTaP*	___-___-___ OP ☐ *DT* ☐ *DTP* ☐ *DTaP*	___-___-___ OP ☐ *DT* ☐ *DTP* ☐ *DTaP*
DTP-Hib (Tetramune or Acthib/DTP) DTaP-Hib (TriHibit) (check one box per date)	___-___-___ OP ☐ *DTP/HIb* ☐ *DTaP/HIb*	___-___-___ OP ☐ *DTP/HIb* ☐ *DTaP/HIb*	___-___-___ OP ☐ *DTP/HIb* ☐ *DTaP/HIb*	___-___-___ OP ☐ *DTP/HIb* ☐ *DTaP/HIb*	___-___-___ OP ☐ *DTP/HIb* ☐ *DTaP/HIb*
Hib	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP
Hepatitis B (enter date or check box)	___-___-___ OP ☐ *Administered at birth*	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP
Polio (OPV or IPV) (check one box per date)	___-___-___ OP ☐ *OPV* ☐ *IPV*	___-___-___ OP ☐ *OPV* ☐ *IPV*	___-___-___ OP ☐ *OPV* ☐ *IPV*	___-___-___ OP ☐ *OPV* ☐ *IPV*	___-___-___ OP ☐ *OPV* ☐ *IPV*
MMR	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP
Measles only	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP
Varicella	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP
Other Vaccines (Specify)	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP

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

_____ - _____ - _____ or 8 **G** Don't Know
mm dd yy

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

_____ - _____ - _____ or 8 **G** Don't Know
mm dd yy

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

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

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

1 **G** a. Private Practice
2 **G** b. Public Health Department-operated Clinic
3 **G** c. Hospital Outpatient Clinic
4 **G** d. Community/Migrant Health Center
5 **G** e. Military Health Care Facility
6 **G** f. Other Facility (Describe:)_____

7. Is this facility a Vaccines for Children provider?

1 **G** a. Yes
2 **G** b. No
3 **G** c. Unknown

8a. Was this facility ever this child's medical home for primary care? (**Medical home**: the place where care is delivered or directed by practitioners known to the child and family, who are able to manage or facilitate essentially all aspects of pediatric care.)

1 **G** a. Yes (Go to question 8b.)
2 **G** b. No (Go to item 9.)
3 **G** c. Unknown (Go to item 9.)

8b. If "Yes," what specialty is (was) this child's primary care provider?

1 **G** a. Pediatrician
2 **G** b. Family Physician
3 **G** c. General practitioner
4 **G** d. Other (Describe)_____

9. Name of person completing questionnaire:_____

Phone: (_____)_____

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

_____-_____-_____ or 8 **G** Don't know
mm dd yy

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

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

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

12. Please enter below the names, addresses and telephone numbers of other providers who may have an immunization record for this child, and the name and address for any provider of immunizations with OP circled in item 2.

(1) _____
_____
_____
(_____)_____

(2) _____
_____
_____
(_____)_____

NATIONAL IMMUNIZATION SURVEY PROVIDER STUDY
IMMUNIZATION HISTORY QUESTIONNAIRE USED IN Q3/1998 AND Q4/1998

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 G. Coronado, MD, MPH, FAX #: (312) 867-4419*

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

   1 **G** a. Have immunization record for this child. (Go to item 2 below.)
   2 **G** b. Have provided care to this child, but do not have his/her immunization record. (Go to question 3 on next page.)
   4 **G** c. Have no record of providing care to this child. (Return questionnaire to CDC as instructed above.)
   5 **G** d. Other: _____

2. Referring to all sources of immunization history, please specify below the month, day and year when each of the following immunizations was given, either by your office or by another provider (OP), as documented in your records. If you prefer, you may attach a copy of the complete immunization history and complete Questions 3 through 12.

   Circle the "OP" for any immunization given by another provider, after the date for that immunization. Please see item 12.

	Dates of immunization				
	(1) mm-dd-yy	(2) mm-dd-yy	(3) mm-dd-yy	(4) mm-dd-yy	(5) mm-dd-yy
DT/DTP/DTaP (check one box per date)	___-___-___ OP ☐ *DT* ☐ *DTP* ☐ *DTaP*	___-___-___ OP ☐ *DT* ☐ *DTP* ☐ *DTaP*	___-___-___ OP ☐ *DT* ☐ *DTP* ☐ *DTaP*	___-___-___ OP ☐ *DT* ☐ *DTP* ☐ *DTaP*	___-___-___ OP ☐ *DT* ☐ *DTP* ☐ *DTaP*
DTP-Hib (Tetramune or Acthib/DTP) DTaP-Hib (TriHibit) (check one box per date)	___-___-___ OP ☐ *DTP/HIb* ☐ *DTaP/HIb*	___-___-___ OP ☐ *DTP/HIb* ☐ *DTaP/HIb*	___-___-___ OP ☐ *DTP/HIb* ☐ *DTaP/HIb*	___-___-___ OP ☐ *DTP/HIb* ☐ *DTaP/HIb*	___-___-___ OP ☐ *DTP/HIb* ☐ *DTaP/HIb*
Hib	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP
Hepatitis B (enter date or check box)	___-___-___ OP ☐ *Administered at birth*	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP
Polio (OPV or IPV) (check one box per date)	___-___-___ OP ☐ *OPV* ☐ *IPV*	___-___-___ OP ☐ *OPV* ☐ *IPV*	___-___-___ OP ☐ *OPV* ☐ *IPV*	___-___-___ OP ☐ *OPV* ☐ *IPV*	___-___-___ OP ☐ *OPV* ☐ *IPV*
MMR	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP
Measles only	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP
Varicella	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP
Other Vaccines (Specify)	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP	___-___-___ OP

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

_____ - _____ - _____ or 8 **G** Don't Know
mm dd yy

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

_____ - _____ - _____ or 8 **G** Don't Know
mm dd yy

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

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

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

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

7. Is this facility a Vaccines for Children provider?

1 **G** a. Yes
2 **G** b. No
3 **G** c. Unknown

8a. Was this facility ever this child's medical home for primary care? (**Medical home**: the place where care is delivered or directed by practitioners known to the child and family, who are able to manage or facilitate essentially all aspects of pediatric care.)

1 **G** a. Yes (Go to question 8b.)
2 **G** b. No (Go to item 9.)
3 **G** c. Unknown (Go to item 9.)

8b. If "Yes," what specialty is (was) this child's primary care provider?

1 **G** a. Pediatrician
2 **G** b. Family Physician
3 **G** c. General practitioner
4 **G** d. Other (Describe)_____

9. Name of person completing questionnaire:_____

Phone: (_____)_____

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

_____-_____-_____ or 8 **G** Don't know
mm dd yy

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

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

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

12. Please enter below the names, addresses and telephone numbers of other providers who may have an immunization record for this child, and the name and address for any provider of immunizations with OP circled in item 2.

(1) _____
_____
_____
(_____)_____

(2) _____
_____
_____
(_____)_____

Appendix D

Summary Statistics for Sampling Weights by IAP Area

Q1/1998-Q4/1998 : Child Weight for Completed Household Interviews (HY_WGT)

IAP	Area	N	SUM	MIN	MAX	MEAN	CV
	TOTAL U.S.	32511	5634624.25	2.422	1756.53	173.314	112.160
1	CT	417	64926.29	21.523	332.84	155.699	29.943
2	MA-REST OF STATE	443	102044.86	9.594	395.33	230.350	31.455
3	MA-CITY OF BOSTON	425	11788.61	9.805	70.40	27.738	36.137
4	ME	427	21136.33	15.796	72.52	49.500	23.075
5	NH	410	21355.48	18.230	88.17	52.087	27.860
6	RI	425	18182.88	11.815	82.88	42.783	27.911
7	VT	405	9976.17	7.855	49.11	24.633	36.770
8	NJ-REST OF STATE	455	160876.18	7.029	1220.82	353.574	55.586
9	NJ-CITY OF NEWARK	366	7845.10	5.028	134.24	21.435	64.098
10	NY-REST OF STATE	406	199695.89	7.847	826.39	491.862	29.154
11	NY-NYC 5 COUNTIES	397	176890.00	116.710	873.63	445.567	40.765
12	DISTRICT OF COLUMBIA	411	10816.38	5.340	53.78	26.317	41.229
13	DE	411	13865.10	11.098	63.33	33.735	35.193
14	MD-REST OF STATE	452	94868.22	12.755	391.01	209.885	38.165
15	MD-CITY OF BALTIMORE	375	16756.72	12.288	205.83	44.685	40.663
16	PA-REST OF STATE	421	179810.46	14.524	714.84	427.103	24.720
17	PA-PHILADELPHIA COUNTY	398	33165.89	24.092	158.99	83.331	32.262
18	VA	417	138479.32	20.369	700.02	332.085	38.342
19	WV	417	28687.25	17.096	96.87	68.794	24.603
20	AL-REST OF STATE	414	75212.17	15.433	369.06	181.672	35.875
21	AL-JEFFERSON COUNTY	396	13241.52	7.084	82.79	33.438	35.464
22	FL-REST OF STATE	401	221859.50	38.409	875.98	553.266	27.345
23	FL-DUVAL COUNTY	402	18058.14	10.833	101.22	44.921	36.951
24	FL-DADE COUNTY	394	48879.01	30.611	282.40	124.058	35.696
25	GA-REST OF STATE	434	133745.70	24.515	587.89	308.170	39.164
26	GA-FULTON/DEKALB COUNTIES	417	31640.37	2.422	372.75	75.876	43.632
27	KY	430	74893.36	21.153	334.21	174.171	43.456
28	MS	422	58458.39	31.256	270.94	138.527	31.923
29	NC	426	151281.19	39.647	675.79	355.120	36.220
30	SC	436	75919.17	48.779	328.68	174.127	37.578
31	TN-REST OF STATE	423	70610.47	10.946	253.03	166.928	32.020
32	TN-SHELBY COUNTY	389	20533.70	11.930	99.13	52.786	36.557
33	TN-DAVIDSON COUNTY	399	11435.55	7.853	90.44	28.661	33.300
34	IL-REST OF STATE	419	188483.97	163.397	963.79	449.842	34.329
35	IL-CITY OF CHICAGO	412	76735.87	19.304	630.96	186.252	52.955
36	IN-REST OF STATE	426	100319.12	27.736	413.86	235.491	32.520
37	IN-MARION COUNTY	402	19974.44	20.712	204.01	49.688	32.618
38	MI-REST OF STATE	445	167913.29	31.294	840.23	377.333	37.839
39	MI-CITY OF DETROIT	391	24403.91	17.852	259.24	62.414	45.437
40	MN	417	94024.85	76.273	411.89	225.479	35.502
41	OH-REST OF STATE	441	166084.65	23.520	687.79	376.609	38.551
42	OH-CUYAHOGA COUNTY	411	28174.04	15.409	131.81	68.550	31.220
43	OH-FRANKLIN COUNTY	377	22624.28	20.122	102.25	60.011	28.302
44	WI-REST OF STATE	414	76051.95	31.612	299.22	183.700	26.164
45	WI-MILWAUKEE COUNTY	418	22466.43	17.544	192.83	53.747	56.074
46	AR	419	51924.95	32.325	259.24	123.926	35.618
47	LA-REST OF STATE	439	78818.11	7.236	427.54	179.540	43.669
48	LA-ORLEANS PARISH	403	10538.94	6.479	58.49	26.151	39.355
49	NM	407	39572.83	22.374	168.16	97.231	32.317

Q1/1998-Q4/1998 : Child Weight for Completed Household Interviews (HY_WGT)

IAP	Area	N	SUM	MIN	MAX	MEAN	CV
50	OK	411	66406.33	47.1655	308.92	161.573	39.9956
51	TX-REST OF STATE	454	301659.64	54.1927	1406.88	664.449	43.5959
52	TX-DALLAS COUNTY	405	54175.98	58.1146	476.95	133.768	27.4150
53	TX-EL PASO COUNTY	421	21513.57	10.9250	85.47	51.101	38.3041
54	TX-CITY OF HOUSTON	388	59651.51	36.5400	567.46	153.741	43.3157
55	TX-BEXAR COUNTY	406	32415.22	19.7016	158.16	79.840	40.0264
56	IA	424	52688.02	51.2873	189.41	124.264	17.5890
57	KS	415	53968.34	43.1960	276.90	130.044	35.5884
58	MO	398	104231.18	86.9277	428.90	261.887	29.9805
59	NE	424	32465.63	23.2785	140.73	76.570	20.4550
60	CO	415	77202.62	59.8875	426.50	186.030	33.2856
61	MT	423	15582.04	12.2216	63.49	36.837	26.4310
62	ND	435	10748.21	10.4441	39.10	24.709	22.6200
63	SD	421	15227.98	10.3665	66.43	36.171	41.2295
64	UT	426	55177.43	43.4469	588.76	129.524	39.7378
65	WY	437	8885.86	4.3382	76.25	20.334	30.0616
66	AZ-REST OF STATE	420	40778.11	26.6260	180.69	97.091	33.8129
67	AZ-MARICOPA COUNTY	413	65083.50	39.6334	321.46	157.587	37.7037
68	CA-REST OF STATE	439	437890.59	33.1726	1756.53	997.473	29.3857
69	CA-LOS ANGELES COUNTY	415	250325.92	28.0412	834.64	603.195	17.2664
70	CA-SANTA CLARA COUNTY	391	39079.54	34.0267	171.08	99.948	26.0761
71	CA-SAN DIEGO COUNTY	417	66169.68	38.8557	244.08	158.680	32.3239
72	HI	420	26901.66	20.0581	110.54	64.052	32.5278
73	NV	419	40495.89	19.4753	274.00	96.649	40.2635
74	AK	421	14136.02	11.6227	59.97	33.577	28.3929
75	ID	426	26666.14	19.3367	102.59	62.597	29.3445
76	OR	440	64318.24	41.3526	301.35	146.178	30.0294
77	WA-REST OF STATE	455	83636.12	23.8445	366.33	183.816	35.9649
78	WA-KING COUNTY	430	32096.33	18.4011	366.60	74.643	36.6950

Q1/1998-Q4/1998 : Child Weight for Children with Adequate Provider Data (W0)

IAP	Area	N	SUM	MIN	MAX	MEAN	CV
	TOTAL U.S.	21827	5634624.26	7.829	4504.37	258.149	124.051
1	CT	279	64926.29	78.756	613.64	232.711	36.705
2	MA-REST OF STATE	314	102044.86	19.535	646.93	324.984	33.148
3	MA-CITY OF BOSTON	283	11788.61	14.611	116.78	41.656	41.881
4	ME	308	21136.33	23.037	149.77	68.624	30.922
5	NH	294	21355.48	26.332	151.50	72.638	30.525
6	RI	297	18182.88	16.977	165.58	61.222	36.216
7	VT	322	9976.17	12.515	84.76	30.982	45.171
8	NJ-REST OF STATE	270	160876.18	9.088	2930.50	595.838	70.334
9	NJ-CITY OF NEWARK	218	7845.10	8.613	241.16	35.987	79.412
10	NY-REST OF STATE	249	199695.89	27.254	2189.07	801.992	44.164
11	NY-NYC 5 COUNTIES	215	176890.00	231.693	2217.20	822.744	46.183
12	DISTRICT OF COLUMBIA	260	10816.38	11.028	130.54	41.601	51.823
13	DE	285	13865.10	14.999	107.35	48.649	36.462
14	MD-REST OF STATE	299	94868.22	21.458	818.63	317.285	46.598
15	MD-CITY OF BALTIMORE	234	16756.72	18.737	500.44	71.610	62.366
16	PA-REST OF STATE	311	179810.46	32.847	1172.06	578.169	27.504
17	PA-PHILADELPHIA COUNTY	244	33165.89	46.831	350.80	135.926	39.313
18	VA	279	138479.32	41.228	1064.15	496.342	38.851
19	WV	307	28687.25	21.583	172.14	93.444	30.435
20	AL-REST OF STATE	285	75212.17	32.256	709.53	263.902	40.215
21	AL-JEFFERSON COUNTY	260	13241.52	12.442	150.27	50.929	47.248
22	FL-REST OF STATE	252	221859.50	55.043	1951.15	880.395	36.856
23	FL-DUVAL COUNTY	242	18058.14	19.524	237.51	74.620	47.315
24	FL-DADE COUNTY	273	48879.01	39.526	549.49	179.044	38.388
25	GA-REST OF STATE	300	133745.70	48.983	994.47	445.819	39.707
26	GA-FULTON/DEKALB COUNTIES	251	31640.37	22.040	691.33	126.057	59.909
27	KY	312	74893.36	39.783	529.30	240.043	47.781
28	MS	302	58458.39	35.793	487.74	193.571	39.338
29	NC	306	151281.19	66.705	1104.72	494.383	42.715
30	SC	283	75919.17	73.309	692.32	268.266	46.053
31	TN-REST OF STATE	302	70610.47	13.993	471.66	233.809	35.899
32	TN-SHELBY COUNTY	247	20533.70	17.151	216.91	83.132	37.770
33	TN-DAVIDSON COUNTY	260	11435.55	11.769	106.32	43.983	39.029
34	IL-REST OF STATE	284	188483.97	224.671	2557.22	663.676	48.640
35	IL-CITY OF CHICAGO	240	76735.87	68.951	1041.13	319.733	59.547
36	IN-REST OF STATE	281	100319.12	34.649	873.82	357.008	40.613
37	IN-MARION COUNTY	273	19974.44	28.694	326.30	73.166	34.395
38	MI-REST OF STATE	315	167913.29	38.569	1689.19	533.058	42.788
39	MI-CITY OF DETROIT	244	24403.91	30.922	407.62	100.016	45.365
40	MN	309	94024.85	97.388	922.83	304.288	41.766
41	OH-REST OF STATE	301	166084.65	49.487	2087.82	551.776	50.256
42	OH-CUYAHOGA COUNTY	267	28174.04	22.689	303.17	105.521	48.541
43	OH-FRANKLIN COUNTY	244	22624.28	21.959	270.29	92.722	48.667
44	WI-REST OF STATE	306	76051.95	40.124	571.79	248.536	30.387
45	WI-MILWAUKEE COUNTY	317	22466.43	19.797	253.00	70.872	56.831
46	AR	310	51924.95	37.685	435.04	167.500	37.482
47	LA-REST OF STATE	293	78818.11	9.538	712.25	269.004	49.953
48	LA-ORLEANS PARISH	251	10538.94	7.829	102.29	41.988	47.698
49	NM	254	39572.83	34.288	432.57	155.799	45.958

Q1/1998-Q4/1998 : Child Weight for Children with Adequate Provider Data (W0)

IAP	Area	N	SUM	MIN	MAX	MEAN	CV
50	OK	262	66406.33	61.064	789.49	253.46	55.1106
51	TX-REST OF STATE	284	301659.64	100.150	2685.04	1062.18	43.6743
52	TX-DALLAS COUNTY	226	54175.98	83.487	1040.14	239.72	50.5504
53	TX-EL PASO COUNTY	293	21513.57	16.168	153.77	73.43	38.3823
54	TX-CITY OF HOUSTON	227	59651.51	45.180	1051.18	262.78	56.7928
55	TX-BEXAR COUNTY	252	32415.22	28.892	453.88	128.63	45.3496
56	IA	326	52688.02	64.221	290.81	161.62	21.9680
57	KS	284	53968.34	71.392	529.54	190.03	47.0304
58	MO	252	104231.18	126.177	1025.03	413.62	44.8567
59	NE	311	32465.63	30.138	192.82	104.39	26.3817
60	CO	272	77202.62	92.076	834.58	283.83	39.6015
61	MT	318	15582.04	14.747	97.60	49.00	30.8316
62	ND	319	10748.21	11.443	85.02	33.69	34.4321
63	SD	318	15227.98	13.176	109.05	47.89	47.4437
64	UT	313	55177.43	55.301	926.23	176.29	47.1695
65	WY	320	8885.86	8.812	98.67	27.77	37.3608
66	AZ-REST OF STATE	273	40778.11	31.359	813.12	149.37	54.5252
67	AZ-MARICOPA COUNTY	243	65083.50	34.113	789.86	267.83	48.7343
68	CA-REST OF STATE	255	437890.59	70.682	4504.37	1717.22	35.7141
69	CA-LOS ANGELES COUNTY	233	250325.92	75.324	2466.89	1074.36	31.4031
70	CA-SANTA CLARA COUNTY	243	39079.54	34.203	441.34	160.82	36.9488
71	CA-SAN DIEGO COUNTY	279	66169.68	54.700	482.52	237.17	39.2762
72	HI	281	26901.66	27.175	237.67	95.74	41.3011
73	NV	290	40495.89	20.886	592.61	139.64	51.3858
74	AK	299	14136.02	14.054	111.07	47.28	37.4464
75	ID	321	26666.14	25.316	206.07	83.07	34.1453
76	OR	304	64318.24	61.807	540.91	211.57	36.0461
77	WA-REST OF STATE	310	83636.12	31.021	767.88	269.79	42.7164
78	WA-KING COUNTY	287	32096.33	29.749	393.97	111.83	47.7159

Appendix E

Disposition of Child with respect to Provider Record Check for NIS, Q1/1998 to Q4/1998

DISPCODE: Disposition of Child with Respect to Provider Record Check for NIS - Q1\1998 to Q4\1998:

Number Of Children *Disposition Code Number and Definition*

9,737 1 = All identified providers responded, no problems indicated in cross check between household and provider shot dates.

9,665 2 = All identified providers responded, no NIS shot card to cross check.

862 3 = All identified providers responded, poor immunization history matching results.

118 4 = All identified providers responded, poor immunization history matching results, additional mismatch indicators present.

1,129 5 = Some but not all identified providers responded, but provider information indicates 4:3:1 up-to-date.

41 6 = Some but not all identified providers responded, but provider information matches NIS shot card immunization history.

340 7 = Some but not all identified providers responded, completeness of provider immunization history is unknown.

18 8 = Some but not all identified providers responded, but provider information indicates 4:3:1 up-to-date when post-RDD-interview immunizations are included.

32 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).

129 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).

96 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).

22,167 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:\nispuf98'; *--- SPECIFY PATH TO SAS DATASET ---*;
libname library 'c:\nispuf98'; *--- IF DATASET WAS CREATED WITH FORMATS STORED ---*;
                          *--- PERMANENTLY SPECIFY PATH TO LIBRARY        ---*;
                          *--- OTHERWISE COMMENT THIS STATEMENT OUT       ---*;

%let in_file=dd.nispuf98; *--- NAME OF SAS DATASET ---*;
%let wt=w0;               *--- WEIGHT TO USE ---*;

Proc format;
          /*
             THE FOLLOWING FORMAT WILL BE USED FOR PUTD4313.
             ORIGINAL VALUES OF PUTD4313 ARE 1,0.
             MUST BE CONVERTED TO 1,2 IN SUDAAN.
          */
 value put4313f
    1='4:3:1:3 Up-to-date'
    2='Not 4:3:1:3 Up-to-date';

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

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

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

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

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

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

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

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

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

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

NOTE : THE STATE VARIABLE IS BASED ON FIPSTATE CODES ,THERE ARE
      NO STATES WITH FIPS CODES 3,7,14,43,52.

SUDAAN NOTES:
    1. ALL VARIABLES USED MUST BE NUMERIC.
    2. VARIABLES IN THE SUBGROUP STATEMENT MUST HAVE VALUES 1,2,..K
       WHERE K IS THE NUMBER OF LEVELS FOR EACH VARIABLE.
    3. DATA MUST BE SORTED ACCORDING TO THE SAMPLE DESIGN VARIABLES
       (STRATUM AND PRIMARY SAMPLING UNIT), SPECIFIED IN THE
       NEST STATEMENT.
*******************************************************************************;
options ps=78 ls=90 obs= max;

libname dd      'c:\nispuf98'; *--- SPECIFY PATH TO SAS DATASET ---*;
libname library 'c:\nispuf98'; *--- IF DATASET WAS CREATED WITH FORMATS STORED ---*;
                *--- PERMANENTLY SPECIFY PATH TO LIBRARY       ---*;
                *--- OTHERWISE COMMENT THIS STATEMENT OUT      ---*;

%let in_file=dd.nispuf98; *--- 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 ='Maryland        '
   25 ='Massachusetts   '
   26 ='Michigan        '
   27 ='Minnesota       '
   28 ='Mississippi     '
   29 ='Missouri        '
   30 ='Montana         '
   31 ='Nebraska        '
   32 ='Nevada          '
   33 ='New Hampshire   '
   34 ='New Jersey      '
   35 ='New Mexico      '
   36 ='New York        '
   37 ='North Carolina  '
   38 ='North Dakota    '
   39 ='Ohio            '
   40 ='Oklahoma        '
   41 ='Oregon          '
   42 ='Pennsylvania    '
   44 ='Rhode Island    '
   45 ='South Carolina  '
   46 ='South Dakota    '
   47 ='Tennessee       '
   48 ='Texas           '
   49 ='Utah            '
   50 ='Vermont         '
   51 ='Virginia        '
   53 ='Washington      '
   54 ='West Virginia   '
   55 ='Wisconsin       '
   56 ='Wyoming         '
;

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

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

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

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

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

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

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

Appendix G

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and

Alphabetical Index of Variables

from

National Immunization Survey
1998 Public-Use Data File
Documentation, Code Book and Frequencies

1998 National Immunization Survey Public-Use Data File

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
AGEGRP	0055	0055	3	AGE CATEGORY OF CHILD (RECODE)
ALL4SHOT	0037	0037	2	4:3:1:3 UP-TO-DATE (HH REPORT)
C_431	0038	0038	2	HOUSEHOLD REPORT OF 4:3:1 UP-TO-DATE BY SHOT CARD USE
C_4313	0039	0039	2	HOUSEHOLD REPORT OF 4:3:1:3 UP-TO-DATE BY SHOT CARD USE
C_DTP	0040	0040	2	HOUSEHOLD REPORT OF 4+ DTP UP-TO-DATE BY SHOT CARD USE
C_HEP	0041	0041	2	HOUSEHOLD REPORT OF 3+ HEPATITIS B UP-TO-DATE BY SHOT CARD USE
C_HIB	0042	0042	2	HOUSEHOLD REPORT OF 3+ HIB UP-TO-DATE BY SHOT CARD USE
C_MMR	0043	0043	2	HOUSEHOLD REPORT OF 1+ MEASLES-CONTAINING VACCINE UP-TO-DATE BY SHOT CARD USE
C_POL	0044	0044	2	HOUSEHOLD REPORT OF 3+ POLIO UP-TO-DATE BY SHOT CARD USE
C_VRC	0045	0045	2	HOUSEHOLD REPORT OF 1+ VARICELLA UP-TO-DATE BY SHOT CARD USE
C1R	0056	0057	3	NUMBER OF PEOPLE LIVING IN THE HOUSEHOLD (RECODE)
C5R	0058	0059	3	RELATIONSHIP OF RESPONDENT TO CHILD (RECODE)
CEN_REG	0060	0060	3	CENSUS REGION BASED ON STATE
CHILDNM	0061	0061	3	NUMBER OF CHILDREN LESS THAN 18 YEARS IN HH (RECODE)
D6R	0083	0083	5	NUMBER OF VACCINATION PROVIDERS IDENTIFIED BY RESPONDENT (RECODE)
D7	0084	0084	5	CONSENT TO OBTAIN CHILD'S IMMUNIZATION RECORDS FROM VACCINATION PROVIDERS IDENTIFIED IN QUESTION D6 IN THE INTERVIEW
DDTAH1	0579	0582	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP/HIB (MARKED) SHOT #1
DDTAH2	0583	0586	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP/HIB (MARKED) SHOT #2
DDTAH3	0587	0590	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP/HIB (MARKED) SHOT #3
DDTAH4	0591	0594	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP/HIB (MARKED) SHOT #4
DDTAH5	0595	0598	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP/HIB (MARKED) SHOT #5
DDTAH6	0599	0602	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP/HIB (MARKED) SHOT #6
DDTAH7	0603	0606	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP/HIB (MARKED) SHOT #7
DDTAH8	0607	0610	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP/HIB (MARKED) SHOT #8
DDTAP1	0611	0614	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP (MARKED) SHOT #1
DDTAP2	0615	0618	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP (MARKED) SHOT #2

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
DDTAP3	0619	0622	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP (MARKED) SHOT #3
DDTAP4	0623	0626	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP (MARKED) SHOT #4
DDTAP5	0627	0630	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP (MARKED) SHOT #5
DDTAP6	0631	0634	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP (MARKED) SHOT #6
DDTAP7	0635	0638	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP (MARKED) SHOT #7
DDTAP8	0639	0642	9	AGE IN DAYS OF PROVIDER-REPORTED DTAP (MARKED) SHOT #8
DDTHM1	0643	0646	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB (MARKED) SHOT #1
DDTHM2	0647	0650	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB (MARKED) SHOT #2
DDTHM3	0651	0654	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB (MARKED) SHOT #3
DDTHM4	0655	0658	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB (MARKED) SHOT #4
DDTHM5	0659	0662	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB (MARKED) SHOT #5
DDTHM6	0663	0666	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB (MARKED) SHOT #6
DDTHM7	0667	0670	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB (MARKED) SHOT #7
DDTHM8	0671	0674	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB (MARKED) SHOT #8
DDTHN1	0675	0678	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB (UNMARKED) SHOT #1
DDTHN2	0679	0682	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB (UNMARKED) SHOT #2
DDTHN3	0683	0686	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB (UNMARKED) SHOT #3
DDTHN4	0687	0690	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB (UNMARKED) SHOT #4
DDTHN5	0691	0694	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB (UNMARKED) SHOT #5
DDTHN6	0695	0698	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB (UNMARKED) SHOT #6
DDTHN7	0699	0702	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB (UNMARKED) SHOT #7
DDTHN8	0703	0706	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB (UNMARKED) SHOT #8
DDTM1	0707	0710	9	AGE IN DAYS OF PROVIDER-REPORTED DT (MARKED) SHOT #1
DDTM2	0711	0714	9	AGE IN DAYS OF PROVIDER-REPORTED DT (MARKED) SHOT #2
DDTM3	0715	0718	9	AGE IN DAYS OF PROVIDER-REPORTED DT (MARKED) SHOT #3
DDTM4	0719	0722	9	AGE IN DAYS OF PROVIDER-REPORTED DT (MARKED) SHOT #4

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
DDTM5	0723	0726	9	AGE IN DAYS OF PROVIDER-REPORTED DT (MARKED) SHOT #5
DDTM6	0727	0730	9	AGE IN DAYS OF PROVIDER-REPORTED DT (MARKED) SHOT #6
DDTM7	0731	0734	9	AGE IN DAYS OF PROVIDER-REPORTED DT (MARKED) SHOT #7
DDTM8	0735	0738	9	AGE IN DAYS OF PROVIDER-REPORTED DT (MARKED) SHOT #8
DDTP1	0739	0742	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #1
DDTP2	0743	0746	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #2
DDTP3	0747	0750	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #3
DDTP4	0751	0754	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #4
DDTP5	0755	0758	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #5
DDTP6	0759	0762	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #6
DDTP7	0763	0766	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #7
DDTP8	0767	0770	9	AGE IN DAYS OF PROVIDER-REPORTED DTP SHOT (ALL TYPES INCLUDING DT) #8
DDTPHB1	0771	0774	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB SHOT (ALL TYPES) #1
DDTPHB2	0775	0778	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB SHOT (ALL TYPES) #2
DDTPHB3	0779	0782	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB SHOT (ALL TYPES) #3
DDTPHB4	0783	0786	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB SHOT (ALL TYPES) #4
DDTPHB5	0787	0790	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB SHOT (ALL TYPES) #5
DDTPHB6	0791	0794	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB SHOT (ALL TYPES) #6
DDTPHB7	0795	0798	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB SHOT (ALL TYPES) #7
DDTPHB8	0799	0802	9	AGE IN DAYS OF PROVIDER-REPORTED DTP/HIB SHOT (ALL TYPES) #8
DDTPM1	0803	0806	9	AGE IN DAYS OF PROVIDER-REPORTED DTP (MARKED) #1
DDTPM2	0807	0810	9	AGE IN DAYS OF PROVIDER-REPORTED DTP (MARKED) #2
DDTPM3	0811	0814	9	AGE IN DAYS OF PROVIDER-REPORTED DTP (MARKED) #3

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
DDTPM4	0815	0818	9	AGE IN DAYS OF PROVIDER-REPORTED DTP (MARKED) #4
DDTPM5	0819	0822	9	AGE IN DAYS OF PROVIDER-REPORTED DTP (MARKED) #5
DDTPM6	0823	0826	9	AGE IN DAYS OF PROVIDER-REPORTED DTP (MARKED) #6
DDTPM7	0827	0830	9	AGE IN DAYS OF PROVIDER-REPORTED DTP (MARKED) #7
DDTPM8	0831	0834	9	AGE IN DAYS OF PROVIDER-REPORTED DTP (MARKED) #8
DDTPN1	0835	0838	9	AGE IN DAYS OF PROVIDER-REPORTED DTP (UNMARKED) SHOT #1
DDTPN2	0839	0842	9	AGE IN DAYS OF PROVIDER-REPORTED DTP (UNMARKED) SHOT #2
DDTPN3	0843	0846	9	AGE IN DAYS OF PROVIDER-REPORTED DTP (UNMARKED) SHOT #3
DDTPN4	0847	0850	9	AGE IN DAYS OF PROVIDER-REPORTED DTP (UNMARKED) SHOT #4
DDTPN5	0851	0854	9	AGE IN DAYS OF PROVIDER-REPORTED DTP (UNMARKED) SHOT #5
DDTPN6	0855	0858	9	AGE IN DAYS OF PROVIDER-REPORTED DTP (UNMARKED) SHOT #6
DDTPN7	0859	0862	9	AGE IN DAYS OF PROVIDER-REPORTED DTP (UNMARKED) SHOT #7
DDTPN8	0863	0866	9	AGE IN DAYS OF PROVIDER-REPORTED DTP (UNMARKED) SHOT #8
DHA1_AGE	1219	1220	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP/HIB (MARKED) SHOT #1
DHA2_AGE	1221	1222	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP/HIB (MARKED) SHOT #2
DHA3_AGE	1223	1224	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP/HIB (MARKED) SHOT #3
DHA4_AGE	1225	1226	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP/HIB (MARKED) SHOT #4
DHA5_AGE	1227	1228	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP/HIB (MARKED) SHOT #5
DHA6_AGE	1229	1230	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP/HIB (MARKED) SHOT #6
DHA7_AGE	1231	1232	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP/HIB (MARKED) SHOT #7
DHA8_AGE	1233	1234	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP/HIB (MARKED) SHOT #8
DHB1_AGE	1235	1236	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (ALL TYPES) SHOT #1
DHB2_AGE	1237	1238	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (ALL TYPES) SHOT #2
DHB3_AGE	1239	1240	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (ALL TYPES) SHOT #3

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
DHB4_AGE	1241	1242	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (ALL TYPES) SHOT #4
DHB5_AGE	1243	1244	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (ALL TYPES) SHOT #5
DHB6_AGE	1245	1246	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (ALL TYPES) SHOT #6
DHB7_AGE	1247	1248	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (ALL TYPES) SHOT #7
DHB8_AGE	1249	1250	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (ALL TYPES) SHOT #8
DHEPB1	0867	0870	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #1
DHEPB2	0871	0874	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #2
DHEPB3	0875	0878	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #3
DHEPB4	0879	0882	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #4
DHEPB5	0883	0886	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #5
DHEPB6	0887	0890	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #6
DHEPB7	0891	0894	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #7
DHEPB8	0895	0898	9	AGE IN DAYS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #8
DHIB1	0899	0902	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #1
DHIB2	0903	0906	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #2
DHIB3	0907	0910	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #3
DHIB4	0911	0914	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #4
DHIB5	0915	0918	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #5
DHIB6	0919	0922	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #6
DHIB7	0923	0926	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #7
DHIB8	0927	0930	9	AGE IN DAYS OF PROVIDER-REPORTED HIB SHOT (ALL TYPES) #8
DHM1_AGE	1251	1252	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (MARKED) SHOT #1
DHM2_AGE	1253	1254	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (MARKED) SHOT #2
DHM3_AGE	1255	1256	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
				(MARKED) SHOT #3
DHM4_AGE	1257	1258	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (MARKED) SHOT #4
DHM5_AGE	1259	1260	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (MARKED) SHOT #5
DHM6_AGE	1261	1262	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (MARKED) SHOT #6
DHM7_AGE	1263	1264	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (MARKED) SHOT #7
DHM8_AGE	1265	1266	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (MARKED) SHOT #8
DHN1_AGE	1267	1268	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (UNMARKED) SHOT #1
DHN2_AGE	1269	1270	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (UNMARKED) SHOT #2
DHN3_AGE	1271	1272	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (UNMARKED) SHOT #3
DHN4_AGE	1273	1274	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (UNMARKED) SHOT #4
DHN5_AGE	1275	1276	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (UNMARKED) SHOT #5
DHN6_AGE	1277	1278	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (UNMARKED) SHOT #6
DHN7_AGE	1279	1280	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (UNMARKED) SHOT #7
DHN8_AGE	1281	1282	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP/HIB (UNMARKED) SHOT #8
DIPVM1	0931	0934	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO/IPV SHOT (MARKED) #1
DIPVM2	0935	0938	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO/IPV SHOT (MARKED) #2
DIPVM3	0939	0942	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO/IPV SHOT (MARKED) #3
DIPVM4	0943	0946	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO/IPV SHOT (MARKED) #4
DIPVM5	0947	0950	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO/IPV SHOT (MARKED) #5
DIPVM6	0951	0954	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO/IPV SHOT (MARKED) #6
DIPVM7	0955	0958	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO/IPV SHOT (MARKED) #7
DIPVM8	0959	0962	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO/IPV SHOT (MARKED) #8
DISPCODE	0085	0086	6	NIS PROVIDER RECORD-CHECK DISPOSITION CODE
DMMR1	0963	0966	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #1
DMMR2	0967	0970	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #2

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
DMMR3	0971	0974	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #3
DMMR4	0975	0978	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #4
DMMRX1	0979	0982	9	AGE IN DAYS OF PROVIDER-REPORTED MMR SHOT #1
DMMRX2	0983	0986	9	AGE IN DAYS OF PROVIDER-REPORTED MMR SHOT #2
DMMRX3	0987	0990	9	AGE IN DAYS OF PROVIDER-REPORTED MMR SHOT #3
DMMRX4	0991	0994	9	AGE IN DAYS OF PROVIDER-REPORTED MMR SHOT #4
DMP1	0995	0998	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS SHOT #1
DMP2	0999	1002	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS SHOT #2
DMP3	1003	1006	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS SHOT #3
DMP4	1007	1010	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS SHOT #4
DMPRB1	1011	1014	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #1
DMPRB2	1015	1018	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #2
DMPRB3	1019	1022	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #3
DMPRB4	1023	1026	9	AGE IN DAYS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #4
DMS1	1027	1030	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES SHOT #1
DMS2	1031	1034	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES SHOT #2
DMS3	1035	1038	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES SHOT #3
DMS4	1039	1042	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES SHOT #4
DMSMP1	1043	1046	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES/MUMPS SHOT #1
DMSMP2	1047	1050	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES/MUMPS SHOT #2
DMSMP3	1051	1054	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES/MUMPS SHOT #3
DMSMP4	1055	1058	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES/MUMPS SHOT #4
DMSRB1	1059	1062	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES/RUBELLA #1
DMSRB2	1063	1066	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES/RUBELLA #2
DMSRB3	1067	1070	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES/RUBELLA #3
DMSRB4	1071	1074	9	AGE IN DAYS OF PROVIDER-REPORTED MEASLES/RUBELLA #4
DOPVM1	1075	1078	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO/OPV SHOT #1

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
DOPVM2	1079	1082	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO/OPV SHOT #2
DOPVM3	1083	1086	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO/OPV SHOT #3
DOPVM4	1087	1090	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO/OPV SHOT #4
DOPVM5	1091	1094	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO/OPV SHOT #5
DOPVM6	1095	1098	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO/OPV SHOT #6
DOPVM7	1099	1102	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO/OPV SHOT #7
DOPVM8	1103	1106	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO/OPV SHOT #8
DPM1_AGE	1283	1284	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (MARKED) SHOT #1
DPM2_AGE	1285	1286	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (MARKED) SHOT #2
DPM3_AGE	1287	1288	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (MARKED) SHOT #3
DPM4_AGE	1289	1290	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (MARKED) SHOT #4
DPM5_AGE	1291	1292	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (MARKED) SHOT #5
DPM6_AGE	1293	1294	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (MARKED) SHOT #6
DPM7_AGE	1295	1296	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (MARKED) SHOT #7
DPM8_AGE	1297	1298	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (MARKED) SHOT #8
DPN1_AGE	1299	1300	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (UNMARKED) SHOT #1
DPN2_AGE	1301	1302	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (UNMARKED) SHOT #2
DPN3_AGE	1303	1304	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (UNMARKED) SHOT #3
DPN4_AGE	1305	1306	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (UNMARKED) SHOT #4
DPN5_AGE	1307	1308	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (UNMARKED) SHOT #5
DPN6_AGE	1309	1310	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (UNMARKED) SHOT #6
DPN7_AGE	1311	1312	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (UNMARKED) SHOT #7
DPN8_AGE	1313	1314	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (UNMARKED) SHOT #8
DPOLIO1	1107	1110	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #1
DPOLIO2	1111	1114	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #2
DPOLIO3	1115	1118	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #3

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
DPOLIO4	1119	1122	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #4
DPOLIO5	1123	1126	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #5
DPOLIO6	1127	1130	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #6
DPOLIO7	1131	1134	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #7
DPOLIO8	1135	1138	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO SHOT (ALL TYPES) #8
DPOLN1	1139	1142	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO (UNMARKED) SHOT #1
DPOLN2	1143	1146	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO (UNMARKED) SHOT #2
DPOLN3	1147	1150	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO (UNMARKED) SHOT #3
DPOLN4	1151	1154	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO (UNMARKED) SHOT #4
DPOLN5	1155	1158	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO (UNMARKED) SHOT #5
DPOLN6	1159	1162	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO (UNMARKED) SHOT #6
DPOLN7	1163	1166	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO (UNMARKED) SHOT #7
DPOLN8	1167	1170	9	AGE IN DAYS OF PROVIDER-REPORTED POLIO (UNMARKED) SHOT #8
DRB1	1171	1174	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #1
DRB2	1175	1178	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #2
DRB3	1179	1182	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #3
DRB4	1183	1186	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #4
DRB5	1187	1190	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #5
DRB6	1191	1194	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #6
DRB7	1195	1198	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #7
DRB8	1199	1202	9	AGE IN DAYS OF PROVIDER-REPORTED RUBELLA SHOT #8
DTA1_AGE	1315	1316	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP (MARKED) SHOT #1
DTA2_AGE	1317	1318	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP (MARKED) SHOT #2
DTA3_AGE	1319	1320	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP (MARKED) SHOT #3
DTA4_AGE	1321	1322	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP (MARKED) SHOT #4
DTA5_AGE	1323	1324	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP (MARKED) SHOT #5

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
DTA6_AGE	1325	1326	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP (MARKED) SHOT #6
DTA7_AGE	1327	1328	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP (MARKED) SHOT #7
DTA8_AGE	1329	1330	9	AGE IN MONTHS OF PROVIDER-REPORTED DTAP (MARKED) SHOT #8
DTM1_AGE	1331	1332	9	AGE IN MONTHS OF PROVIDER-REPORTED DT (MARKED) SHOT #1
DTM2_AGE	1333	1334	9	AGE IN MONTHS OF PROVIDER-REPORTED DT (MARKED) SHOT #2
DTM3_AGE	1335	1336	9	AGE IN MONTHS OF PROVIDER-REPORTED DT (MARKED) SHOT #3
DTM4_AGE	1337	1338	9	AGE IN MONTHS OF PROVIDER-REPORTED DT (MARKED) SHOT #4
DTM5_AGE	1339	1340	9	AGE IN MONTHS OF PROVIDER-REPORTED DT (MARKED) SHOT #5
DTM6_AGE	1341	1342	9	AGE IN MONTHS OF PROVIDER-REPORTED DT (MARKED) SHOT #6
DTM7_AGE	1343	1344	9	AGE IN MONTHS OF PROVIDER-REPORTED DT (MARKED) SHOT #7
DTM8_AGE	1345	1346	9	AGE IN MONTHS OF PROVIDER-REPORTED DT (MARKED) SHOT #8
DTP_SOUR	0046	0046	2	SHOT CARD USED FOR DTP REPORTING
DTP1_AGE	1347	1348	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (ALL TYPES INCLUDING DT) SHOT #1
DTP2_AGE	1349	1350	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (ALL TYPES INCLUDING DT) SHOT #2
DTP3_AGE	1351	1352	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (ALL TYPES INCLUDING DT) SHOT #3
DTP4_AGE	1353	1354	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (ALL TYPES INCLUDING DT) SHOT #4
DTP5_AGE	1355	1356	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (ALL TYPES INCLUDING DT) SHOT #5
DTP6_AGE	1357	1358	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (ALL TYPES INCLUDING DT) SHOT #6
DTP7_AGE	1359	1360	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (ALL TYPES INCLUDING DT) SHOT #7
DTP8_AGE	1361	1362	9	AGE IN MONTHS OF PROVIDER-REPORTED DTP (ALL TYPES INCLUDING DT) SHOT #8
DVRC1	1203	1206	9	AGE IN DAYS OF PROVIDER-REPORTED VARICELLA SHOT #1
DVRC2	1207	1210	9	AGE IN DAYS OF PROVIDER-REPORTED VARICELLA SHOT #2
DVRC3	1211	1214	9	AGE IN DAYS OF PROVIDER-REPORTED VARICELLA SHOT #3
DVRC4	1215	1218	9	AGE IN DAYS OF PROVIDER-REPORTED VARICELLA SHOT #4
EDUC1	0062	0062	3	EDUCATION OF MOTHER CATEGORIES

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
ENTRY	0063	0063	3	CHILD LIVES IN STATE WITH HEPATITIS B STATE ENTRY LAW FOR DAY CARE/HEAD START (1996-1997 SCHOOL YEAR)
FRSTBRN	0064	0064	3	FIRST BORN STATUS OF CHILD
FUL2_MMR	0047	0047	2	HOUSEHOLD REPORT OF 1+ MMR AT ANY AGE
FULL_CPO	0048	0048	2	HOUSEHOLD REPORT OF 1+ VARICELLA AT ANY AGE
FULL_DTP	0049	0049	2	HOUSEHOLD REPORT OF 4+ DTP
FULL_HEP	0050	0050	2	HOUSEHOLD REPORT OF 3+ HEPATITIS B
FULL_HIB	0051	0051	2	HOUSEHOLD REPORT OF 3+ HIB
FULL_POL	0052	0052	2	HOUSEHOLD REPORT OF 3+ POLIO
HEP_BRTH	0097	0097	8	HEPATITIS B GIVEN AT BIRTH FLAG
HEP1_AGE	1363	1364	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #1
HEP2_AGE	1365	1366	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #2
HEP3_AGE	1367	1368	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #3
HEP4_AGE	1369	1370	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #4
HEP5_AGE	1371	1372	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #5
HEP6_AGE	1373	1374	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #6
HEP7_AGE	1375	1376	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #7
HEP8_AGE	1377	1378	9	AGE IN MONTHS OF PROVIDER-REPORTED HEPATITIS B (ALL TYPES) SHOT #8
HIB1_AGE	1379	1380	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #1
HIB2_AGE	1381	1382	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #2
HIB3_AGE	1383	1384	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #3
HIB4_AGE	1385	1386	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #4
HIB5_AGE	1387	1388	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #5
HIB6_AGE	1389	1390	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #6
HIB7_AGE	1391	1392	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #7
HIB8_AGE	1393	1394	9	AGE IN MONTHS OF PROVIDER-REPORTED HIB (ALL TYPES) SHOT #8
HUTD4313	0053	0053	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	0068	0068	3	HISPANIC ORIGIN OF CHILD

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
I_HISP_M	0069	0069	3	HISPANIC ORIGIN OF MOTHER
I_RACEKR	0070	0070	3	RACE OF CHILD (RECODE)
I_RACEMR	0071	0071	3	RACE OF MOTHER (RECODE)
INCOMER	0066	0067	3	FAMILY INCOME CATEGORIES (RECODE)
INCPOV1R	0065	0065	3	POVERTY STATUS(RECODE)
IPV1_AGE	1395	1396	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO/IPV (MARKED) SHOT #1
IPV2_AGE	1397	1398	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO/IPV (MARKED) SHOT #2
IPV3_AGE	1399	1400	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO/IPV (MARKED) SHOT #3
IPV4_AGE	1401	1402	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO/IPV (MARKED) SHOT #4
IPV5_AGE	1403	1404	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO/IPV (MARKED) SHOT #5
IPV6_AGE	1405	1406	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO/IPV (MARKED) SHOT #6
IPV7_AGE	1407	1408	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO/IPV (MARKED) SHOT #7
IPV8_AGE	1409	1410	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO/IPV (MARKED) SHOT #8
ITRUEIAP	0079	0080	4	IAP AREA OF CURRENT RESIDENCE
LANGUAGE	0072	0072	3	LANGUAGE THE INTERVIEW WAS CONDUCTED IN
M_AGEGRP	0075	0075	3	AGE OF MOTHER CATEGORIES
MARITAL	0073	0073	3	MARITAL STATUS OF MOTHER CATEGORIES
MEDHOME	0088	0088	7	WAS THIS FACILITY EVER CHILD'S MEDICAL HOME FOR PRIMARY CARE
MMR1_AGE	1411	1412	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #1
MMR2_AGE	1413	1414	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #2
MMR3_AGE	1415	1416	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #3
MMR4_AGE	1417	1418	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-CONTAINING VACCINE SHOT #4
MMX1_AGE	1419	1420	9	AGE IN MONTHS OF PROVIDER-REPORTED MMR SHOT #1
MMX2_AGE	1421	1422	9	AGE IN MONTHS OF PROVIDER-REPORTED MMR SHOT #2
MMX3_AGE	1423	1424	9	AGE IN MONTHS OF PROVIDER-REPORTED MMR SHOT #3
MMX4_AGE	1425	1426	9	AGE IN MONTHS OF PROVIDER-REPORTED MMR SHOT #4

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
MOBIL	0074	0074	3	GEOGRAPHIC MOBILITY STATUS: STATE OF RESIDENCE OF CHILD AT BIRTH VERSUS CURRENT STATE OF RESIDENCE
MP1_AGE	1427	1428	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS SHOT #1
MP2_AGE	1429	1430	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS SHOT #2
MP3_AGE	1431	1432	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS SHOT #3
MP4_AGE	1433	1434	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS SHOT #4
MPR1_AGE	1435	1436	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #1
MPR2_AGE	1437	1438	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #2
MPR3_AGE	1439	1440	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #3
MPR4_AGE	1441	1442	9	AGE IN MONTHS OF PROVIDER-REPORTED MUMPS/RUBELLA SHOT #4
MS1_AGE	1443	1444	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-ONLY SHOT #1
MS2_AGE	1445	1446	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-ONLY SHOT #2
MS3_AGE	1447	1448	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-ONLY SHOT #3
MS4_AGE	1449	1450	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES-ONLY SHOT #4
MSM1_AGE	1451	1452	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES/MUMPS SHOT #1
MSM2_AGE	1453	1454	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES/MUMPS SHOT #2
MSM3_AGE	1455	1456	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES/MUMPS SHOT #3
MSM4_AGE	1457	1458	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES/MUMPS SHOT #4
MSR1_AGE	1459	1460	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES/RUBELLA SHOT #1
MSR2_AGE	1461	1462	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES/RUBELLA SHOT #2
MSR3_AGE	1463	1464	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES/RUBELLA SHOT #3
MSR4_AGE	1465	1466	9	AGE IN MONTHS OF PROVIDER-REPORTED MEASLES/RUBELLA SHOT #4
N_PRVR	0087	0087	6	NUMBER OF PROVIDERS RESPONDING WITH VACCINATION DATA FOR CHILD (RECODE)
NCARER1	0089	0089	7	CHILD'S PROVIDERS OFFER COMPREHENSIVE CHILD CARE
NCARER2	0090	0090	7	CHILD'S PROVIDERS OFFER ACUTE ILLNESS CARE
NCARER3	0091	0091	7	CHILD'S PROVIDERS OFFER FOLLOW UP VISITS
NCARER4	0092	0092	7	CHILD'S PROVIDERS OFFER AFTER-HOURS TELEPHONE COVERAGE

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
NCARER5	0093	0093	7	CHILD'S PROVIDERS OFFER WIC PROGRAM/SERVICES
NCARER6	0094	0094	7	CHILD'S PROVIDERS OFFER OTHER SERVICES
OPV1_AGE	1467	1468	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO/OPV (MARKED) SHOT #1
OPV2_AGE	1469	1470	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO/OPV (MARKED) SHOT #2
OPV3_AGE	1471	1472	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO/OPV (MARKED) SHOT #3
OPV4_AGE	1473	1474	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO/OPV (MARKED) SHOT #4
OPV5_AGE	1475	1476	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO/OPV (MARKED) SHOT #5
OPV6_AGE	1477	1478	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO/OPV (MARKED) SHOT #6
OPV7_AGE	1479	1480	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO/OPV (MARKED) SHOT #7
OPV8_AGE	1481	1482	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO/OPV (MARKED) SHOT #8
P_NUMDAH	0110	0110	8	NUMBER OF DTAP/HIB (MARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMDHB	0111	0111	8	NUMBER OF DTP/HIB COMBINATION SHOTS (ALL TYPES), AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMDHM	0112	0112	8	NUMBER OF DTP/HIB (MARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMDHN	0113	0113	8	NUMBER OF DTP/HIB (UNMARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMDTA	0114	0114	8	NUMBER OF DTAP (MARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMDTM	0115	0115	8	NUMBER OF DT (MARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMDTP	0116	0116	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.

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
P_NUMHEP	0117	0117	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	0118	0118	8	NUMBER OF HIB (ALL TYPES) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMIPV	0119	0119	8	NUMBER OF IPV (MARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMMMR	0120	0120	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	0121	0121	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_NUMOLN	0122	0122	8	NUMBER OF POLIO (UNMARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMOPV	0123	0123	8	NUMBER OF OPV (MARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMPOL	0124	0124	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	0125	0125	8	NUMBER OF RUBELLA SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMTPM	0126	0126	8	NUMBER OF DTP (MARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMTPN	0127	0127	8	NUMBER OF DTP (UNMARKED) SHOTS, AS DETERMINED FROM PROVIDER INFORMATION. DOES NOT INCLUDE SHOTS REPORTED BY THE PROVIDER(S) AS OCCURRING AFTER THE RDD INTERVIEW DATE.
P_NUMVRC	0128	0128	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	0102	0102	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 1+ VARICELLA AT 12+ MONTHS

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
P_UTD331	0101	0101	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3:3:1
P_UTD431	0098	0098	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 4:3:1
P_UTDHEP	0103	0103	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3+ HEPATITIS B
P_UTDHIB	0104	0104	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3+ HIB
P_UTDMCV	0105	0105	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 1+ MCV
P_UTDMMX	0106	0106	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 1+ MMR (NOT INCLUDING ANY MEASLES-ONLY SHOTS)
P_UTDPOL	0107	0107	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3+ POLIO
P_UTDTP3	0108	0108	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 3+ DTP
P_UTDTP4	0109	0109	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 4+ DTP
PDAT	0036	0036	1	CHILD HAS ADEQUATE PROVIDER DATA
PLN1_AGE	1483	1484	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (UNMARKED) SHOT #1
PLN2_AGE	1485	1486	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (UNMARKED) SHOT #2
PLN3_AGE	1487	1488	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (UNMARKED) SHOT #3
PLN4_AGE	1489	1490	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (UNMARKED) SHOT #4
PLN5_AGE	1491	1492	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (UNMARKED) SHOT #5
PLN6_AGE	1493	1494	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (UNMARKED) SHOT #6
PLN7_AGE	1495	1496	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (UNMARKED) SHOT #7
PLN8_AGE	1497	1498	9	AGE IN MONTHS OF PROVIDER-REPORTED POLIO (UNMARKED) SHOT #8
POL1_AGE	1499	1500	9	AGE ON MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 1
POL2_AGE	1501	1502	9	AGE ON MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 2
POL3_AGE	1503	1504	9	AGE ON MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 3
POL4_AGE	1505	1506	9	AGE ON MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 4
POL5_AGE	1507	1508	9	AGE ON MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 5
POL6_AGE	1509	1510	9	AGE ON MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 6
POL7_AGE	1511	1512	9	AGE ON MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 7
POL8_AGE	1513	1514	9	AGE ON MONTHS OF PROVIDER-REPORTED POLIO (ALL TYPES) SHOT # 8
PROV_FAC	0095	0095	7	PROVIDER FACILITY TYPE
PUT43133	0100	0100	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 4:3:1:3:3

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VARIABLE NAME	BEGIN POSITION	END POSITION	SECTION NUMBER	VARIABLE LABEL
PUTD4313	0099	0099	8	UTD (UP-TO-DATE) FLAG FOR PROVIDER 4:3:1:3
RACEKIDR	0076	0076	3	RACE/ETHNICITY OF CHILD (RECODE)
RACEMOMR	0077	0077	3	RACE/ETHNICITY OF MOTHER (RECODE)
RB1_AGE	1515	1516	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #1
RB2_AGE	1517	1518	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #2
RB3_AGE	1519	1520	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #3
RB4_AGE	1521	1522	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #4
RB5_AGE	1523	1524	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #5
RB6_AGE	1525	1526	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #6
RB7_AGE	1527	1528	9	AGE IN MONTHS OF PROVIDER-REPORTED RUBELLA SHOT #7
RB8_AGE	1529	1530	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	0078	0078	3	GENDER OF CHILD
SHOTCARD	0054	0054	2	SHOT CARD USE FLAG
STATE	0081	0082	4	STATE OF RESIDENCE (STATE FIPS CODE)
VB11	0129	0158	8	VERBATIM TEXT FOR 1ST OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 1ST PROVIDER.
VB12	0159	0188	8	VERBATIM TEXT FOR 1ST OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 2ND PROVIDER.
VB13	0189	0218	8	VERBATIM TEXT FOR 1ST OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 3RD PROVIDER.
VB21	0219	0248	8	VERBATIM TEXT FOR 2ND OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 1ST PROVIDER.
VB22	0249	0278	8	VERBATIM TEXT FOR 2ND OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 2ND PROVIDER.
VB23	0279	0308	8	VERBATIM TEXT FOR 2ND OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 3RD PROVIDER.
VB31	0309	0338	8	VERBATIM TEXT FOR 3RD 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
VB32	0339	0368	8	VERBATIM TEXT FOR 3RD OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 2ND PROVIDER.
VB33	0369	0398	8	VERBATIM TEXT FOR 3RD OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 3RD PROVIDER.
VB41	0399	0428	8	VERBATIM TEXT FOR 4TH OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 1ST PROVIDER.
VB42	0429	0458	8	VERBATIM TEXT FOR 4TH OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 2ND PROVIDER.
VB43	0459	0488	8	VERBATIM TEXT FOR 4TH OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 3RD PROVIDER.
VB51	0489	0518	8	VERBATIM TEXT FOR 5TH OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 1ST PROVIDER.
VB52	0519	0548	8	VERBATIM TEXT FOR 5TH OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 2ND PROVIDER.
VB53	0549	0578	8	VERBATIM TEXT FOR 5TH OTHER SHOT (ADDITIONAL SHOT OF TYPE NOT PRE-PRINTED ON PROVIDER SURVEY FORM) REPORTED BY 3RD PROVIDER.
VFC_PRO	0096	0096	7	PARTICIPATION OF CHILD'S PROVIDERS IN VACCINES FOR CHILDREN PROGRAM
VRC1_AGE	1531	1532	9	AGE IN MONTHS OF PROVIDER-REPORTED VARICELLA SHOT #1
VRC2_AGE	1533	1534	9	AGE IN MONTHS OF PROVIDER-REPORTED VARICELLA SHOT #2
VRC3_AGE	1535	1536	9	AGE IN MONTHS OF PROVIDER-REPORTED VARICELLA SHOT #3
VRC4_AGE	1537	1538	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, 1998 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	5,634,624	32,511	21,827
Alabama	88,454	810	545
Rest of State	75,212	414	285
Jefferson County	13,242	396	260
Alaska	14,136	421	299
Arizona	105,862	833	516
Rest of State	40,778	420	273
Maricopa County	65,083	413	243
Arkansas	51,925	419	310
California	793,466	1,662	1,010
Rest of State	437,891	439	255
Los Angeles Co.	250,326	415	233
Santa Clara County	39,080	391	243
San Diego County	66,170	417	279
Colorado	77,203	415	272
Connecticut	64,926	417	279
Delaware	13,865	411	285
Dist. of Columbia	10,816	411	260
Florida	288,797	1,197	767
Rest of State	221,859	401	252
Duval County	18,058	402	242
Dade County	48,879	394	273
Georgia	165,386	851	551
Rest of State	133,746	434	300
Fulton/DeKalb Cos.	31,640	417	251
Hawaii	26,902	420	281
Idaho	26,666	426	321
Illinois	265,220	831	524
Rest of State	188,484	419	284
City of Chicago	76,736	412	240
Indiana	120,294	828	554
Rest of State	100,319	426	281
Marion County	19,974	402	273
Iowa	52,688	424	326
Kansas	53,968	415	284
Kentucky	74,893	430	312

Table H.1: Estimated population total and sample sizes of children 19-35 months of age by state and IAP area, 1998 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	89,357	842	544
Rest of State	78,818	439	293
Orleans Parish	10,539	403	251
Maine	21,136	427	308
Maryland	111,625	827	533
Rest of State	94,868	452	299
Baltimore City	16,757	375	234
Massachusetts	113,833	868	597
Rest of State	102,045	443	314
City of Boston	11,789	425	283
Michigan	192,317	836	559
Rest of State	167,913	445	315
City of Detroit	24,404	391	244
Minnesota	94,025	417	309
Mississippi	58,458	422	302
Missouri	104,231	398	252
Montana	15,582	423	318
Nebraska	32,466	424	311
Nevada	40,496	419	290
New Hampshire	21,355	410	294
New Jersey	168,721	821	488
Rest of State	160,876	455	270
City of Newark	7,845	366	218
New Mexico	39,573	407	254
New York	376,586	803	464
Rest of State	199,696	406	249
NYC - 5 Counties	176,890	397	215
North Carolina	151,281	426	306
North Dakota	10,748	435	319
Ohio	216,883	1,229	812
Rest of State	166,085	441	301
Cuyahoga County	28,174	411	267
Franklin County	22,624	377	244
Oklahoma	66,406	411	262
Oregon	64,318	440	304

Table H.1: Estimated population total and sample sizes of children 19-35 months of age by state and IAP area, 1998 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	212,976	819	555
Rest of State	179,810	421	311
Philadelphia Co.	33,166	398	244
Rhode Island	18,183	425	297
South Carolina	75,919	436	283
South Dakota	15,228	421	318
Tennessee	102,580	1,211	809
Rest of State	70,610	423	302
Shelby County	20,534	389	247
Davidson County	11,436	399	260
Texas	469,416	2,074	1,282
Rest of State	301,660	454	284
Dallas County	54,176	405	226
El Paso County	21,514	421	293
City of Houston	59,652	388	227
Bexar County	32,415	406	252
Utah	55,177	426	313
Vermont	9,976	405	322
Virginia	138,479	417	279
Washington	115,732	885	597
Rest of State	83,636	455	310
King County	32,096	430	287
West Virginia	28,687	417	307
Wisconsin	98,518	832	623
Rest of State	76,052	414	306
Milwaukee County	22,466	418	317
Wyoming	8,886	437	320

Table H.2: Age Group by Maternal Education, National Immunization Survey, 1998

		Children with Completed Household Interviews		Children with Adequate Provider Data	
Age Group in Months	**Maternal Education**	**Unweighted Sample Size**	**Weighted Sample Size**	**Unweighted Sample Size**	**Weighted Sample Size**
19 - 23	LESS THAN 12 YEARS	1239	284648.9	852	299481.8
19 - 23	12 YEARS	3006	632480.5	1980	623807.7
19 - 23	GREATER 12 YRS, NOT COLLEGE GRADUATE	2209	315210.3	1493	313403.5
19 - 23	COLLEGE GRADUATE	3252	459427.7	2223	456172.2
24 - 29	LESS THAN 12 YEARS	1491	332664.7	978	339911.3
24 - 29	12 YEARS	3570	760783.2	2393	763392.9
24 - 29	GREATER 12 YRS, NOT COLLEGE GRADUATE	2502	337833.6	1685	338124.3
24 - 29	COLLEGE GRADUATE	3772	522432.5	2580	529082.3
30 - 35	LESS THAN 12 YEARS	1448	337597.1	961	346784.1
30 - 35	12 YEARS	3512	728139	2291	703045.1
30 - 35	GREATER 12 YRS, NOT COLLEGE GRADUATE	2709	380314.6	1813	379445.3
30 - 35	COLLEGE GRADUATE	3801	543092.2	2578	541973.6

Table H.3: Age Group by Family Income, National Immunization Survey, 1998

		Children with Completed Household Interviews		Children with Adequate Provider Data	
Age Group in Months	**Family Income**	**Unweighted Sample Size**	**Weighted Sample Size**	**Unweighted Sample Size**	**Weighted Sample Size**
19 - 23	MISSING	129	24705.95	5	1014.81
19 - 23	0-$7,500	577	99999.62	382	97799.71
19 - 23	$7,501-$10,000	531	109781.9	349	103932.7
19 - 23	$10,001-$12,500	238	48284.34	167	49638.86
19 - 23	$12,501-$15,000	376	68030.14	251	63171.82
19 - 23	$15,001-$17,500	224	38277.16	157	38806.91
19 - 23	$17,501-$20,000	506	95361.85	357	90586.53
19 - 23	$20,001-$30,000	1298	221773.6	919	226160.7
19 - 23	$30,001-$50,000	1916	309593.3	1375	312136.6
19 - 23	$50,0001+	2520	418667.1	1825	439307.2
19 - 23	DON'T KNOW	897	175518.4	555	208970.5
19 - 23	REFUSED	494	81773.95	206	61338.92
24 – 29	MISSING	167	32056.57	13	4719.455
24 - 29	0-$7,500	623	116532	431	123749.4
24 - 29	$7,501-$10,000	625	133383.8	423	129057.9
24 - 29	$10,001-$12,500	271	52856.54	187	56368.11
24 - 29	$12,501-$15,000	440	77860.59	309	81797.82
24 - 29	$15,001-$17,500	244	39525.75	159	39454.2
24 - 29	$17,501-$20,000	580	97864.3	409	98252.37
24 - 29	$20,001-$30,000	1594	287806	1117	287476.3
24 - 29	$30,001-$50,000	2237	366481.4	1577	363428.8
24 - 29	$50,0001+	2929	449993.1	2095	464286.6
24 - 29	DON'T KNOW	1045	203834.4	661	244723.5
24 - 29	REFUSED	580	95519.44	255	77196.39
30 -35	MISSING	160	32820.57	18	9816.739
30 - 35	0-$7,500	672	112815.1	469	112030.9
30 - 35	$7,501-$10,000	605	122351.8	400	121493.7
30 - 35	$10,001-$12,500	279	52194.83	193	50980.22
30 - 35	$12,501-$15,000	442	87556.23	293	90143.02
30 - 35	$15,001-$17,500	255	47104.46	168	44436.26
30 - 35	$17,501-$20,000	574	103892.4	406	104092.9
30 - 35	$20,001-$30,000	1492	263733.4	1013	265199.6
30 - 35	$30,001-$50,000	2341	382118.4	1683	387030.9
30 - 35	$50,0001+	3093	495160.7	2176	495556.9
30 - 35	DON'T KNOW	926	186523.5	545	209683.4
30 - 35	REFUSED	631	102871.5	279	80783.62

Table H.4: Age Group by Race/Ethnicity, National Immunization Survey, 1998

		Children with Completed Household Interviews		Children with Adequate Provider Data	
Age Group In Months	**Race/Ethnicity Of Child**	**Unweighted Sample Size**	**Weighted Sample Size**	**Unweighted Sample Size**	**Weighted Sample Size**
19 - 23	HISPANIC	1479	340501.2	995	345432.9
19 - 23	WHITE, NON HISPANIC	5936	994684.1	4129	995181.1
19 - 23	BLACK, NON HISPANIC	1664	264478.4	997	253883.6
19 - 23	ALL OTHER, NON HISPANIC	627	92103.78	427	98367.65
24 - 29	HISPANIC	1767	404801.3	1144	406698
24 - 29	WHITE, NON HISPANIC	6916	1137130	4822	1131489
24 - 29	BLACK, NON HISPANIC	1989	305489.9	1218	316617.1
24 - 29	ALL OTHER, NON HISPANIC	663	106293.1	452	115707.2
30 - 35	HISPANIC	1724	396197.7	1120	389438.1
30 - 35	WHITE, NON HISPANIC	7120	1180603	4922	1178580
30 - 35	BLACK, NON HISPANIC	1943	305807.4	1187	305124.4
30 - 35	ALL OTHER, NON HISPANIC	683	106534.3	414	98105.52

Table H.5: Age Group by Gender, National Immunization Survey, 1998

		Children with Completed Household Interviews		Children with Adequate Provider Data	
Age Group In Months	**Gender**	**Unweighted Sample Size**	**Weighted Sample Size**	**Unweighted Sample Size**	**Weighted Sample Size**
19 - 23	MALE	4979	857421.3	3367	846057.6
19 - 23	FEMALE	4727	834346.1	3181	846807.6
24 - 29	MALE	5852	1006027	3989	1033631
24 - 29	FEMALE	5483	947686.8	3647	936880.1
30 - 35	MALE	5935	1028923	3954	1012683
30 - 35	FEMALE	5535	960220.2	3689	958565.3

Table H.6: Shot Card Use by Presence of Adequate Provider Data, National Immunization Survey, 1998

Shot Card Use	Presence of Adequate Provider Data	Unweighted Sample Size
SHOT CARD	ADEQUATE PROVIDER DATA	11077
SHOT CARD	NO ADEQUATE PROVIDER DATA	4010
NO SHOT CARD	ADEQUATE PROVIDER DATA	10750
NO SHOT CARD	NO ADEQUATE PROVIDER DATA	6674

Table H.7: Estimates of Vaccination Coverage and 95-Percent Confidence-Interval Half-Widths, National Immunization Survey, 1998

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	95.6±0.5	83.9±0.8	90.8±0.7	92.0±0.6	93.4±0.6	87.0±0.7	43.2±1.0	86.7±0.8	80.6±0.9	79.2±0.9	72.7±1.0
Alabama	98.4±1.6	87.7±3.8	91.4±3.2	95.0±2.2	95.6±2.3	86.3±3.7	52.5±5.5	88.7±3.5	84.0±4.2	82.1±4.3	74.2±4.8
AL-Jefferson Cnty	98.7±1.6	87.4±4.5	92.9±3.3	94.1±3.4	96.3±2.5	86.1±4.5	64.0±6.6	90.3±4.0	85.8±4.7	84.7±4.8	76.3±5.6
AL-Rest of State	98.3±1.9	87.7±4.4	91.1±3.7	95.1±2.5	95.4±2.7	86.3±4.2	50.4±6.3	88.5±4.1	83.7±4.8	81.7±5.0	73.8±5.5
Alaska	95.8±2.4	85.2±4.2	92.3±3.1	91.1±3.4	92.4±3.2	85.3±4.4	13.4±4.0	86.9±4.0	82.7±4.5	81.3±4.6	74.1±5.2
Arizona	92.6±2.5	80.5±4.1	88.9±3.1	88.0±3.4	90.4±2.8	83.4±3.7	46.4±5.0	82.9±3.7	77.8±4.2	75.9±4.3	69.0±4.6
AZ-Maricopa Cnty	94.0±3.1	82.5±5.4	89.7±4.1	88.4±4.5	91.6±3.7	84.6±5.2	46.7±7.0	83.6±5.0	79.5±5.6	77.3±5.8	71.1±6.3
AZ-Rest of State	90.4±4.1	77.4±6.1	87.7±4.7	87.2±4.8	88.5±4.3	81.6±5.1	45.9±6.7	81.8±5.4	75.2±6.1	73.5±6.2	65.6±6.5
Arkansas	92.0±3.4	75.8±5.2	90.1±3.6	87.9±4.0	89.5±3.8	84.4±4.3	27.8±5.3	83.7±4.5	74.8±5.3	73.1±5.4	65.9±5.7
California	94.3±2.1	81.6±3.4	88.4±2.9	91.2±2.6	91.7±2.5	87.1±2.9	55.2±4.2	84.0±3.3	77.7±3.7	75.9±3.8	69.8±4.0
CA-Los Angeles	93.6±3.7	79.2±5.6	88.9±4.5	89.5±4.6	92.9±3.9	86.8±4.9	59.3±6.8	83.6±5.3	76.5±5.9	76.0±6.0	70.5±6.3
CA-San Diego Cnty	92.7±3.3	82.5±4.8	86.7±4.3	94.1±2.9	89.3±4.1	80.2±5.1	63.3±6.1	85.9±4.4	79.5±5.1	77.2±5.4	67.1±6.0
CA-Santa Clara	96.8±2.1	88.1±4.2	93.0±3.2	95.7±2.6	94.8±2.8	86.6±4.6	59.8±6.6	90.0±3.8	85.7±4.5	84.3±4.7	77.6±5.5
CA-Rest of State	94.7±3.2	82.1±5.2	88.0±4.5	91.4±3.9	91.2±4.0	88.3±4.3	51.3±6.5	83.5±5.1	77.4±5.6	74.8±5.8	69.1±6.2
Colorado	97.9±2.0	83.7±4.8	93.3±3.4	92.9±3.1	94.5±3.3	86.6±4.5	39.3±6.3	88.6±4.1	78.2±5.3	75.8±5.6	67.9±6.0
Connecticut	98.9±1.3	95.0±2.5	94.4±2.8	96.6±2.1	98.2±1.6	89.8±3.8	45.4±6.3	92.3±3.2	90.7±3.4	90.0±3.5	81.5±4.8
Delaware	97.4±2.0	85.5±4.5	90.0±3.9	94.1±3.1	94.1±2.9	83.5±4.7	45.6±6.3	87.1±4.4	80.6±5.0	78.9±5.1	68.0±5.9
Dist. of Columbia	94.5±3.4	76.8±5.9	87.6±4.4	92.7±3.4	91.6±4.0	81.9±5.5	59.9±6.9	83.7±5.0	73.7±6.0	71.4±6.2	63.5±6.6
Florida	94.6±2.7	84.7±3.7	89.4±3.3	92.0±2.9	92.5±3.0	90.0±3.2	36.0±4.9	85.8±3.7	80.9±4.1	78.7±4.2	75.4±4.4
FL-Dade Cnty	94.6±4.0	79.4±5.8	89.3±4.6	93.7±3.1	91.7±4.4	87.4±4.9	32.5±6.0	87.3±4.8	76.6±5.9	74.8±6.0	70.9±6.2
FL-Duval Cnty	99.0±1.2	84.9±5.3	92.6±3.6	92.9±3.5	97.3±2.1	94.2±3.2	44.0±7.2	88.5±4.4	80.4±5.8	78.7±6.0	75.1±6.3
FL-Rest of State	94.2±3.3	85.9±4.7	89.2±4.2	91.6±3.8	92.3±3.7	90.3±4.0	36.1±6.2	85.3±4.8	81.9±5.1	79.5±5.3	76.4±5.6
Georgia	96.1±2.2	84.1±3.8	91.7±2.9	91.7±2.9	94.5±2.4	89.2±3.2	43.6±5.1	86.6±3.5	81.1±4.0	80.1±4.1	75.7±4.4
GA-Fulton/DeKalb	95.9±4.5	79.1±6.3	90.5±5.3	89.3±5.3	91.2±5.4	87.5±5.5	49.7±7.3	84.5±5.8	75.6±6.6	71.1±6.9	66.7±7.0
GA-Rest of State	96.1±2.4	85.3±4.4	92.0±3.3	92.2±3.3	95.2±2.6	89.6±3.7	42.1±6.0	87.1±4.1	82.4±4.8	82.2±4.8	77.9±5.1
Hawaii	95.7±2.7	84.2±4.9	91.7±3.8	94.4±3.0	92.8±3.4	87.4±4.5	52.8±6.4	88.8±4.3	81.7±5.2	79.3±5.5	73.0±6.0
Idaho	94.0±2.7	78.8±4.9	90.6±3.4	89.7±3.6	93.5±2.8	80.4±4.6	8.2±3.3	85.4±4.1	76.4±5.0	76.4±5.0	66.2±5.7
Illinois	94.7±2.9	82.2±4.3	90.6±3.3	91.2±3.3	92.5±3.1	89.5±3.1	25.8±4.2	85.9±3.8	79.1±4.4	77.5±4.5	73.7±4.6
IL-City of Chicago	90.6±5.1	71.1±7.3	85.9±5.7	86.1±5.5	86.9±5.4	79.6±6.4	30.7±6.7	77.7±6.6	66.7±7.4	64.4±7.4	58.5±7.5
IL-Rest of State	96.3±3.6	86.8±5.2	92.5±4.1	93.3±4.1	94.8±3.8	93.6±3.4	23.8±5.2	89.2±4.5	84.2±5.4	82.8±5.5	79.9±5.7
Indiana	94.4±3.0	81.2±4.6	88.6±3.8	92.9±2.8	90.7±3.6	83.5±4.2	30.2±4.9	84.5±4.2	78.9±4.6	77.5±4.8	68.8±5.1
IN-Marion Cnty	95.3±2.7	81.8±5.1	89.4±3.8	90.1±3.7	93.4±3.1	81.5±4.9	29.8±5.8	84.3±4.5	78.2±5.3	78.2±5.3	67.9±6.0
IN-Rest of State	94.3±3.5	81.1±5.4	88.5±4.5	93.4±3.3	90.2±4.2	83.9±5.0	30.3±5.8	84.6±4.9	79.1±5.5	77.3±5.6	69.0±6.1
Iowa	96.5±2.3	86.0±4.0	91.9±3.2	92.1±3.3	93.9±3.0	89.2±3.5	33.0±5.3	87.8±3.8	83.4±4.3	81.7±4.5	78.1±4.7
Kansas	95.6±2.8	85.1±4.8	93.9±3.2	90.8±4.0	91.2±4.0	83.7±4.9	42.5±6.4	89.2±4.2	83.6±4.9	81.8±5.2	72.1±5.9
Kentucky	96.9±2.2	86.5±4.3	92.4±3.3	91.6±3.5	95.0±2.7	89.2±3.7	49.4±6.2	88.5±3.9	83.0±4.7	81.6±4.9	75.5±5.3
Louisiana	94.7±2.8	82.0±4.7	91.4±3.4	88.3±4.1	93.5±3.1	87.0±3.8	37.6±5.7	85.2±4.5	79.7±4.9	78.4±5.0	72.4±5.2
LA-Orleans Parish	94.7±3.3	82.8±5.3	90.1±4.2	86.4±5.0	92.6±3.8	82.7±5.4	35.3±6.4	84.2±5.2	79.5±5.7	78.8±5.7	71.6±6.3

Table H.7: Estimates of Vaccination Coverage and 95-Percent Confidence-Interval Half-Widths, National Immunization Survey, 1998 (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	94.7±3.1	81.9±5.3	91.6±3.8	88.6±4.6	93.7±3.5	87.6±4.3	37.9±6.4	85.4±5.0	79.7±5.5	78.3±5.6	72.6±5.9
Maine	99.1±1.3	91.4±3.5	96.8±2.1	93.6±3.1	94.4±2.8	89.5±3.7	31.3±5.4	92.6±3.2	89.0±3.9	86.3±4.2	78.3±4.9
Maryland	94.7±3.0	84.1±4.3	89.9±3.6	89.1±3.9	92.3±3.4	87.3±4.1	53.2±5.5	84.4±4.3	78.8±4.7	77.0±4.8	72.3±5.1
MD-Baltimore City	97.7±2.2	85.5±5.1	93.7±3.3	93.2±3.6	97.1±2.3	82.7±7.4	54.7±7.7	88.4±4.5	81.2±5.7	81.2±5.7	70.1±7.8
MD-Rest of State	94.1±3.5	83.9±4.9	89.3±4.2	88.4±4.5	91.4±4.0	88.2±4.6	53.0±6.3	83.7±5.0	78.4±5.4	76.3±5.6	72.7±5.9
Massachusetts	99.2±0.9	91.1±3.4	93.5±2.5	96.0±2.0	98.4±1.3	90.5±3.2	47.7±5.4	91.1±2.9	87.4±3.8	86.7±3.9	79.6±4.5
MA-City of Boston	99.7±0.6	92.8±3.0	96.0±2.5	98.2±1.4	98.1±1.5	93.7±3.2	49.7±6.6	94.7±2.7	90.1±3.5	89.3±3.6	84.4±4.5
MA-Rest of State	99.1±1.0	90.9±3.8	93.2±2.8	95.7±2.2	98.4±1.4	90.2±3.5	47.4±6.0	90.7±3.2	87.1±4.2	86.4±4.3	79.1±5.0
Michigan	94.1±2.8	82.7±4.3	90.2±3.4	90.4±3.4	92.0±3.1	90.5±3.0	29.6±5.0	85.5±4.2	78.9±4.7	77.7±4.7	73.9±4.9
MI-City of Detroit	90.1±4.6	74.6±6.1	83.9±5.4	87.5±4.4	85.1±5.2	82.8±5.5	25.6±6.0	80.3±5.7	71.6±6.3	69.6±6.4	64.6±6.6
MI-Rest of State	94.7±3.1	83.9±4.9	91.1±3.8	90.8±3.9	93.0±3.4	91.6±3.3	30.1±5.7	86.3±4.7	80.0±5.3	78.9±5.4	75.3±5.6
Minnesota	96.9±2.3	88.5±4.0	90.7±3.7	92.4±3.3	95.5±2.7	86.2±4.1	46.1±6.1	86.3±4.4	83.1±4.7	82.2±4.8	73.1±5.4
Mississippi	95.3±3.0	85.2±4.6	91.8±3.8	93.0±3.2	95.0±3.1	89.8±4.0	27.7±5.8	88.4±4.2	83.7±4.9	83.7±4.9	79.5±5.3
Missouri	98.6±1.7	87.8±4.8	96.6±2.0	92.8±3.5	96.6±2.6	83.6±5.5	36.4±6.6	90.5±3.9	85.8±5.0	84.5±5.1	74.8±6.2
Montana	95.8±2.4	86.6±3.9	92.4±3.1	91.4±3.2	94.9±2.7	85.6±4.0	35.4±5.8	87.6±3.8	82.8±4.3	81.9±4.4	75.2±5.0
Nebraska	96.1±2.4	83.7±4.4	89.4±3.7	90.2±3.5	93.2±3.0	87.1±3.9	35.1±5.5	82.5±4.5	78.0±4.9	76.4±5.0	71.1±5.2
Nevada	91.6±4.2	79.1±5.7	90.3±4.3	91.6±4.3	88.2±4.8	85.3±5.0	28.7±5.8	87.3±4.9	78.5±5.7	75.7±5.9	70.4±6.1
New Hampshire	99.0±1.2	91.4±3.4	92.3±3.3	94.8±2.7	94.9±2.7	89.4±3.6	41.4±5.9	88.4±3.9	85.1±4.3	82.2±4.6	75.8±5.1
New Jersey	97.3±2.2	85.8±5.7	94.5±2.7	96.1±2.1	94.4±3.8	90.0±4.1	51.3±7.1	93.0±3.0	85.0±5.7	82.3±6.2	76.7±6.6
NJ-City of Newark	93.6±4.3	71.0±8.3	75.8±8.2	84.9±7.5	91.3±4.5	88.3±5.2	20.4±6.4	71.8±8.4	66.3±8.7	64.2±8.7	62.0±8.8
NJ-Rest of State	97.4±2.3	86.5±6.0	95.4±2.8	96.7±2.1	94.5±4.0	90.0±4.3	52.8±7.5	94.0±3.1	85.9±6.0	83.2±6.5	77.4±7.0
New Mexico	92.7±3.8	77.3±6.0	84.8±5.2	85.5±5.1	90.0±4.2	86.6±4.7	35.4±6.7	79.4±5.9	73.3±6.3	71.1±6.4	66.0±6.6
New York	97.6±1.7	89.2±3.1	92.6±2.6	95.1±2.2	94.6±2.5	91.2±3.2	46.1±5.0	89.9±3.0	85.7±3.5	84.5±3.6	79.9±4.1
NY-NYC 5 Counties	95.8±3.1	85.0±5.3	91.6±3.9	95.4±2.9	91.3±4.4	90.0±4.8	52.0±7.4	89.4±4.4	82.8±5.5	81.1±5.8	77.8±6.2
NY-Rest of State	99.2±1.6	92.9±3.7	93.4±3.5	94.8±3.2	97.4±2.4	92.3±4.2	40.9±6.7	90.2±4.1	88.3±4.4	87.5±4.5	81.8±5.6
North Carolina	96.9±2.0	87.1±4.3	93.7±3.0	95.6±2.5	94.8±2.6	88.8±4.0	59.8±6.1	91.1±3.5	84.1±4.6	82.8±4.7	76.7±5.3
North Dakota	93.7±3.1	83.3±4.7	89.4±3.8	87.6±4.2	92.3±3.3	86.3±4.1	36.4±5.6	82.4±4.8	79.8±5.0	79.1±5.0	73.0±5.3
Ohio	96.0±1.8	81.7±3.9	91.0±2.6	91.4±2.9	95.6±1.8	87.6±3.2	36.7±4.8	86.2±3.4	78.6±4.1	78.0±4.1	71.0±4.5
OH-Cuyahoga Cnty	92.6±3.8	81.4±5.6	88.7±4.3	91.0±4.0	89.4±4.3	87.7±4.9	45.8±6.8	84.1±4.9	77.5±5.8	74.6±6.0	71.1±6.3
OH-Franklin Cnty	94.3±3.6	84.6±5.4	85.6±5.3	93.3±3.6	95.5±3.0	83.3±6.0	41.8±7.4	82.2±5.8	77.8±6.2	77.8±6.2	69.3±7.1
OH-Rest of State	96.8±2.1	81.4±5.0	92.2±3.2	91.2±3.7	96.7±2.1	88.2±4.0	34.4±6.1	87.1±4.2	78.9±5.2	78.7±5.2	71.3±5.7
Oklahoma	93.4±3.9	79.7±6.0	93.5±3.8	94.1±3.5	88.7±5.1	85.4±5.2	49.5±7.0	89.8±4.5	78.5±6.1	75.3±6.4	70.3±6.6
Oregon	92.5±3.2	79.2±5.1	86.5±4.1	89.8±3.6	91.8±3.3	81.8±4.7	43.3±6.0	82.2±4.7	75.5±5.3	75.5±5.3	67.4±5.7
Pennsylvania	98.1±1.4	87.4±3.4	91.8±2.8	94.4±2.4	97.0±1.6	88.8±3.2	57.7±5.0	88.3±3.4	84.0±3.7	83.2±3.8	75.7±4.3
PA-Philadelphia	95.2±3.4	85.5±5.2	90.6±4.2	93.0±4.2	92.8±3.7	82.1±5.3	68.6±6.6	87.7±4.9	81.7±5.6	79.8±5.8	69.4±6.5
PA-Rest of State	98.7±1.5	87.8±3.9	92.0±3.3	94.6±2.8	97.8±1.8	90.0±3.6	55.7±5.8	88.5±3.9	84.4±4.3	83.8±4.3	76.9±5.0
Rhode Island	98.8±1.4	90.1±3.6	96.2±2.2	96.5±2.2	97.0±2.1	88.8±3.8	56.3±6.2	93.4±2.9	87.3±3.9	86.3±4.1	76.9±5.1
South Carolina	98.3±1.4	90.4±3.8	96.0±2.2	94.4±2.9	97.9±1.7	94.1±2.7	51.4±6.5	91.8±3.4	88.4±4.0	87.9±4.1	83.8±4.6
South Dakota	95.3±2.6	78.6±5.1	90.5±3.5	89.8±3.9	92.7±3.1	82.1±5.1	12.9±4.1	85.3±4.5	75.1±5.6	73.5±5.7	66.1±6.0
Tennessee	96.9±1.5	84.6±3.3	92.6±2.2	93.2±2.1	94.4±2.3	86.1±3.1	41.6±4.4	89.6±2.5	82.6±3.4	81.5±3.5	73.5±3.9

Table H.7: Estimates of Vaccination Coverage and 95-Percent Confidence-Interval Half-Widths, National Immunization Survey, 1998 (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	96.6±2.7	84.0±4.8	88.7±4.3	94.7±3.0	94.7±3.1	79.2±5.3	49.1±6.7	85.8±4.7	81.2±5.1	79.7±5.3	65.5±6.2
TN-Shelby Cnty	95.4±3.1	75.8±6.2	90.1±4.3	85.7±4.8	92.1±4.0	90.4±4.0	34.4±6.4	82.9±5.2	73.7±6.3	71.2±6.5	67.8±6.6
TN-Rest of State	97.4±1.9	87.3±4.3	94.0±2.9	95.1±2.6	95.1±3.0	86.1±4.2	42.5±5.9	92.1±3.3	85.4±4.5	84.7±4.6	76.4±5.3
Texas	93.0±2.1	78.3±3.6	87.6±2.8	89.6±2.6	91.3±2.3	79.1±3.5	44.1±4.3	82.7±3.2	74.8±3.7	74.3±3.8	63.7±4.2
TX-Bexar Cnty	95.6±2.8	82.9±5.1	92.7±3.4	92.1±3.7	92.9±3.4	91.6±3.7	47.8±6.8	88.9±4.2	79.6±5.4	78.8±5.5	76.5±5.7
TX-City of Houston	86.5±5.3	64.6±7.5	75.8±6.7	85.1±5.3	83.9±5.7	68.5±7.2	39.2±7.3	70.0±7.1	61.2±7.5	60.5±7.5	47.9±7.6
TX-Dallas Cnty	92.2±4.0	75.6±6.4	87.9±4.9	86.5±4.9	90.2±4.3	73.4±6.8	37.5±7.3	81.5±5.8	72.5±6.6	71.4±6.7	59.5±7.4
TX-El Paso Cnty	92.6±3.3	81.4±4.7	91.2±3.5	88.1±3.9	91.1±3.5	76.1±5.2	41.8±6.1	85.5±4.3	78.6±5.0	77.5±5.0	66.4±5.7
TX-Rest of State	94.2±3.0	80.8±5.2	89.1±4.0	90.9±3.8	92.8±3.3	81.0±5.0	45.9±6.4	84.6±4.6	77.1±5.5	76.8±5.5	66.0±6.1
Utah	93.2±3.2	79.2±5.4	90.8±3.5	90.4±3.5	92.0±3.4	77.7±5.3	23.7±5.0	85.8±4.2	76.8±5.5	75.6±5.6	64.8±6.2
Vermont	98.9±1.6	91.8±3.5	94.7±3.2	96.4±2.3	97.4±2.0	91.4±3.3	37.8±5.9	91.7±3.6	87.3±4.3	85.8±4.4	80.7±4.8
Virginia	96.8±2.2	86.4±4.5	91.2±3.7	90.1±4.1	94.3±3.0	90.3±3.9	50.4±6.4	86.3±4.6	82.0±5.1	80.4±5.3	75.1±5.7
Washington	96.1±1.9	84.4±3.5	91.9±2.7	90.0±3.1	94.8±2.2	81.3±3.7	21.2±3.7	86.6±3.4	81.1±3.8	80.8±3.8	68.8±4.4
WA-King Cnty	97.1±2.4	89.4±4.3	93.6±3.1	94.4±3.2	94.7±2.9	79.6±5.3	24.1±5.5	90.4±4.0	86.7±4.6	85.7±4.8	71.9±5.9
WA-Rest of State	95.7±2.5	82.5±4.6	91.3±3.5	88.4±4.1	94.9±2.8	81.9±4.6	20.0±4.6	85.2±4.4	79.0±5.0	79.0±5.0	67.6±5.7
West Virginia	97.6±2.0	88.1±3.8	92.4±3.2	92.5±3.1	96.9±2.2	90.1±3.7	42.5±6.0	87.2±4.0	82.7±4.5	82.4±4.5	75.6±5.2
Wisconsin	96.4±1.8	84.4±3.6	92.0±2.5	92.0±2.5	94.4±2.1	84.4±3.4	32.8±4.4	88.2±3.0	79.3±3.9	77.7±4.0	70.6±4.4
WI-Milwaukee Cnty	93.1±4.0	79.8±5.6	87.5±4.6	87.8±4.9	90.0±4.4	76.5±5.6	37.5±6.3	82.0±5.3	74.6±6.0	73.0±6.0	63.3±6.3
WI-Rest of State	97.3±1.9	85.7±4.3	93.3±3.0	93.3±2.9	95.7±2.4	86.7±4.1	31.3±5.4	90.1±3.5	80.7±4.8	79.1±4.9	72.8±5.3
Wyoming	95.4±2.4	84.5±4.4	90.5±3.4	89.5±3.6	93.2±3.0	88.6±3.7	30.4±5.4	85.2±4.1	80.4±4.7	79.9±4.7	75.4±5.1